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## Education and Development
## Energy Crisis in Tamil Nadu
## Economy of Vellore Region

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## AET CHAIRMAN'S MESSAGE

Thanks to the resourceful organisers, we, the members of AET family, are blessed with an intellectually rewarding experience every year in a new place. Very prestigious Vellore Institute of Technology, Vellore provided us members more than what we required for conducting AET Annual Conference - XXXIV on 14th and 15th December 2013.

Our conference was a big success solely owing to the benevolence of **Dr G Viswanathan**, Founder Chairman and Chancellor of VIT, Vellore. Dr GV is not new either to Economics or to AET. He did his MA Economics at Loyola College in the sixties. I was in the Department of Economics in the sixties as a BA student and a teacher and HOD in the eighties and nineties. I am happy to note that Dr GV serves now as the President of Loyola College Alumni Association. I gratefully remember his presence at the Department of Economics when he was Food Minister, Government of Tamil Nadu, accepting our invitation to begin the activities of the LEAD (Loyola Economics Association of Development). It was he who inaugurated the activities of the annual SLICES (State Level Inter-Collegiate Economics Students Seminar), The SLICES is an annual feature. Our request to Dr GV is to establish an Economics Department.

We at AET were fortunate to have had Dr GV in our midst during the AET's Annual Conference – XXVI at Walajapet. Seeing the quality of the paper on which the citation was given to each of our AET awardees, he gave us a cheque for a handsome amount to be used exclusively for the purpose of printing the citation to be given to our Young Economist and the Senior Economist and Life Time Awardees. When our veteran *Dr Jegdish Gandhi* approached Dr GV to have our 34th Annual Conference here at VIT, he readily consented. He permitted us to receive the services of *Dr Ganesan*. We experienced that for people who have organised effectively and efficiently the meeting of the Indian Economics Association, handling the matters relating to the conduct of a regional conference - Association of the Economists of Tamil Nadu - was not be an uphill task. Our Annual Conference provided manifold lessons to everyone concerned.

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We had some special guests in the persons of *Dr G Palani Periyasamy*, an industrialist and an educationist and *Shri Era Sezhiyan*, a writer and an eminent parliamentarian. Theirs was an intellectual treat. Great scholars from all the southern states of India were with us participating at a panel discussion on regional economic growth since Indian independence. The participants learnt the road to take and the road to avoid reaching newer economic heights. The publishers of the popular journal *Southern Economist* brought out a special number on Tamil Nadu Economy.

The policy at AET is: *publish or perish*, sorry *publish and prosper*. Our AET grows from strength to strength. I am fond of stating this point: together we must add and not subtract. Our organisation should move ahead with this aim; No one is indispensable but everyone is essential,

This number of Peninsular Economist contains AET's deliberations here on themes: Education and Economic Development and Energy Scenario and the Economic Scenario of the Vellore Region.

It is my prayer and wish that besides bringing out Peninsular Economist containing the conference proceedings, the AET gives us every year some books on the themes discussed.

I will be happy if these deliberations reach wide diffusion that they richly deserve.

**Fr A G Leonard SJ**,
AET Executive Chairman
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# Education and Development

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# INTER DISTRICT VARIATION IN PRIMARY EDUCATION IN TAMILNADU

In this paper a study on inter district variation in enrolment, drop out and the gender disparity in primary education in Tamilnadu and the factors causing inter district variation in primary education in Tamilnadu have been analysed. For this purpose 30 districts have been analysed. As per the study, literacy index was the highest in Chennai (0.75) and lowest in Ramanathapuram (0.21), enrolment index was the highest in Tiruchirappalli (.99) and lowest in Krishnagiri (.98), drop out index was the highest in Thiruvarur (0.07) and lowest in Ramanathapuram (0.01). while composite educational index was the highest in Chennai (0.58) and lowest in Thoothukkudi (0.40). The estimated gender disparity index of composite index was found to be the highest in the district of Salem (1075.50).

**Objectives of the study**

1. To find out the inter district variation in enrolment and drop out in primary education in Tamil Nadu
2. To find out the gender disparity in primary education in Tamilnadu and
3. To identify the factors casing inter district variation in primary education in Tamilnadu

**Hypotheses**

1. There is no gender disparity in enrolment in primary education in various districts in Tamil Nadu and
2. District population, number of primary schools, number of upper primary schools, number of teachers in primary schools, number of teachers in upper primary schools, teacher pupil ratio, population in age group of 6-14 years are insignificant factors causing inter district variation in primary education.

**Methodology and tools**

The study is related to 30 districts in Tamil Nadu and the study depends on the Secondary data from various official sources. Following the tools are adopted.

1. Composite education index = literacy rate + Enrolment index / 3

2. Gender disparity index = Composite education index of males / composite educational, Index of females * 1000

3. Discriminant analysis

The study applied discriminant analysis to identify the factors causing inter district variation in primary education. On the basis of the average composite educational index the District were classified into two categories - Group I comprises of District having composite educational index higher than the District average, and Group II represents the Districts having composite educational index below the national average. The estimated discriminant function is of the form

$$Y = \hat{a}o+\hat{a}_1X_1+ \hat{a}_2X_2+ \hat{a}_3X_3+ \hat{a}_4X_4+ \hat{a}_5X_5+ \hat{a}_6X_6+ \hat{a}_7X_7$$

Where, Y = Composite educational index

X1 = District wise total population

X2 = Number of primary schools

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X3 = Number of upper primary schools

X4 = Number of teachers in primary schools

X5 = Number of teachers in upper primary schools

X6 = Teacher pupil ratio and

X7 = Population in the age group of 6-14 years

The discriminant function was estimated based on unstandardized co efficients and the validity of discriminant function was tested by calculating Wilks Lambda value. Based on the discriminant function coefficient the relative discriminant power of each variable was calculated. The discriminant function was estimated by using SPSS 16.0.

**Findings of the study**

**A. Inter district variation in composite educational index:**

**1. Estimated literacy rate index for different districts of Tamil Nadu**

Since literacy rate is an important component of composite educational index the current study tried to calculate literacy rate index.

Table 1 represents estimated literacy rate index of different districts of Tamil Nadu

Table 1

Estimated literacy rate index of different districts of Tamil Nadu

| District | Literacy rate (males) | Literacy rate index (males) | Literacy rate (females) | Literacy rate index (females) | Total Literacy rate | Total Literacy rate index | Rank |
|---|---|---|---|---|---|---|---|
| Chennai | 80.14 | 0.80 | 86.85 | 0.86 | 75.4 | 0.75 | 1 |
| Coimbatore | 76.95 | 0.76 | 82.91 | 0.82 | 36 | 0.36 | 25 |
| Cuddalore | 71.85 | 0.71 | 77.42 | 0.77 | 42.5 | 0.42 | 18 |
| Dharmapuri | 59.23 | 0.59 | 63.82 | 0.63 | 43.5 | 0.43 | 17 |
| Dindigul | 69.83 | 0.69 | 75.24 | 0.75 | 28.7 | 0.28 | 29 |
| Erode | 65.51 | 0.65 | 70.59 | 0.70 | 38.8 | 0.38 | 23 |
| Kancheepuram | 77.61 | 0.77 | 83.63 | 0.83 | 35.2 | 0.35 | 27 |
| Kanniyakumari | 88.11 | 0.88 | 94.94 | 0.94 | 38.3 | 0.38 | 23 |
| Karur | 68.74 | 0.68 | 74.07 | 0.74 | 47.7 | 0.47 | 15 |
| Krishnagiri | 59.23 | 0.59 | 63.82 | 0.63 | 39.7 | 0.39 | 22 |
| Madurai | 78.65 | 0.78 | 84.75 | 0.84 | 41.9 | 0.41 | 20 |
| Nagapattinam | 76.89 | 0.76 | 82.85 | 0.82 | 41.8 | 0.41 | 20 |
| The Nilgiris | 67.66 | 0.67 | 72.9 | 0.72 | 46 | 0.46 | 16 |
| Perambalur | 65.88 | 0.65 | 70.35 | 0.70 | 66.8 | 0.66 | 4 |
| Pudukkottai | 71.96 | 0.71 | 77.21 | 0.77 | 72.6 | 0.72 | 3 |
| Ramanathapuram | 73.05 | 0.73 | 78.71 | 0.78 | 64.2 | 0.64 | 5 |
| Salem | 65.72 | 0.65 | 70.81 | 0.70 | 35 | 0.35 | 27 |
| Sivaganga | 72.66 | 0.72 | 78.29 | 0.78 | 56.4 | 0.56 | 10 |
| Thanjavur | 76.07 | 0.76 | 81.97 | 0.81 | 55.9 | 0.55 | 11 |
| Namakkal | 81.44 | 0.81 | 87.75 | 0.87 | 57 | 0.57 | 9 |
| Theni | 72.01 | 0.72 | 77.59 | 0.77 | 52.9 | 0.52 | 13 |
| Thirunelveli | 76.54 | 0.76 | 82.47 | 0.82 | 62.9 | 0.62 | 7 |
| Thiruvallur | 76.9 | 0.76 | 82.86 | 0.82 | 36.4 | 0.36 | 25 |
| Thiruvarur | 81.96 | 0.81 | 88.31 | 0.88 | 42.5 | 0.42 | 18 |
| Thoothukkudi | 79.16 | 0.79 | 74.07 | 0.74 | 21.4 | 0.21 | 30 |
| Tiruchirappalli | 76.97 | 0.76 | 82.94 | 0.82 | 58.1 | 0.58 | 8 |
| Tiruvannamalai | 68.22 | 0.68 | 73.51 | 0.73 | 49.3 | 0.49 | 14 |
| Vellore | 73.07 | 0.73 | 78.73 | 0.78 | 63.3 | 0.63 | 6 |
| Villupuram | 64.68 | 0.64 | 69.88 | 0.69 | 53.6 | 0.53 | 12 |
| Virudhunagar | 74.23 | 0.74 | 79.98 | 0.79 | 73.0 | 0.73 | 2 |
| **Tamil Nadu** | 73.47 | 0.73 | 79.16 | 0.79 | 41 | 0.41 | |

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**Source:** District Statistical Hand Book-2001,

Table 1 reveals that literacy rate was the highest in Chennai (75 percent) and lowest in Ramanathapuram (21 percent) As such the estimated literacy rate index was found to be the highest in Chennai (0.75) and lowest in Ramanathapuram (0.21).

### 1. Estimated enrolment index for different districts in Tamil nadu

Table 2 represents estimated enrolment index at the primary level for different districts of Tamil Nadu

**Table 2**

**ESTIMATED ENROLMENT INDEX FOR DIFFERENT DISTRICTS IN TAMIL NADU**

| S. no | District | Primary enrolment rate (male) | primar | Primary enrolment rate (female) | Primary enrolment index (female) | Upper primary enrolment rate (males) | Upper primary enrolment index (males) | Upper primary enrolment rate (female | upper primar | Total enrolment | Total enrolment index | Rank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Chennai | 50.75 | 0.507 | 49.24 | 0.492 | 50.35 | 0.503 | 49.64 | 0.496 | 99.4 | 0.994 | 8 |
| 2 | Coimbatore | 51.47 | 0.514 | 48.52 | 0.485 | 52.55 | 0.525 | 47.44 | 0.474 | 99.51 | 0.995 | 10 |
| 3 | Cuddalore | 51.54 | 0.515 | 48.45 | 0.484 | 51.30 | 0.513 | 48.69 | 0.486 | 99.67 | 0.996 | 18 |
| 4 | Dharmapuri | 54.65 | 0.546 | 53.24 | 0.532 | 53.71 | 0.537 | 46.28 | 0.462 | 99.07 | 0.99 | 2 |
| 5 | Dindigul | 52.08 | 0.520 | 47.94 | 0.479 | 52.62 | 0.526 | 47.37 | 0.473 | 99.09 | 0.99 | 2 |
| 6 | Erode | 51.80 | 0.518 | 49.87 | 0.498 | 53.17 | 0.531 | 46.82 | 0.468 | 99.58 | 0.995 | 10 |
| 7 | Kancheepuram | 50.89 | 0.508 | 49.10 | 0.491 | 51.05 | 0.510 | 48.94 | 0.489 | 99.35 | 0.993 | 6 |
| 8 | Kanniyakumari | 51.00 | 0.510 | 48.99 | 0.489 | 51.60 | 0.516 | 48.39 | 0.483 | 99.58 | 0.995 | 10 |
| 9 | Karur | 52.32 | 0.523 | 47.67 | 0.476 | 52.17 | 0.521 | 47.82 | 0.478 | 99.51 | 0.995 | 10 |
| 10 | Krishnagiri | 52.29 | 0.522 | 47.70 | 0.477 | 52.17 | 0.521 | 47.82 | 0.478 | 98.9 | 0.989 | 1 |
| 11 | Madurai | 52.12 | 0.521 | 47.87 | 0.478 | 51.96 | 0.519 | 48.03 | 0.480 | 99.7 | 0.997 | 27 |
| 12 | Nagapattinam | 54.01 | 0.540 | 48.59 | 0.485 | 51.16 | 0.511 | 48.83 | 0.488 | 99.5 | 0.995 | 10 |
| 13 | The Nilgiris | 53.31 | 0.533 | 46.68 | 0.466 | 53.77 | 0.537 | 46.22 | 0.462 | 99.6 | 0.996 | 18 |
| 14 | Perambalur | 51.43 | 0.514 | 48.56 | 0.485 | 52.45 | 0.524 | 47.54 | 0.475 | 99.77 | 0.997 | 27 |
| 15 | Pudukkottai | 51.28 | 0.512 | 48.71 | 0.487 | 51.54 | 0.515 | 48.45 | 0.484 | 99.63 | 0.996 | 18 |
| 16 | Ramanathapur | 51.38 | 0.513 | 48.61 | 0.486 | 52.11 | 0.521 | 47.88 | 0.478 | 99.39 | 0.993 | 6 |
| 17 | Salem | 54.49 | 0.544 | 45.50 | 0.455 | 54.47 | 0.544 | 45.52 | 0.455 | 99.6 | 0.996 | 18 |
| 18 | Sivaganga | 51.62 | 0.516 | 48.37 | 0.483 | 52.10 | 0.521 | 47.89 | 0.478 | 99.55 | 0.995 | 10 |
| 19 | Thanjavur | 51.27 | 0.512 | 48.72 | 0.487 | 51.76 | 0.517 | 48.23 | 0.482 | 99.19 | 0.991 | 4 |
| 20 | Namakkal | 50.91 | 0.509 | 49.08 | 0.490 | 51.31 | 0.513 | 48.68 | 0.486 | 99.63 | 0.996 | 18 |
| 21 | Theni | 53.14 | 0.531 | 46.85 | 0.468 | 54.18 | 0.541 | 45.81 | 0.458 | 99.81 | 0.998 | 29 |
| 22 | Thirunelveli | 51.20 | 0.512 | 48.79 | 0.487 | 50.70 | 0.507 | 49.29 | 0.492 | 99.62 | 0.996 | 18 |
| 23 | Thiruvallur | 51.51 | 0.515 | 48.48 | 0.484 | 51.71 | 0.517 | 48.28 | 0.482 | 99.64 | 0.996 | 18 |
| 24 | Thiruvarur | 50.76 | 0.507 | 49.239 | 0.492 | 51.41 | 0.514 | 48.58 | 0.485 | 99.41 | 0.994 | 8 |
| 25 | Thoothukkudi | 51.31 | 0.513 | 48.680 | 0.486 | 51.65 | 0.516 | 48.34 | 0.483 | 99.22 | 0.992 | 5 |
| 26 | Tiruchirappalli | 51.14 | 0.511 | 48.857 | 0.488 | 51.58 | 0.515 | 48.41 | 0.484 | 99.82 | 0.998 | 29 |
| 27 | Tiruvannamalai | 51.63 | 0.516 | 48.361 | 0.483 | 51.41 | 0.514 | 48.58 | 0.485 | 99.6 | 0.996 | 18 |
| 28 | Vellore | 51.59 | 0.515 | 48.409 | 0.484 | 51.58 | 0.515 | 48.41 | 0.484 | 99.57 | 0.995 | 10 |
| 29 | Villupuram | 51.12 | 0.511 | 48.876 | 0.488 | 52.03 | 0.520 | 47.96 | 0.479 | 99.72 | 0.997 | 27 |
| 30 | Virudhunagar | 51.44 | 0.514 | 48.552 | 0.485 | 52.29 | 0.522 | 47.70 | 0.477 | 99.6 | 0.996 | 18 |
| | Tamil Nadu | 51.72 | 0.517 | 48.273 | 0.482 | 51.98 | 0.519 | 48.01 | 0.480 | 99.5 | 0.995 | 10 |

**Source:** Selected educational statistics,

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Table 2 reveals that enrolment index was the highest in Tiruchirappalli (.99) and lowest in Krishnagiri (.98)

**1. Analysis of drop out in primary education in different districts of TAMIL NADU has been also analysed**

This analysis reveals that drop out ratio was the highest in Thiruvarur (7 percent) and lowest in Ramanathapuram (1 .0 percent) and hence drop out index was the highest in Thiruvarur 0.07 and lowest in Ramanathapuram 0.01.

**A. Gender disparity in literacy rate, enrolment ratio, dropout rate and composite educational index for different districts of Tamilnadu**

There exist gender disparity in literacy rate, enrolment ratio, dropout rate and composite educational index Table 4 represents the estimated gender disparity index in literacy rate, enrolment ratio, dropout rate and composite educational index for different districts of Tamilnadu

**Table 3**

**Estimated gender disparity index in literacy rate, enrolment ratio, dropout rate and composite educational index for different districts in Tamilnadu**

| S. No | District | gender disparity index in literacy rate | gender disparity index in enrolment ratio | gender disparity index in dropout rate | Gender disparity index in composite educational index |
|---|---|---|---|---|---|
| 1 | Chennai | 930.23 | 1022.26 | 988.90 | 979.43 |
| 2 | Coimbatore | 926.82 | 1083.42 | 1141.22 | 1011.24 |
| 3 | Cuddalore | 922.07 | 1059.79 | 1018.76 | 998.85 |
| 4 | Dharmapuri | 936.50 | 1089.53 | 1158.65 | 1030.17 |
| 5 | Dindigul | 920.00 | 1098.73 | 957.20 | 1019.97 |
| 6 | Erode | 928.57 | 1085.92 | 1100.68 | 1019.80 |
| 7 | Kancheepuram | 927.71 | 1038.77 | 1200.65 | 987.84 |
| 8 | Kanniyakumari | 936.17 | 1055.55 | 2000.00 | 996.86 |
| 9 | Karur | 918.91 | 1094.34 | 1256.50 | 1017.71 |
| 10 | Krishnagiri | 936.50 | 1092.14 | 1239.75 | 1030.28 |
| 11 | Madurai | 928.57 | 1085.59 | 1235.37 | 1012.23 |
| 12 | Nagapattinam | 926.82 | 1080.16 | 1254.30 | 1010.03 |
| 13 | The Nilgiris | 930.55 | 1153.01 | 1183.27 | 1055.82 |
| 14 | Perambalur | 928.57 | 1081.25 | 846.86 | 1016.86 |
| 15 | Pudukkottai | 922.07 | 1057.67 | 993.26 | 997.702 |
| 16 | Ramanathapuram | 935.89 | 1072.61 | 1235.07 | 1011.46 |
| 17 | Salem | 928.57 | 1195.60 | 967.30 | 1079.50 |
| 18 | Sivaganga | 923.07 | 1079.08 | 1012.70 | 1009.19 |
| 19 | Thanjavur | 938.27 | 1061.92 | 1011.74 | 1005.62 |
| 20 | Namakkal | 931.03 | 1047.13 | 974.126 | 992.41 |
| 21 | Theni | 935.06 | 1157.66 | 921.24 | 1056.60 |
| 22 | Thirunelveli | 926.82 | 1040.85 | 1253.70 | 988.88 |
| 23 | Thiruvallur | 926.82 | 1068.32 | 1142.28 | 1003.35 |
| 24 | Thiruvarur | 920.45 | 1045.03 | 1050.42 | 985.99 |
| 25 | Thoothukkudi | 1067.56 | 1061.92 | 976.25 | 1064.36 |
| 26 | Tiruchirappalli | 926.82 | 1055.55 | 1370.76 | 996.65 |
| 27 | Tiruvannamalai | 931.50 | 1064.05 | 1235.60 | 1007.06 |
| 28 | Vellore | 935.89 | 1064.05 | 1126.03 | 1006.86 |
| 29 | Villupuram | 927.53 | 1066.18 | 961.31 | 1008.44 |
| 30 | Virudhunagar | 936.70 | 1076.92 | 1000.00 | 1013.69 |
| | **Tamil Nadu** | 924.05 | 1076.92 | 1097.31 | 1007.99 |

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**Source:** calculated values based on data compiled,

The estimated gender disparity index literacy rate index was found be the highest Thoothukkudi of district (1067.66). The estimated gender disparity index of enrolment was found be the highest in the district of

Salem (1195.61). Similarly the estimated gender disparity index of composite index was found be the highest in the district of Salem (1075.50).

**Measures recommended:**

1. There is need for improving the accessibility to the school and more number of primary school with in the radius of one kilometre have to be established

2. More awareness need to be created about the importance of female education and

3. The District administrative authorities with the help of non governmental agencies have to arrange for special campaign to reduce the dropout rate

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# EDUCATIONAL PROBLEMS IN INDIA

The present study concentrates on the general educational problems and specifically women's.

**I. General educational problems in India**

1. Lack of qualified educators:

2. Lack of involvement in and control of educational matters:

3. Teaching v/s learning:

4. Education does not build up personality of a student:

6. Too much parochialism rather global outlook:

7. More emphasis on a particular medium of language

8. Irrelevant education to suit job-market:

9. Lack of innovative and creative education

10. Inadequate and improper distribution of funds for educatrion

11. Faulty education policies:

**II. Educational problems of women in India**

1. Gaps in literacy rate

2. Rural urban divide

**Measures to solve educational problems in India**

1. India's entire education system should be redesigned to favour employment, nullify the poverty aspect and improve the quality of education on every level, especially the primary level.

2. Frequent curricular revisions to remove and edit obsolete chapters and bring quality in education.

3. Aggressive awareness campaign in rural areas to negate the negative attitude of the rural population.

4. Population control through various campaigns, awards and other incentives and increments to those **6. Too much parochialism rather global outlook:**

7. More emphasis on a particular medium of language

8. Irrelevant education to suit job-market:

9. Lack of innovative and creative education

10. Inadequate and improper distribution of funds for educatrion

11. Faulty education policies:

**II. Educational problems of women in India**

1. Gaps in literacy rate

2. Rural urban divide

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**Measures to solve educational problems in India**

1. India's entire education system should be redesigned to favour employment, nullify the poverty aspect and improve the quality of education on every level, especially the primary level.

2. Frequent curricular revisions to remove and edit obsolete chapters and bring quality in education.

3. Aggressive awareness campaign in rural areas to negate the negative attitude of the rural population.

4. Population control through various campaigns, awards and other incentives and increments to those who set an example in favour of population control.

5. Teachers need to be professionally trained, adequately paid and well-motivated.

6. Accountability of higher authorities needs to be sensitized and effectively implemented through law and special courts which can provide speedy decisions.

Government is not only the source to eradicate the problems regarding the educational system but each and every individual has the responsibility to overcome the problems of educational system.

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# DIETARY INTAKE AND NUTRITIONAL STATUS OF ADOI ESCENT GIRLS

## Introduction

Over the last three decades there have been substantial changes in socio-economic status, some increase in the dietary intake of men and women especially of the affluent segments; ready availability of fast foods, ice creams and other energy rich food items at affordable costs have resulted in increased energy consumption. With cooking gas, piped water supply and labour saving gadgets and transport there has been a substantial reduction in physical activity and energy expenditure especially in middle and upper income groups. Data from NNMB repeat surveys clearly indicate that there has been some reduction in under-nutrition and some increase in obesity over the last two decades. Data from NFHS confirms that currently both under-nutrition and obesity are problems in women and that there are massive inter-state differences. The country will, therefore, have to gear up to prevent, detect and tackle the problems of both under-nutrition and over-nutrition in the next two decades.

## Objectives of the study

1. To examine the status of food intake of adolescence girls in India
2. To assess home dietary habits and nutritional knowledge levels of adolescence girls
3. To suggest the nutritional awareness and programmesof school going adolescent girls in this study.

## Methodology

The study is primarily based on secondary data. The information pertaining to Dietary Intake and Nutritional Status of adolescent girls has been collected from the department of Health and Welfare, Government of Tamil Nadu, ICDS and NFHS – 3, Chennai region. Life Cycle Approach will be further stepped up for improving nutrition and health status of pregnant women, lactating mothers, children below six years and adolescent girls.

Computed energy requirements for current average weight in moderately active individuals of varying age, their actual food intake as reported by National Nutrition Monitoring Bureau and the average gap between intake and expenditure is given in Table 1. The gap between the requirements and the intake is highest in the adolescent girls and boys. Viewed in this context the initiation of the MDM for the upper primary school children is an appropriate step to bridge the gap in adolescent girls.

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| Table 1: Computed energy requirements for current weight in different groups | | | | |
|---|---|---|---|---|
| Group | Mean wt. NNMB | Req. for mean Wt. | Actual Intake | Gap |
| Adult man | 51 | 2346 | 2000 | -346 |
| Adult woman | 46 | 1886 | 1738 | -148 |
| Pregnant | - | 2236 | 1726 | -510 |
| Lactating | - | 2386 | 1878 | -518 |
| Children | | | | |
| 1-3 years | 10.5 | 840 | 714 | -126 |
| 4-6 years | 14.6 | 1095 | 978 | -117 |
| 7-9 years | 19.7 | 1379 | 1230 | -149 |
| Boys | | | | |
| 10-12 years | 26.6 | 1729 | 1473 | -256 |
| 13-15 years | 36.8 | 2208 | 1645 | -563 |
| 16-17 years | 45.7 | 2514 | 1913 | -601 |
| Girls | | | | |
| 10-12 years | 26.7 | 1469 | 1384 | -85 |
| 13-15 years | 36.9 | 2030 | 1566 | -464 |
| 16-17 years | 42.6 | 2130 | 1630 | -500 |

**Source:** Report of the Working Group on Nutrition for the 12th five year plan 2012- 2017.

Table 2 shows that average number of meals received from school during a period of 30 days per male and per female child for four age-groups: 0-4, 5-9, 10-14 and 15-29, in rural and urban India. The averages have been computed taking the entire population of the sex and age-group in the denominator and not only school-going children. The average numbers of meals received from all sources by each sex and age-group are shown in parentheses. The highest numbers of such meals were, as table shows, received by rural children in the age-group 5-9 (over 8 meals per child), followed by rural children in the 10-14 age-group (6.6 meals per child) and 15-29 age group were (0.19 meals per child).

**Table - 2**

**Average no. of meals received from school, balwadi, etc. per male and child of different age groups in 30 days**

**All-India**

| Age Group | Average no. of meals received in 30 days from school, balwadi, etc | | | |
|---|---|---|---|---|
| | rural | | urban | |
| | Per male child | Per female child | Per male child | Per female child |
| 0-4 | 1.2 (74.0) | 1.1(73.1) | 0.5(70.0) | 0.5(69.5) |
| 5-9 | 8.3(84.4) | 8.2(84.9) | 3.6(81.3) | 3.8(81.5) |
| 10-14 | 6.6(81.0) | 6.6(81.2) | 2.7(76.4) | 3.2(77.4) |
| 15-29 | 0.19(72.39) | 0.17(71.87) | 0.09(68.77) | 0.09(68.89) |

**Source:** NSSO report no. 540, Nutritional Intake in India, 2009-10.

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Table 2 indicates the extent to which the degree of malnutrition will get diminished during the Twelfth Plan. Also, the degree of malnutrition will dwindlefrom 31.83% during 2012-13 to 15.91% during 2016-17. In other words, the level of malnutrition will be halved by end of the Twelfth Plan.

**Table - 3**

**Year wise Targets for Reducing Malnutrition during the Twelfth Plan period**

| `Indicator | Targets during the Twelfth Plan Period | | | | |
|---|---|---|---|---|---|
| | 2012-13 | 2013-14 | 2014-15 | 2015-16 | 2016-17 |
| Malnutrition among children in 0-3 years (Weight for Age below 0-2 Standard Deviation) in percentage | 31.83 | 27.85 | 23.87 | 19.89 | 15.91 |

**Source:** Dept. of Social Welfare and Nutritious Meal Programme, GoTN.

20-40 percent of school children from the low income groups are undernourished (low BMI for age) and about 20-30 percent of urban school children from affluent sections are over nourished. Prevalence of under nutritionin adults is double of that in preschool children and over nutritionwere 4-6 folds higher in adults - progressive increase in both under and over nutritionduring school age.

Steps Taken in India to address Nutritional Status of Adolescent Girls and Suggestions to uphold Nutritional Security

1. Focus on the Life Cycle Approach will be further stepped up for improving nutrition and health status of pregnant women, lactating mothers, children below six years and adolescent girls.

2. Non Formal Early Childhood Education will be further strengthened to provide a stimulating environment for children and enhance their school readiness

3. Initiatives for the holistic empowerment of adolescent girls will be further accelerated

4. Strengthening infrastructure, modernising facilities and improving quality of service delivery

5. Strengthening social mobilisation, advocacy and communication to bring sustainable changes in knowledge, attitudes, practices and behaviours of beneficiaries, families and communities

6. Greater convergence will be fostered with allied Departments and Institutions to widen the reach of services and enhance the overall impact of programme interventions

7. Nutritive value of millets will be promoted to address under-nutrition and over-nutrition.

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# THE CAPABILITIES APPROACH AND EDUCATION: FROM LIVELIHOOD SKILLS TO LIFE SKILLS EDUCATION FOR SUSTAINABLE DEVELOPMENT

Education is referred to as opening to other capabilities through providing access to education and promoting a concrete set of basic learning outcomes, such as abilities to read and write. However, from the Capabilities Approach point of view, learning that stops at the level of providing only basic reading and writing skill would be insufficient to sustainable development and fighting poverty. According to Sen "*It is best to see human rights as a set of ethical claims which must not be identified with legislated legal rights*" (Sen 1999). This is related to quality education contents, processes, and contexts that lead to building capability of the individual. The capabilities approach in education is thus larger in the scope than human capital approach which narrows down the contribution of education to a limited range of indirect livelihood skills mainly related to production and income generation. This paper focuses on how the quality education can build individual capabilities and thus cause individual freedom and development.

## Objectives of Education

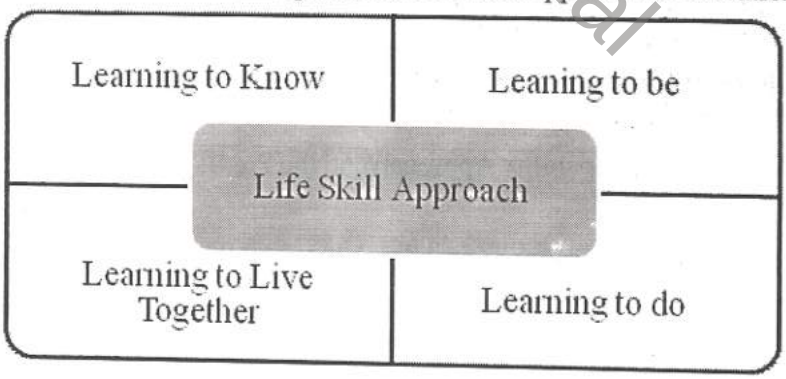
The objective of education for all must be geared towards enhancing capabilities and enlarging choices and developing agency by building different dimensions of well-being, by building self-image and self worth, which in turn help individuals to be less vulnerable to the variations within a given context. Educational content must therefore be reviewed to remove the stereotypes and old age norms that persist. Every aspect of education must then work towards fighting all types of poverty, including reducing vulnerability by building potential and increasing agency and well being of individuals and societies.

## Livelihood Skills to Life Skills

Education must move from rote learning towards specifically addressing the development needs and aspirations of the individuals, their ability to think and reason, build up self respect, as well as respect for others, think a head and plan for future. The importance of such mental power, i.e cognitive, emotional and social abilities, is making its way into education policies and plans, often under the name of life skills. Life skills were seen as the abilities for adaptive and positive behavior that enable individuals to deal effectively with the demand and challenges of everyday life.

## Life Skill Approach

The report of UNESCO, 1996 stresses the importance of enhancing "inner capabilities" in order to meet the challenges of education. It offers conceptual basis life skill approach to education.

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■ **Learning to know: developing reasons.** The pillar refers to the Central Functional Capabilities of "Practical Reasons" according to Nussbaum. It linked to the understanding and use of knowledge. It related to life skills such as critical thinking, problem solving and decision making life skill which are fundamental to informed action.

■ **Leaning to be: enhancing agency.** The pillar refers to the Central Functional Capabilities of "Senses, Imaginations, Thought and play" according to Nussbaum. It related to abilities include life skills for coping, self awareness, self esteem and self confidence, aiming at building identity, setting goals, etc.

■ **Learning to live together: building potential through social capital.** The pillar refers to the Central Functional Capabilities of "affiliation, emotions and other Species" according to Nussbaum. It related to interpersonal abilities and social life skills include communication, negotiations and refusal life skills, etc.

■ **Learning to do: functioning and capabilities**. The pillar refers to the Central Functional Capabilities of "Life, Bodily Health, Bodily Integrity and Control over one's environment" according to Nussbaum.

**Life Skill Education for Sustainable Development and Human Capabilities**

The four pillars of education offer a conceptual basis for sustainable human development. The four pillars directly reflect the four principles for achieving sustainable human development enunciated at the World Summit on Sustainable Development in 2002. i.e. Recognition of the challenge; The invisibility of human dignity; Collective responsibility and constructive partnership; Acting with determination.

**Conclusion**

An Education which addresses the needs of the present generation while building the skills of the future generations can be considered sustainable in its approach and in line with the concept of sustainable development. However it needs to be driven and coordinated by national policy. Quality education must respond to the fact that number of young people do not, or no longer, think that their future lies in attending schools, and enable young people to be the principal agent responsible for the present and future events of his/her life.

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# ECONOMICS OF ELEMENTARY EDUCATION IN TAMILNADU

The Elementary Education is the base or foundation for all kind of linkages to education which may be formal or informal. The essence of the Universal Elementary Education goal is for every 14-year old to have acquired foundation skills such as the ability to read and write with fluency, numeracy, comprehension, analysis, reasoning and social skills. Access to schooling is not uniform across states, within states, by gender or social class. Hence the researchers made an attempt to analyse the accessibility of elementary education in Tamil Nadu. The variable of accessibility of elementary education is treated as enrolment of elementary education in Tamil Nadu.

## Objectives of the study

1) To trace the magnitude, trend and gender discrimination in enrolment of elementary education in Tamil Nadu.

2) To suggest ways and means to enhance the actual enrolment in Tamil Nadu.

**Table -1**

**District wise performance of literacy rate in Tamil Nadu (2001)**

| | District Name | Literacy Rate | | | Deviation from State Average | | |
|---|---|---|---|---|---|---|---|
| | | Person | Male | Female | Person | Male | Female |
| | **STATE Average** | **73.47** | **82.33** | **64.55** | **0.00** | **0.00** | **0.00** |
| 1 | Kanayakumari | 88.11 | 90.88 | 85.38 | 14.64 | 8.55 | 20.83 |
| 2 | Thoothukudi | 81.96 | 88.66 | 75.64 | 8.49 | 6.33 | 11.09 |
| 3 | Chennai | 80.14 | 84.71 | 75.32 | 6.67 | 2.38 | 10.77 |
| 4 | The Nilgiris | 81.44 | 89.63 | 73.39 | 7.97 | 7.30 | 8.84 |
| 5 | Tiruchirapalli | 79.16 | 87.16 | 71.19 | 5.69 | 4.83 | 6.64 |
| 6 | Kancheepuram | 77.61 | 84.82 | 70.21 | 4.14 | 2.49 | 5.66 |
| 7 | Madurai | 78.65 | 87.24 | 69.93 | 5.18 | 4.91 | 5.38 |
| 8 | Coimbatore | 76.95 | 83.82 | 69.80 | 3.48 | 1.49 | 5.25 |
| 9 | Tirunelveli | 76.97 | 85.89 | 68.50 | 3.50 | 3.56 | 3.95 |
| 10 | Thiruvarur | 76.90 | 85.59 | 68.36 | 3.43 | 3.26 | 3.81 |
| 11 | Nagapattinam | 76.89 | 85.61 | 68.35 | 3.42 | 3.28 | 3.80 |
| 12 | Thiruvallur | 76.54 | 84.62 | 68.23 | 3.07 | 2.29 | 3.68 |
| 13 | Thanjavur | 76.07 | 85.45 | 66.95 | 2.60 | 3.12 | 2.40 |
| 14 | Virudhunagar | 74.23 | 84.56 | 64.09 | 0.76 | 2.23 | -0.46 |
| 15 | Ramanathapuram | 73.05 | 82.96 | 63.55 | -0.42 | 0.63 | -1.00 |
| 16 | Vellore | 73.07 | 82.67 | 63.53 | -0.40 | 0.34 | -1.02 |
| 17 | Sivagangai | 72.66 | 83.70 | 62.12 | -0.81 | 1.37 | -2.43 |
| 18 | Theni | 72.01 | 82.50 | 61.41 | -1.46 | 0.17 | -3.14 |
| 19 | Pudukkottai | 71.96 | 83.22 | 60.94 | -1.51 | 0.89 | -3.61 |

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Source: www.department of school education Tamilnadu

The table-2 and table-3 reveals that the children in the age group of 5-11 and 11-14 enrolled in Tamil Nadu over the years. The statistics given in the table was collected from various copies of Statistical Hand Book of Tamil Nadu. The data in the table presents the actual enrolment and the values in brackets give the annual growth rate. The annual growth rate depicts the growth rate in particular point of time. The enrolment data has been taken after the launch of Sarva Siksha Abiyan which emphasis the Universal elementary education. The gross enrolment ratio of any particular stage primary or upper primary is the ratio of the enrolment at the stage with respect to the population in the age group corresponding to the stage and multiplied by hundred. While interpreting These figures it should be noted that there may be many student outside the age-group in a stage may enrolled in classed of that stage, say primary or upper primary. The table-2 and table-3 reveals actual (50 percent of )Enrolment for boys, girls, and totals. The lagged year 2011 in the primary stage and 2010 in case of upper primary has shown a significant change in annual growth rate of enrolment in both the genders as well as in totals. This absolute inequality is ranging between 0.86 lakh minimum to2.39 lakh in the table-2 which can be understand from the table itself.

**Table -2**

**Gross Enrolments in Schools ofTamil Nadu during 2000-2012 (6-11 years)**

(in lakhs)

| Year | Total | Boys | Girls | Difference | Total |
|---|---|---|---|---|---|
| 2001 | 58.01 | 29.18 | 27.91 | 1.27 | 57.09 |
| 2002 | 57.51 | 28.99(-0.65) | 27.75(-0.57) | 1.24 | 56.74(-0.61) |
| 2003 | 63.6 | 32.51(12.14) | 30.41(9.58) | 2.1 | 62.92(10.89) |
| 2004 | 66.6 | 34.10( 4.89) | 31.81(4.6) | 2.29 | 65.91(4.95) |
| 2005 | 65.15 | 33.21(-2.6) | 30.82(-3.11) | 2.39 | 64.03(-2.85) |
| 2006 | 65.15 | 32.94(-0.81) | 30.84(0.06) | 2.1 | 63.78(-0.39) |
| 2007 | 65.15 | 31.62(-4.0) | 29.84(-3.24) | 1.78 | 61.46(-3.63) |
| 2008 | 65.15 | 31.62(00) | 29.84(000) | 1.78 | 61.46(00) |
| 2009 | --- | 31.22(-1.26) | 29.25(-1.97) | 1.97 | 60.47(-1.61) |
| 2010 | --- | 32.04(2.62) | 31.32(3.65) | 1.72 | 62.37(3.14) |
| 2011 | --- | 44.94(40.26) | 44.08(45.38) | 0.86 | 89.02(42.92) |
| 2012 | ---- | 31.1(-30.29) | 29.51(-33.05) | 1.61 | 60.61(-31.9) |

Source: Various Statistical Hand Book of Tamil Nadu & Figures in brackets are AGR manipulated by the researcher.

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**Table -3**

**Gross Enrolments in Schools of Tamil Nadu during 2000-2012 (11-14 years)**

(in lakhs)

| year | Total | Boys | Girls | Difference | Total |
|---|---|---|---|---|---|
| 2001 | 38.07 | 18.32 -- | 17.19 -- | 1.13 | 35.51-- |
| 2002 | 37.64 | 18.15 (-0.92) | 17.09(-0.58) | 1.06 | 35.24(-0.76) |
| 2003 | 37.58 | 18.54(2.15) | 17.31(1.28) | 1.23 | 35.85(1.73) |
| 2004 | 38.16 | 18.71(0.91) | 17.3(-0.05) | 1.41 | 36.01(0.44) |
| 2005 | 39.81 | 19.34 (3.36) | 17.64(1.96) | 1.7 | 36.98(2.69) |
| 2006 | 39.82 | 18.93(-2.11) | 17.41(-1.30) | 1.52 | 36.34(-1.73) |
| 2007 | 39.82 | 18.98(0.26) | 17.64(1.32) | 1.34 | 36.62(0.77) |
| 2008 | 39.82 | 18.98(00) | 17.64(00) | 1.34 | 36.62(00) |
| 2009 | --- | 19.33(1.84) | 17.77(0.73) | 1.56 | 37.10(1.31) |
| 2010 | --- | 29.4(52.09) | 27.77(56.27) | 1.63 | 57.17(54.09) |
| 2011 | --- | 22.64(-22.99) | 21.36(-23.08) | 1.28 | 44.0(-23.04) |
| 2012 | --- | 28.72(26.85) | 27.63(29.35) | 1.09 | 56.36(28.09) |

Source: Various Statistical Hand Book of Tamil Nadu & Figures in brackets are AGR manipulated by the researcher.

The Sarva Siksha Abiyan goal is to enhance the enrolment over the period. The upper primary enrolment is poor than the primary in case of Tamil Nadu. The primary students are going to be the input for the upper primary but the enrolment in the table -3 reveals that there is a drop out in enrolment.

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# STUDENTS' PERCEPTION ON *NAAC* QUALITY DIMENSIONS IN ARTS AND SCIENCE COLLEGES OF PUDUCHERRY

The present study has measured the Students' perception on the basis of seven *NAAC* Quality Dimensions namely, Curricular Aspects (CA), Teaching, Learning & Evaluation (TLE), Infrastructure & Learning Resources (ILR), Research, Consultancy & Extension (RCE), Student Support & Progression (SSP), Governance & Leadership (GL) and Innovative Practices (IP).

**Findings**

Perception difference between male and female Students, it is identified that out of seven ***NAAC*** quality dimensions, the male Students are highly influenced by the factors such as "Curricular Aspects" (***CA***) dimension, The female Students are highly influenced by "Student Support and Progression" (***SSP***) dimension,

Perception difference between male and female Students on factors of ***NAAC*** quality dimensions, it is identified that the male Students are highly influenced by the factors such as "Participative Learning Techniques" (***TLE2***), "Effective & User-Friendly Library Operations" (***ILR5***), "Health Services Optimally to make the Campus Safe for Students" (***SSP7***) and "Ambience for Creativity, Innovation and Quality" (***IP2***) compared to the other factors which have significant values. The female Students are highly influenced by the factors such as "Implementation of Choice-Based Credit System and Inter-departmental Mobility is Limited" (***CA10***), "Establishment of Specific Research Units/Centres" (***RCE4***), "Organise student cultural activities" (***SSP9***), "Specific complaints/legal enquiry about the Institutions functioning" (***GL6***) and "Provide an active support and strengthen the neighbourhood communities" (***IP10***) compared to the other factors which have significant values.

Perception difference between Govt. College and Private College Students, it is identified that out of seven ***NAAC*** quality dimensions, the Govt. College Students are highly influenced by "Student Support and Progression" (***SSP***) dimension and the Private College Students are highly influenced by "Teaching, Learning and Evaluation" (***TLE***) dimension.

Perception difference between ***UG, PG*** and ***RS*** on factors of ***NAAC*** quality dimensions, it is identified that the ***UG*** Students are highly influenced by the factors such as "ICT is effectively used with computers" (***TLE3***), "Library resources are augmented every year with newer editional and titles" (***ILR7***), "Health services optimally to make the campus safe for Students" (***SSP7***) and "Conducts program for professional development of staff" (***GL7***) compared to the other factors which have significant values.

Perception difference between Arts and Science Students on factors of ***NAAC*** quality dimensions, it is identified from the table that the Arts Students are highly influenced by the factors such as "Number of value-added courses offered" (***CA2***), "Participative Learning Techniques" (***TLE2***), "Library resources are augmented every year with newer editional and titles" (***ILR7***), "Health services optimally to make the campus safe for Students"(***SSP7***),

**Conclusion**

The present study is to identify whether there is any significant difference in Students' Perception on ***NAAC*** quality dimensions in Puducherry has paved the way for understanding several issues. This study which provides a more detailed analysis of Students' perception on the Quality Status of Higher Education adds additional information to the existing literature in Higher Education. Also, it sheds light to the fact that there is a strong relationship between Student support system and quality of Higher Education.

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# RURAL AND URBAN DIVIDE IN EDUCATION

Education improves functional and analytical ability and thereby opens up opportunities for individuals and also groups to achieve greater access to labour markets and livelihoods. A better educated labour force is essential to meet the labour supply requirements of faster growth. Right to Education is the primary right of every citizen of India. Even after 64 years of independence some States in India are still struggling to achieve Universal enrolment, retention and quality education.

As per the 2011 census, 72.2% of the population lives in rural areas and the remaining 27.8% lives in more than 5,100 towns and over 380 urban agglomerations. The gap between the literacy rate in urban and rural areas is steadily declining in every census. In Census 2011, the gap stands at 16.3 points. As per latest statistics, the literacy rate among urban population is 84.1 per cent while it is 67.8 for rural population. The total population of literate females in the country was 224.2 million and in the past one decade it increased to 328.8 million, showing a significant addition of 104.6 million literate females in the country.

This article analyses the vast gap between the rural and urban literacy in India and the factors responsible for the decoration in the rural literacy rate. For this purpose the census wise literacy rates of rural and urban areas have been presented. The state wise literacy rates have been also given to establish the rural and urban divide in the literacy.

**Present Scenario of Rural Education**

The census wise literacy rate and state wise literacy rate have been presented to show the gap between rural and urban literacy in India.

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**Table No -1**

**Gap in Rural –Urban Literacy Rate in India (1961-2011)** (In %)

| Year | Rural | Urban | Overall | Rural-Urban literacy Gap |
|---|---|---|---|---|
| 1961 | 24.48 | 58.59 | 30.68 | 34.11 |
| 1971 | 30.30 | 64.56 | 37.32 | 34.26 |
| 1981 | 35.17 | 69.06 | 43.57 | 33.89 |
| 1991 | 44.01 | 73.08 | 52.21 | 29.07 |
| 2001 | 58.83 | 79.92 | 64.83 | 21.01 |
| 2011 | 68.91 | 84.97 | 74.04 | 16.06 |

**Source:** Census, Report of India

From the above table it could be stated that the rural literacy rate has always been poor in India. The literacy rate which was 24.48 percentages in 1961, improved to 68.91 percentages in 2011 reflecting an average growth rate of 0.89 percentages per annum during the last 50 years under context. On the other hand, urban literacy rate also went up from 58.59 percentages to 84.99 percentages, showing the average annual growth rate of 0.53 percentages during 1961-2011.

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The rural and urban literacy gap in the column shows that the gap has come down form 34.11 percentages to 16.06 percentages. But still the present scenario the literacy rate increased further by 9.20 percentages points to reach 74 percentages.

**Literacy Rates in Major States of India:**

The literacy rates of the population in the major states of the country on the basis of rural and urban areas and sex wise literacy have been given in the following tables.

**Table No-2**

**Rural, Urban and sex wise Literacy ate in Major States of India (In %)**

| States | Rural | | | Urban | | | Rural & Urban literacy gab |
|---|---|---|---|---|---|---|---|
| | Female | Male | Person | Female | Male | Person | |
| Andhra Pradesh | 52.5 | 70.24 | 61.14 | 75.02 | 85.99 | 80.54 | 19.4 |
| Assam | 64.09 | 76.51 | 70.44 | 85.71 | 91.84 | 88.88 | 18.44 |
| Bihar | 50.82 | 71.90 | 61.83 | 72.36 | 84.42 | 78.75 | 16.92 |
| Gujarat | 62.41 | 83.10 | 73.00 | 82.08 | 92.44 | 87.58 | 14.58 |
| Haryana | 60.97 | 83.20 | 72.74 | 77.51 | 89.37 | 83.83 | 11.09 |
| Himachal Pradesh | 75.33 | 90.48 | 82.91 | 88.66 | 93.72 | 91.39 | 8.48 |
| Jammu & Kashmir | 53.36 | 75.51 | 64.97 | 70.19 | 84.90 | 78.19 | 13.22 |
| Karnataka | 59.60 | 77.92 | 68.86 | 81.71 | 90.54 | 86.21 | 17.35 |
| Kerala | 90.74 | 95.29 | 92.92 | 93.33 | 96.83 | 94.99 | 2.07 |
| Madhya Pradesh | 53.20 | 76.64 | 65.29 | 77.39 | 90.24 | 84.09 | 18.08 |
| Maharashtra | 67.38 | 86.39 | 77.09 | 85.44 | 93.79 | 89.84 | 12.75 |
| Orissa | 61.10 | 80.41 | 70.78 | 80.70 | 91.83 | 86.45 | 15.67 |
| Punjab | 66.47 | 77.92 | 72.45 | 79.62 | 87.28 | 83.70 | 11.25 |
| Rajasthan | 46.25 | 77.49 | 62.34 | 71.53 | 89.16 | 80.73 | 18.39 |
| Tamil Nadu | 65.52 | 82.08 | 73.80 | 82.67 | 91.82 | 87.24 | 13.44 |
| Uttar Pradesh | 55.61 | 78.48 | 67.55 | 71.68 | 81.75 | 77.01 | 9.46 |
| West Bengal | 66.08 | 79.51 | 72.97 | 81.70 | 89.15 | 85.54 | 12.57 |
| **All India** | **58.75** | **78.57** | **68.91** | **79.92** | **89.67** | **84.98** | **16.27** |

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**Source:** Government of India (2012), "Census of India, 2011," Provisional Population Tables, New Delhi.

The above (Table No -2) indicates that at the all-India level total rural literacy rate in 2011 is 68.91 percentages, which is 84.98 percentages in the urban India and hence, there is a difference of 16 percentages. Among the rural females literate, 58.75 percentages and 79.92 percentages among their urban female literate and thereby projecting a difference of more than 21 percentages points. And 11 percentages Points differences among urban and rural male literate. This suggests that spatial variation exists among all three categories, viz., female, male and persons, which is the worst in the case of females. The

state wise rural urban literacy gab has been worked out in the last column of the table. It shows highest gab exists for A.P for 19.4 percentages, for Assam 18.44 percentages and the gab is lowest in Kerala 2.07 percentages.

**Status of Rural Education in India:**

**Table No.3**

**Status of Rural and Urban Education**

| S.No | Rural Education | Urban Education |
|---|---|---|
| 1 | Few schools in village and the rural areas | Many schools in cities and towns |
| 2 | Children in rural areas have to walk miles to reach their schools | Transportation facilities like bus pick and drop in urban schools |
| 3 | No drinking water provide in some of the village school | Drinking water Provided |
| 4 | Basic level taught in rural schools | Advanced level of education |
| 5 | Few schools in village give computer training | Higher importance to Computer education |
| 6 | No such facilities are provided for students in rural schools | Audio and Video conferencing using in urban schools |

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**Major Factors Hindering Rural Education in India:**

The major factors affecting rural education have been listed below.

1. Poor Infrastructure:
2. Lack of Accountability:
3. Poor Educational Standard:
4. Poor Teacher attendance and Lack of Accountability:
5. Lack of Qualified Teachers and Inadequate number of trained Teachers:

**Strategies and Suggestions to Improve Rural Education**

**Strategies**

1. Improving education standard
2. Improving Gross Enrolment Ratio (GER) at the secondary school stage
3. Ensuring adequate number of suitably qualified, appropriately-trained human resources:
4. Initiating Pre-vocational courses
5. Training and Skill development program

**Suggestions**

1. Government has already taken initiative in this sector and has started Mid-Day-Meal scheme which is the main attraction for students in rural areas.

2. The schemes like provision of free school dresses, text books and cash for purchase of bicycle etc are acting as catalyst in rural education.

3. Update the curriculum of rural education which accompanies education related to farming, gardening etc.

4. To motivate the teachers to feel proud by teaching in the rural or remote areas as they are acting as a helping hand in the development of economy.

5. Some special sessions are classes can be conducted for the parents to make them realize the significance of education for their children.

**Conclusion:**

The educational progress of a country depends upon the parallel developments in primary, secondary and higher education sector. A country can be parallel educated only when there is inclusive growth in education sector i.e. including rural, urban, different castes and different income groups and especially the deprived section of the society.

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# STUDENTS' PERCEPTION ON *NAAC* QUALITY DIMENSIONS IN ARTS AND SCIENCE COLLEGES OF PUDUCHERRY

Education is considered to be a liberating force and also a democratising force, cutting across the barriers of caste and class, smoothing out inequalities imposed by birth and other circumstances. Education is also an active agent of social transformation, economic growth and ***HRD***. Thus education is considered to be the nerve centre of life in the present era. Higher Education **(HE)** imparts in-depth knowledge and understanding so as to advance the Students to new frontiers of knowledge in different walks of life. It broadens the intellectual power of an individual with a narrow specialisation, but also gives citizens a wider perspective of the world around.

**Statement of the problem**

Quality has been a central issue for researchers in the field of education for quite some years now. Still the application of ***TQM*** in ***Higher Learning Institutions (HLIs)*** are questionable and the implementation rate is very negligible in comparison to other sectors like industry, service, etc. This changing scenario will create stiff competition for Indian ***HLIs*** for its survival. Though the numbers of Universities and Colleges have increased substantially, the quality aspects are estimated as inadequate. In this scenario, this study which aims at identify whether there is any significant difference in Students' perception on ***NAAC*** quality dimensions in Puducherry.

**Objective of the study**

To identify whether there is any significant difference in Students' perception on ***NAAC*** quality dimensions in Puducherry

**Methodology**

For the purpose of the study, 250 Students were selected from two colleges namely, Bharathidasan Government College for Women and Kanchi Mamunivar Centre for Post-Graduate Studies by adopting proportionate random sampling method. The Students in *HLIs* have been categorised into four, namely, Male and Female Students, Govt. and Private College Students, UG, PG and Research Scholar, and Arts and Science Students.

The present study has measured the Students' perception on the basis of seven *NAAC* Quality Dimensions namely, Curricular Aspects (CA), Teaching, Learning & Evaluation (TLE), Infrastructure & Learning Resources (ILR), Research, Consultancy & Extension (RCE), Student Support & Progression (SSP), Governance & Leadership (GL) and Innovative Practices (IP).

**Findings**

Perception difference between male and female Students, it is identified that out of seven ***NAAC*** quality dimensions, the male Students are highly influenced by the factors such as "Curricular Aspects" (***CA***) dimension, The female Students are highly influenced by "Student Support and Progression" (***SSP***) dimension,

Perception difference between male and female Students on factors of ***NAAC*** quality dimensions, it is identified that the male Students are highly influenced by the factors such as "Participative Learning Techniques" (***TLE2***), "Effective & User-Friendly Library Operations" (***ILR5***), "Health Services Optimally to

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make the Campus Safe for Students" (***SSP7***) and "Ambience for Creativity, Innovation and Quality" (***IP2***) compared to the other factors which have significant values. The female Students are highly influenced by the factors such as "Implementation of Choice-Based Credit System and Inter-departmental Mobility is Limited" (***CA10***), "Establishment of Specific Research Units/Centres" (***RCE4***), "Organise student cultural activities" (***SSP9***), "Specific complaints/legal enquiry about the Institutions functioning" (***GL6***) and "Provide an active support and strengthen the neighbourhood communities" (***IP10***) compared to the other factors which have significant values.

Perception difference between Govt. College and Private College Students, it is identified that out of seven ***NAAC*** quality dimensions, the Govt. College Students are highly influenced by "Student Support and Progression" (***SSP***) dimension and the Private College Students are highly influenced by "Teaching, Learning and Evaluation" (***TLE***) dimension.

Perception difference between ***UG, PG*** and ***RS*** on factors of ***NAAC*** quality dimensions, it is identified that the ***UG*** Students are highly influenced by the factors such as "ICT is effectively used with computers" (***TLE3***), "Library resources are augmented every year with newer editional and titles" (***ILR7***), "Health services optimally to make the campus safe for Students" (***SSP7***) and "Conducts program for professional development of staff" (***GL7***) compared to the other factors which have significant values.

Perception difference between Arts and Science Students on factors of ***NAAC*** quality dimensions, it is identified from the table that the Arts Students are highly influenced by the factors such as "Number of value-added courses offered" (***CA2***), "Participative Learning Techniques" (***TLE2***), "Library resources are augmented every year with newer editional and titles" (***ILR7***), "Health services optimally to make the campus safe for Students" (***SSP7***),

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**Conclusion**

The present study is to identify whether there is any significant difference in Students' Perception on ***NAAC*** quality dimensions in Puducherry has paved the way for understanding several issues. This study which provides a more detailed analysis of Students' perception on the Quality Status of Higher Education adds additional information to the existing literature in Higher Education. Also, it sheds light to the fact that there is a strong relationship between Student support system and quality of Higher Education.

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# MIGRATION OF STUDENTS

The central Government launched "Education For All" and "Compulsory Education" and Tamilnadu Government launched "Samecheer Kalvi" in school education. Tamilnadu Government give free books, clothes, cycle, bus pass. and recently laptop etc .there are well environment for study in Tamilnadu. This paper highlights why student migrate from government school to private school and the factors determining his migration to private school. The paper has relied on primary data and the study area is Poovani pattu village in Ariyalur district this study has taken the sample size of 20.Samples have been selected from only scheduled caste families only.

This present paper is an attempt to study why student migration at poovanipattu village in Ariyalur district, Tamilnadu. This study conducted on September 2013

**Table 1 Employment status of Parents of migrated students**

| Employment status | No. Of student | % |
|---|---|---|
| Government Employee | 5 | 25 |
| Private Employee | 1 | 05 |
| Self employed | 7 | 35 |
| others | 7 | 35 |
| Total | 20 | 100 |

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**Table 2Size of the family of the migrated students**

| Family members | No. Of students | % |
|---|---|---|
| 4 | 7 | 35 |
| 5 | 5 | 25 |
| 6 | 4 | 20 |
| 7 | 3 | 15 |
| 8 | 1 | 05 |
| Total | 20 | 100 |

**Table 3 Class wise student migration**

| Class | students | | Total |
|---|---|---|---|
| | Boys | Girls | |
| Primary | 1 | 1 | 2 |
| Middle | 10 | 2 | 12 |
| Secondary | 1 | - | 1 |
| Higher secondary | - | 5 | 5 |
| Total | 12 | 08 | 20 |

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**Table 4 Reasons for student migration**

| Parental view | students | | |
|---|---|---|---|
| | Boys | Girls | Total |
| Not well study | 5 | 2 | 7 |
| Worest behaviour of the students | 4 | 5 | 9 |
| No satisfied school function | 3 | 3 | 6 |
| Other places | 2 | 2 | 4 |
| Total | 14 | 12 | 26 |

**Discussion**

1. Migration of boys is higher than girls to private school from government school.

2. Table1.explained employment status of parents. Because parents income determine the level of son/ daughter education. Table 1 classify parents occupation four categories government, private, own and Others. A person working in government is called government employer. Same work in private company is called private employer. Income earning through well trained a particular work with equipment is called own employer for example, mason, painter, carpenter, fitter..etc. A person doing in all work without particular work is called all worker. this type of person depends on daily wages.

3. Table 4 explained the reason for student migration. Student migration is determined by their parents in the study area. In the parents view, no control in government school to worst behaviour, and their children are not having subject knowledge because of shortage of teacher. Last one School activate is not satisfied to us.

**Conclusion**

The conclusion of the study is that the most of the student migrate forced by her parents. Parent imagination her son/daughter is studying in private school is increases social status in the study area. Income level increase is automatically parents turned government to private school. parents viewed the school result, shortage of teacher and social issues, the most of the parents feared of student future life so he admitted of her son/daughter in English medium school. Teen age problem is more affected girls. So parents her daughter goes to private school.

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# HEALTH EDUCATION AND HUMAN DEVELOPMENT IN TAMIL NADU

This paper identifies problem areas, especially in the areas of women's empowerment and social development. The study highlights the future thrust areas for the government and civil society in the State. This study examines the Human Development Index (HDI) in Tamil Nadu at macro level (State/District level).

**Key Words:** Educational qualification, Quality of Health Education, Nutritional needs of women, Reproductive Health, Immunization, Family welfare methods, HDI & GDI.

**Objective of the Study:**

1. To find out the basic knowledge and awareness of health education such as Nutritional awareness, Reproductive Health, Immunization and Family Welfare Methods among Female Teachers and Female Students.
2. To analyze HDI & GDI in Tamil Nadu at macro level (State/District level).
3. To understand the bridge between Health Education and Development.
4. To identify some new ideas to enhance the status of the society by applying simple but effective things over the desires of the society.

**Methodology:**

In this study both primary data as well as secondary data are used for analysis. As First and Second Indicators of Dimension for calculating Human development Index are 'A Long and Healthy Life' and 'Knowledge', A sample size of hundred each were taken and studied the percentage of them were calculated in three categories namely those who are having high knowledge, moderate knowledge and poor knowledge. And a comparison between these two categories of people for understanding their present status and quality of learning and teaching health education which are used for long and healthy life. Simple Statistical tools were used and represented the situation in bar graphs for better understanding.

**Table No: 1 Rating Score of Awareness of Nutritional needs of women**

| Standard of Health Education | High School | | Higher Secondary | | College | | Total | |
|---|---|---|---|---|---|---|---|---|
| | Teachers | Students | Teachers | Students | Teachers | Students | Teachers | Students |
| High | 5 | 3 | 8 | 7 | 13 | 12 | 26 | 22 |
| Moderate | 14 | 13 | 16 | 15 | 16 | 14 | 48 | 44 |
| Poor | 11 | 14 | 11 | 13 | 6 | 9 | 26 | 34 |
| | 30 | 30 | 35 | 35 | 35 | 35 | 100 | 100 |

A null hypothesis that there is no association between educational qualification and level of health awareness has been formulated and Chi-square test has been used.

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**Table No: 2 Level of healh awerness**

| Educational Qualification | Level of Health awareness | | | Total |
|---|---|---|---|---|
| | High | Moderate | Poor | |
| 0 –7th Std | 6 | 8 | 16 | 30 |
| 8th –10th Std | 16 | 26 | 14 | 56 |
| 11th –12th Std | 12 | 20 | 12 | 44 |
| Degree | 14 | 16 | 8 | 38 |
| P.G | 16 | 10 | 6 | 32 |
| Total | 64 | 80 | 56 | 200 |

| O | E | O-E | $(O-E)^2$ | $(O-E)^2/E$ |
|---|---|---|---|---|
| 6 | 9.6 | -3.6 | 12.96 | 1.35 |
| 16 | 17.92 | -1.92 | 3.6864 | 0.205714 |
| 12 | 14.08 | -2.08 | 4.3264 | 0.307273 |
| 14 | 12.16 | 1.84 | 3.3856 | 0.278421 |
| 16 | 10.24 | 5.76 | 33.1776 | 3.24 |
| 8 | 12 | -4 | 16 | 1.333333 |
| 26 | 22.4 | 3.6 | 12.96 | 0.578571 |
| 20 | 17.6 | 2.4 | 5.76 | 0.327273 |
| 16 | 15.2 | 0.8 | 0.64 | 0.042105 |
| 10 | 12.8 | -2.8 | 7.84 | 0.6125 |
| 16 | 8.4 | 7.6 | 57.76 | 6.87619 |
| 14 | 15.68 | -1.68 | 2.8224 | 0.18 |
| 12 | 12.32 | -0.32 | 0.1024 | 0.008312 |
| 8 | 10.64 | -2.64 | 6.9696 | 0.655038 |
| 6 | 8.96 | -2.96 | 8.7616 | 0.977857 |
| | Sum of $(O-E)^2/E$ | | | 16.97259 |

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V= 2 X 4 =8, $X^2$ (0.05) = 15.5, Sum of $(O-E)^2/E$ = 16.97

The calculated value of $X^2$ is greater than the table value of $X^2$ at five percent level of significance with eight degrees of freedom. Hence the null hypothesis is rejected and concluded that there is an association between educational qualification and level of health awareness.

**Conclusion**

The study shows that there is an essential need to improve the level of knowledge in these four areas namely nutritional needs of women, reproductive health, immunization and family welfare methods among teachers and students through special programs and IEC activities by government and volunteers. In the syllabus of the student latest and very effective information about health must be included. The subject of health may be designed by the teachers with the consultation of experts of health educators, health economist and nutritionist. While conducting competition exams such as TNPSC, TET, TRB etc., more importance may be given to health education and nutrition. More training should be organized by health experts to train up the teachers to equip them to create healthy students. Obviously, High knowledge helps to improve our HDI and GDI of our country.

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# EDUCATION AND ECONOMIC DEVELOPMENT : A NOTE ON 12TH FIVE YEAR PLAN

Education leads to economic growth through both private and public channels. The private benefits for individual are well established and include better employment prospect, higher salary and a greater ability to save and invest. These benefits may result in better health and improved quality of life and productively over a longer time boosting lifetime earnings.

**Objective**

The objective of the paper is to give comment on the Twelfth Five Year Plan approach to education.

**Education Services of India**

India has the following education system;

1. Elementary
2. Secondary
3. Higher Secondary and
4. Higher Education

**Elementary Education**

The country has made significant progress in improving access to education in recent years. Elementary education comprising primary class (I-V) and upper primary (class VI-VIII) forms the foundation of the primary education. The schooling of the working population (those over 15 old) increased from4.19 years in 2000 to5.12 years 2010 the decade ending 2009-2010. Youth literacy increased from 64per cent in 1983 to 91 percent in 2003-10. And adult literacy improved from 64.8 percent in 2001 to 74 per cent in 2011. The Right of Children to free and Compulsory Education (RTE) Act 2009 become operate on 1 April 2010. 195 Million Children were enrolled at the elementary stage in 2009-10. The Gross Enrolment Ratio (GER) increased from 111.8 per cent in2006-07 to 115 per cent in 2009-10. The upper primary level is low, even though it improved by 11.8 per cent in the four years between 2006-07 and 2009-2010.

**Secondary and Higher Secondary Education**

The secondary education fulfils large man power need of the semi organized and the organized sectors of the economy and its supply chain of the higher education, further; there are both social and economic benefits secondary schooling. While there are clear importance in health, gender quality and living condition with secondary education, investment of in secondary schooling have high to move toward universalization of opportunity to attend the secondary schooling of adequate quality. The current Gross Enrolment Ratio (GER) for the combined secondary stages (classes X-XII) in 2009-10 at about 50 percent woefully low. GER at the enrollment secondary (class IX-X) and senior secondary (class XI-XII) level are 62.7 per cent and 35.9 per cent.

**Higher Education**

Higher Education is critical for developing modern economy, a just society and vibrant polity. It equips young people with skills relevant for the labour market and the opportunity for social mobility. It is estimated that developed economics and even china will face a shortage of about 40 million highly skilled worker by 2020.

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Literacy Rate 1961-2011

| YEAR | PERSON | MALES | FEMALES |
|---|---|---|---|
| 1961 | 36.39 | 51.59 | 21.06 |
| 1971 | 45.40 | 59.54 | 30.92 |
| 1981 | 54.39 | 68.05 | 40.43 |
| 1991 | 62.66 | 73.75 | 51.33 |
| 2001 | 73.47 | 82.33 | 64.55 |
| 2011 | 80.33 | 86.81 | 73.86 |

Source: MHRD/ UGC

**Twelfth Plan Strategy**

The 12th plan needs to address the challenges in an integrated and holistic manner.

- Improving the school infrastructure in keeping with the RTE stipulation
- Increasing enrollment of the upper primary and school levels
- Lowering dropout rate a cross the board and board based improvement in the quality of education with the special emphasis on improving learning outcomes
- The four main priorities for education policy have been access, equity, quality and governance are maintained
- Achieve near universal enrolment in secondary education with the GER exceeding 90 per cent by 2017
- Raise the GER at the higher secondary level 60 per cent by 2017.

**Target of the 12TH Plan**

| Level Type | 2011-12 (estimate) | 2016-17 (Target) | Growth Rate (Per Cent) |
|---|---|---|---|
| Ph.D | 1 | 3 | 24.6 |
| PG General | 17.3 | 33.2 | 13.9 |
| PG Technical | 5 | 12.2 | 19.3 |
| UG General | 116.6 | 128 | 1.9 |
| UG Technical | 45 | 66 | 8.0 |
| Diploma | 33 | 65 | 14.5 |
| Total | 217.9 | 307.4 | 82.2 |

Source: Planning Commission Estimate/ Target

**12TH Five Year Plan in Tamil Nadu**

Tamil Nadu has been India's most progressive State and is amongst the top three on several economic and social indicators. The Twelfth Plan of Tamil Nadu will lay the foundation for the recently unveiled "Vision 2023 Strategic Plan for Infrastructure Development in Tamil Nadu.

The Eleventh Plan targets relating to education were

1. Zero dropout rate at elementary schools
2. 90 % literacy rate and
3. 10 % gender gap in literacy

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**Targets to be achieved**

I. Implement Right to education (RTE)

II. Provide educational kits, text books, note books, uniforms, bus pass, bicycle without cost and special cash incentives to minimize dropout of 10th and 11th standard students( Rs1500) and 12th standard students (Rs2000)

III. Provide Nutritious meals through Puratchi Thalaivar MGR Nutrition Noon Meal Scheme

IV. Establish Parent-Teacher Association in every primary and middle school

V. Strengthen infrastructure facilities and quality intervention through Sarva Shiksha Abhiyan (SSA) and Rashtriya Madhyamik Shiksha (RMSA)

VI. Providing ICT facilities in class rooms and implementing e-governance in all educational institution

VII. Set up integrated knowledge park, integrated school and public libraries

VIII. Set up Government Engineering Colleges in each district

IX. Establish new universities, community college and skill development centers and

X. Set up Green Campus and Clean energy in College and Technical Institutions

**Tamil Nadu Skill Development Mission**

The mission is currently being implemented through a society. Educated youth will be trained for soft and vocational skills through Tamil Nadu Skill Development Mission, Will be reorganized as a Special Purpose Vehicle (SPV) with participation of the private sector. The government in addition also plants to provide laptops without cost to higher secondary, college and ITI students in the state. The 12th plan sets 30 per cent target for literacy, zero dropouts at elementary education, and 21 per cent enrollment in higher education. It also sets the target of reducing the gender gap in literacy to 8 per cent points and universalization of secondary education by 2017.

**Conclusion**

The present situation that the technology has been going to increase one side and the other side lack of education is increasing even though it has been reported that only 20% graduates coming out of the college every year are employable due to poor soft skills including communication and computer knowledge. Therefore Government should implement new methodology of teaching in higher education to improve the practical knowledge of students.

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# TRENDS IN GROWTH AND FINANCING OF HIGHER EDUCATION IN INDIA

Higher education has generally been recognised as a "public good", at least as a quasi-public good. The public good nature of higher education warrants that the state should play a more active role in the financing of higher education. Indeed, the state has been funding higher education since ndependence. Early on, it was realised that a strong, self-reliant and modern industrial economy could be built only on the foundations of higher education. However, owing to several factors including the new economic policies adopted since the 1990s, state funding to education in general, and higher education in particular, has been declining in real terms. Further, private institutions, particularly in areas of management, engineering, medicine, computers, etc, have been coming up in large numbers raising issues of access, equity, quality and regulation. The entry of foreign institutions is making it all the more complex. Interestingly, higher education is facing these challenges at a juncture when it is expected to play a greater role in improving the nation's competitiveness in the emerging global knowledge economy.

**Public Expenditure on Higher and Technical Education**

The public expenditure on higher education increased from Rs 23,120 million in 1990-91 to 95,620 million in 2004-05 in current prices with an annual growth rate of 12.3 per cent. Rising inflation, however, makes this increase an illusion. To get a realistic picture, one may have to look at trends in public expenditure adjusted for inflation. After adjusting public expenditure both on higher and technical education for inflation with national income deflators, the annual growth rate turns out to be just 5.4 per cent and 5.2 per cent respectively .Though higher and technical education is on the concurrent list, by and large, financing remains the responsibility of states. The share of the central government has remained around 20 per cent since 1990-91 with a few exceptions in the present decade, wherein it increased to a little over 25 per cent. Much of the central government expenditure on higher education is routed through the University Grants Commission (UGC). It is interesting to note that the disbursement of funds by the UGC is uneven and the bulk of it goes to the central universities and their affiliated colleges and to a few deemed to be universities. A vast majority of universities and other degree awarding institutions are not even eligible to receive any kind of grants from the UGC. In all, only 158 out of 348 universities are eligible to receive grants from the UGC. In addition, the UGC provides general development assistance to a little over 5,000 colleges. Since 1990-91, the central and state governments are financing the public technical education almost in equal proportion.

**Proportion of GNP on Education**

The proportion of GNP allocated to education (revenue and capital accounts together) has grown from a very low level of 0.67 per cent in 1951-52 to reach the all-time high of 4.4 per cent. in 2000-01. However, since then, it declined sharply to 3.54 per cent in 2004-05. The priority accorded to education thus has consistently declined since 1990 with the exception of a few years around 2000-01.

**Proportion of GNP to Higher and Technical Education**

In the context of the intra-sectoral allocation of resources, it was observed that the constitutional commitment of providing universal elementary education is non-negotiable. The secondary education as a preparatory as well as terminal education cannot be ignored. In the context of globalisation and increased competition, the higher education cannot be overlooked either. Having regard to these realities, a consensus of a sort is gradually emerging to allocate at least 3 per cent of GNP to elementary education, 1.5 per

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cent to secondary education and the remaining 1.5 per cent to higher and technical education.Since the 1990s, the priority given to higher and technical education has declined even as their importance in facing the new global challenges is growing. The proportion of GNP allocated to higher education has sharply declined from 0.46 per cent in 1990-91 to 0.34 per cent in 2004-05. The allocation to technical education declined from 0.15 per cent to 0.12 per cent as a proportion of GNP during the same period (Table 3). The allocations to higher and technical education put together hardly constitute 0.6 per cent of GNP in 1990-91 and further declined to 0.46 per cent by 2004-05.

**Table 1: Public Expenditure on Higher and Technical Education as Percentage of GNP and Budget**

| Year | As Percentage of GNP | | | As Percentage of Budget | | |
|---|---|---|---|---|---|---|
| | Higher | Technical | Higher and Technical | Higher | Technical | Higher and Technical |
| 1990-91 | 0.46 | 0.15 | 0.61 | 1.58 | 0.51 | 2.09 |
| 1991-92 | 0.42 | 0.14 | 0.56 | 1.43 | 0.48 | 1.91 |
| 1992-93 | 0.41 | 0.14 | 0.55 | 1.42 | 0.48 | 1.90 |
| 1993-94 | 0.40 | 0.13 | 0.54 | 1.42 | 0.47 | 1.89 |
| 1994-95 | 0.39 | 0.13 | 0.52 | 1.40 | 0.47 | 1.87 |
| 1995-96 | 0.37 | 0.12 | 0.49 | 1.35 | 0.45 | 1.80 |
| 1996-97 | 0.35 | 0.12 | 0.47 | 1.30 | 0.44 | 1.74 |
| 1997-98 | 0.35 | 0.12 | 0.47 | 1.31 | 0.44 | 1.75 |
| 1998-99 | 0.39 | 0.13 | 0.52 | 1.39 | 0.47 | 1.86 |
| 1999-00 | 0.47 | 0.14 | 0.61 | 1.61 | 0.48 | 2.09 |
| 2000-01 | 0.49 | 0.13 | 0.62 | 1.79 | 0.49 | 2.29 |
| 2001-02 | 0.39 | 0.12 | 0.52 | 1.31 | 0.41 | 1.72 |
| 2002-03 | 0.40 | 0.13 | 0.52 | 1.31 | 0.42 | 1.72 |
| 2003-04 | 0.37 | 0.13 | 0.50 | 1.22 | 0.41 | 1.63 |
| 2004-05 | 0.34 | 0.12 | 0.46 | 1.18 | 0.42 | 1.60 |

Source: Government of India, Analysis of Budgeted Expenditure, various years.

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## Major Concerns

Need to raise public funding: Now, it is very much clear from the above discussions that the public allocation to higher and technical education is not only inadequate but also declining since the last decade and a half. As the public funding of higher education could not keep pace with the growing enrolment, thereal unit costs have fallen dramatically since the 1990s. The financial stringency has led to cuts in expenditure on several items not on the basis of importance and relevance to higher education but the ease with which one can cut expenditures. As a result, the austerity measures have taken a heavy toll on the quality of education. Thus, it is imperative that these trends in funding be reversed and public funding for higher education raised.

**Need to evolve EMIS**: The data base on higher and technical education system in India is very weak and limited to a few areas like enrolment by disciplines and gender, aggregate public expenditure, faculty strength, etc. Data is not available on several vital aspects of higher education. The private sector is either not at all covered or covered in a restricted way. Realising the importance of adequate data, the CABE Committee (2005a, p 30) recommended undertaking a NCERT kind of survey (i e, All India Educational Survey) of higher education. Indeed, there is a good case to evolve the Educational Management and Information Systems in Higher Education (EMISHE).

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# EDUCATION AND DEVELOPMENT

Education has substantial economic return especially in those countries where standard of education and training is far below than that of the developed countries. Since the marginal return on physical capital in developing countries, expansion in educational facilities and improvements in its quality will serve as important inputs for achieving a high rate of growth, since without it, it is impossible to adopt improved technologies and the level of productivity.

**Determinants of educational expenditure of rural households**

The determinants of educational expenditure is influenced by several variables like household characteristics, individual characteristics, school related factors and development characteristics of the economy. which decide the actual educational expenditure in the households.

**Demographic Factors and Educational Expenditure**

Demographic factors like dependency ratios, age of the head of the household, size of the family, number of female children in the family and the number of male children in the family influence the household spending either through their impact on the ability to expense or through their impact on the will to expense. Some of the factors have a negative effect on educational expense whereas others positively influence household expenditure.

**Age of the Head of the Household and Educational Expenditure**

Age of the head of the household is one of the crucial factor in determining the rate of educational expenditure by a household. The cornerstone of the life cycle hypothesis is the age related consumers' heterogeneity and the prediction that educational expenditure follows a hump shaped pattern that is high at middle age and low at young and old ages. As Modigliani and Brumberg (1954)[1] have put it as the reasoning for the life cycle hypothesis "the rate of consumption in any given period is a factor of a plan which extends over the balance of the individuals life, while the income accruing within the same period is but one element which contributes to the shaping of such a plan". The household's educational expenditure ratio and the relationship between its current consumption and its accumulated assets will depend upon the age. According to the life cycle hypothesis, the APS for the given age group is assumed to be the same for all income levels, which is expected to rise with middle years, and fall again upon retirement. During the middle years income is likely to be high, most of the consumer durables have been acquired and there is the anxiety of a fall in the income upon retirement. These factors cumulatively account for a rise in educational expenditure during the middle years.

**Suggestions**

The following are the some of my own suggestions.

1) Begin schooling earlier. In most countries in the world, US, UK, Aus., NZ, HK etc. students start schooling at the age of 5 and latest at 6. Malaysia is one of the few countries where formal schooling starts at 7.

2) Cut down on school-level exams. There should be NO school-wide monthly tests from primary 1 to primary 5. Teachers should run their tests on their own for their own classes whenever they feel their students should be tested.

3) Give teachers more freedom. Teachers should be able to conduct their classes as they are most comfortable. With external teaching aids or to teach what is outside the "syllabus".

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4) Relax education for first 3 years. From Primary 1 to Primary 3 school should be about fun and learning through fun. Books and exams should be outlawed at these classes. Psychological studies have shown that ages 5-9 is the formative age of a person's character so this is the time where teachers should emphasise character building education techniques.

5) No more automatic progression. Students MUST achieve a certain overall grade to progress to the next standard after Primary 3. Students who fail for more than 4 years should be moved to vocational education.

6) Infrastructure sharing. Schools should be merged so infrastructure spending is reduced. Also school rules should be revamped and reviewed so that the school does not waste time and energy performing corporal punishments which themselves are outdated and should be abolished as they inflict irreparable harm on students psyche. Illogical and useless school rules also must be abolished.

**Conclusion**

In order to compete in the global economy, 'education' should be given due importance by the government in respect of control and financial support. Government should aim at providing this essential service at lower costs particularly to the poor sections of the economy so as to enable them to participate in the growth process.

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**(Footnotes)**

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# EDUCATIONAL STATUS OF TAMIL NADU

Educational system of India is an implantation of British rulers. Wood's Dispatch of 1854 laid the foundation of present system of education in India. Before the advent of British in India, education system was private one. The main purpose of it was to prepare Indian Clerks for running local administration. Under it the means of school educations were the vernacular languages while the higher education was granted in English only. British government started giving funds to indigenous schools in need of help and thus slowly some of the schools became government-aided

**Education Policy**

The National Policy of Education (1986) and Program of Action (1992) lay down the objectives and features of Indian education policy. It includes:

Development of International cooperation and peaceful coexistence through education.

1. Promotion of equality it could be achieved by providing equal access and equal condition of success to children.

2. A common educational structure (10+2+3) for the whole of India.

3. Education for women's equality. The Indian education should be used as a tool to change the status of women in the society.

4. Equalization of SC population with others in the matter of education. This is ensured by giving incentives to parents who send their children to schools, providing scholarship to SC students for higher studies, reservation of seats in institution of higher studies in India, recruitment of SC teachers.

5. Opening of primary schools in tribal area for promotion of education in ST people.

6. Development of curriculum and study material in the language of tribal people Emphasis on the education of minorities.

7. Adult education - Initiation of National Literacy Mission, for teaching illiterate people of age group 15-35. And making them aware of the day-to-day realities of their surroundings.

8. Special emphasis on early childhood care and education by opening up of day care centers, promotion of child focused programs.

9. Increasing the scope of Operation Blackboard for upliftment of standard of primary education in India. Secondary education curriculum should expose the students to differentiated roles of science, the humanities, and social science.

10. Redesigning of courses of higher education to meet the increasing demand of professionalism.

11. Providing enhanced support to the research work in Universities. Efforts to relate ancient Indian knowledge with the contemporary reality.

12. Setting up of Open Universities and Distance Learning centers to promote the goal of education as a lifelong process.

13. A combined perspective of technical and management education Minimum exposure to computers and training in their use to be the part of professional education.

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14. The All India Council for Technical Education will be responsible for maintenance of norms and standards, accreditation, funding, and monitoring of technical and management education in India.

15. Multiple task performance for teachers such as teaching, research, development of learning resource material, extension and management of the institution.

**Development of Education**

Development of Education in India has attained new level essentially after the independence of the country. India is a developing nation and it has been expanding in every field. Development of education in India brought about a transformation and the concept of education got modified. Literacy rate has increased from around 3% in 1880 to around 65% in 2001. According to the 2011 Census, the Literacy Rate is recorded to be around 74%. All levels of education in India, from primary to higher education portray a challenge. India got well-known educational institutions such as the IITs, IISc, IIMs, NITs, AIIMS, ISI, JU, BITS, and ISB. The higher education system of India is the third largest in the world, after China and the United States. Development of education in India regards that free and compulsory education should be provided to all children up to the age of 14. Moreover, the 86th Amendment of the Indian constitution makes education a fundamental right for all children aged 6-14 years.

**Conclusion**

Highlighting the role of education in economic development cannot be achieved at the expense of simple empirical approaches. Understanding the impact of education on economic performance of a country requires taking into account the specific institutional arrangements that constitute the structure of incentives and constraints at ascertain moment. The institutional economics approach should cover two key areas in order to stimulate economic progress through education: educational system and labor market.

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# STUDY ON PANCHAYAT RAJ INSTITUTIONS AND PRIMARY EDUCATION IN AKKARAPALAYAM GRAM PANCHAYAT OF SALEM DISTRICT

Panchayat Raj Institutions play an important role in development of primary education, health service, agriculture, road transportation, women and child care and agri-business. They also play an important role in implementing the Sarva Shiksha Abhiyan (SSA) successfully. Really, it is n important instruments which are playing a vital role in eradication of illiteracy and facilitating the primary education at large extent (Prasad and Gautam, 2013). The Gram Panchayat (GP) is responsible for maintaining school registers and preparing data base of human resources and available facilities at the primary schools (Annon, 2013). As Education facilitates and creates an opportunity to the equity, the Government of Tamil Nadu has passed the Tamil Nadu Right of Children to Free and Compulsory Education Rules, 2011 (age of student 6-14 years).

## Objective

By keeping the current issues of delivering primary school, the objective of the study is to focus on the availability of primary education in the study area.

## Methodology

Data were collected from both primary and secondary sources, The primary data were collected purposively from 37 sample respondents in Akkarapalayam GP. This study interviewed only parents of children studying in government primary schools. The secondary sources collected from Directorate of School Education of Tamil Nadu websites. Statistical tools like percentage and simple tabulation were used.

## Results and Discussion

The following section discusses the secondary source like structure of education in Tamil Nadu. The field level data analyze the general, socio-economic information of the respondents and level of satisfaction of the respondents.

## Structure of School Education in Tamil Nadu

The following table denotes that the structures of education in Tamil Nadu. There are five stages where the students undergo the progress.

**Table – 1: Structure of School Education in Tamil Nadu**

| Level | Stage | Classes | No of years |
|---|---|---|---|
| Elementary | Primary | 1 to 5 | 5 |
| Middle | Upper primary | 6 to 8 | 3 |
| Secondary | High school | 9 to 10 | 2 |
| Higher secondary | Higher secondary | 11 to 12 | 2 |

The above table – 1 shows that the structure of education in Tamil Nadu. There are three levels of schooling; the elementary level comprises of eight years therefore five years for primary and three years for upper primary. The next secondary level is two years in high school stage and finally, higher secondary for two years. The next table -2 points out that the general and socio-economic information of the respondents.

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**Educational Level**

Majority of respondents are illiterate with a percent of 49. The highest number of respondents had educated up to primary and secondary which is 24 percent. The least number of respondents had educated up to higher secondary which has formed 3 percentages. Finally, it is concluded that most of the respondents are illiterate.

**Occupational Structure**

There are 10 percent of the respondents who are doing their daily wages as agriculture labour. The little numbers of respondents are cultivating (Agriculture) their land. They are 22 percent. The highest number of respondents are engaged some other like go to works MGNREGS, factory etc., they are 68 percent because they don't know any other.

**Number of Earning Members in the Family of the Respondents**

The above table comprise number of earning members in the family of the respondents. The highest numbers of respondents have only one earning member in their family. They are 51 percent, 45 percent of respondents have two earning members in their family and only 3 percent of respondents have three earning members in their family.

**Infrastructure**

In the case of toilet facilities, majority of 84 percent of respondents mention there is no any proper toilets facilities (student toilets) in primary school, so they are highly dissatisfied. The highest numbers of respondents are satisfied for class room in primary school. They formed as 32 percent which is 27 percent are dissatisfied for class room. 27 percent of respondents not say any opinion about maintenance of building and 19 percent of respondents are dissatisfied because they are not properly maintaining the buildings. The highest number of respondent are highly dissatisfied (24 percent) for availability of equipments, they are need more equipments.

**Human Resources**

The second category of human resources, majority of 65 percent of respondents are highly dissatisfied for panchayat president (women) approach because that panchayat president not include public and the same situation continued from panchayat member approach like 73 percent of respondents are dissatisfied. The highest numbers of respondents are highly satisfied (54 percent) for teachers approach. 43 percent of respondents are satisfied for NGOs approaches, because they are directly contact with public and get opinion (arrange meetings).

**Major Findings and Suggestions**

Infrastructure facilities like water, class room, building and equipments are available but they are not properly handled. Particularly toilets facilities (student toilets) are very worst, they are not properly maintain so, students are using open place for toilets. Therefore students are easy to affect diseases like diarrhea, cholera and typhoid. Government and panchyat take immediate step to provide toilets facilities for students. In the case of human resources, compare to teachers and NGOs approach, the approaches of panchayat president (women), members are need to improve their ability, so government or NGOs must be trainee for the panchayat president, members to create the awareness of panchayat for rural development and how to manage the panchayat.

**Conclusion**

The grass root level like panchayat is a major role of primary education. The activities of panchayats in primary educations, like to provide water and toilets facilities i.e., it creates safety health measures to reduce open defecation; plant saplings; it creates good environmental awareness of school students etc., so, panchayats and teachers more responsibility to make good generation for social development.

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# EDUCATIONAL LEVEL OF FARMERS AND AGRICULTURE PRODUCTIVITY

Majority of micro studies finds that rural education increases agricultural productivity, various recent cross-country regressions analysing the determinants of agricultural productivity were only able to detect insignificant or even surprising negative effects of schooling. In this paper , we argue and show that failure to find a positive impact of education in the international context is rather a data problem related to the use of enrolment and literacy indicators.

**Objective of the study**

To study the cost and yield of literate and illiterate farmers with regard to size of land.

**Methodology:**

In the study area viz Thennamanadu village 20 respondents were selected by adopting non-random sampling technique. Out of 20 respondents13 are literate and remaining seven are illiterate. The paper has focussed on Farmers Educational level and Agriculture Productivity in terms of output.

**Table 1Cost of cultivation**

| Particulars | Illiterate (Average) | Literate (Average) |
|---|---|---|
| Cost of levelling and land Preparation | 4600 | 7984.61 |
| Cost of sowing and Plugging of seedling | 4400 | 9169.23 |
| Cost of Seeds | 4628 | 10392.30 |
| Cost of Transplantation | 10871.42 | 12461.53 |
| Cost of Weeding | 5200 | 5423.07 |
| Cost of Fertilizer | 4571 | 13123.07 |
| Cost of Irrigation | 71 | 576.15 |
| Cost of Cost of Harvesting | 3521 | 11846.15 |
| Cost of Winnowing | 600 | 961.53 |
| Cost of Packing | 1571 | 2523.07 |
| Cost of Marketing | 2685 | 3669.23 |
| **Total** | **42718.42** | **78129.94** |

**Compiled: Primary Data**

The table shows the different types of cost of cultivation of literate and illiterate farmers for paddy cultivation. When compare to literate cost of cultivation of illiterate is high. For all the operations the cost of cultivation for literate is high.

**Table 2 Size of land and cost of cultivation**

| Size of the Land | Cost of Cultivation Average (Rs) | | Yield (Sack) | |
|---|---|---|---|---|
| | Illiterate | Literate | Illiterate | Literate |
| Small Size | 21350 | 49662.5 | 230 | 480 |
| Medium Size | 102000 | 110920 | 250 | 920 |

**Compiled: Primary Data**

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Above table classifies cost of cultivation and yield based on size of the land, and educational status of the respondent. 5 and 8 respondents are small farmers and they are illiterate and literate respectively similarly 2 and 5 respondents falls under medium farmers and they are illiterate and literate respectively.

**Findings**

1. The cost of cultivation of medium farmers is greater than Small farmers.
2. Cost of cultivation of literate is greater than illiterate reason being illiterate person majority of process is done manually, whereas literate person by using modern technology.
3. Comparing yield of the respondents, when compare to small size land, medium size land yield more.
4. Compared to illiterate, yield of literate is high.

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# EDUCATIONAL DEVELOPMENT OF TAMIL NADU WITH SPECIAL REFERENCE TO VARIOUS EDUCATIONAL SCHEMES

This study discusses the educational development schemes of Tamil Nadu.

## Objectives

1. To examine the expenditure pattern of the Government of Tamil Nadu for primary and secondary level education since 2001.

2. To study the performance of Tamil Nadu Educational Welfare Schemes since last three years (2011 – 2013).

## Methodology

The present study based on secondary data and the data has been collected from Government websites, documents and reports, department of primary and secondary education. The collected data was presented in a descriptive form along with trend line graph.

## Results and Discussion

The government of Tamil Nadu with the noble cause of providing quality education to all the children in the state has magnanimously provided a sum of Rs. 16,965.30 crores in the budget of 2013–2014 towards School Education, which is 16.57% higher than the budget of the year 2012–2013.The trend line clearly shows that there has been gradual increase in expenditure on primary and secondary education in Tamil Nadu in year 2001 to 2006. In the year 2006 onwards the expenditure pattern on the same was started to hike because of which the school dropout ratio declined. In the year 2001 onwards, the allocation of fund by the government of Tamil Nadu on primary education was given preference than secondary education. In the year 2009, an importance given to secondary education.

## Educational Welfare Schemes

Universalization, 100 percent enrolment and retention and quality education have all been made achievable by the welfare measures announced by the Tamil Nadu government. The programmes announced with respect to welfare schemes of children in 2011 – 2012 and 2012 – 2013 have been successfully implemented. This will surely go a long way in improving the enrolment in Government schools. The government of Tamil Nadu has sanctioned continuance of the welfare measures in the academic year 2013-2014 also. This will benefit 92 lakh children across the state.

## Supply of Four Sets of Uniform

All necessary steps are being taken to distribute the four sets of uniforms for the academic year 2013-2014 in the first quarter of the year itself. A sum of Rs.353.22 crores have been provided for the benefit of 53.53 lakh students in the year 2013-2014.

## Special Cash Incentive to reduce drop out

The government of Tamil Nadu has introduced a Special Cash Incentive Scheme to reduce dropout at Secondary level. A sum of Rs.313.13 crores and Rs.353.56 crores for the academic year 2011-2012 and 2012-2013 respectively has been invested in the Tamil Nadu Power Finance and Infrastructure Development Corporation Ltd., benefitting 19.10 lakh students in 2011-2012 and 21.52 lakh students in 2012-

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2013. A sum of Rs.381 crores has been provided for the benefit of 24.76 lakh students in the year 2013-2014.

**Supply of Laptops to Students of Class XII**

The main flagship programme of the Tamil Nadu is providing Laptops to the students of XII Standard. This scheme has become a model for the Country and many other States have emulated this programme.

**Supply of Footwear**

With barefoot, Children may be susceptible to certain contagious diseases, which will affect the health of the children, the government of Tamil Nadu has announced to provide a pair of footwear without cost to all school children studying in Government/Government Aided schools.

**Supply of Educational Kits**

The government of Tamil Nadu has announced to provide educational kits consisting of school bag, geometry box, crayons/ colour pencils and atlases to make the learning process meaningful, easy and child friendly.

**Supply of Note-books and text books**

Notebooks and text books were supplied to 81.02 lakhs students studying in Standards I to X at a cost of Rs.102.69 crores in the year 2012-2013. A sum of Rs.110.96 crores has been provided for the benefit of 86.71 lakh students in the academic year 2013-2014.

**Supply of Bi-Cycle**

Bi-Cycles were distributed to 6.31 lakh students studying in standard XI in Government, Government Aided and Partly Aided Schools at a cost of Rs. 194.20 crores in the year 2012-2013. This scheme will be continued in the academic year 2013-2014 also. A sum of Rs.200.98 crores has been provided for the benefit of 6.30 lakh students.

**Nutritious Meal Programme**

Free Noon Meal Under Puratchi Thalaivar MGR Nutritious Meal Programme is being given to students studying in classes I to X. Under this scheme 48.63 lakh students benefitted in the academic year 2012- 2013. 53.40 lakh students will be benefitted in the ensuing academic year 2013-2014.

**Bus Passes**

Bus Passes are being given to the students from Standard I to XII studying in all schools to enable them to access school. Under this scheme, 14.02 lakh students will be benefitted in the academic year 2013-2014. An amount of Rs.323.70 crores has been allocated for this scheme

**Conclusion**

Education is not all about studying and getting good marks. It is really a means to discover new things which we don't know about an increase our knowledge. An educated person has ability to differentiate between right and wrong or good and evil. It is the responsibility of a society to educate its citizens.

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# ROLE OF HIGHER EDUCATION IN THE ECONOMIC DEVELOPMENT OF INDIA

Higher education in India is one of the largest in the world with 23.9 million students enrolled in more than 45,000 degree and diploma institutes in the country. This sector has seen a phenomenal growth since independence.

**Table 1 Growth of Higher Educational Institutions**

| S.No. | Institutions | 1947 | 2013 |
|---|---|---|---|
| 1. | Universities | 18 | 677 |
| 2. | No. of Colleges | 591 | 35,539 |
| 3. | No. of Teachers | 77,120 | 9.34 lakhs |
| 4. | No. of Students | 2,28,881 | 203.27 lakhs |

Source : UGC Report.

At present with 677 universities, near about35539 colleges more than 9.34 lakhs teachers and 203.27 lakhs students enrolment. However this growth of higher education is still unable to cater to the increasing number of aspirants to higher education.

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## Role of Open and Distance Education

The distance education has proved to be an effective tool to impart education not only for disadvantaged groups but to the neo literate class of society, to the rising aspirants for higher education who are/were denied access to the conventional system for several reasons.Today the number of ODE (Open and Distance Education) institutions gives an impressive picture which has been possible within a limited span of time i.e., between the first establishment of correspondence education development in University of Delhi in 1962 and the current number of ODE institutions including 14 open universities and more than 200 Distance Education institutions. This has certainly changed the dynamics of entire education system.The total number of distance education institutions has increased from one in 1962 to 264 in 2010-11.

## Higher Education in Rural Area

Rural higher education considered during the first five year plan has its roots in the freedom movement. During the freedom struggle many thinkers and reformers particularly Rabindranath Tagore and Mahatma Gandhi gave special attention to the rural people but over the years this approach has changed. Now a days higher education in India is urban centered. The UGC in a report released in early part of 2010 has identified 374 districts of the country as educationally backward districts. The number as compared to the total number of 650 districts of the country amounts to approximately 60% of the districts.

**Table 2 Rural Urban Pattern of GER and NER (2010)**

| | Gross Enrolment Rate | | Net Enrolment Rate | |
|---|---|---|---|---|
| | Rural | Urban | Rural | Urban |
| Average | 7.51 | 23.79 | 6.21 | 18.86 |
| Male | 9.28 | 24.77 | 7.91 | 19.49 |
| Female | 5.67 | 22.56 | 4.50 | 18.08 |

Source : UGC Report.

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Table 2 shows the rural and urban pattern of Gross Enrolment Rate and Net Enrolment Rate in India. There is a wider difference between urban and rural enrolment rate and male and female enrolment rate.

**Student Teacher Ratio**

The following table shows the student teacher ratio in selected countries. The student teacher ratio in India is (24:1) very low as compared to other countries 9.5:1 in Sweden and 13.6:1 in the United States of America.

**Table 3 Student Teacher Ratio (2010-11)**

| S.No. | Country | Student-Teacher Ratio |
|---|---|---|
| 1. | US | 13.6 : 1 |
| 2. | UK | 18 : 1 |
| 3. | Sweden | 9.5 : 1 |
| 4. | India | 24 : 1 |
| 5. | China | 16.8 : 1 |
| 6. | Canada | 17.4 : 1 |
| 7. | Brazil | 22.2 : 1 |
| 8. | Russia | 18.1 : 1 |
| 9. | Argentina | 16.3 : 1 |

Source : UGC Report.

The growth of engineering institutions amounts to 257% over the period from 2000 to 2010 while the intake at UG level in these institutions has grown by 540% over the same period.

**Table 4 Share of Educational Expenditure as % to Total Expenditure in Tamil Nadu**

| Year | Share of Educational Expenditure as % to Total Expenditure |
|---|---|
| 2000-01 | 18.0 |
| 2001-02 | 17.3 |
| 2002-03 | 13.8 |
| 2003-04 | 12.6 |
| 2004-05 | 11.2 |
| 2005-06 | 13.8 |
| 2006-07 | 12.2 |
| 2007-08 | 12.7 |
| 2008-09 | 13.1 |
| 2009-10 | 15.2 |
| 2010-11 | 15.2 |
| 2011-12 | 14.5 |
| 2012-13 | 15.0 |

Source : Reserve Bank of India Database.

Table 4 shows that in Tamil Nadu the share of educational expenditure in total expenditure has declined from 18% in 2000-01 to 15.1 in 2012-13. It is not a welcome trend.

**Conclusion**

With an impressive number of institutions including Open Universities, Distance Education Institutions of the conventional universities, the higher education sector in India stands today at an advantage situations where the only need is to harness the potential of these institutions through a quality assurance framework.

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# HEALTH EDUCATION AS A COMPONENT OF ECONOMIC DEVELOPMENT IN INDIA

The result of effective health education is health literacy. Health literacy has been defined as the capacity of an individual " to obtain, interpret and understand basic health information and services, and the competence to use such information and services in ways which are health enhancing." (Joint Committee on Health Education Terminology, 2001)

If both education and health are attained by the human resources of a country, it will automatically promote economic development. In order to prove this, all the welfare governments in this era are committed to the provision of quality service to its people. Based on the commitment, several innovative schemes are formulated for implementation. In order to protect the health of the citizens, several welfare schemes are implemented to meet the medical needs of the poor and downtrodden people. The Integrated Child Development Scheme (ICDS) is one among them. It is a central programme implemented through the State government, designed to meet the health, nutritional and educational needs of the poor and vulnerable infants, pre-school aged children and women and child development programme being implemented anywhere in the world. With its grass root level service anganwadis are providing nutritious meals to the children below six years and imparting health education to the pregnant women and nursing mothers (Seema 2001).

**Services provided by Anganwadi Centres ( AWCs)**

The Integrated Child Development Services (ICDS) Scheme today is the World's

largest Programme aimed at enhancing the health, nutrition and learning opportunities of infants, young children (0-6 years) and their mothers. It is the foremost symbol of India's commitment to its children – India's response to the challenge of providing pre -school education on one hand and breaking the vicious cycle of mal-nutrition, mortality, and morbidity, on the other. The Scheme provides an integrated approach for converging basic services through community-based honorary workers viz. Anganwadi Workers and Helpers. Supplementary nutrition,Immunization, Health check-up,Referral services,Pre-school Non-formal Education and Nutrition and Health Education.

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| Services | Target group | Services provided by |
|---|---|---|
| Supplementary nutrition | Children below 6 years: Pregnant & Lactating mother (P&LM) | Anganwadi Worker & Anganwadi Helper |
| Immunization* | Children below 6 years: Pregnant & Lactating mother (P&LM) | ANM/MO |
| Health check-up* | Children below 6 years: Pregnant & Lactating mother (P&LM) | ANM/MO/AWW |
| Referral services | Children below 6 years: Pregnant & Lactating mother (P&LM) | ANM/MO/AWW |
| Pre-school non-formal education | Children 3-6 years | AWW |
| Nutrition and Health Education | Women 15-45 years | ANM/MO/AWW |

*AWW assists ANM identifying target group

AWW- AnganWadi Worker; ANM- Auxiliary Nurse Midwife; MO- Medical Officer

Three of the six services namely Immunization, Health check-up and Referral services are delivered through Public Health infrastructure under the Ministry of Health and Family Welfare.

The Government's emphasis has been on integrated & holistic development of children, as far as the two basic elements of human resource development, i.e. health and education, are concerned. As development has several inter-related dimensions – physical, cognitive, social, emotional and psychological, therefore, a synergistic approach to the implementation of the Scheme becomes inevitable. Needless to say, learning occurs in all these areas and influences others, all of which develops simultaneously. The Scheme, therefore envisages inter-sectoral convergence of various services viz. nutrition, health and education through the Anganwadi Centres. The services are delivered through different Departments converging at the Anganwadi Centre. The Departments include Health, Rural Development, Drinking Water Supply, Panchayati Raj Institutions etc. These work in synchronization with each other.

**Performance of Anganwadi Centres- A Critical Note**

Most of the AWCs across the country were located within accessible distance (100-200 meters) from beneficiary households. A majority of the beneficiary households was within 100 meters of the AWC. Another 10 per cent were about 150-200 meters away. The rest were beyond 200 meters. Thus the factor of distance of beneficiary households from the AWC was unlikely to affect attendance at the AWC during inclement weather.

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## Conclusion

Good health of an individual cannot be attained through one's own efforts, but it is shaped by the environment in which he lives. The government should build an environment with strong investment and better infrastructure of Anganwadi Centres. Then there is no doubt, India will have physically healthy, intellectually alive, spiritually conscious and emotionally stable adults who will make a generational change in future.

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# EDUCATION OF TRIBAL WOMEN IN INDIA: OPPORTUNITIES AND CHALLENGES

Education has been regarded both as an end in itself and a means of realizing other desirable ends. It develops the personality and rationality of individuals, qualifies them to fulfill certain economic, political and cultural functions and thereby improves their socio-economic status. It has been recognized as a major instrument which societies can use to direct the process of change and development towards desired goals. It provides for vertical mobility and can thereby help to equalize status between individuals coming from different social strata.

**Objectives of study**

1) To analyse opportunities and problems associated with tribal women education;

2) To critically evaluate government policies and approaches on tribal education;

**Educational opportunities of tribal women**

In the pre-independent India the British government had no direct programme for the education of tribals. The dawn of independence has ushered in a new era in the field of women's education in general and tribal women in particular in the country. With the adoption of the Constitution, the promotion of education of scheduled tribes has become a special responsibility of the central as well as of the state governments. The new Constitution made the state responsible for providing free and compulsory education for all children below the age of 14 years and it also guaranteed equality of educational opportunities. Considering this Directive Principle, a number of Schemes and programmes have been initiated or implemented, such as schemes of incentives, financial assistance, establishment of Ashram schools, establishment of hostels for boys and girls. For the promotion of education among tribals, government provide pre-Matric and post- Matric Scholarships, coaching and Allied schemes for scheduled caste and scheduled tribes. The governments also established schools in some tribal areas. The students belonging to scheduled tribes are getting various concessions such as-free tuition, stipends, scholarships, free supply of text books, stationery and other equipments.

As an outcome of different schemes and programmes introduced and implemented by the government and constitutional provisions, there has been an overall increase in the enrolment of children belonging to schedule tribes. At the Primary stage, against an overall increase of 15 percent, ST enrolment increased by 25 percent, whereas that of ST girl.s enrolment increased by 36 percent against overall increases of 23 percent from 2000 to 2004. This resulted however a considerable increase in the literacy rates of tribals from 8.53 percent to 47.10 percent in the year 1961 to 2001. The Literacy rates among females also rose significantly during this period. Among the tribal women, living in urban areas there is nearly fourfold increase in the literacy rates i.e. 13.45 in 1961 to 59.87 in 2001. Simultaneously the literacy rates among rural tribal women also increased from 2.90 percent to 32.44 percent during these four decades. This is due to the continuous efforts of the government towards educational development among scheduled tribe. In addition to this, the number of girls pursuing various courses is also very significant. The percentage of ST girls in higher education has been increasing gradually.

**Problems associated with Education of Tribal women**

In India, many studies have revealed the educational development of tribal women by quantitative indicators like enrolment, literacy rate and educational facilities. When literacy has been recognized as an

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important tool of empowerment, the tribal society has been greatly disadvantaged and the tribal woman is enormously handicapped. Though the governments have taken several steps in the development of tribal education projects and schemes, much remains to be done. The progress achieved in this field is far from satisfactory. The welfare programmes have not been effective due to inadequacies in the administrative machinery, lack of sensitive trained management, lack of general preparedness for large investments, deficiency in accounting systems, procedural delays and lack of proper monitoring and evaluation.

**Poverty**

The poor economic condition is a great hindrance to successful education of the tribal children particularly for girl children. Since the economy is not viable and the very survival being at stake, the importance of education touches only the periphery of the tribal life. The tribal women are also burdened with work in the fields and homes, and this is mainly responsible for their low rate of education. In the tribal society while boys work in the field with their parents, girls give every help to their mothers at the housework.

**High wastage and stagnation**

Problem of education in the tribal areas is also the problem of wastage and stagnation. Wastage is the withdrawal or dropping out of a student before completing the prescribed period of the concerned course. A data revealed by the Eleventh Five Year Plan also indicated the high drop out of the STs at different levels of study. It indicates the apathy of the Tribals and tribal students for the existing curriculum and system and problems of teaching-learning process. When a student takes more than one year to pass a class it is considered a case of stagnation. As per the 11 Five Year Plan report, stagnation at the primary level was 67.3 percent whereas it was 49.3 percent at the Upper Primary level. School timing i.e. clash of class hour with the working hour particularly, during the harvesting period, formal education, poverty, lack of academic atmosphere, unwillingness of the teachers to convince the parents and parental apathy towards education and lack of proper medical aid, balanced diet and suitable self-employment opportunities are the major factors for which there is wastage and stagnation.

**Conclusion**

Education is the most effective instrument for ensuring equality and opportunities but the tribal people in general and women in particular are lagging far behind non-tribals due to several reasons. The problems associated with the education of tribal children in general and tribal girl in particular in India are complicated, inter-related and manifold in structure. Firstly, Ignorance of tribal people and lack of information in the tribal areas handicaps the schemes and programmes of the government. Therefore, the main aim of education should be to make tribal women economically independent, understand their problems and take concerted effort to make their life better.

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# EDUCATION IN DEMOCRACY

Education is the weapon of democracy and without good education for all, democracy will not be successful. Democracy without education is a contradiction in terms. The purpose of education is to ensure that human behavior conforms to the values and ideas of democracy. Education must build the democratic convictions in the people. Democracy is a practical creed. The principles of democracy influence the theory and practice of education. They are both interdependent.

**1.University education Commission (1948 -49)**

1. To inculcate Leadership in Political, Administration, and Vocational Field:
2. To promote Intellectual Adventure:
3. To promote Quest for democracy:
4. To establish relationship between life ideals and knowledge:

**2. Secondary Education Commission (1952 - 63)**

1. Development of democratic Citizenship

Improvement of Vocational Efficiency It includes (i) healthy attitude to work and dignity of labour, (ii) technical skills and efficiency, (iii) self reliance.

2. Development of personality

(i) releasing the sources of creative energy in the student,(ii) cultivating rich interests (iii) giving due place in the curriculum to subjects like art, craft, music, dancing, etc.

3. Development of the qualities of Leadership

4. Development of National and International feelings

**3. Indian Education Commission (1964-66)**

(i) To establish relationship of education with national goals and values and (ii) to extend the similar procedure and machinery throughout the country. It was thought by the commission that quantitative and qualitative growth in education is to support the country for its utmost development.

**Five Principles**

In order to achieve the high level aims in education the commission believed in the following five principles:

To increase ability of production and to achieve 'productivity through education '.

To ensure social and national integration.

To inculcate democratic ideology and to strengthen the faith of life through it.

To increase the speed of modernization in education and to develop scientific outlook through education.

To preserve social, ethical and religious values through education.

**National Education Policy (1986)**

1. To attain progress in Physical, Mental, Intellectual and Aesthetic fields for the development of personality.

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2. To inculcate scientific outlook and democratic way of thinking.

3. To develop self-confidence to face uncommon difficulties arising suddenly.

4. To make conscious about materialistic, social, technical, cultural and economic fields with its immediate developments.

**National Policy of Education 1992**

1. National System of Education
2. Common Educational Structure
3. National curricular Framework
4. Equal Opportunity to All to Ensure Success
5. Promotion of Social Justice
6. Minimum Level of Learning
7. A meaningful Partnership of Union Government
8. Education to Motivate for International Cooperation and Peaceful Co-existent.
9. Higher education and Technical Education to promote Interregional Mobility.
10. Research and Development in Education.

**Conclusion**

Education revives democracy, maintains democracy, refines democracy and glorifies democracy. In return thereto , democracy makes education fully democratic. Both are interlinked and interdependent. Each One helps the other of become better for the next moment. These two together make human life worth living. Surely education is very good weapon with the help of which democracy may be made all successful.

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# ROLE AND IMPORTANCE OF EDUCATION IN ECONOMIC DEVELOPMENT

It is predicted that India will see a sharp decline in the dependency ratio over the next 30 years, which will constitute a major 'demographic dividend' for India. This young population should be considered as an invaluable asset which if equipped with knowledge and skill, can contribute effectively to the development of the national as well as the global economy. Our vision is realize India's human resource potential to its fullest in the education sector, with equity and inclusion. The three pillars of education are expansion, inclusion and excellence.

**Objectives of the Study**

To analyse economic and social conditions of students.

To study the fees structure of Private, Government schools and colleges.

To analyse the future growth of the educational sector.

To examine the Infrastructure facilities of various schools and colleges.

To analyse the status of qualities of education in India.

**Methodology of the Study**

The study involves both Primary and Secondary data.

Primary data are collected through Questionnaire.

The secondary data are collected through Books, Journals, Magazines and Internet.

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**Table -1 SWOT Analysis of Higher Education System in India**

| STRENGTHS | WEAKNESS |
|---|---|
| • Increase in population in the age group of 18-25<br>• Value based education<br>• Growth of middle income group<br>• Mechanization and industrialization<br>• Expansion of higher education<br>• Improve the quality of education<br>• Improve the Fluency of English | • Infrastructure<br>• Library facilities<br>• Qualified faculty<br>• Admission process<br>• Outdated curriculum<br>• No linkage with institutions of international repute<br>• Poor employment opportunity |
| **OPPORTUNITY** | **THREAT** |
| • Employability of the students<br>• Scope of research<br>• Expected high enrolment<br>• Financial support from UGC and other agencies<br>• Demand for Indians in the global market<br>• To compete with other labour force of developed economics<br>• Growth of human resource and the growth of economy | • Growth of poor quality private institutions<br>• Too much of political interferences<br>• Administration problems of the institutions<br>• Too much power vested in single institutions<br>• Inequalities of high fees structure<br>• Less demand for certain courses<br>• Inadequate academic flexibility |

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**Education is Indicator of GNP**

It is a common practice that the priority accorded to education is gauged with the help on indicators like public allocation as a proportion of GNP and budget. It may be noted that India has committed to allocate 6 per cent of GNP to education long ago. Issues of quality enhancement should become the priority to reap the benefits of internationalization of higher education. A pragmatic approach to enhance the equity and access should be given due attention. The quality level of the public and private institutions should be published and brought to the notice of general public. Since the Indian system is very large, the University Grand Commission cannot monitor all the private institutions.

**Suggestion for Quality Education and Economic Growth**

1. All children are entitled to free and compulsory admission, attendance and competition of elementary education
2. Provision of training facilities and professional development to teachers
3. Monitoring of school and college functioning
4. Prescribe minimum working days and hours for teachers
5. Providing adequate physical facilities and infrastructure

**Conclusion**

Education reforms currently planned or implemental throughout the world need to include deeper and more comprehensive analysis of what and how schools and leaders should do in order to contribute to development of Indian economic system of the countries. The emergence of the network society and knowledge based economics appear to be a powerful justification for education reforms in developed countries. Education is no doubt an important tool of human development and play important role in improving living standards of the people. Improved education can help in economic development of the country.

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# EXPENDITURE ON EDUCATION IN INDIA: POST REFORM PERIOD

This paper divided into four sections as follows educational expenditure on India and other counties, expenditure on education in India GDP and higher education and conclusion.

**(I) Educational Expenditure in India and Other Counties:** Public investment in education in India has been inadequate for meeting the needs for all. This may be attributed partly to neglect during the colonial period, partly to lack of emphasis on educational investment during post-independence period and in recent time so called structural adjustment programmes. An international comparison of public expenditure on education indicates that in a list of 86 countries or which relevant data are available, India ranks only 32nd in terms of public expenditure on education as a proportion of Gross Net Product (GNP). At present India spends 3.8 per cent of its GNP on education, which is lower than many advanced countries such as the United States (US) 5.5 per cent, the United Kingdom (UK) 5.4 per cent, Malaysia 5.3 per cent, Mexico 5.8 per cent, Thailand 4.2 per cent and South Korea 4.5 per cent.

**(II)Expenditure on Education in India:** Education is the important major head in the social sector. The data on educational expenditure on combined expenditure (centre + states) by the department of education and other departments. The other departments are: Ministry of Social Welfare and Tribal Affairs and these other departments also contribute the development of education in the form of indirect ways.

Table 1 provides intra-sectoral expenditure on education by education department alone from the period of 2000-01to 2008-09. The share of elementary education was increased Rs.7955.5 crore to 21795.0 crore. But in the case of secondary and adult education expenditure by education department have been declined sharply.

**Table No 1: Plan Expenditure on Education (Rs. In Crore)**

| | Elementary | Secondary | Adult | Higher | Technical | Total Education |
|---|---|---|---|---|---|---|
| 2000-01 | 3117.4 | 554.1 | 108.2 | 497.6 | 494 | 4854.8 |
| 2001-02 | 3569.2 | 615.4 | 174 | 544.7 | 552.1 | 5560.1 |
| 2002-03 | 4257.6 | 574.5 | 213.4 | 619.1 | 600.4 | 6380 |
| 2003-04 | 5201 | 638 | 231.9 | 560.4 | 625.1 | 7371.1 |
| 2004-05 | 7710.2 | 652.3 | 236 | 810.7 | 615.7 | 10133.2 |
| 2005-06 | 11749.3 | 874.9 | 241.8 | 843.6 | 711.2 | 14552.5 |
| 2006-07 | 16560 | 1027.2 | 212.9 | 1346.5 | 863.2 | 20213.8 |
| 2007-08R | 20304.7 | 1635.3 | 251 | 1888.4 | 981.5 | 25452.4 |
| 2008-09B | 21795 | 4554 | 451 | 3529.5 | 2888.5 | 34393.5 |

**Source**: Department of Education, Ministry of Human Resources Development, Government of India

**(III) GDP and Higher Education:** As percentage of GDP, the shares of expenditure on education by the department of education and other departments have been increased. In the early 1950s the percentage of expenditure on education by education department alone as percentage of GDP was less than one percent. The least contribution of GDP in total expenditure was adult education; it was 0.08 per cent in 1990-91 and to decline sharply to 0.05 per cent in 2007-08.

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**Table No 2 Plan Expenditure on Education as Percentage of GDP**

| | Elementary | Secondary | Adult | Higher | Technical | Total Education |
|---|---|---|---|---|---|---|
| 2000-01 | 0.17 | 0.03 | 0.01 | 0.03 | 0.03 | 0.27 |
| 2001-02 | 0.19 | 0.03 | 0.01 | 0.03 | 0.03 | 0.30 |
| 2002-03 | 0.22 | 0.03 | 0.01 | 0.03 | 0.03 | 0.32 |
| 2003-04 | 0.21 | 0.03 | 0.01 | 0.03 | 0.03 | 0.36 |
| 2004-05 | 0.22 | 0.03 | 0.01 | 0.03 | 0.03 | 0.42 |
| 2005-06 | 0.30 | 0.03 | 0.01 | 0.03 | 0.03 | 0.56 |
| 2006-07 | 0.41 | 0.04 | 0.01 | 0.05 | 0.03 | 0.71 |
| 2007-08 | 0.53 | 0.05 | 0.01 | 0.06 | 0.03 | 0.82 |

**Source**: Finance Report 2008, Ministry of Finance, Government of India, New Delhi.

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# THE SCOPE AND TARGET OF EDUCATION FOR SUSTAINABLE DEVELOPMENT

This paper focuses on the scope, methods of dissemination and the target of ESD. ESD is not mere information sharing, but should be aimed at educating those who can fabricate a sustainable future. Since environmental crises are increasingly being felt in every field and sector, it is necessary to concentrate on imparting ESD to those who can bring about environmental improvements immediately.

**Education for Sustainable Development vs. Environmental Education**

EE is a slow and hierarchical form of formal education, building the base of environmental knowledge from the school level onwards. In economic terms it can be called a 'lengthwise approach'. However, EE cannot immediately achieve SD. Environmental crises are imminent, and the time to act is now, through ESD. Emphasis has to be given to the immediate spread of education and awareness of environmental impacts of various activities, so that countries and communities can take a detour to a safer world. For this it is necessary to identify those decision-makers who can contribute the most to change, from the education and the information they receive. That is the crux of ESD, and this is how it should differ from conventional EE. ESD should be imparted to those sections of the society where it will generate the maximum impact and stimulus towards initiating SD.

**Formal**

EE is usually assumed to be of the formal type starting from school and going up to college and university levels. This will certainly help in building entire generations of environmentally savvy youngsters, making them aware of the environmental problems of the world. However, from the point of view of its usefulness in ushering in SD, it will not help in the short run so, formal EE cannot be equated with ESD.

**School education**

It is necessary to take steps to save them from environmental impacts right away. Educating them about environmental problems is futile, unless they want to know the cause of their asthma or why the beautiful birds and flowers that they had seen in their childhood have become extinct. That amounts to an expenditure of around Rs.47 million per year. It would be interesting to know if this investment is really leading to any benefits in terms of environmental improvements, or rise in environmental awareness, or in introducing SD. Otherwise, it is a dead-end investment, and can instead be put to better use in alternative methods to achieve SD.

The curriculum in Indian schools is already highly over loaded, and adding more subjects—such as environment, ecology, etc. will impose a greater burden on the children, without fetching corresponding results. College and University Education

EE at the college and university levels is an investment that can reap results in the medium term. It can help in building an army of environmentalists, who in the medium term can bring about environmental changes. In this respect, environmental research by doctorate and post-doctorate research scholars can generate data, information and identify interrelationships among different disciplines, and supplement the work of government and international agencies.

At the college and university level, EE should be multi-disciplinary, and the interrelationship between economic development, technology, political and trade factors, along with studies of ecology, and environmental degradation should be given. Otherwise the study becomes lopsided, and will not provide the students with the full picture. The research in the universities should reach the field of application.

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**Informal Education**

ESD should be a short-term, result oriented, cross-sectional form of dispersing environmental information, directed towards achieving SD. So, informal education would be more effective in reaching out to the target population. It should comprise of different types of information dispersal, to meet the needs of the diverse groups that it addresses. This could take the form of workshops, training courses, distribution of pamphlets, popularising through the media, advertisements, and interviews.

ESD should be able to point out not only the environmental dangers of various activities, but should also indicate the alternative methods and processes that can achieve SD. Environmentalists are often criticized for being anti-growth, anti-social and anti-establishment. This is a wrong representation, because they do not oppose all growth and development—they oppose only unsustainable development, but are pro SD.

**Types of Informal Environmental Education**

Informal EE is the need of the hour, as it can start the process of SD right now. Various types of decision-makers can be identified in different strata of society, who can be instrumental in starting the process of SD. Most of these at present are woefully ignorant about environmental matters, being more concerned about economic development. There are very large numbers of groups that influence the environment.

Although it is not possible in this paper to spell out the manner in which ESD can be imparted to all the groups of people, a few of these have been identified here, to give an idea about the type of ESD that needs to be conveyed to them. Also the MoEF, is already training a number of sections of society in its different affiliates, such as the Indira Gandhi National Forest Academy, Dehradun; the EPTRI Hyderabad, etc. But obviously this is not enough, and needs to be diversified to cover a wider circle of decision-makers and operators.

Some of the decision-makers who can be provided with ESD are:

**Conclusion**

ESD is not for the classroom alone, but is an interactive and result oriented form of EE. For it to succeed, it is necessary to educate those who are in command, so that SD becomes the paradigm for present and future development. ESD, by educating each and every section of society, can involve and coordinate everybody in the task of initiating and monitoring SD. The success of ESD lies with the government and its commitment to SD. Fiscal policies like taxing environmentally harmful goods and processes, and subsidies to green products, will help in ushering in SD. Many consumers feel that green products such as solar energy are too expensive; if the same type of subsidy is given to it as to conventional energy, it will help in a shift to a more sustainable energy base. Often present economic profits outweigh the environmental needs of the future.

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# ROLE OF EDUCATION FOR THE UPLIFTMENT OF ECONOMICALLY WEAKER SECTIONS IN INDIA.

This paper discusses the participation educated in economic reconstruction.TGhe following aspects are to be concentrated for the uplitment of economically y weaker section in India

**1. Removal of Illiteracy:**

The increase in literacy rate in males and females during 2001-2011 is in the order of 6.18 and 11.19 percentage points respectively. This also comprises the people who are able to write their name and put in their signature. They do not have any functional education. We live in an age of science but superstition reigns supreme in our villagers.

**2.Women Empowerment:**

The empowered women should able to participate with the decision of making and development activities. Education places the most crucial role in empowering women. It is education that provides knowledge awareness in regard to social, political, economic and environmental issues and skill for securing employment and means of livelihoods

**3. Eradication of Child Labour:**

Child labour destroys the children's physical and mental ability. So child labours must be eradicated by providing compulsory education.

**4. Poverty Reduction:**

The main asset of the country is human capital. Human capital development, particularly education and training is critical ingredient for a country's sustainable socio-economic development and poverty eradication (URT, 2007). No country has successfully eradicated poverty without educating its peoples as one of the most powerful instrument for poverty reduction; education can be a guarantee for development in every society and to every family. Its centraliy is not only for poverty reduction but it can also contribute in reducing inequality. It can equally be argued that education enhances people's productivity. Education can thus directly reduce poverty through the contribution that productivity enhancement makes to economic growth, and that could indirectly helps to alleviate poverty through its positive spill-over effects (externalities) on society more broadly. Primary education is a vital strategy because it involves majority of the masses, particularly most poor children. Many studies indicate a positive relationship between education and poverty reduction, signifying the vital role of education in poverty eradication. Bowman- 1964, Lucas -1988, Romer— 1990 , Barro- 1991, have reported a significant positive effect of education on growth.

**5. Population Control:**

Weaker section of persons has to be educated regarding need for controlling the size of the family. Population increase has posed a serious problem in the country. The present rate of growth of population in the country is about 1.7 percent per annum. This is a colossal figure. It is estimated that by 2050 the population will be almost two billions. It will be very difficult to maintain such a huge population with such limited resources, therefore it has become most important to educate in regard to population control so that they can realize the importance of Birth Control and adopt it.

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**6.Economic Upliftment in Rural:**

Only social justice cannot improve well being of the disadvantaged persons unless they remain economically weak. Even after 65 years of independence rural people's economy is still based on agriculture and the agriculture alone cannot provide sufficient productive employment, a great deal of emphasis has to be given on nonfarm employment opportunities like animal husbandry, fishery, cottage industries etc. so that the unemployed or under employed in rural areas can engage themselves in some productive activities and secure some additional income to improve their economic status.

**7. Untouchability:**

It is a blot on humanism. The curse of untouchability is more in rural life than in urban life. The educated youth can take leading part in eradicating this evil from the social system. Youth of nation is always reservoir of idealism, and if this idealism is properly harnessed, there can be lot of change in society.

**8. Sanitation:**

This area which requires utmost attention is improvement of sanitation in slums and colonies of weaker sections of societies. There is need for structural framework for improvement of sanitation both in rural and urban areas. Underprivileged themselves should be put for improvement of sanitation. Community effort is needed to eradicate many water borne diseases and ailments that spread through in sanitary habits. By providing valid information and associating. With health program, the educated people can change the quality of life of the people. What is most distressing is that India is now divided into two parts, a poor part and a rich part, the bigger part is poor part and it includes mostly rural areas. There is prosperity in rich part whereas in poor part people are at mere subsistence level. Only by increased public investment we cannot achieve prosperity with social justice. Development can only be achieved if our educated people are abided with social commitment. A educated youth with social commitment can change the economic and social structure, because they have the necessary technical skill and expertise.

**Conclusion:**

The new perspective, here adopted, is that the contribution of an educated society goes beyond the socio economic growth of a country, and does affect positively the life of people, especially that of the least advantaged. Both the approaches stress the importance of investments in education, but, the Human Development Approach gives an additional justification for investing in basic education.

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# EDUCATION IS THE KEY FOR RURAL WOMEN'S DEVELOPMENT: A STUDY ON TIRUVANNAMALAI DISTRICT IN TAMILNADU

"Education is one of the most important means of empowering women with the knowledge, skills and self-confidence necessary to participate fully in the development process."

*—ICPD Programme of Action, paragraph 4.2*

Education is important for everyone but when it comes to a woman its importance becomes even more prominent. I am not only talking about the degrees and stuff but also the correct sense of direction and character is important which comes with the right environment and encouragement. Women should not be discouraged to excel in any field of life rather they should be provided with the correct resources and support so that they can put in their best. There are several reasons why education is important in a woman's life. Education is important for everyone, but it is especially significant for girls and women. This is true not only because education is an entry point to other opportunities, but also because the educational achievements of women can have ripple effects within the family and across generations. Investing in girls' education is one of the most effective ways to reduce poverty. An investment in secondary school education for girls yields especially high dividends. Girls who have been educated are likely to marry later and to have smaller and healthier families. Educated women can recognize the importance of health care and know how to seek it for themselves and their children. Education helps girls and women to know their rights and to gain confidence to claim them. However, women's literacy rates are significantly lower than men's in most developing, now the families have another financial support due to the change in women roles as now due to education they can also work as bread earner to support their families in today's economically tough situation.

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## Concept of Women Development

The concept of women development was introduced at the women conference in 1985 at Nairobi. There the 5 components of women development were defined, each showing how Women can be empowered and what is the significance of doing so. When we say Empowering women through education, it means that using education as a tool to bring women Face to face with herself worth, giving her the sense to choose between right and wrong, empowering her with the skills to take advantage of the opportunities and embedding Confidence in her to meet the challenges of life. Thus educating a woman is actually providing her with a weapon to live up her customary part, fight with the challenges and bring positive change in her life. It is said that no nation can be a great nation unless and until they have educated and healthy mothers. Therefore it is utmost important to educate a woman because being a mother she is the one who will decide how the future generations will be. The future of a nation is dependent on well-groomed mothers .In today's world we are facing so many changes within seconds that it is becoming difficult to cope with this fast moving world. To avoid the generation gap between mother and her kids, education is very important. If a mother is not aware of the technological advancements and the new terminologies etc she won't be able to guide her kids properly. Also this is important for herself grooming. Thus education of a woman opens up the new horizons, broadens her thinking, develops new ideas and hopes, enhances knowledge and skills, provides the courage to meet the challenges of life and give freedom of expressions. Best examples of women development can be seen in today's world as we see many women in top positions working side by side with their male colleagues. Though this used to be a male dominant society but from few years a clear rise in women participation in workforce is noticed. We can

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now find women in sports, politics, education field, army; they are engineers, doctors, pilots and involved in so many other professions. Thus women should be encouraged to learn and should be provided with opportunity to gain education to groom themselves as well as to educate the nation.

**Objectives of Education**

The process of education has some objectives and goals. These include:

- To make person well adjusted and adapted with existing values and expectations.
- To develop him/her morally high so that he /she can acquire more capacities to mould their self when needed
- To give technical and advanced education.
- To make attitudes and ideas more rational and logical, so that person can learn self control.

**Literacy among the sample population**

In the Study are 69.4 percent were literates, and only 30.6 percent were illiterates knowing neither to read nor to write their mother tongue.

**Qualifications of the Literate sample Population**

Though the study region is having around 69.4 percent ofliterates, about 29.7 percent were of qualifications having SSLC. To the maximum of its sorts, around 22.4 percent of the sample population said that they done 11 or 12th atleast. Under Graduates are like boon to the village economy, Thenmathur bestows with 20.5 percent of the literates are Under Graduates either in Arts or Sciences, or in Engineerings. Post Graduates are less due to lack of availability of higher institution in the Thiruvannamalai Circle, only 4.9 percent were PGs. Besides, Professionals were 2.7, Diplomas were 9.9, Vocational are 1.1 and other modes are 8.8 percent.

**Conclusion**

According to the Country Report of the Government of India, "Development means moving from a weak position to execute a power." Education of women in the education of women is the most powerful tool of change of position in society. Education also brings a reduction in inequalities and functions as a means of improving their status within the family. To encourage the education of women at all levels and for dilution of gender bias in providing knowledge and education, established schools, colleges and universities even exclusively for women in the state. To bring more girls, especially from marginalized families of BPL, in mainstream education, the government is providing a package of concessions in the form of providing free books, uniform, boarding and lodging, clothing for the hostilities midday meals, scholarships, free circles and so on.

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# EDUCATION OF TRIBAL WOMEN IN INDIA: OPPORTUNITIES AND CHALLENGES

Education provides for vertical mobility and can thereby help to equalize status between individuals coming from different social strata. As a result the movement for improving women's status all over the world has always emphasized education as the most significant instrument for changing women's subjugated position in the society. Further, since the time immemorial there is a popular belief that mother is the first tutor and mother's lap as the first school for every child.

**Objectives of study**

1) To analyse the opportunities and problems associated with tribal women education;

2) To critically evaluate government policies and approaches on tribal education;

**Educational opportunities for tribal women**

In the pre-independent India the British government had no direct programme for the education of tribals. The dawn of independence has ushered in a new era in the field of women's education in general and tribal women in particular in the country. With the adoption of the constitution, the promotion of education of scheduled tribes has become a special responsibility of the central as well as of the state governments. The new constitution made the state responsible for providing free and compulsory education for all children below the age of 14 years and it also guaranteed equality of educational opportunities.

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**Problems associated with Education of Tribal women**

In India, many studies have revealed the educational development of tribal women by quantitative indicators like enrolment, literacy rate and educational facilities. When literacy has been recognized as an important tool of empowerment, the tribal society has been greatly disadvantaged and the tribal woman is enormously handicapped. Though the governments have taken several steps in the development of tribal education projects and schemes, much remains to be done. The progress achieved in this field is far from satisfactory. The welfare programmes have not been effective due to inadequacies in the administrative machinery, lack of sensitive trained management, lack of general preparedness for large investments, deficiency in accounting systems, procedural delays and lack of proper monitoring and evaluation. The constitutional directive to provide free and compulsory education for all children up to the age of 14 years has not yet been fulfilled. Educational experts admit that this failure is mainly due to the slow progress of education among girls, SCs and STs. Moreover the tribals have no faith in formal education. Many of them do not know anything about education, schools, colleges, degrees etc. Though there has been fivefold increase in the literacy of tribal females, it is still much lower than the national average for the females. Literacy among tribal women has been lagging behind all other sections - urban males, urban females, rural males, rural females, SC males (urban / rural), SC females (urban / rural) and tribal males. The low educational status of tribal women is reflected in their lower literacy rate, lower enrolment rate and higher dropouts in the school.

**Poverty**

The poor economic condition is a great hindrance to successful education of the tribal children particularly for girl children. Since the economy is not viable and the very survival being at stake, the importance of education touches only the periphery of the tribal life. As most tribals are poor they feel it is unproductive

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to send their children to school. They feel that a girl at home will be available for work and bring additional income for household (Rajyalakshmi 2010). In tribal communities, the role of women is substantial and crucial and women are more important than in other social groups, because they work harder and the family economy and management depends on them (Awais, Alam and Asif 2009). The tribal women are also burdened with work in the fields and homes, and this is mainly responsible for their low rate of education. In the tribal society while boys work in the field with their parents, girls give every help to their mothers at the housework. The tribal girl child is viewed as a security and asset to the family, and so, the parents do not allow the girls to study (Sinha 2005).

**High wastage and stagnation**

Problem of education in the tribal areas is also the problem of wastage and stagnation. Wastage is the withdrawal or dropping out of a student before completing the prescribed period of the concerned course. A data revealed by the Eleventh Five Year Plan also indicated the high drop out of the STs at different levels of study. As per the data, at the Primary level, the dropout rate among STs in 2003-04 was 48.9 percent and 70.1 percent at the Upper Primary level (Pradhan 2011). Further many studies indicate that the total picture of spread of education among the tribals is not very encouraging barring a few tribes on north-eastern regions who have benefited from the Christian missionary institutions (Rajyalakshmi 2010). It indicates the apathy of the Tribals and tribal students for the existing curriculum and system and problems of teaching-learning process. When a student takes more than one year to pass a class it is considered a case of stagnation. As per the 11 Five Year Plan report, stagnation at the primary level was 67.3 percent whereas it was 49.3 percent at the Upper Primary level. School timing i.e. clash of class hour with the working hour particularly, during the harvesting period, formal education, poverty, lack of academic atmosphere, unwillingness of the teachers to convince the parents and parental apathy towards education and lack of proper medical aid, balanced diet and suitable self-employment opportunities are the major factors for which there is wastage and stagnation.

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**Conclusion**

Education is the most effective instrument for ensuring equality and opportunities but the tribal people in general and women in particular are lagging far behind non-tribals due to several reasons. The problems associated with the education of tribal children in general and tribal girl in particular in India are complicated, inter-related and manifold in structure.

Firstly, Ignorance of tribal people and lack of information in the tribal areas handicaps the schemes and programmes of the government. Therefore, it is the responsibility of the government, civil societies and public to create awareness among the tribal people about government programmes, meant for them, and advantages of education among tribal women and education of the tribal women is not a mere learning process rather, it should be a means for creativity and occupation as per the necessities and requirements of the tribal community. Therefore, the main aim of education should be to make tribal women economically independent, understand their problems and take concerted effort to make their life better.

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# PUBLIC EXPENDITURE ON HIGHER EDUCATION IN INDIA – A TREND ANALYSIS

This paper aims at discussing the progress of higher education, the issues today to attain it and steps to be taken up for achieving quality higher education in India.

**Statement of the problem**

Several studies have been conducted with reference to higher education in the post reform period in India. Still there is a need for extensive study in higher education as the students are responsible citizens of the country for achieving social and economic status in the all stages involved; globally achieved success in bringing the students to be main stream of decision making.

**Statistical tools used**

Frequency table were used to understand the divergence in various levels of growth of higher education in India. Various functional forms of Linear Regression Model and Log Linear Model were used to estimate the cause and effect relationship between the dependent and independent variables.

**Objectives of the study**

The objectives of the present study are:

1. To estimate the trend of expenditure, number of instructions and enrollment in higher education in India.
2. To compare the trend and the differences of variables related to first and second decade after economic reforms.
3. To analyse the relationship between public expenditure of higher education and gross enrollments of students in higher education.

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**Table – 1 : Growth of Number of Recognized Educational Institutions and Budgeted Expenditure on Higher Education in Government of India**

| Year | Colleges for General Education | Colleges for Professional Education | Universities | Total No. of Colleges and Universities | Budgeted Expenditure on Higher Education (Rs. in thousand crores) |
|---|---|---|---|---|---|
| 2001 | 7929 | 2223 | 254 | 10406 | 10406 |
| 2002 | 8737 | 2409 | 272 | 11418 | 11418 |
| 2003 | 9166 | 2610 | 304 | 12080 | 12080 |
| 2004 | 9427 | 2751 | 304 | 12482 | 12482 |
| 2005 | 10377 | 3201 | 343 | 13921 | 13921 |
| 2006 | 11698 | 5284 | 350 | 17332 | 17332 |
| 2007 | 11458 | 8354 | 371 | 20183 | 20183 |
| 2008 | 13381 | 9718 | 406 | 23505 | 23505 |
| 2009 | 15852 | 12030 | 440 | 28322 | 28322 |
| 2010 | 16958 | 14097 | 482 | 31537 | 31537 |

Source : Analysis of Annual Reports (Various Years), Ministry of Human Resource Development, New Delhi.

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**Gross Enrollment Ratio (GER) in Higher Education in India**

Another parameter of the size of the Indian higher education system is reflected in the current enrolment of students in the institutions of higher learning. The number of students enrolled in the universities and colleges (formal system) has increased since independence to 13,642 million in the beginning of the academic year 2009-10, with 1,669 million (12.24%) in the university departments and 11.973 million (87.76%) in the affiliated colleges. This does not include enrolment in higher education offered through Open and Distance Learning.

**Trend Analysis**

This model is like any other linear regression model in that the parameters á and $\hat{a}_1$ are linear. The only difference is that regress and is the logarithm of Y and the regressor is "time", we can write as:

$$\text{Ln } Y_t = á + \hat{a}_1 t + U_t$$

$r^2 = 0.99$ sig (0.001) F = 1108

The above result shows the percentage increase in gross enrollment in higher education over twenty years (1991-2010). The $R^2$ value of 0.99 shows the co-efficient of determination. The gross enrollment in higher education has increased at the rate of 5.6 percent. And also gross enrollment in higher education has increased at the compound growth rate of 5.75 percentages per time period.

**Growth of Budgeted Expenditure for Higher Education (Rs. in Thousand Crores)**

$$\text{Ln } (BE)_t = á + \hat{a}(\text{time}) + U_t$$

$$\text{Ln} = 7.651 + 0.150 \text{ (time)} + e_t$$

t (30.371)

$r^2 = 0.981$ sig (0.001) F = 922.377

The above result reveals the percentage increase in budgeted expenditure on higher education in India over twenty years (1991-2010). The $R^2$ value of 0.981 shows the co-efficient of determination. The budgeted expenditure on higher education in India has increased at the rate of 15 percent. And also budgeted expenditure on higher education in India has increased at the compound growth rate of 16.8 percentages per time period.

**Table – 3: Comparison of Growth Rate in First and Second Decade after Economic Reforms**

| Variable | First Decade | | Second Decade | | Total | |
|---|---|---|---|---|---|---|
| | S.G.R | C.G.R. | S.G.R | C.G.R. | S.G.R | C.G.R. |
| Budgeted Expenditure for Higher Education (Rs. in Thousand Crore) | 15.3 | 16.5 | 17.7 | 19.3 | 15.0 | 16.18 |
| Gross Enrollment in Higher Education (No. in thousands) | 5.4 | 5.5 | 6.2 | 6.3 | 5.6 | 5.75 |
| Colleges for General Education and Professional Education | 6.6 | 6.82 | 13.1 | 13.9 | 8.3 | 8.6 |
| Universities and National Importance Institutions | 2.8 | 2.83 | 6.8 | 7 | 4.7 | 4.82 |
| Total No. of Higher Education Institutions | 6.5 | 6.7 | 12.9 | 13.7 | 8.2 | 8.5 |

S.G.R. – Simple Growth Rate, C.G.R. – Compound Growth Rate

Table 3 evaluate the difference in Growth Rate of budgeted expenditure for higher education between First (1991-2000) and Second Decade (2001-2010) after Economic Reforms. Budgeted expenditure for

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higher education has grown significantly 15.3 per cent and 17.7(S.G.R) and 16.5 to19.3 per cent respectively. But gross enrollment of student in higher education has not increased significantly.

The researcher found that total number of higher education institutions has grown 6.5 per cent in first decade and 12.9 per cent in second decade, but gross enrollment of students in higher education institutions shows 5.4 per cent in first decade and 6.2 per cent in second decade. Even number of educational institutions growth rate is good the growth in enrollment rate is unsatisfactory.

The result elucidate that during the 20 years period (1991 to 2000), the increase in the colleges for general and professional education of higher education has grown at 6.6(SGR) per cent and 6.82(CGR) per cent. In the second decade after economic reforms from 2001 to 2010, it leads to 13.1(SGR) per cent in simple growth rate and also calculate compound growth rate which is 13.9(CGR) per cent.

**Public Expenditure and Enrollment of Higher Education**

The researcher attempts to find out the relationship between budgeted expenditure on higher education and enrollment of students in higher education. Regression – linear trend model and log – linear trend model have been used to find out the relation.

**Table - 4 : Linear trend in gross enrollment on higher education**

**Coefficients[a]**

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig | $R^2$ | F |
|---|---|---|---|---|---|---|---|
| | β | Std.Error | Beta | | | | |
| 1 (constant) | 5.604E6 | 273122.349 | - | 20.518 | 0.000 | 0.93 | 243.04 |
| BEHE | 220.936 | 14.172 | .965 | 15.589 | | | |

Dependent Variable : Gross enrollment on higher education (No. in thousands)

BEHE : Budgeted Expenditure on Higher Education.

$$\text{Ln } Y_i = \hat{a}_1 + \hat{a}_2 \text{ Ln } X_i + U_i$$

$$\text{Ln (GEH)}_t = 560400 + 220.936(\text{Pub.Exp.}) + e_t$$

$$t\ (15.589)$$

$$r^2 = 0.93 \qquad \text{sig (0.001)} \qquad F = 243.04$$

The regression results show that Rs. 1000 Crores increase in the Budgeted Expenditure on Higher Education leads to enrollment of 2,20,923 students in higher education in various institutions across India Significantly.

**Table – 5 : Log-Linear trend in gross enrollment on higher education**

**Coefficients[a]**

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig | $R^2$ | F |
|---|---|---|---|---|---|---|---|
| | β | Std.Error | Beta | | | | |
| 1 (constant) | 12.530 | .105 | | 119.37 | .000 | 0.983 | 106.5 |
| Ln_BEHE | .370 | .011 | .992 | 32.641 | .000 | | |

Dependent Variable : Gross enrollment on higher education (No. in thousands)

$$\text{Ln } Y_i = \hat{a}_1 + \hat{a}_2 \text{ Ln } X_i + U_i$$

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$$\text{Ln (GEH)}_t = \hat{a}_1 + \hat{a}_2 \text{ n (Pub.Exp)}_t + e_t$$

$$\text{Ln (GEH)}_t = 12.53 + 0.37 \text{ (Pub.Exp.)} + e_t$$

$$t\ (119.37)$$

$$r^2 = 0.98 \qquad \text{sig (0.001)} \qquad F = 1065$$

The researcher also make an attempt to analyse of log – linear trend model, this result shows 1 percent increase in the budgeted expenditure on higher education, on average leads to 0.37 per cent increase in the student enrollment of higher education significantly.

**Findings and Conclusion**

This study have prepared a detailed investigation of enrolment of students in higher education, budgeted expenditure on higher education, total number of colleges and universities in India in the post economic reforms period, and identified the factors that affect the likelihood of the enrolment. And also with the help of linear and log linear models it has been found out that the budgeted expenditure on higher education shown 15 percent growth whereas gross enrollment of studnts in higher education shown only 5.6 percent growth rate. It elucidate that need more consideration to policy improvement to increase enrollment in higher education across different states.

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# HIGHER EDUCATION AND ECONOMIC DEVELOPMENT

Importance of higher education can be understood from its functions like (i) creation and dissemination of knowledge, (ii) supply of manpower, particularly knowledge workers, (iii) attitudinal changes for modernization and social transformation, (iv) formation o strong nation-state, and (v) promotion of higher quality individual and social life. Development of knowledge and its application are based on the quantity and quality of education system available, particularly of higher education, in a country. Therefore, higher education assumes significance as creator and supplier of knowledge. Access to and availability of higher education determines for creation, spread and application of knowledge for development.

Education is the shared responsibility of the central and state governments, traditionally the states have had primary responsibility for funding, there has been a gradual shift towards greater central government funding which now accounts for around a quarter of total spending, double the hare in the early 1990s. This changes reflects a greater ability of the central government to find new sources of revenue to fund education spending, including the introduction of a 2% levy in 2004 on all central government taxes which was raised to 3% in 2007. As central government spending is heavily titled towards plan expenditures much of the growth in spending has been directed at strategic programmes, including expanding school access, some of which involve cost sharing arrangements with the states.

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**Privatization of Higher Education**

Within Indian academia there have been two contradictory positions on the issue of privatization. The first not only accepts but also promotes the policy of private control of education on the grounds that the state has no longer any funds for higher education and that through private initiatives alone there could be an improvement in accountability and efficiency in the management of colleges and universities, which are in a state of complete decay. Some commentators have, instead, argued that one part of the contention is wrong-the state has funds for public institutions, but has no political will to mobilize and utilize them in the best interest of the public. Arun Kumar has contended that if that if the black economy (40 per cent of GDP) is tapped and taxed the state would have enough liquid funds to invest in education. Thus this position is highly skeptical of the role played by private sector in higher education suggesting that the state is the only body, which can define and manage public goods. It argues that because corporate houses or private trusts work for their own interests, there is no reason to believe that would achieve in case of higher education.

**Problems of Higher Education in Economic Development**

Higher education system has grown significantly in India over the years, it is facing several problems. Despite the huge higher education system the enrolment ratio is still around 9 per cent. As observed above during 2002-03 the gross enrolment ratio was lowest (4.33) in Nagaland while highest (13.47) in Goa. India's enrolment ratio is very low compared to middle income countries and higher income countries. A threshold level of 20 per cent enrolment ratio is abysmally low. Hence, necessary measures need to be taken up to address the issue of low enrolment ratio and bring more number of students in the network of higher education.Economic reforms have led to privatization in higher education, and private sector is becoming a major supplier of higher education. But, this development needs attention from policy makers, state and also consumers of higher education, because, this process may keep marginal groups out of higher education, which is against the policy of providing access to higher education for all concerned.

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Further, higher education is considered as a public good, and hence private market may not be able to deliver education service to marginal groups of the society.

**Suggestions**

- The Central Government shall finance entirely all the universities and colleges in the country. Appropriate governance structures that would maintain uniformity while granting sufficient autonomy can be evolved for higher education institutions across the country.
- A paradigm shift is needed with a focus on the use of new technologies and better utilization of existing capacity. Ways and means have to be found to provide increased funding for higher education including the innovative model of Public-Private Partnership to seek private participation in higher education without compromising the quality and equity.
- The new practices of pedagogy and research can be strengthened as a matter of national education policy. The political interference of local governments and pressure groups can minimized at the level of teaching, research and recruitments.
- Genuine interdisciplinary should been possible in cause design and teaching. Admissions to higher education institutes can be done through a rank obtained in a nation or state wide entrance examinations.
- It is needed to completely overhaul the curriculum in universities and colleges to meet the global standards.
- Appropriate measures must be taken to provide academic infrastructural facilities to the students and staff in higher education institutions.
- The budgetary allocation for education should be raised to 6 per cent of GDP and the allocation for higher education must be around 3 per cent of GDP to increase the quality, equity and better infrastructural facilities to the higher education institutions.
- At present the private participation from the large corporate sector is less. Hence, it has to be increased by offering certain incentives and subsidies. It is evident that private institutions are capable of providing higher education of better quality than government institutions. A combination of government institutions and private institutions held accountable under Public-Private Partnership (PPP) model is a superior to upgrade quality in higher education in India.

**Conclusion**

The study revealed that educational loan by public sector banks in India is increasing over the years, showing the increasing demand for loan of higher education. But, across the priority of lending by public sector banks, education constitutes a small of 3.7 per cent of the total priority sector lending in the year 2009. This indicates that banks can increase their share of lending for higher education.

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# HIGHER EDUCATION AND SUSTAINABLE DEVELOPMENT IN INDIA

Education should be developed so as to increase productivity, achieve social and national integration, accelerate the process of modernization and cultivate social, moral and spiritual values". In February 2006, the Ministry of Education's Committee published its strategy on Education for Sustainable Development (ESD), which now serves as Finland's national action plan for the UN Decade of Education for Sustainable Development. In order to achieve this goal more attention is to be focussed upon teacher training, both in undergraduate programmes and in continuing education. The promotion of sustainable development was already included in the Council of State's education and research development plan in 2003.

**Goals of Higher Education and Sustainable Development**

It is necessary to recognize that present approach towards higher education which is governed by the "National Policy on Education" of 1986 and Program of Action of 1992. The 1986 policy and Action Plan of 1992 were based on the two land marks report namely, the "University Education Commission" of 1948-49 (popularly known as Radhakrishnan Commission), and the "Education Commission" of 1964-66, (popularly known as Kothari Commission Report). These two landmark reports in fact laid down the basic framework for the National policy for higher education in the country. The University Education Report had set goals for development of higher education in the country.

**Increasing Institutional Capacity**

The level of higher education is determined by the size of institutional Capacity of higher education system in country. The size of higher education system is determined by particular three indicators, namely the number of educational institutions-universities and colleges, number of teachers and number of students. Since independence, institutional capacity of higher education has increased in India. During 1950 and 2008, the number of universities has increased from 20 to about 431, colleges from 500 to 20,677 and the teachers from 15,000 to nearly 5.05 lakhs. Consequently, the enrolment of students has increased from a mere 1.00 lakh in 1950 to over 116.12 lakhs.

**Present Status of Enrolment**

The extent of higher education is generally measured by enrolment ratio in higher education. There are three alternative methods used to estimate the extend of access to higher education namely Gross Enrolment ratio (GER), Net enrolment ratio (NER) and Enrolment of Eligible (EER). The GER measure the access level by taking the ratio of persons in all age group enrolled in various programs to total population in age group of 18 to 23. The NER measures the level of enrolment for age specific groups namely those in age group of 18 to 23. While the EER measure the level of enrolment of those who completed higher secondary level education. These three concepts thus look at the access to higher education from three different angles. Three alternative sources namely Selected Education Statistics, (SES) National sample Survey (NSS) and Population Census (PC) provide data on number of student enrolment. Table 3 presents the GER based on the Selected Education Statistics (SES) for 2006/7, NSS Data for 2004/5(Ravi Srivastva's study) and population Census Data for 2001. The estimate based on SES indicates that the access to higher education measured in terms of gross enrolment ratio increased from 0.7 percent in 1950-51 to 1.4 percent in 1960- 61. By 2006-07 the GER increased to about 11 percent. The GER based on NSS data for 2004-05 is on higher side that is 12.59 percent (10.84 percent for graduate and 1.75 percent for diploma). The GER is also on higher side based on population census data for 2001, that is, 13.6 percent. The NSS being household survey covers all public and private institutions as well as distance

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education and also includes certificate and diploma holders. The population census 2001 estimate is also based on household survey and thus includes all institutions. Beside the graduate above, population census data also includes certificate and diploma holders.

**Enrolment Rate of Higher Education in India**

There has been huge increase in the demand for higher education since independence. The projection made by the Study sponsored by UGC indicates that, the projected enrolment on the basis of historical growth pattern may not be sufficient to meet the growing demand and also the need of the Indian economy. This has led to a situation where institutions are required to manage more students than they afford, leading pressure on the facilities particularly the State Universities, collages –aided as well as unaided. Therefore, in addition to creating new universities and collages the strengthening and expansion of exiting institutions is equally necessary. There has been a considerable improvement in the enrolment from one percent in early 1950's to about 15% in the 2008. The 13 percent is little more than average for developing countries, which is 11%. But it is too low compared to 23% of world average or 36.5% for countries in transaction or 54.6% for developed countries. However the increase in demand has not been matched by corresponding increase in the education infrastructure in term of educational institutions and other facilities. Due to the demand a large number of aspirants are also denied access to higher education. There are issues related to target in 11th Plan. What should be the sustainable target? The approximate number of additional educational institutions is some thing, which will have to be worked out. Both will require substantial increase in the public expenditure on higher education. As per the projection the GER will increase from 9.7% in 2006/7 to 11 % to 2011/12. For the same period projection based on NSS data suggests GER increase from 11.2% to 12.8% respectively. Hence a higher achievable target needs to be envisaged and the 11th plan for higher education should be geared to attend this target. Thus depending on the source the target would vary from 15% to 18% by the end of 11th plan. Definite target will have to be set up for government and government-aided institution. This will have to be done both by expansion in the capacity of existing education institutions and also by establishing the new ones. If target is to come closer to world average of 23%, there is need to expand the intake capacity during the 11th Plan quite substantially. Increase from 13% to 20% will have to come both from public and private institutions and require planning for increase in institutional capacity both for public and private educational institutions.

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**Table 5:**

**Enrolment Ratio By alternative sources**

| Years | Graduate & Above | | | Technical/Vocational | | | Total Higher Education | | |
|---|---|---|---|---|---|---|---|---|---|
| Sources | SES | NSSO | Census | SES | NSSO | Census | SES | NSSO | Census |
| 1983 | 3.77 | 6.66 | na | 0.26(0.62) | na | na | 4.04 | 7.67 | na |
| 1987-88 | 4.28 | 7.51 | na | 0.41(0.87) | na | na | 4.69 | 8.57 | na |
| 1991 | 4.22 | na | na | 0.40(0.83) | na | na | 4.63 | na | 10.95 |
| 1993-94 | 4.35 | 6.45 | na | 0.45(0.90) | na | na | 4.80 | 8.85 | 11.74 |
| 1999-00 | 6.77 | 7.71 | na | 0.45(1.00) | na | na | 7.22 | 10.08 | 13.19 |
| 2001 | 7.41 | 7.6 | 12.4 | 0.44(1.03) | 2.33(3.54)* | 1.4 | 7.85 | 9.91 | 13.82 |
| 2003-04 | 8.14 | na | na | 0.39(1.29) | na | na | 9.01 | 13.22 | 14.48* |

**Source** : Studies sponsored by UGC, Undertaken by Ravi Sriwastwa, S. Sinha, Sudhansu, Sarswati Raju, Ameresh Dubey, Duraiswamy (2006).

## Conclusion

Lethargic approach to economic imperatives may seriously undermine the groundwork for sustainable development. Institutions of higher learning ought to be a major force in society not only for producing leaders in science and technology, but also for downstream channeling of progressive social, moral, and political values while keeping in perspective temporal realities and spatial constraints. That said, five major interests universally considered to be at stake in national higher education systems include social justice, competence, academic freedom, autonomy vs. accountability, and decentralization vs. centralization. Higher education reform efforts aim at independent, strong, and objective analysis of ground reality. A clear sense of direction and pace will help in optimally balancing out the apparent tradeoffs in favour of sustainable development. The central objective of the 11th plan is now focused on Expansion of enrolment in higher education with inclusiveness, quality and Relevant education and supported by necessary Academic Reforms in the University and college system in India. There are necessary that individual state and central government also take similar initiative in their respective state plan and develop policies to address the issue of increasing the enrolment rate, equal access to groups with lower access to higher education, issue of quality, relevant education and various academic reforms.

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# FEMALE ENROLLMENT IN HIGHER EDUCATION

The enrollment of women candidates in higher education has increased with Kerala grabbing second position in terms of enrolment. Women enrolment in higher studies has increased from 10% of the total enrolment in 1947 to 41.5% in 2010-11. As per UGC report, in 2010-11, 70.49 lakh of the total 169.75 lakh enrolled students were females against the 47.08 lakh women candidates admitted in 2006-07. Towards the end of the fourth year of XIth Five Year Plan (2007-12), the number of universities has increased to 523 (130 deemed, 43 central and 345 state universities and 5 institutes set up under Special State Legislature Acts) and the number of colleges has gone upto 33,023, thus witnessing a rise of 44% in the number of universities and 56% in terms of colleges against the figures recorded at the end of X th Plan.

**Higher Education in India**

In India higher education has been an integral part of educational system. In developingsocieties higher education is considered a speedy vehicle for upward social mobility especially by the socially and economically deprived sectors. Education of girls has been high on both national and state agendas. Several strategies were adopted to promote education of girls as an integral part of planned socio-economic development of the country. The education of women is very essential for happy and healthy homes, improvement of society, economic prosperity and national solidarity. In ancient India women enjoyed a high status in the society; they were provided educational opportunities on par with men. Next to China and U.S.A., India has the third largest education system in the world in terms of size and diversity. The institutional framework for providing different streams of higher education consist of Universities established by the Act of Parliament or of the state legislature, Deemed Universities, Institutions established under state legislative Act, and college affiliated to the University as well as autonomous colleges. As on 1-07-2010, there were 533 Universities and about 26,000 colleges were also there in our country

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**Table-1 All India Growth of Student Enrollment in Higher Education (1999-2009)**

| Year | Total Enrollment (Numbers) | %growth over the preceding year |
|---|---|---|
| 1999-2000 | 80,50,607 | (-) |
| 2000-2001 | 83,99,443 | 4.3 |
| 2001-2002 | 89,64,680 | 6.7 |
| 2002-2003 | 95,16,773 | 6.2 |
| 2003-2004 | 1,00,11,645 | 5.2 |
| 2004-2005 | 1,05,42,262 | 5.3 |
| 2005-2006 | 1,11,37,627 | 5.6 |
| 2006-2007 | 1,18,87,095 | 6.7 |
| 2007-2008 | 1,27,27,082 | 7.0 |
| 2008-2009 | 1,36,41,808 | 7.2 |

***Source:*** UGC Report on Higher Education 2010,Bahadur Shah ZafarMarg New Delhi, pp-77-78

**Enrolment of women in higher education increases**

There has been a phenomenal growth in enrolment of women students in Higher Education in the country. The share of girls' enrolment which was 11.3% of the total enrolment in 1950-51 has increased to 38.6% (provisional) in 2008-09. Gross Enrolment Ratio (GER) of girls has increased by 4.6 percentage point during 2001-02 to 2008-09. University Grants Commission (UGC) has taken number of steps for

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greater access to women in higher education like Indira Gandhi Scholarship for Single Girl Child for pursuing Higher and Technical Education. Construction of Women's Hostels, Development of Women's studies in Universities and Colleges, Schemes of capacity building of Women's Manager in Higher education, Post Doctoral fellowships etc. All India Council of Technical Education (AICTE) has a scheme to encourage tuition fee waiver for girl students by incentivizing the technical institutions and relaxation in norms for establishment of new technical institutions exclusively for women. The student enrolment here in India as a whole from 1999 to 2009 is considered. The statistical information regarding the growth of student's enrolment in India can be observed from the Table-1.

Data presented in Table-1 clearly indicate that the Growth of students enrolment in India over these years has been slowly and steadily increasing. On an average the overall growth is in between 6%to 7%. At present as per the data given by the human resource development ministry the gross enrolment is 13.4%. The number of women students enrolling for higher education in India has shot up, and Kerala stands second in terms of enrolment. Women enrolment in higher education which was less than 10% of the total enrolment on the eve of Independence has risen to 41.5% in the academic year 2010-11. Out of 169.75 lakh students enrolled in higher education in 2010-11, almost 70.49 lakh were women as compared to just about 47.08 lakh women enrolled in 2006-07, reveals the University Grants Commission (UGC) report. Among the states, Goa with 61.2% topped in terms of women enrolment followed by Kerala (56.8%), Meghalaya (51.8%) and Nagaland (50.5%). But there is bad news for the state. Though Kerala is amongst the 17 states which had higher enrolment of women than the national percentage of 41.5%, the state has actually witnessed a decline in enrolment of women in higher education in the last academic year as compared to those who enrolled in 2006-07. "We will have to study the data to understand whether this decline is due to demographic shrinking or because more women are opting for vocational streaminstead of going for graduation," said higher education principal secretary K M Abraham.

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In rest of the states, the percentage of women enrolled was less than the national average, with Bihar recording the lowest at 31.2%. The majority of women in the country are enrolled in non-professional graduate level courses, with 41.21% of the women enrolled in the Arts stream, followed by 19.14% in the faculty of Science and 16.12% in Commerce and Management. The number of women enrolled in faculty of Education was 4.60%, medicine was 3.85% and in engineering technology in 2010-11 was 11.36%. Women enrolment in the faculties of Agriculture and Veterinary Science has been miniscule. The enrolment position of women students enrolled for Master's level courses has been 12% while a very small proportion, that's 0.8% of the total number of students had been enrolled for research. Similarly, only one per cent of the total number of students had been enrolled in diploma or certificate courses. At the end of the fourth year of XIth Plan (2007-2012), the number of universities has gone up to 523 (43 central, 130 deemed and 345 state universities and five institutions established under Special State Legislature Acts) and the number of colleges to 33,023, thus registering an increase of 44% in the number of Universities and 56% in the case of colleges in comparison to the figures at the end of Xth Plan.

**Conclusion**

India is one of the few countries in the world where, due to rampant sex selection and cultural factors, men outnumber women. Girls are commonly discriminated against in subtle and crude ways from the time they are born. The growing presence of women in colleges and universities, therefore, is a great leap forward. It is to the credit of young women that more of them are gaining entry into some of the most competitive higher-education institutions without the fuss of gender quotas. The increased female enrollment at postsecondary institutions has not been well received in some quarters. There is no doubt that Women education in India is on the increase, but still millions of women are deprived of this basic right. In India there is a wide gap between male and female enrolment in education in general. It is found that the enrolment of girls/women has increased at a faster rate than that of boys particularly at the under graduate and medical education levels.

# HIGHER EDUCATION SCENARIO IN INDIA

The Indian higher education is one of the largest in the world in terms of the number of colleges and universities. While at the time of independence, there were only 20 universities and 500 colleges with 0.1 million students, their number has increased to 690 universities and university level institutions and 35,539 colleges up to 2011-12. Of the 690 universities, 44 are central universities, 306 state universities, 145 state private universities, 130 deemed universities, 60 institutes of national importance. (Economic Survey, 2013) The new challenge before the country at the beginning of the twenty first century is to become a developed society by the year 2020, which requires that not only a vibrant economy driven by knowledge has to be ushered in soon but also a new society where justice and human values prevail has to be created. Moreover, challenges in higher education are no longer only nation centric. They have already attained global dimensions. Thus there is a compelling need to assess the Indian system of higher education and reorient it for the progress of the nation.

**The Major Initiatives**

A scheme of Interest Subsidy on Educational Loans to economically weaker sections (EWS) students was introduced from 2009-10. An Expert Group was set up by the Prime Minister in order to suggest ways of enhancing employment opportunities in Jammu and Kashmir and to formulate job plans involving the public and private sectors. Among the key recommendations of the Expert Group, one is offering scholarships over the next five years, to encourage the youth of Jammu and Kashmir to pursue higher studies outside the state. This scheme is being implemented since 2011-12.

Today around 80% of India's Higher education is provided by private agencies. Interestingly, education belongs to soft-infrastructure category. Essentially it means Government has liberalized its activities in the field of higher education looks at both as more of a revenue opportunity by allowing private players to fill up the huge gap. Over the last couple of years, supply is more that demand due to an indiscriminate expansion of capacity in private space. The tuition fee barely covers the salary of the faculty member alone at stipulated student: faculty ratio. When an institute fails to get the allotted number of students by regulators, or state agencies fail to fill up the seats through centralized admission, the tuition fees cannot every pay for the salary of the faculties. Effectively, it means that it has no business model as one can never recover even the bare minimum operational expenses. But when an educational institute fails, without any debt to any banks, students and faculties get affected; and Government is not worried. In India, many educational institutes have been facing the consequences of operational survival. And no FDI in education or even allowing reputed global universities to set up campuses in a liberalized environment.

To enhance the quality of education one offers, first thing to set right is to have right pool of faculties. But in India, it becomes a chicken and egg story as we do not have adequate number of good faculties. And even in most of the government policies, faculties are a forgotten link as the focus is more on hard infrastructure like, land, building, etc., than on soft infrastructure, which primarily is the quality of faculty. There seems to be a high positive correlation exists between good soft infrastructure and hard infrastructure. But reverse is not the case. In the era of knowledge economy, the development of soft infrastructure, namely, education is inevitable. Similarly in all the policy making and media debate, one obvious and vital piece of the puzzle that hasn't been figured into the equation of quality of education from primary levels to higher education and often exploited ones in India is on quality of faculty, and ensuring work remunerations and conditions attract average talent, if not the best.

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**Status of research in India:**

Examining the quality alone, without looking at the costs the different categories of the institutes of the nation incur in producing its graduates, post-graduates and doctorate students is stupid. And it affects 80 per cent of the students pursuing higher education now and that number has been rapidly growing. In the emerging dispensation of education policy there are many issues where there is no place for the common man in decision making. Many of the proposed measure need to be modified. Our higher education is in transition in the face of globalization. It is but appropriate not to deny our youngsters the global exposure. However the fundamental obligation to the needs of the society is to be overlooked. In simple terms, our higher education policy must strive to ultimately enhance the knowledge and skill levels of our youngsters with social consciousness and commitment towards national development.

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# EDUCATION STATUS OF TAMIL NADU AT PRESENT ERA

Education, in the present day context, is perhaps the single most important means for individuals to improve personal endowments, build capability levels, overcome constraints and in the process, enlarge their available set of opportunities and choices for a sustained improvement in well being. The process of education and attainments thereof has an impact on all aspects of life. It captures capability of acquiring knowledge, communication, and participation in community life. It alters an individual's and even community's collective perceptions, aspirations, goals as well as the ability and the means to attain them.

The level and spread of education has not only been an important precondition for sustained economic growth, both in the developed and the developing countries, but it has also played a critical facilitative role in the demographic, social and political transition of these societies. Creation, application and adaptation of new technologies, lower fertility, infant and child mortality rates, better nutritional, hygiene and health status of children, reproductive health and empowerment of women, social mobility and political freedom, all have visible linkages with educational attainments of people. It is, undoubtedly, a basic component of human development. Educational system of India is an implantation of British rulers.

**Education Policy**

The National Policy of Education (1986) and Program of Action (1992) lay down the objectives and features of Indian education policy. It includes:

Development of International cooperation and peaceful coexistence through education.

1. Promotion of equality it could be achieved by providing equal access and equal condition of success to children.

2. A common educational structure (10+2+3) for the whole of India.

3. Education for women's equality. The Indian education should be used as a tool to change the status of women in the society.

4. Equalization of SC population with others in the matter of education. This is ensured by giving incentives to parents who send their children to schools, providing scholarship to SC students for higher studies, reservation of seats in institution of higher studies in India, recruitment of SC teachers.

5. Opening of primary schools in tribal area for promotion of education in ST people.

6. Development of curriculum and study material in the language of tribal people Emphasis on the education of minorities.

7. Adult education - Initiation of National Literacy Mission, for teaching illiterate people of age group 15-35. And making them aware of the day-to-day realities of their surroundings.

8. Special emphasis on early childhood care and education by opening up of day care centers, promotion of child focused programs.

9. Increasing the scope of Operation Blackboard for upliftment of standard of primary education in India. Secondary education curriculum should expose the students to differentiated roles of science, the humanities, and social science.

10. Redesigning of courses of higher education to meet the increasing demand of professionalism.

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11. Providing enhanced support to the research work in Universities. Efforts to relate ancient Indian knowledge with the contemporary reality.

12. Setting up of Open Universities and Distance Learning centers to promote the goal of education as a lifelong process.

13. A combined perspective of technical and management education Minimum exposure to computers and training in their use to be the part of professional education.

14. The All India Council for Technical Education will be responsible for maintenance of norms and standards, accreditation, funding, and monitoring of technical and management education in India.

15. Multiple task performance for teachers such as teaching, research, development of learning resource material, extension and management of the institution.

16. Providing teachers a better deal to make education system in India work in proper way, as teachers are the backbone of the system. Providing better facilities to institutions and improved services to students.

17. Development of languages in great deal Measures to be taken for easy accessibility of books at minimum costs to all sections of students.

18. Strengthening of science education for the development of spirit of inquiry and objectivity in the minds of students.

19. The purpose of examination to be to bring about qualitative improvement in education. It should discourage memorization.

20. Methods of teacher recruitment to be recognized one to ensure merit and objectivity in the system Overhauling of the system of teacher education and establishment of District Institutes of Education and Training (DIET) to organize courses for elementary school teachers.

21. Reviewing of educational developments by the Central Advisory Board of Education (CABE)

22. Involvement of local communities for school improvement programmes Review of the implementation of the parameters of the policy every five years, Strengthening the base of pyramid of Indian population for proper development of education system in India. **(Indianetzone 2011).**

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### 1.4 Development of Education

Development of Education in India has attained new level essentially after the independence of the country. India is a developing nation and it has been expanding in every field. Development of education in India brought about a transformation and the concept of education got modified. Literacy rate has increased from around 3% in 1880 to around 65% in 2001. According to the 2011 Census, the Literacy Rate is recorded to be around 74%. All levels of education in India, from primary to higher education portray a challenge. India got well-known educational institutions such as the IITs, IISc, IIMs, NITs, AIIMS, ISI, JU, BITS, and ISB. The higher education system of India is the third largest in the world, after China and the United States.

### The Annual Status of Education Report (ASER) 2012

The state of education in the country A quick survey of some figures seem to point to a mix of a movement forward – especially in terms of infrastructure and broad enrolment ratio – and a certain movement backward in terms of learning skills and teacher performance. It would be perhaps useful to have a brief look at some of the findings and to note with alarm the fact that the principal investigators of the report feel that there is indeed a 'deepening crisis in education', especially mass education in the country. And this crisis, they feel, is like 'an unseen and quiet killer disease' of which the government, education policy makers and educationists in the country ought to take serious cognizance. Learning levels in government schools are declining and the private school enrolment figures are rising by almost 10% per year. A decline in education

performance has been discerned as well. This has been attributed by some experts to the RTE regulation which stipulates no detention till class VIII leading to a 'relaxation' in teaching in classrooms. It has been argued that the scrapping of all exams till that notified level has contributed to the reduction and eventual removal of performance pressure from the classroom thus leading to a decline in educations standards. One can argue that instead of seeing this as the debilitating effects of adhering, for more than a century, to an exam and syllabus oriented centralized education system, the tendency is to decry any move that looks at trying to reduce the stress and load on the young learner. The teachers for this past period – ever since the colonial system of exam-syllabus oriented education was introduced – gradually lost their sense of initiative and became mere executors of textbooks. Their new found role thus, as educators and not mere examination monitors and facilitators may have left them perplexed for the time being leading to a certain hesitancy which is perhaps mistakenly being perceived as 'relaxation'. On the teachers' role, the report observes that the problem with the 'governmental system is that the individual teacher feels that he has to wait for the highest authority to say what is to be done.' Therefore it may be asked whether under the no-exam RTE regulation the teachers and their role need a comprehensive re-examinations and rethinking. This particular RTE regulation requires greater study and debate and ought not to be dumped without forethought.

**Conclusion**

Highlighting the role of education in economic development cannot be achieved at the expense of simple empirical approaches. Understanding the impact of education on economic performance of a country requires taking into account the specific institutional arrangements that constitute the structure of incentives and constraints at ascertain moment. The institutional economics approach should cover two key areas in order to stimulate economic progress through education: educational system and labor market.

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# STATUS OF TAMIL NADU IN EDUCATION AND DEVELOPMENT

A sound mind in a sound body is a slogan often separated by academicians and educationist. The major aim of education is to develop a sound mind. With visionary zeal Benjamin Disraeli remarked decades ago, *"Upon education of the people of this country the fate of the country depends."* Education is building and maintaining human capabilities and resource to respond to the social, economic, and political challenges and maintain higher quality of life. Quality education is imperative for the multidimensional growth and development of nation. It is responsible to raise the national productivity and contribute to economic growth, thus playing a key long term role in poverty reduction. Education not only builds human capabilities, but also sustains and channelizes human resources according to the social, economical, and political needs of the nations and equips a nation to meet challenges and attain a higher quality of life. Higher quality of life and quality education are the two sides of the coin and are complementary.

**The Public Expenditure in India**

The government has increased proposed spending in education sector in Union Budget 2012–13. The spending has been increased by 18%, from INR 52,057 crore in 2011–12 to proposed INR 61,427 crore in 2012–13. Approximately 75% (INR 45,969 crore) of the total spending will go to school education and literacy, while the remaining 25% (INR15,478 crore) will be allocated to higher education.

1. Reduction in the dropout rates of children at the elementary level from 52.2 per cent in 2003–04 to 20 percent by 2011–12.

2. Developing minimum standards of educational attainment in elementary schools, to ensure quality education.

3. Increasing the literacy rate for persons of age 7 years or more to 85 per cent by 2011–12.

4. Reducing the gender gap in literacy to 10 percentage points by 2011–12.

5. Increasing the percentage of each cohort going to higher education from the present 10 per cent to 15 per cent by 2011–12 (Planning Commission 2008: 23).

**Education and Development in Tamil Nadu**

Tamil Nadu has performed reasonably well in terms of literacy growth during the decade 2001–2011. The state's literacy rate increased from 73.47% in 2001 to 80.3% in 2011 which is above the national average. A survey conducted by the Industry body Assocham ranks Tamilnadu top among Indian states with about 100% Gross Enrollment Ratio (GER) in primary and upper primary education. One of the basic limitations for improvement in education in the state is the rate of absence of teachers in public schools, which at 21.4% is significant. The analysis of primary school education in the state by Pratham shows a low drop-off rate but poor quality of state education compared to other states. Though Tamilnadu is the one of the most literate states in India. The system is unable to give quality education to a large section of population. If the Annual Survey of Education Report (ASER)-2011 were to be considered a report card of the States' performance in school education, Tamil Nadu has several reasons to be worried. The data it presents, on learning levels of over 26,000 students across 29 districts in Tamil Nadu, is shocking. Only about 32 per cent of the students in class V could read a simple story in Tamil. Among the class IV students covered in the study, only 40. 6 per cent could perform subtraction of two-digit numbers, while the current curriculum expects them to be able to perform multiplication and division as well.

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The ASER study, facilitated by non-governmental organisation Pratham, seeks to look at learning outcomes in children in the age group 6 to 14, by testing their ability in reading and arithmetic, using simple tests. In addition to it's nearly 100 per cent enrolment, Tamil Nadu does reasonably well in aspects such as attendance of teachers and students. However, when it comes to quality, there are serious concerns.

The Dravidian movement, which championed the causes of educating the people and eradicating superstitions, began in Tamil Nadu. In addition, it aims to uplift socially repressed deprived communities and drew considerable support from the middle classes for their efforts in this matter. The movement was committed to social justice which led to the expansion of reservations for the deprived communities. Tamil Nadu now has 69% reservation in educational institutions, the highest among all Indian states.

**1.5 Status of Education in Tamil Nadu**

- Tamil Nadu fares relatively well in terms of key education indicators. It ranks first in terms of gross enrolment ratio at middle schools, third in terms of education development index for primary and overall and female literacy, fifth in terms of composite index for elementary education, and sixth in terms of gross enrolment at primary level.

- The literacy in Tamil Nadu is likely to be 87.5 percent at the end of the 11th Plan, which will be slightly lower than the targeted rate of 90 percent in 2012. However, the gender gap in literacy will reduce to 10 percent level at the end of the plan perod.

- Drop-out rate at primary level is 1.02 and at upper primary is 1.88. The state is likely to meet the target of zero level at the elementary level.

- Inter district differences still exist in literacy, female literacy etc. For instances, Kanniyakumari district achieved the highest literacy of 88.1 percent while Dharmapuri obtained the lowest rate of 59.2 percent. In 12 districts, the gender gap is more than 20 percent.

**Education and Development**

The relationship between education and development is not as simple as it appears to be. In fact, the impact of education on development depends basically on what we teach and how much the learners learn. In simple words, it is the education contents and the teaching methods that make the difference. Equally important is the interaction of education with other social and economic factors. People may argue that education can only be useful and meaningful when it brings about positive changes in one's life and empowers a person to face day-to-day challenges. On the same grounds, it may assert that education becomes meaningful when it provides knowledge and skills of reading, writing, simple arithmetic, and problem solving and for improving the quality of life. Education organised and oriented on these lines is certainly going to have a lasting impact on income, agricultural productivity, fertility rate, birth spacing, pre- and postnatal health, nutrition, knowledge, attitudes and values.

**Conclusion**

Education is the most important lever for social, economic and political transformation. A well-educated population, equipped with the relevant knowledge, attitudes and skills is essential for economic and social development in the twenty-first century. Education is the most potent tool for socio-economic mobility and a key instrument for building an equitable and just society. Education provides skills and competencies for economic well-being.

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## HEALTH EDUCATION FOR THE DEVELOPMENT OF THE POOR

Infectious and neglected tropical diseases kill and weaken millions of the poorest and most vulnerable people each year. Poverty creates ill- health because it forces people to live in environments that make them sick, without decent shelter, clean water or adequate sanitation. Poverty creates hunger, which in turn leaves people vulnerable to disease. Poverty denies people access to reliable health services and affordable medicines, and causes children to miss out on routine vaccinations. Poverty creates illiteracy, leaving people poorly informed about health risks and forced into dangerous jobs that harm their health.

### Determinants of Knowledge about Causes for Cancer

An attempt is made to find out the principal factors that are likely to affect the respondents' awareness about causes for cancer. For this purpose, the respondents' knowledge about causes for cancer has been considered as dependent variable, which is dichotomous in nature, viz., respondents who have knowledge about causes for cancer (by assigning a score of 1) or who not have such knowledge (score of 0) and all the independent variables as categories. In such a condition, adopting the binary logistic regression analysis is more apt and therefore, such an analysis is carried out here. The results are presented in the following Table

**.Table 1Logistic Regression Results on Respondents'Knowledge about the Causes for Cancer**

| Explanatory Variables | Beta Coeff. | Odds Ratio | Level of Sig. |
|---|---|---|---|
| **Gender** *(Ref: Males)* | -- | 1.000 | -- |
| Females | -0.343 | 0.710 | 0.076 |
| **Current Age** *(Ref: 45Years and Below)* | -- | 1.000 | -- |
| 46 – 60 | 0.462 | 1.588 | *0.05* |
| 61 + | 1.437 | 4.208 | *0.001* |
| **Social Background** *(Ref: SC / ST)* | -- | 1.000 | -- |
| MBC | 0.048 | 1.049 | 0.794 |
| BC / FC | -0.750 | 0.472 | *0.001* |
| **Educational Status** *(Ref: Illiterates)* | -- | 1.000 | -- |
| Primary / Middle School | -0.324 | 0.723 | 0.102 |
| Secondary School and above | 0.874 | 2.395 | *0.001* |
| **Occupational Status** | | | |
| *(Ref: Not-working / Students)* | -- | 1.000 | -- |
| Agricultural Activity | -0.977 | 0.377 | *0.001* |
| Household Industry / Trade / Business | -0.699 | 0.497 | *0.05* |
| Job in Organized Sector / Professionals | -0.331 | 0.718 | 0.229 |
| **Total Family Income** | | | |
| *(Ref: Rs. 5,000 or Less)* | -- | 1.000 | -- |
| 5,001 - 10,000 | -1.022 | 0.360 | *0.001* |
| 10001 + | -2.171 | 0.114 | *0.001* |
| **Assets** *(Ref: Rs. 2,50,000 and Less)* | -- | 1.000 | -- |
| 2,50,001 – 5,00,000 | -0.092 | 0.912 | 0.630 |
| 5,00,001 + | -0.452 | 0.636 | *0.05* |
| **Nativity Status** *(Ref: Rural)* | -- | 1.000 | -- |
| Urban | 0.108 | 1.116 | 0.546 |
| **Family Size** *(Ref: 3 or Less)* | -- | 1.000 | -- |
| 4 | 1.339 | 3.815 | *0.001* |
| 5 + | 1.569 | 4.803 | *0.001* |

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From the above table, it is visibly noticed that a majority of the explanatory variables under consideration have shown statistically significant net effects on the respondents' awareness about the causes for cancer. Controlling for all the variables used in the model, the odds of knowledge regarding causes for cancer are 3.8 and 4.8 times higher among those who belonged to families of medium and large-size (4 and 5+ members, respectively) than those who belonged to small families (3 members or less). Obviously, the t-test results also turned out as highly significant in both these cases ($p<0.001$). Next to this, such odds are also noticed to be much higher among those who are currently in the age group of 61 years & above and 46 – 60 years as compared to those in the age group of 45 years and below. However, the t-test results turned out as highly significant in the case of the former age group, whereas such significance is at a moderate level in the case of latter one. Educational status of the respondents appears to be affecting their familiarity about causes for cancer in a mixed direction. For instance, it can be seen that the odds of having awareness about causes for cancer are 2.4 times higher and significant ($p<0.001$) among those who completed secondary school and above level of education than their illiterate counterparts, such odds are considerably lower (OR=0.72), but insignificant, among those who studied up to primary / middle school level. It is conspicuous to note that majority of the economic variables have exhibited negative net effects on respondents' knowledge about causes of cancer. For example, from the Table one can see that the likelihood of having awareness about causes of cancer is significantly ($p<0.001$ in each case) lower among those who belonged to comparatively moderate (Rs. 5,001 – 10,000) and higher (Rs. 10,001+) levels of family income brackets than those who belong to relatively lower family income category. Another economic variable, i.e., respondents' total assets also has exhibited a negative independent effect on their knowledge about cause of cancer, but the t-test results turned out as statistically significant at moderate level only ($p<0.05$) in the case of those who hold assets worth of Rs. 5, 00, 000/- and above than those who possess assets to a value of Rs. 2, 50, 000/- or less. Another unexpected pattern noticed here is that having awareness about causes for cancer is lower and highly significant ($p<0.001$) among those respondents who are from backward and forward communities (who are fairly better in the socio-economic strata) as compared to those who are from scheduled castes/tribes. Finally, it was found gender background and nativity status of the respondents though exhibited the expected pattern of net effects on their familiarity about causes of cancer, i. e., awareness about causes for cancer is lower among females than males, whereas it is higher among those born and brought up in urban areas than in rural areas, the t-test results did not turn out as statistically significant.

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## Conclusion

One of the strongest messages to emerge from the study is that poor people are really desperate and frustrated at their exclusion. They understand why they are ill and why they are poor, and often have ideas about what can be done. But the majority are ignored and marginalized by those with power, including health service authorities. As good health is crucial to protect the family from poverty, so better health is central to poverty reduction. Improving the health of the poor must become a priority, not only for public health but also for other sectors of development — economic, environmental and social. As Kofi Annan said:" We shall not finally defeat AIDS, tuberculosis, malaria or any of the other infectious diseases that plague the developing world until we have also won the battle for safe drinking water, sanitation and basic health care ... The best cure for all these ills is economic growth and broad-based development".

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# HEALTH EDUCATION AND HEALTH DEVELOPMENT FOR WOMEN

Health education is the sum of experiences which favourably influence habits, attitudes and knowledge to individual, community and real health. Health education has been an integral part of the functions of health personnel since time immemorial to educate the people pertaining to factors which influence their health. We have ignored the role of health education in preventing killer diseases resulting from faulty lifestyle, use of alcohol, smoking, drugs, etc, let us analyse these health hazards which are causing great misery individual, families and society.

It needs to be re-emphasized that health education is a slow process and that it precedes gradually-a part of the process may get established without any problem but additional efforts may be required to complete the whole process. This process may be directed towards the following important programmes:

1. 1. Personal hygiene.Knowledge of mordent medicine, i.e., use of health services.
2. Nutrition
3. Mental health
4. Prevention of communicable diseases.
5. Care of children
6. Environmental sanitation.
7. Human physiology.
8. Lifestyle diseases.
9. Education about Alcohol and drugs A quick glance of health education material of even one generation ago will show how fast it tends to get of date. Medical facts, it has estimated, get outdated within a decade or so. Effective health education, there for, requires a continuous stream of knowledge, development of the people's ability to absorb it, and decisions taken on the basis of a constantly changing body of information.

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**Women and Health**

The approach to women's health has evolved over the 90s from a target-oriented approach into a more holistic, integrated lifecycle and need-based approach. The challenge is to ensure that women's health throughout the life cycle, from birth to old age, is a public health priority; and that it is viewed in a holistic manner that encompasses decline in the incidence of diseases; improvement in access to, and the quality of services; and empowers women to make informed choices. Improvement in the health status of women is sought to be achieved through access and utilization of health, family welfare and nutrition services with special focus on the underprivileged segment. The government of India is engaged in considering ways and means of fostering active community involvement in the population and reproductive health programme. Bringing down the incidence of maternal mortality is a priority.

**Principles of Health Education**

1. Planning for health education should be an integral part of total health planning
2. Since learning is a change in individual's ideas and practices, and since health education aims at changing people's ideas and practices, effective health education planning should be based upon the theories and principle of human learning

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3. People tend to accept change more readily when a change is directly relevant to their aspirations, needs and fulfillment of words, quick returns, personal goals. Therefore, health education should be in line with people's goals, needs, and interests.

4. Group norms and influences are the basic principles of individual behaviour, which also includes health. If a health norm is to change, it is desirable that such changes are compatible with group norms. Health education can succeed in changing individual health behaviour if it addresses itself to group's standards and norms.

5. An internalized change is a stable change. An individual learns better through his own action and effort. Health education, therefore, should aim at creating such a situation so that individual takes initiative for the change.

6. Belief in the dignity of man Health education is based upon the conviction that individual has the right and ability to make his own decisions, and democratic change should always aim at stimulating the individual to decide his action by his own efforts.

7. Start where the people are efforts are not consonant with the level of understanding and needs of the people, people will not easily and promptly assimilate the ideas of change. Health education from this bases the necessary ingredients for better healthy life.

8. Plan with the people Health education ideally is a catalytic process. It does not aim to force a manger by manipulating, forces without the involvement o f the people. Therefore, involvement of the people is the most crucial factor in effective health education. Planning for health education is done with the people, and by the people.

9. Self-help the concept of self-help for better health is one of the basic principles in health education. The objective of health education is not to provide temporarily a solution of people's problems but to develop the ability among thee to identify problems, fine solutions and practice it. Health education, therefore ultimately aims at developing the potentiality of self-help in a community.

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**Conclusion**

Health education in preventing killer diseases resulting from faulty lifestyle, use of alcohol, smoking, drugs, etc, let us analyse these health hazards which are causing great misery individual, families and society. Social development- such as bigger incomes and greater availability of a wide variety of commodities- has led to changes in lifestyles that threaten health. The persuasive communicator or health educator should be interested both in the long range effects of his messages and in their initial effects. As a matter of fact, he should be interested in turning the learned responses into habitual ones. What are the other principles that guide the establishment of a response? First, the probability of response will increase with the increase in the number of rewarded repetition. As long as the stimulus with reinforcement following each correct response is not adequately repeated, it will not become a habitual response. Many messages are short-lived because of lack of reinforcement and are likely to become extinct. Second, in order to establish habit patterns, it would be necessary to have a shorter interval between response and reward. Third, habit formation is easier when stimuli are presented in isolation.

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# EDUCATION AND DEVELOPMENT IN INDIA: A PERPETUAL NOTE ON QUALITY OF HIGHER EDUCATION SYSTEM

The higher education sector, owing to its huge potential, holds very promising prospects. With an estimated 150 mn people in the age group of 18-23 years, the sector offers one of the most attractive yet highly complex market for the private/foreign players. Despite some inherent concerns with respect to choice of entity, not for profit character and foreign investment in formal education space; the industry does offer various innovative business opportunities, which can be explored for establishing a presence The Planning Commission in its approach paper to 12th Five Year Plan had suggested that the current "not-for-profit" approach in the education sector should be re-examined in a pragmatic manner so as to ensure quality without losing focus on equity – we believe that the Government should seriously consider this suggestion to attract private/foreign investment in this sector.

**12th Five year Plan and Scope for Public Private Partnership**

The 12th Five Year Plan focuses on Expansion, inclusion and quality to achieve the national goals in education. During the 12th-Plan period, a target enrollment of 10 mn additional seats equivalent to 3 mn seats for each age cohort is aimed at in the higher education system. This would significantly increase the GER bringing it broadly in line with the global average. There is unanimous agreement of the fact that the private sector needs to be involved to complement and supplement the efforts of the Government. In the 12th plan, the Planning Commission's focus is on instilling "inclusive growth" in making headway. The plan is expected to be one that encourages the development of India's education sector through government spending. The emergence of India as a service-based, knowledge-driven economy has put the spot light on human capital. Higher education is essential to build a workforce capable of underpinning a modern, competitive economy. The process of broadening access, making higher education inclusive, and promoting excellence initiated during the 11th Plan must be consolidated and expanded further during the 12th Plan.

**Private Sector and HEIs in India**

The share of unaided private institutions in the total number of institutions is now a little less than two-thirds, up from 40% a decade ago.

1. The unaided private sector accounted for around 60 per cent of total enrollment in 2012 almost double that of the share of total enrollment of 33% in 2001.

2. Between 2007 and 2012, the number of private institutions grew faster than the number of government institutions.

3. Enrollment in private institutions has increased at a CAGR of 11% over the last five years, as compared to 7% in government institutions.

4 .State private universities have witnessed an annual growth of 33.8% since 1995 partly driven by increased corporate sector participation.

**SWOT Analysis of HEIs in India**

Despite the huge potential in the higher education sector, not everyone has been able to achieve success. The challenges/threats, which the private sector players face in India are significant and therefore, approaching the market with a well thought-out strategy is advisable.

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***Strengths***

Ø Few globally renowned educational institutions.

Ø Huge demand – estimated 150 mn populations in 18-23 age groups.

Ø Growing middle class with increasing incomes.

Ø Growing economy with numerous employment opportunities.

Ø Huge demand for Indian students in overseas markets.

***Weaknesses***

Ø Lack of infrastructure.

Ø Shortage of trained faculty to meet the increased demand.

Ø Highly complex and unclear regulatory framework at Central & State level.

Ø Regional imbalances.

***Opportunities***

Ø Unsaturated demand for quality global education.

Ø Low GER of 15 per cent in Higher Education as compared to 84 per cent in USA.

Ø Sharp decline in dependency ratio predicted in the next 30 years.

Ø India is expected to emerge as a Global hub in Education in Asia Pacific region

Ø Low focus on R&D.

***Threats***

Ø High time lag in introduction of reforms due to various reasons.

Ø Deterioration in quality of education specially in private sector due to lack of availability of trained faculty.

Ø Over regulation – Control over course curriculum, entrance tests, fees etc.,

**Conclusion**

In the LPG era, about the higher education in India, parents want educational institutions to ensure quality education and to have continuous generation of able professionals and good citizens. Such a scenario surely points to a common denominator. Hence, there is an urgent need to restore our age old eternal values as essential ingredients of the entire educational curriculum including higher education. We cannot hand over the larger responsibility of higher education in the hands of businessman, whose sole motive is to earn profit rather philanthropy. We can encourage them to establish scientific research institutions. If we will treat higher education like a commodity and do businessman with it, it will become disastrous for the country. Therefore, there is an urgent need to hike the investment in higher education from present 3.2 per cent of the GDP to seven to eight per cent of the GDP to make it competitive and our higher education will equal to international level in the Globalized scenario. The only solution is to improvise upon the system and processes that are being adopted to ensure quality of higher education in India.

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# IMPACT OF WOMEN EDUCATION ON SELECTED HEALTH INDICATORS

Education of woman is an important step towards the development of the country. Woman education is an important constituent of the country's literacy rate. Education is the right of every individual and women cannot be an exception in this matter. Education is the only way that is capable of taking India to a new level. Educating the women folk means empowering the women the constitutes more than half of the Indian population and empowering women means empowering the nation and this will take India to a new level of development. Education is important for women because it has the capability of boosting up the confidence in women, it creates awareness and will help women to know and fight for their right, it is the way to gain freedom with education women can become self-dependent and make their identity in the society. Girls who have been educated are likely to marry later and to have smaller and healthier families. Educated women can recognize the importance of health care and know how to seek it for themselves and their children. Education helps girls and women to know their rights and to gain confidence to claim them. However, women's literacy rates are significantly lower than men's in most developing countries.
Closing the gender gap in education is a development priority. The 1994 Cairo consensus recognized education, especially for women, as a force for social and economic development. Universal completion of primary education was set as a 20-year goal, as was wider access to secondary and higher education among girls and woman. Closing the gender gap on education by 2015 is also one of the benmarks for the millennium development goals.

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**Health in India**

India has a universal health care system run by the constituent states and territories of India. The constitution charge every state with "raising the level of nutrition and the standard of living of its people and the improvement of public health as among its primary duties." The National Health Policy was endorsed by the Parliament of India in 1983 and updates in 2002. Parallel to the public health sector and indeed more popular than it, it the private medical sector in India. Both urban and rural Indian households tend to use the private medical sector more frequently the public sector, as reflected in surveys. India has a life expectancy of 64/67 years (m/f) and an infant mortality rate of 46 per 1000 live births.

**Objective of the study**

To examine the relationship between women literacy rate, IMR, MMR and TFR.

**Methodology**

This paper is based on secondary data. Data were collected from Sample Registration System (SRS), Literacy rate in India 2011, IMR Censes in 2011, TFR in 2010 NMR in 2009 and theoretical aspects were collected from World Development Report 2004. Literacy in India, Education in India. This paper has analyzed the impact of women literacy rate on health status for major selected states in India.

**Data Analysis and interpretation**

This paper has analyzed the impact of women literacy rate on selected health indicators like IMR, MMR and TFR. IMR stands for infant mortality rate and its refers to number of children dying before reaching the age of 1 year and MMR stands for Maternal Mortality Rate which refers to number of woman

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dying at child birth for 1,00,000 live child birth TFR stand for Total Fertility Rate which refers to measures average number of children born to a woman during her entire reproductive period.

**Woman literacy rate IMR, MMR and TFR of Major Indian States**

| S. No. | States | Female (2011) literacy rate | IMR (2011) | MMR (2009) | TFR (2010) |
|---|---|---|---|---|---|
| 1. | Assam | 67.3 | 55 | 390 | 2.5 |
| 2. | Andhra Pradesh | 59.7 | 43 | 134 | 1.8 |
| 3. | Bihar | 53.3 | 44 | 261 | 3.9 |
| 4. | Madhya Pradesh | 60.0 | 59 | 269 | 3.2 |
| 5. | Orissa | 64.4 | 57 | 258 | 2.3 |
| 6. | Rajasthan | 52.7 | 52 | 318 | 3.1 |
| 7. | Uttar Pradesh | 59.3 | 57 | 359 | 3.5 |
| 8. | Karnataka | 68.1 | 35 | 178 | 2 |
| 9. | Kerala | 92.0 | 12 | 81 | 1.8 |
| 10. | Tamil Nadu | 73.9 | 22 | 97 | 1.7 |
| 11. | Gujarat | 70.7 | 41 | 153 | 2.5 |
| 12. | Hariyana | 66.8 | 44 | 153 | 2.3 |
| 13. | Maharashtra | 75.5 | 25 | 104 | 1.9 |
| 14. | Punjab | 71.3 | 30 | 172 | 1.8 |
| 15. | West Bengal | 71.2 | 32 | 145 | 1.8 |

Source: http://www.mapsofindra.com/census.2011/literacyrate.htm/

The above table shows that women literacy rate has positive impact on health. States with high woman literacy rate have lower TFR, IMR and MMR and states with low literacy rate have high. TFR, IMR and MMR. For example, the highest women literacy rate state is Kerala (92.0%) corresponding TFR (1.7), IMR (12) and MMR(81) and lowest women literary rate is Rajasthan (52.7%) corresponding TFR (3.7), IMR (65) and MMR (359). So there exists a positive relationship between women literacy rate, IMR, IFR and MMR. One of the best weapon to control population explosion is educating women, higher women literacy rate lower will be the TFR and Vice versa.

**Conclusion**

Literacy rate and health is interrelated to each one. Health is the main asset for all human beings. Similarly education is the source through which people can move socially and economically upwards.

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# HIGHER EDUCATION IN INDIA: AN OVERVIEW

Higher education in India, is considered to have had its beginnings in the middle of the 19th century when the universities of Calcutta, Bombay and Madras were established in 1857. It is only after independence in 1947 that a more comprehensive system of education for all people in different regions came into being . (Economic Survey 2011-12). Modern higher education in India may be considered to have stated in 1857 when three universities were established in the same year after the fashion of the London University. (Yojana 2012). Higher education is of importance for the country as it is a powerful tool for building knowledge based twenty – first – century society. The Indian higher education system is one of the largest in the world. The higher education in India has witnessed many fold increase in its institutional capacity since independence. During 1950 and 2008, the number of universities has increased from 20 to about 431, college from 500 to 20,677 and the teachers from 15,000 to nearly 5.05 lakhs. Consequently, the enrolment of students has increased from a more 1.00 lakhs in 1950 to over 116.12 lakhs.

**Higher Education Current Scenario**

Higher education is of vital importance for the country as it is a power tool for building a knowledge-based twenty-first-century society. In 1950s there were only 20 universities and 500 colleges with 0.1 million students; these have increased to 611 universities and university-level institutions and 31,324 colleges as on August 2011. The BRIC member countries – Brazil, Russia, Indian and China – are experiencing a very high rate of growth in the demand for higher education. As the BRIC countries tend to focus on improving quality in only a few elite institutions, very few universities figure in the top 200 in global university rankings. No Indian University figures in the top 200 and only a few from China and Russia figure on such lists. A majority of the Institutions in India and Brazil are private, and the quality of most of these institutions is very low.

**Professional Education**

The new educational policy has given the opportunity for many private agencies to start new professional college for imparting education and training in engineering, medicine, information technology, computer science, computer applications, business management, business communication, management sciences, nursing, educational technology, imaging technologies, etc. Indian education scenario embracing all sectors is one of great and gigantic expansion and it is certainly on the upward swing. The steps taken by various agencies such as the UGC, the AICTE, the IMC etc. and the various educational bodies such as NCERT, SCERT, CBSE and the private professional bodies and management associations will certainly bear fruit in the long run and make India a knowledge society and an attractive educational destination for today's globalized world. To achieve a higher rate of poverty reduction, India will need to address the inequalities in opportunities that impede poor people from participating in the growth process.

So far nearly 400 universities have been provided 1 GBPS connectivity or have been configured under the scheme and more than 14000 colleges have also been provided VPN connectivity. A number of projects have been sanctioned for innovative use of ICT. Creation of e-content for 996 courses in phase II in engineering, sciences, technology, humanities, and management has been undertaken by IIT Madras. The consortium for Educational Communication (CEC) has been tasked with creation of e-content for 87 undergraduate subjects. For creation of e-content for 77 postgraduate subjects, a proposal by the University Grants Commission (UGC) has been approved. More than 2000 e-journals and 55,000 e-books from 297 publishers have been made available on line under this programme. A major development during the year has been the launch of Aakash, the low cost access-cum-computing device that was launched on 5 October 2011.

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## Legislation of Higher Education In India

The government has introduced four Bills related to higher education. In addition, it is planning to draft a Bill that proposes to have a single regulator for the higher education sector. In this note, we present an overview of the major challenges faced by the sector, the recommendations of the committees and the proposed regulatory structure. Please see our Legislative Briefs for a detailed discussion on the Bills. Presently, higher education is regulated by the University Grants Commission (UGC) and 14 professional councils such as the All India Council of Technical Education (AICTE) and the Medical Council of India (MCI). Two recent committees on higher education recommended structural changes. Statutory authorities such as UGC and AICTE shall set standards and regulate all higher educational institutions, including foreign educational institutions. The Prohibition of Unfair Practices in Technical Educational Institutions, Medical Educational Institutions and Universities Bill, 2010 seeks to penalise unfair practices of private educational institutions. Unfair practices include charging of capitation fees, not giving receipts for payments made, and publishing false or misleading advertisement.

## Present Regulatory Structure

Education is listed in the Concurrent List of the Constitution. Therefore, both the centre and the states can make laws with regard to education. In addition, the centre can determine standards for higher educational institutions while the states can incorporate, regulate and wind up universities. Higher education is regulated by multiple authorities. The University Grants Commission (UGC) regulates universities and colleges teaching general subjects. It has the power to determine and maintain standards and disburse grants. Technical education is regulated by the All India Council for Technical Education (AICTE). Technical institutions can provide degree programmes if they are affiliated with a university (this condition is waived for some institutions). Affiliation is not required if the institution runs only diploma programmes. The Central Advisory Board of Education (CABE) co-ordinates between the centre and the states.

## Conclusion

It is widely held that the expansion of higher education will contribute to growth and also improve income distribution will a system of higher education characterized by stratification and dominance of the private sector be able to contribute to sustainable growth and better income distribution. In India, however, private educational Institutions played an important role from the very beginning. Higher education institutions which want to gain competitive edge in future may need to begin searching for effective and creative ways to attract, retain and foster stronger relationship with students. Let us hope that the commendable overall development made by India in all sectors of education during the past 65 years will be augmented further in the years to come.

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# EDUCATION OF WOMEN IN INDIA

Education systems play a small role in achieving Education for All. In the declaration, governments have made a very general pledge that they will "devel-op responsive, participatory and accountable systems of educational governance and management." The GMR 2009 however does make a strong case for why a closer look at governance is vital for reaching the goals. In this effort, it takes a critical view towards ideologically inspired governance reforms, such as the heavily promoted agendas of decentralisation and school competition, which have little support in academic research.

**Education and Poverty**

Education plays an important role in elevating families from poverty. Education can increase opportunities for better jobs, and stimulate healthier lifestyles and a better use of arising opportuni-ties. However, governments too often fail to make this connection, which shows from the lack of attention for education in Poverty Reduction Strategic Papers (PRSPs). These papers describe govern-ments' broad development priorities. The GMR states that most of these PRSPs "take a narrow and reductionist approach to educa-tion, rarely reflecting the broad EFA agenda." (p. 185) another problem is that critical voices are left out of the proc-ess of formulating or implementing poverty reduction strategies. "Teachers' unions, many of which oppose education reforms that affect employment and pay conditions, are often not invited to participate in policy dialogue." (Mund et al., 2007, p. 198). Again, teachers and their unions will have to be taken more seriously to make Education for All a reality.

**Opportunities in Modern Education**

There are 600 million women and girls in developing countries using the Internet today, which is nearly 25 percent fewer than men. We believe the number of women online can be doubled within three years, reaching 1.2 billion, due to the projected growth rate of Internet adoption, and assuming action taken by public and private sector actors would accelerate adoption and reduce the gender gap by a further 40 percent. Doubling the number of women and girls online would generate an estimated additional USD 13 to USD 18 billion in GDP across developing countries. It would unleash a market of new platform sales and network access amounting to an estimated USD 50 to USD 70 billion.11.

**Education and Development**

Progress towards Education for All is one of the defining deve-lopment challenges of the 21st century. The right to education is basic human right and, as such, it should be defended as an end in itself. However, education is also means to wider social, economic and political goals. In the current situation of economic crisis and competition of various interests, it is timely to stress this critical role of education as this Report does. Only educated citizens can achieve economic rowth and this requires equalized access to quality educa-tion, now more than ever. No country or society today can afford to exclude anyone from education because of poverty, ethnicity, reli-gion or gender. The Report argues at length about wider benefits of education in economic terms. For example it cites several studies which have found that one additional year of schooling lifts average annual gross domestic product (GDP) growth by 0.37%.2 But education is more than skills for economic sustainability. Scho-ols are cultural institutions where children learn the languages, history and culture of their respective societies, acquire social skills and self-confidence, broaden their horizons and address issues as full and active citizens. People who are denied this full broad-based education are less likely to participate actively in their societies and influence decisions that alter their lives and those of others. That is why education is also fundamental to democracy and government accountability.

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## Conclusion

The role of education as a human right and as a catalyst for social justice and sustainable development. The essential role of teachers and the need to attract train and retain qualified teachers in all classrooms. To achieve this, participatory management and predictable aid should be developed. The low importance given to the role of teachers would have expected a clear call to bring a halt to the increased recruitment of unqualified teachers. The negative impact on EFA goals as a result of the non-delivery of commitments by the donors, despite high level statements and declarations. This should have been linked with the poor results on equity and quality in education. The noble concept of universal free public education is still an unmet promise for millions of children worldwide. Real progress can only be made through ongoing and substantial dialogue between government policy makers and the unions of teachers and education workers around the world.

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# ENTREPRENEURSHIP EDUCATION IN INDIA: SCOPE AND CHALLENGES

Entrepreneurship is a multi-faceted phenomenon. In simple words, we define an entrepreneur as "an individual who establishes and manages a business for profit and growth." Entrepreneurs do entrepreneurship. Entrepreneurship is more than mere creation of business. It is a dynamic process of vision, change, and creation. An environment where entrepreneurship can prosper and where entrepreneurs can try new ideas and empower others needs to be ensured. Education needs to address the development of skills required to generate an entrepreneurial mindset and to prepare future leaders for solving more complex, interlinked and fast-changing problems. Education needs to come back to the top of the priorities of governments and the private sector and be 6 seen as the fundamental mechanism for attaining sustainable economic development and societal progress.

**Objectives**

1. To study the challenges faced by entrepreneurship education in India.
2. To discuss the role of B-schools in development and promotion of entrepreneurship education.
3. To suggest measures for developing entrepreneurship education in India.

**Challenges Faced by Entrepreneurship Education in India**

**1. Cultural barriers:** Entrepreneurship can develop only in a society in which cultural norms permit variability in the choice of paths of life. Unfortunately, the Indian culture consists of a network of benefits that in many ways run counter to entrepreneurship.

**2. Difficulties towards Start-ups:** Starting a business in India is costly in terms of the time required and the cost involved. While it takes just five days to start a business in the United States and just two days in Australia, in India it takes as long as 89 days. The absence of an appropriate entrepreneurial climate, the lack of required infrastructure facilities, and the lack of access to relevant technology hinder rapid industrial development. Most of the time, the Indian entrepreneurs have to tackle electricity, transportation, water, and licensing problems.

**3. Incomplete Entrepreneurship Education :** Many people have the opportunity to change jobs or become an entrepreneur if they are properly trained. The students in India are not confident with the traditional education they receive in the university.

**4. Lack of a standard framework:** Entrepreneurship education is widely spread, has diverse forms and has a large number of stakeholders. But the overall state of affairs is a confused one, one that lacks broad vision, goals, and systematic planning (akin to the 5-year plans for the economy). The lack of a standard framework is a big challenge to the development of entrepreneurship education in India.

**5. Dependence on government:** Higher degree of dependence on government is another challenge before entrepreneurship education in India. Insufficient private-sector participation and lack of sustainable business models in the entrepreneurship education act as barriers to its development in India.

**Suggestions for developing entrepreneurship education:**

Although the wave of promoting entrepreneurship education has started in B-Schools, much more needs to be done in entrepreneurship education so that it can play a significant role in the growth of Indian economy. The following is a list of proposed measures to be taken for development of entrepreneurship education in India:

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**Refining Techniques of Entrepreneurship Education:**

Entrepreneurship education is different from a typical business education. Business entry is a fundamentally different activity from managing a business. The B-Schools must address the equivocal nature of business entry through entrepreneurship education. To this end, the B-Schools must include skill-building courses in negotiation, leadership, new product development, creative thinking and exposure to technology innovation.

**2. Selecting suitable candidates:** Since not everyone has the potential to become an entrepreneur, the proper identification and selection of potential entrepreneurs is the first step in the entrepreneurship education. The B-Schools should select those with high entrepreneurial potentials through particularly designed procedures. Tests, group discussions, and interviews may be used in the selection of entrepreneurs.

**3. Selecting the eligible faculty:** The B-Schools should carefully select the entrepreneurship education teaching staff. In theory, a lecturer of entrepreneurship education, first of all, must be a successful or experienced entrepreneur. A qualified entrepreneurship education teacher should also have some entrepreneurial practices especially in risk taking and opportunity perceiving as well as entrepreneurial qualities such as good communications skills.

**4. Sharing of experience:** The B-Schools must act as a forum to bring scholars from across the country to share their views related to entrepreneurship that have contemporary relevance and interest. Entrepreneurs learn from experience - theirs and that of others. Much of the success of Indians in Silicon Valley is attributed to the experience, sharing and support that members have extended to young entrepreneurs. They should create a strong network of entrepreneurs and managers that entrepreneurs could draw on for advice and support.

**5. Promoting collaborations:** The B-schools must explore possibilities of striking collaborations with national and international institutions for joint researches, courses and exchange programmes for widening the scope and boundaries as also launching new courses including Doctoral Programmes.

**6. Encourage research:** The B-Schools should take steps to encourage research in entrepreneurship through fellowship support and also undertake joint research projects with Indian and overseas universities and institutions. These steps will slowly but surely bring a remarkable change in the area of entrepreneurship education in India which will, in turn, start showing positive impact and significant contribution in the long cherished Indian dream of becoming a developed nation.

**Conclusion:**

B-Schools have a significant role to play in the growth of India as a nation because they are the breeding grounds for future entrepreneurs. They have the potential to develop not only winning personal qualities but also provide an opportunity to create employment for self and for others. Entrepreneurship, self-employment and enterprise creation provide a solution to the crises of both unemployment and under-employment.

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# RECENT REFORMS IN INDIAN EDUCATION AND ACHIEVEMENTS

Education starts with us when we start our life journey. From the very first moment, a baby steps into this world, she/he starts to learn. She/he learns to cry, to show any sort of discomfort, smiles to show his/her happiness and also learns to identify his/her mother's touch. This process continues throughout his/her life because she/he learns something new every moment of his/her life. John Dewey said: "Education is not preparation for life, education is life itself."

**Universal Elementary (Primary) Education:**

India is committed to the goal of universal elementary education for all children. This goal is part of the Education for All (EFA) goals adopted at the World Education Forum, Dakar in April 2000. The EFA goals include, inter alia achieving universal elementary education by the year 2015, ensuring equitable access to appropriate learning and life skill programmes for young people and adults, achieving 80% improvement in adult literacy by 2015, achieving gender equality in education by 2015 and improving all aspects of quality of education. The Indian government lays emphasis to primary education up to the age of fourteen years (referred to as Elementary Education in India.) 80% of all recognized schools at the Elementary Stage are government run or supported.

**The Sarva Shiksha Abhiyan (SSA):**

The Sarva Shiksha Abhiyan (SSA) is intended for the enlargement and growth mainly in the primary education. The aim of this flagship program was to attain universalization of primary schooling at an acceptable level by 2010. SSA is being implemented in partnership with State Governments to cover the entire country and address the needs of 192 million children in 1.2 million habitations. The present rules of SSA have been modified recently by putting into practice the "Right of Children to free and Compulsory Education" which has been enforced from April 1, 2010 onwards.

**Other Schemes for Primary Education:**

Scheme of Infrastructure Development in Minority Institutions (IDMI) has been operationalised to augment infrastructure in private aided/unaided minority schools/ institutions in order to enhance quality of education to minority children. Programme for Nutritional Support to Primary Education (NP-NSPE) commonly known as the Mid-Day Meal Scheme (MDMS) was launched as a Centrally Sponsored Scheme on 15th August 1995 covering all children studying in Classes I-VIII. The District Education Revitalization Programme (DERP) was launched in 1994 with an aim to universalize primary education in India by reforming and vitalizing the existing primary education system. This primary education scheme has also shown a high Gross Enrollment Ratioof 93–95% for the last three years in some states. Significant improvement in staffing and enrollment of girls has also been made as a part of this scheme.

**Adult and Women Education:**

SAAKSHAR BHARAT was launched in 8th September, 2009 aiming to accelerate Adult Education, especially for women in the age group of 15 years and above. It targets to raise literacy rate to 80% by 2012 and reduce gender gap to half by the same period. National Programme for Education of Girls at Elementary Level (NPEGEL) is implemented in educationally backward blocks (EBB).Kasturba Gandhi Balika Vidyalaya (KGBV) provides for setting up residential upper primary schools for girls from SC, ST, OBC and Muslim communities. The Mahila Samakhya scheme was started in 1989 to translate the goals enshrined in the NPE into a concrete programme for the education and empowerment of women in rural areas particularly those from socially and economically marginalized groups.

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**Secondary Education:**

The scheme of Kendriya Vidyalaya Sangathan (KVS)was approved by Government of India in November1962 to provide uninterrupted education to the wards of the transferable Central Government employees. Residential Navodaya schools were setup with an aim of providing excellence coupled with equity and social justice. The Central Board of Secondary Education (CBSE) is an autonomous body working under the aegis of the Ministry of HRD.

**Higher Education;**

India's higher education system is the third largest in the world, after China and the United States. The main governing body at the tertiary level is the University Grants Commission (UGC), which enforces its standards, advises the government, and helps coordinate between the centre and the state.

**Distance Education:**

Realizing the important role of education in the overall development of individual as well as the nation, the Ministry has taken several initiatives to promote distance education. As on date (2009-10) there are more than 200 distance education institutions in the dual mode universities and institutions which are either offering programmes through distance mode or are in the process of seeking approval of Distance Education Council to start offering programmes through distance mode.

**Technical Education:**

Technical Education plays a vital role in human resource development of the country by creating skilled manpower, enhancing industrial productivity and improving the quality of life. All India Council for Technical Education (AICTE) was set-up in November 1945 as a national level Apex Advisory Body to conduct survey on the facilities on technical education. In 2010-11 there were 79 centrally funded Institutions in the country.

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**Conclusion:**

All the positive steps taken till now are welcome. However, implementation of the initiatives is a key to success. These are some points that the nation will have to consider upon. And the path ahead isn't that easy. Walls, windows, doors and teachers will not make a school, till we have hungry children wanting to be in the fields and factories, to earn their meals. The Vision and Mission of Education for all will have to inculcate and imbibe in one and all, leaders and followers that for every child born poor and needy, there will have to be a well-drawn plan, to ensure that doesn't remain so for if we fail in providing the basic needs of food and shelter to a child, she/he will never see the light of the day, through education at least. A healthy mind comes in a healthy body. The nation should strive towards total health of children, education will follow. Education for the masses is a massive task. It would need a single minded focus of the State, to implement this programme in a country, which is the 7th largest in the world in terms of size and the 2nd most populated of all. Reform in education is a cultural, political, financial and administrative challenge. The children of today are to be the citizens of tomorrow. We as a citizen of today will able to provide a slate to every child and a pen to write his/her own future. And we will achieve this at least in the coming decade.

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# DEVELOPMENT OF EDUCATION IN INDIA

The present paper aims at an examination of the relationship between post-elementary education and development, particularly poverty and other aspects of social and human development in India. While education is also influenced by poverty and development .The paper ends with a few concluding observations in section four of the study.

**Table No 1**

Average private rate of return to education, by levels (%)

| | Regular wage workers | | | Casual wage workers | | |
|---|---|---|---|---|---|---|
| Years | 1983 | 1993 | 1999 | 1983 | 1993 | 1999 |
| Primary school | 1.32*** | 0.85*** | 0.97*** | 0.18 | 0.22* | 0.45*** |
| Middle school | 2.35*** | 1.69*** | 2.02*** | -0.51*** | -0.63*** | -0.2 |
| Secondary school | 5.31*** | 4.27*** | 4.64*** | -0.05 | -0.67* | 0.12 |
| Graduation | 9.02*** | 9.15*** | 10.26*** | 0.14 | -1.15* | 0.21 |

***Significant at 1% level, **significant at 5% level,*Significant at 10% level.

Source: Vasudeva- Dutta (2004).

Estimates of rates of retune based on earnings function also indicate substantial and increasing return to education. Private rates of return estimated using wage functions by Vasudev- Dutta (2004), given in Table 1 show that returns increase by increasing levels of education, the rates of return being the highest for higher education for regular workers, about 10% . But the returns are not high for casual workers.

**Table No 2**

**Coefficient Of Correlation Between Education And Poverty**

| Coefficient of correlation between poverty ratios (2010-2011). With % of population (2006-2007) having. | |
|---|---|
| Illiteracy | 0.212 |
| Literacy | 0.486 |
| Primary | 0.051 |
| Middle/upper primary | -0.358 |
| Secondary and above | -0.560 |

Source: Computed

Illiteracy and poverty go together; this is not surprising; this is most widely confirmed. But more importantly, literacy (mere literacy) and primary education also are also positively related to poverty ratio. It is only when people have at least completed middle/upper primary level of education, the relationship between education and poverty become negative and important; the negative relationship become stronger when the level of education is raised to secondary and above. Thus the middle level education may serve as a threshold level for education to influence poverty.

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**Table No 3**

Regression of *ln* per capita consumption expenditure on adult population with secondary and higher education (SHEA)

| | Intercept | Regression coefficient | Adjusted $R^2$ | F-value | Degree of freedom |
|---|---|---|---|---|---|
| Rural | 6.1087 | 0.0205***(3.826) | 0.306 | 14.642 | 31 |
| Urban | 6.493 | 0.0087**(2.263) | 0.117 | 5.123 | 31 |
| Rural+Urban | 2.6604 | 0.0091***(5.418) | 0.478 | 29.36 | 31 |

***Significant at 1% level, **Significant at 5% level. Source: Computed

Poverty ratios are estimated in Indian considering the levels of consumption expenditure of the households. The results given Table 5 explained that, the expenditure level is considerably influenced by the SHEA. The higher the level of SHEA, the higher will be the expenditure and it is true in rural as well as urban areas, with positive and statistically significant. Education explains a larger proportion of variation in consumption expenditure in various states in rural India than in urban India, though in both cases the results are statistically significant. When we examined the rural plus urban levels of consumption expenditure, the results improved further, with the adjusted coefficient of determination being nearly 0.5 levels.

**Table No 4** Regression of *ln* poverty ratio (2010-2011) on adult population with secondary and higher education (SHEA) (2006-2007)

| | Intercept | Regression coefficient | Adjusted $R^2$ | F-value | D.F |
|---|---|---|---|---|---|
| Rural | 4.1267 | -0.0983***(4.791) | 0.415 | 22.952 | 30 |
| Urban | 3.7928 | -0.0332**(-2.645) | 0.189 | 6.998 | 30 |
| Rural+Urban | 3.7294 | -0.0426***(-3.804) | 0.303 | 14.469 | 30 |

***Significant at 1% level, **Significant 5% level. Source: Computed

Similar equations on poverty also yield very meaningful results as show in Table 6. The regression coefficient of SHEA is negative and statistically significance at 99% level of confidence, showing clearly that the higher the percentage of population in a state with secondary and above education, lower would be the poverty ratio in the state. While this relationship holds both in rural and urban areas, significance suggests that the effect of education on rural poverty is higher than in urban areas.

**Some major findings are follows.**

1. Secondary and higher education augment earning of the individuals and contributes to economic development.
2. Indian post-elementary education having imperative role on reduction in absolute as well as relative poverty.
3. It also influences negative impact on infant mortality rate.
4. Life expectancy is also positively related to post-elementary education.

**Concluding observations**

The Contribution of basic education to development is widely recognised. But very rarely the linkages between post-elementary education and development have been analysed. The paper is a modest attempt to examine whether at all post-elementary education has any role in development in India, using some of the recent statistics available. The analysis of secondary data clearly leads us to conclude that post-elementary education plays significant role in development.

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# EDUCATION AND ECONOMIC DEVELOPMENT IN INDIA

In India, perhaps more than in many developing countries, the non GDP dimension is of huge importance. The sheer scale and diversity means that the development process has had perforce to deal with issues of inequality and exclusion on a multidimensional scale. Most developing countries have had to emphasise reduction of poverty, gender discrimination ,infant mortality, literacy, child labour, income inequality etc as part of their development agenda. In India there are additional factors which impinge on and intersect the development process- caste and "untouchability", religion, language, to name the most importan.

**Economic Development and Education**

In the Indian context, economic growth cannot be seen as synonymous with economic development. For all but the most ardent believers in "trickledown", economic growth will be seen at best as a necessary condition for economic development. It is certainly not sufficient. Once one considers the much broader perspectives of economic development, it becomes apparent that the role of education and education policy becomes (potentially at least) even greater. In India the set of issues which might reasonably be encompassed within the umbrella of economic development might include inequality and exclusion of all types (whether based on income, gender, caste, religion or region ), health, fertility and infant mortality and child labour. In the broadest terms, the empirical research by economists suggests that in India, a very important factor impinging on these issues is women's education.

**Higher Education and Economic Development**

The research topic is related with service delivery and service provider from one country to another country.The nature and mode of supply under the GATS aredivided into four modes:

**Cross border supply:**

This includes supply ofeducation ,,without the movement of consumers or providers. Mainly e-learning and courses offered on the internet are covered in this mode. Also, correspondence courses through postal delivery systems could be

included. (This also means an accompanied liberalization of IT and postal services, which are part of separate negotiations). Distance learning on the internet is a more recent phenomenon. However, this mode is perceived to have a very high potential of growth across

the globe.

The principal barriers to trade in higher education services as regards to mode I are the following:

- Inappropriate restrictions on electronic transmission of course materials.
- Economic needs test on suppliers of the services in question.
- Lack of opportunity to qualify as degree granting institution.
- Requirement to use local partners, with at the same time a barrier against entering into and exiting from joint ventures with local or nonlocal partners on a voluntary basis.
- Excessive fees/taxes imposed on licensing or royalty payments.
- Restrictions on use/ import of educational materials.

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**Conclusions:**

The consensus of the empirical literature appears to be that rates of return are indeed (inverted) U shaped being largest for secondary education. However, all rates of return to education are higher in those areas where development is low. One apparently contradictory finding is that rates of return to primary education are quite low, but nonetheless in growth regressions, it is the primary education variable that has the largest positive impact. This is suggestive of the possibility that primary education does have the Lucas type externality. The measured private rates of return are lower than the social rate of return. If this conjecture is correct – and it is testable using inter-state data – this has profound implications for public policy. The policy of investing in educating "backward castes" without compensatory changes in labour market policy have been shown to be potentially counterproductive. Despite the fact that from a narrow income perspective for women, there appears to be no wedge between private and social economic returns for women, the developmental returns from enhancing female education appear to be large.

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# EDUCATION FOR TRIBAL DEVELOPMENT

Education is the key ingredients for all socio-economic development of any section or region. "Those in the Scheduled Tribes category could be brought to the mainstream only through educational uplift that lack of educational facilities for tribal children had created economic backwardness and the government is keen on providing them higher education.

**Statement of the Problem**

The Scheduled Tribes constitute the most backward group; they are weaker sections in India. The social reality of the Adivasis in postcolonial India is characterized by poverty, malnutrition, illiteracy, Land alienation in tribal areas, socio-economic and sexual exploitation by settlers and the depletion of their traditional resource base (C. P. Balan Vaidyar, 1997). The scheduled tribes in their basic achievements like education and health, which has played a central role in India's development, process (Human Development Report 2005, 2006). A review of literacy rates among ST population in comparison with that of the general population indicates a growing gap between literacy rates of these communities. In the recent past tribal education has achieved considerable progress in terms of primary education enrolment. But further analysis suggests that progress is lacking in terms of quality and in effecting the desired transformation. The following section will discuss about the Education: for tribal development in detail.

**Objectives of the Study**

1. To describe the socio- economic Profile of the Paniya tribes.
2. To find out the reason for educational backwardness among the tribes.
3. To suggest the remedial measures for the educational betterment of tribes.

**Research Methodology**

The study was conducted among the Paniya tribes of Wayanad district of Kerala. All the tribal in Wayanad district constitute the universe of the Study. The Valliyoorkavu Colony has purposively selected for study as there have high Paniya tribal concentration. The sample units were selected on the bases of simple random sampling. A pretest was conducted among 20 Paniya tribe's 10 Men and 10 women in order to check the feasibility and clarity of the schedule. Source of data the primary and secondary data were used for the study; the investigator collected the primary data directly from the respondent, using the structured interview schedule. The investigator also conducted informal interviews with the respondents to gain more information about the problem under the study. The secondary data is collected from the text-books, Journals Newspapers and several articles from different authors.

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**Table .1 Distribution of the respondents by their level of Education.**

| SL No | Education | Agree | | Neutral | | Disagree | | Total |
|---|---|---|---|---|---|---|---|---|
| | | N | % | N | % | N | % | N |
| 1. | It Creates awareness | 41 | 85.4 | 5 | 10.4 | 2 | 4.2 | 48 |
| 2. | Agent of Cultural change | 27 | 56.2 | 20 | 41.7 | 1 | 2.1 | 48 |
| 3. | Promotes Tribal development | 29 | 60.4 | 10 | 20.8 | 9 | 18.8 | 48 |
| 4. | Means of preservation of tribal culture | 33 | 68.7 | 14 | 29.2 | 1 | 2.1 | 48 |
| 5. | Makes cultural unity among tribal groups | 44 | 91.6 | 2 | 4.2 | 2 | 4.2 | 48 |
| 6. | Solves tribal issues and ensures justice | 14 | 29.2 | 27 | 56.2 | 7 | 14.6 | 48 |
| 7. | Integration of tribal and non-tribal cultures | 38 | 79.2 | 10 | 20.8 | 0 | 0 | 48 |

## The Major Reason for Educational Backwardness among Tribes

The following are the main reason

1. Resistance from the family to send the school
2. Lack of Physical securities like Hostel accommodation, Transportation and medical facilities
3. The Children's were forced to take care of the siblings when the parents away at work
4. Children were forced to domestic works and working with the parents to earn for the family
5. Unemployed & illiterate parents

## National Education Policy for Tribes

1. Tribals are included in the national programme for Sarva Siksha Abhiya run by the Ministry of Human Resource Development.
2. Schools and hostels are opened in areas where no such facilities exist.
3. At least one model residential schools located in each tribal concentration area
4. Education is linked with provision of supplementary nutrition.
5. Special incentives like, financial assistance, pocket allowance, free distribution of text books and school uniforms are provided.

## Suggestion

Education is the most effective instrument for ensuring equality of opportunity; keeping in view of this assumption the Government has been making several efforts to education by extending special educational facilities and reservation of seat in educational institutions. But the development of education is one of the important problems in the case of tribals for solving that problem.

- Higher level officials should check the functioning of schools frequently relating to the teaching methods, working hours, days of the school and attendance registers.
- Establish separate residential school for each district and extended up to PG level.
- Residential facilities with all amenities should be provided to teachers and other staffs.

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· Merits scholarship, attendance scholarship, and more incentives in the form of grant allocated to uniform, books, learning materials, midday meals, supply of sports equipment's.

**Conclusion**

In concluding remarks, we may say that the tribal are not empowered economically as well as socially. The socio- economic empowerment of tribal could be kept as a long term development goal in India. Economic independence and education of tribal will go a long way in attaining self-reliance for tribes. So development/ empowerment awareness, education, competitiveness, willingness, confidence, self-motivation, mindset, encouragement from family and society is essential for the empowerment of tribal .The success achieved in this regard is helpful to bring tribes into the mainstream of inclusive growth process in India. Reducing poverty and unemployment of the tribes would pave the way towards their empowerment.

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# EDUCATION, DEVELOPMENT AND POVERTY REDUCTION

The eradication of poverty and hunger, the achievement of universal primary education and gender equity, the reduction of child mortality, improvement of maternal health, combating HIV/AIDS, malaria and other infectious diseases, and ensuring environmental sustainability all require a concerted global effort embracing multiple disciplines in the formal and informal sectors. This paper traces the changing meaning of development, while at the same time tracing the benefits of investing in education for poverty reduction, and the conditions that facilitate and/or hamper education's contribution to poverty reduction.

**The role of education in the context of human development**

Education is one of the original three key indicators in the HDI, the others being life expectancy and income security. Whereas the mode of calculation has changed somewhat, the three elements of the HDI have remained the same since the outset (Morse, 2004: p.88). Furthermore, since 1990, the UNDP has developed other measures, including a 'Human Poverty Index' and a 'Gender-related Development Index', each of which is designed to address and assess particular aspects of human development. The Human Poverty Index is a particularly interesting instrument in that, in some ways, it represents a contrasting tool to the Human Development Index.

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**The benefits of investment in education and the conditions necessary for maximising its impact on poverty reduction**

Prior to the MDGs, the case for investing in education had been presented strongly, and over a number of decades, by various international agencies, particularly those which are active in developing countries. While acknowledging that "it is difficult to measure accurately the return on human capital investment", the OECD has long argued that "there is strong evidence of the direct payoff of such investment to individuals and a growing body of evidence that there are positive external effects for employers, communities and whole societies. There is also a growing consciousness of the waste of resources represented by the failure to make adequate investment in the young, and a realisation that the deficit arising can be, and should be, quantified as a real cost. The World Bank has attempted to trace the relationship between education and earnings with a view to quantifying the returns to education. One synthesis of studies in this area, conducted on behalf of the Bank, concluded that the estimated rates of return are typically more than 10%, with the highest rates of return coming from investment in the lowest levels of formal education. More recent studies of a cross-section of low-, middle- and high-income countries provided further evidence that investing in education is a profitable policy option (Psacharopoulos and Patrinos, 2004 cited in World Bank, 2006: pp. 90–91). This is particularly true of investing in primary education in low-income countries see Table 1. The authors note that "returns decline with the level of schooling – that is, one dollar spent on primary school provides higher returns than one dollar spent on higher education – and with per capita income" (ibid, p.91). Other studies also indicate that the rate of return on women's education is higher than that on men's education in most developing countries .

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Table . 1 Returns to investment in education by level.

| Country group | Social returns to education investments, % | | |
|---|---|---|---|
| | Primary | Secondary | Higher |
| Low-income countries | 21.3 | 15.7 | 11.2 |
| Middle-income countries | 18.8 | 12.9 | 11.3 |
| High-income countries | 13.4 | 10.3 | 9.5 |
| World | 18.9 | 13.1 | 10.8 |

Source: Psacharopoulos and Patrinos (2004) in World Bank (2006: p.91).

Investment in education beyond the upper secondary level resulted in greater increased earnings than a lack of an upper secondary qualification resulted in decreased earnings (OECD, 1997 and World Bank, 2006). Studies in OECD states indicate that "university-educated women earn 61 per cent more on average in mid-life than those with upper secondary only" while "those without upper secondary earn 23 per cent less". For men, "those without upper secondary education earn between 10 and 38 per cent less than those who have completed upper secondary education only, in most countries" while "tertiary graduates earn significantly more than upper secondary graduates in all countries.

The principal asset of the poor is labour-time and education can increase the productivity of this asset. Educated farmers are more likely than others to adopt new technologies and have been shown to get a higher return on their land. In the wage sector, the individual returns to education are consistently above returns to conventional investments. Even in the non-wage sector, there is some evidence to show that poor, self-employed people have a wider and more profitable range of earning options when they have had a basic education. Lastly, educating the children of the poor greatly increases their chances of escaping poverty. Clearly, this is appreciated by parents in low-income countries. It has been noted that households are prepared to invest in human capital, even in those low-growth environments that scare off private investment, and that households are prepared to invest in schooling, even when it does not translate into higher levels of labour productivity, because the other benefits that education provides are valued.

The UNDP has argued that basic education is one of "the most powerful forces for growth" and has extolled the "high rates of return to these investments, especially for girls". The World Bank has given its support to this view, stating that "there is now wide recognition that investing in girls' education is one of the best investments a society can make in its own development. Education is essential for raising individual productivity. General education gives children skills that they can later transfer from job to job and the basic intellectual tools necessary for further learning. It augments the ability to perform standard tasks, to process and use information and to adapt to new technologies and production practices. Education systems are undoubtedly crucial in equipping all people with the skills and competencies to play an active role in society and in the economy. However, education also has much broader functions which impact on the quality of society and the capacity of a society to successfully govern itself.

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## Conclusion

Fifty years ago, "development focused on only one objective: increasing GDP", while "economists and policy-makers viewed capital accumulation as all that was necessary for growth. Dominant economic theories asserted that the generation of wealth through growth would eliminate mass poverty and its attendant problems. Experiences of growth, however, failed to deliver the anticipated gains.

Changing concepts of development have led to an appreciation of the holistic nature of development. It is acknowledged that sustainable economic development cannot be achieved without social development and human development, and that such development depends, *inter alia*, on progress towards universal education with equitable access and assured quality. In this context, the education of women is particularly critical. Education, and particularly literacy, contributes to health gains, lower fertility, improved infant survival, higher labour productivity, as well as more rapid GDP growth, but also makes a contribution to social integration through equipping individuals for participation in all aspects of social, political, economic and cultural life. Education is both a goal of development and a means to its achievement.

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# PREVALENCE OF CARDIOVASCULAR DISEASE AMONG WOMEN AND NEED FOR HEALTH EDUCATION

## Economic impact and Burden of Cardiovascular Disease

Cardiovascular diseases are important components of chronic diseases worldwide. Cardiovascular diseases form the major component of chronic diseases and therefore contribute most to the economic impact: these strike individuals in their productive ages, need high treatment costs and result in premature deaths In addition, direct costs of health care devoted to treatment are calculated, and in conjunction with life years lost, give an estimate of the economic burden of cardiovascular disease. According to World Health Report 2002, cardiovascular diseases will be the largest cause of death and disability by 2020 in India. The susceptibility ratio of men to women is 3:2 in younger age group, but after menopause the ratio becomes 1:1

## Cardiovascular Disease among women and need for health education

This study the researcher collected a sample of 1010 respondents of which 610 from the private hospital and 400 from the government hospital. In order to select representative Cardiovascular Disease population receiving treatment in these two hospitals, it was felt an empirical inquiry would be apt. Within each of the hospital, the sample patients were selected based on Judgement Sampling Method. i.e.

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**Table 1Gender of the Patients**

| Gender | Patients | Percentage |
|---|---|---|
| Male | 631 | 62.5 |
| Female | 379 | 37.5 |
| **Total** | **1010** | **100.0** |

The above analysis shows that the total number of cardiovascular patients taken for this study was 1010. Among the sample respondents, a majority 62.5 per cent are males. And although heart disease is often considered as a problem for men, shockingly 379 (37.5 per cent) of them were females. The higher proportion of male patients indicates the fact that males are more prone to cardiovascular disease (serious and complicated health problems) than females at a much earlier stage. Also, women on the other side neglect or postpone their own health care and focus on her family member's health due to various reasons like regular household activities and market activities.

## Determinants of Choice of Health Care Services

An attempt is made to find out the principal factors that are likely to determine the respondents " choice of health care services for the treatment of cardiovascular problems. For this purpose, the type of health services utilised has been considered as dependent variable, which has been treated as dichotomous, viz., those who visited private health facility (by assigning a score of „1 ") and those who availed services from government health facility (giving a score of „0 "). All the other variables under consideration are measured in categories. In such a condition, adopting the binary logistic regression analysis is more apt and therefore, such an analysis is carried out. Among the sample respondents, it is obvious to note that, controlling for all the variables used in the model, the odds of their choice of availing medical and health care services (for cardiovascular disease) from private

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hospitals are 1208 higher (OR = 1209.753) among those whose monthly family income is above Rs. 15,000 than those whose monthly family income is Rs. 15000 or less. These results are also turn out as highly significant ($p<0.001$). Another pertinent finding noticed here is that the positive role of respondents " educational status on their choice of health care facilities. For instance, it is conspicuous to note that the odds of making use of private health facility for cardiovascular disease are 30, 41 and 61 times, respectively higher among those who studied up to primary school, secondary school and higher secondary school and above levels as compared to their illiterate counterparts. These results indicated the consistent increase in the odds of availing medical and health services from private health facilities within increase in their level of education. All these results have also turned out to be as highly significant ($p<0.001$ in each case). An interesting finding of this study is that females tend to make use of private health facilities for cardiovascular disease than their male counterparts and this finding is turned out as moderately significant ($p<0.05$).

**Table 2**

**Logistic Regression Results on Choice of Health Care Services by the Respondents**

| Explanatory Variables | Beta | Odds Ratio | Level of Sig. |
|---|---|---|---|
| 1. Current Age *(Ref: ≤ 45Years)* | -- | 1.000 | -- |
| 46 – 60 Years | 0.654 | 1.906 | ***0.05*** |
| Above 60 Years | 0.256 | 1.292 | 0.491 |
| 2. Gender *(Ref:Males)* | -- | 1.000 | -- |
| Females | 0.604 | 1.830 | ***0.05*** |
| 3. Caste ***(Ref: Scheduled Castes / Tribes)*** | -- | 1.000 | -- |
| Most Backward Castes | 1.464 | 4.324 | ***0.001*** |
| Backward Castes / Forward Castes | 0.339 | 1.403 | 0.226 |
| 4. Nativity Status *(Ref: Rural)* | -- | 1.000 | -- |
| Urban | -1.482 | 0.227 | ***0.001*** |
| 5. Educational Status *(Ref: Illiterate)* | -- | 1.000 | -- |
| Primary School | 3.423 | 30.663 | ***0.001*** |
| Secondary School | 3.715 | 41.045 | ***0.001*** |
| Higher Secondary School and above | 4.113 | 61.149 | ***0.001*** |
| 6. Occupational Status ***(Ref:* At Home *)*** | -- | 1.000 | -- |
| Agriculture | 3.190 | 24.281 | ***0.001*** |
| Others | -0.060 | 0.942 | 0.863 |
| 7. Total Income *(Ref: ≤ 15000 )* | -- | 1.000 | -- |
| 15,000 + | 7.097 | 1208.753 | ***0.001*** |
| 8. Family Size *(Ref: 2 )* | -- | 1.000 | -- |
| 3 | -1.546 | 0.213 | ***0.001*** |
| 4 – 5 | -0.730 | 0.482 | ***0.05*** |
| 6 + | -0.322 | 0.725 | 0.477 |
| **- 2 Log likelihood** | **478.408** | | |
| **Chi-square (df)** | **877.766 (15)** | | |
| **Significance Level** | **0.001** | | |
| **N** | **1010** | | |
| **Cox & Snell R Square** | **58.1** | | |
| **Nagelkerke R Square** | **78.6** | | |

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The likelihood of availing medical and health care services from private health facilities is comparatively higher among those respondents who belong to the age group of 46-60 years as well as those who

are in the age group of above 60 years as against to those who are in the age category of 45 years or less. However, the results in this regard turned out significant only in the case of those who belong to 46-60 years in comparison with 45 years or less at a moderate extent ($p<0.05$). Conversely, the probability of visiting to private medical and health care centres appears to be much lower among those respondents whose nativity is urban areas as compared to rural areas and this result also turned out to be as highly significant ($p<0.001$). Respondents who have family sizes of 3, 4-5 and 6 and above have shown a propensity to visit private health facility to a lesser extent than those who have a family size of 2 members only. These results emerged as significant to a higher extent in the case of those who have 3 members in the family ($p<0.001$) and to a moderate extent ($p<0.05$) in the case of those who have 4-5 members, whereas insignificant for those who have a family size of 6 or more members. Occupational status of the respondents showed mixed results in relation to their choice of health facility. However, the results turned out highly significant ($p<0.001$) only in the case of those who are from agriculture sector in comparison to those at home.

**Conclusion**

Heart disease, long considered a man's problem, became the Number one killer of women especially after women entered the workforce in large numbers and faced the same stresses as men did. Finally, that's the case here as well. Hence the women should guard against heart disease by being made aware of the symptoms unique to them. Also more disturbing is the fact that, the researcher observed only a fewer women get timely attention when compared to men. Hence, for women, heart disease is the most serious killer. The ability to live a full and productive life cannot be measured in economic terms. However, it has an important socio economic impact. Thus, there is a need to prevent the complications of cardiovascular disease, not only to improve the quality of life of Cardiovascular Patients, but also to reduce the expenses incurred by cardiovascular patients and their families.

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# ENVIRONMENTAL EDUCATION IN INDIA- A BIRD'S EYE VIEW

The environmental education is a fundamental process through which persons at all possible education levels, become aware of and concerned with the environmental and its related problems and acquire the knowledge, skills and determination needed to solve these problems. It is based an eco-development scheme of action which is linked with undertakings in virtually every field and which could very well constitute a means of initiating and consolidating a new orientation for human development. In this sense, environmental education is a vast and multi-inter disciplinary pedagogical approach which involves all kinds of institutions and individuals. It is a process which enables us to acquire and understanding of the complex nature of the environment of which we are a part, and to appreciate humanity's dependence on and responsibility for the environment.

**Approaches of Environment Education**

Newsman (1981) described a threefold classification based on the disciplines.

***Environmental Studies:*** this is concerned with the case of environmental disturbances and minimization of their import through social change (Social Sciences)

***Environmental Sciences:*** this deals with the study of the processes in water, air, soil and organism, which lead to "pollution" or environmental damage and to find out a scientific basis for establishing a standard and health natural ecosystem.

***Environmental Engineering:*** This deals with the study of the technical process, which can be used to minimize pollution and environmental impact. The objectives of environmental education are:

i. To improve the quality of environment

ii. To create an awareness among the people on environmental problems and conservation.

iii. To develop skills to solve the environmental problems

iv. To create the necessary atmosphere to make it possible for citizens to participate in decision-making and to develop the capabilities to evaluate the development programmes.

**Non-formal Environmental Education**

The objectives of non-formal environmental education for both rural and urban population are the same. However, certain particular circumstances for the two are different. In urban areas, the public and persons responsible for urban development should be educated to make them alive to the needs of the inhabitants. In rural areas, a club or a conservative group may be farmed for arranging exhibitions, public lectures, meetings, door-to-door environmental campaigns involving the non-formal learners in tree plantation, community clean-up, land, water and air purification, personal hygiene and health activates. Therefore, the non-formal environmental education should change the attitudes of all the out-going school children and adult members of a particular community, inspiring them with a desire to participate and collaborate in bio-ecological development programme. The non-formal environmental education will contribute to the conservation and management of the land, the forest, and the hydrological resources and to the improvement of the health and hygienic conditions of the rural inhabitants.

**Preventive Measures to be considered**

· Each and every individual is responsible to safeguard the surroundings from pollution which may affect seriously.

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- To safeguard the surroundings, the people must be educated properly from the school level itself and should apply it in their practical life.

- Severe punishments also should be given for the people who are going against the rules and regulations in the eyes of law.

**Conclusion**

Environmental education should create environmental awareness among the people and enable the people to know their responsibilities in the protection of their environment and conserve the natural resources. The paramount need for the protection, conservation and improvement of environment is the creation of environmental awareness and consciousness among the public at grass-root level. Knowledge about environment and the required understanding about the serious dimensions of the problem are very much essential for each and everyone.

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# FEMALE HIGHER EDUCATION IN INDIA

Education in India especially higher education in India is indeed one among other elements which has captured the world's attention. The Vedas, Puranas, Ayurvada, Yoga, Kauthilya's Arthasahtra are some of the significant traditional Indian knowledge systems which even today, India can boast of. It is certainly not an overstatement to say that the history of higher education in India.

Higher education for women has gained a wider role and responsibility of all over the world. Today, in 21st century, one cannot afford to ignore the importance of higher education for women any longer. Higher education in India is indeed necessary. The objective of Indian society has been laid down in the constitution is to achieve a democratic, socialistic and egalitarian society. In such a society women are supposed to perform their roles as per men. Their status structurally needs to be equal with men and its present scenario, higher education is certainly that factor which can actually support them to execute their role at par with men. The basics argument which is given for women higher education is not that higher education for women is different from that of men. The main trust is that in the field of higher education, women should also be equal partners.

**Female Education in India**

**Current policies**

Before and after Independence, India has been taking active steps towards women's status and education. The 86th Constitutional Amendment Act, 2002, has been a path breaking step towards the growth of education, especially for females. According to this act, elementary education is a fundamental right for children between the ages of 6 and 14. The government has undertaken to provide this education free of cost and make it compulsory for those in that age group. This undertaking is more widely known as Sarva Shiksha Abhiyan (SSA). Since then, the SSA has come up with many schemes for inclusive as well as exclusive growth of Indian education as a whole, including schemes to help foster the growth of female education.The major schemes are the following:

- **Mahila Samakhya Programme:**
- **Kasturba Gandhi Balika Vidyalaya Scheme(KGBV):**
- **National Programme for Education of Girls at Elementary Level (NPEGEL):**

**Problems of female education**

- Female students have difficulties in assess to transport facilities in general.
- Sexual harassment as well as occasional students violence hinder female students completion of higher education.
- Marriage in many cases leads to early withdraws.
- Gender stereotyping inhibits completion of studies.
- Financial constraints can cause withdrawal from the education stream.
- Part – time work to earn living interferes with studies.

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## Conclusion

Education increases a woman's (and her partner and the family's) level of health and health awareness. Furthering women's levels of education and advanced training also tends to lead to later ages of initiation of sexual activity and first intercourse, later age at first marriage, and later age at first childbirth, as well as an increased likelihood to remain single, have no children, or have no formal marriage and alternatively, have increasing levels of long-term partnerships. It can lead to higher rates of barrier and chemical contraceptive use (and a lower level of sexually transmitted infections among women and their partners and children), and can increase the level of resources available to women who divorce or are in a situation of domestic violence. It has been shown, in addition, to increase women's communication with their partners and their employers, and to improve rates of civic participation such as voting or the holding of office.

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# EDUCATION AND ECONOMIC DEVELOPMENT

Today Tamil Nadu is one of the most literate states in India. The state's literacy rate is 80.33% in 2011, which is above the national average. TamilNadu also tops with 100% Gross Enrollment Ratio (GER) in primary and upper primary education.

## The Importance of Education in Economic Development

The past decades have seen extraordinary expansion in access to basic education. TamilNadu is now on the brink to increase secondary and higher education. The state has some proven records in spectacular improvements in computer education. As there is an increasing student rate in basic education, the demand for secondary education is also increasing. Education to girls and women is probably the most effective investment a developing country can make to improve its economy. Education to women creates a multitude of positive outlook for families including better family health and nutrition, improved birth spacing, lower infant and child mortality, and enhanced educational attainment of children. A state or a country to compete in the global market hugely depends on the excellence of human capital they bring to the competition. Ensuring that all the citizens are highly qualified, that many possess a very high range of problem solving and professional skills beyond the basic level, hence they necessitate new improved curricula, best teacher programs and competitive academics methods that encourage higher order cognitive skills. Previous studies have shown that no country has achieved constant economic development without considerable investment in education.

## Education and Productivity

Education is also a contributor in technology and technical change in firms. Only education can transform an economy is a wrong assumption. Education is one of the essential contributing factors for Indian economy. Other important aspects that can bring change in economy are domestic and foreign policies, imports, exports and government policies. The quality of policy making has a direct impact on education. One good policy on education can make a remarkable change in the society. The more educated are likely to innovate which affect everyone's productivity hence higher level of education increases overall productivity of capital. The effects of education on individuals not only improve their own standard but also with the people whom they interact which implies a larger network of increase in productivity. The impacts of education in exports also pave ways for employment which in turn affects human development.

## Education and Income

As many education schemes are in existence and the education category is broad, low-income people are better able to seek out the economic opportunities. Since TamilNadu is highly influenced by caste system, its only through education, 'income equality' can be attained. Education may affect per capita income growth via population growth. There is a positive feedback that improved education leads to greater income equality. The level of female schooling and the fertility rates are highly influenced by education and per capita income.

## Education and Family

For economic success the solid foundation is society. The successful investment in human capital comes from family. In the modern economy they play the crucial factors. Only family promotes and funds their children's education and values. More educated people tend to spend more on value and standard education. Educated people believe only through education needed values, power to communicate and stand stable in the society is possible.

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**Education and Trade**

Many developing countries have created openness and investment in learning. They believe openness can create demand for education and learning. Only through knowledge's accumulation a country's trade and competitiveness can enhance well especially through imports. In order to adapt the environment and have a tougher competition, country must upgrade the skills of labour force.

**Conclusion**

Through Education one can possibly upgrade one's lifestyle. Hence when education is scarce people will lead a poor life with ignorance. Education in every sense is the best option to obtain. People think lack of education, leads to miserable life. Hence Education is the best way to increase skills and fertilize the brains. Formal education together with group of students can produce qualification in rest of the life. A balanced education system promotes not only economic development, but productivity, and generates individual income per capita.

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## EDUCATION AND DEVELOPMENT

Student migration is one of the problems in school education. Student migrated government school to private school. This paper focus on why student migrate from government school to private school and who is determinant student go to private school. The paper has relied on primary data and the study area is Poovani pattu village in Ariyalur district this study has taken the sample size of 20. Samples have been selected from only scheduled caste families only. Sample respondent migrated within last five years and the nature of the sample respondent studying initial class within local government school. This present paper is an attempt to study why student migration at poovanipattu village in Ariyalur district, Tamilnadu. This study conducted on September 2013

Table 1 **Size of the family of the migrated students**

| Family members | No. Of student | % |
|---|---|---|
| 4 | 7 | 35 |
| 5 | 5 | 25 |
| 6 | 4 | 20 |
| 7 | 3 | 15 |
| 8 | 1 | 05 |
| Total | 20 | 100 |

Table 2 **Class wise student migration**

| Class | students | | Total |
|---|---|---|---|
| | Boys | Girls | |
| Primary | 1 | 1 | 2 |
| Middle | 10 | 2 | 12 |
| Secondary | 1 | - | 1 |
| Higher secondary | - | 5 | 5 |
| Total | 12 | 08 | 20 |

Table 3 **Reason for student migration**

| Parental view | students | | |
|---|---|---|---|
| | Boys | Girls | Total |
| Not well study | 5 | 2 | 7 |
| Worest behaviour of the students | 4 | 5 | 9 |
| No satisfied school function | 3 | 3 | 6 |
| Other places | 2 | 2 | 4 |
| Total | 14 | 12 | 26 |

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**Discussion**

1.Migration of boys is higher than girls to private school from government school.

2.Table 2 explained that most of the boys migrate in middle class and the most of the girls migrate in Higher secondary class

3.Table 3 explained the reason for student migration. Student migration is determined by their parents in the study area. In the parents view, no control in government school to worst behaviour, and their children are not having subject knowledge because of shortage of teacher. Last one School activate is not satisfied to us.

**Conclusion**

The conclusion of the study is that the most of the student migrate forced by her parents. Parent imagination her son/daughter is studying in private school is increases social status in the study area. Income level increase is automatically parents turned government to private school. parents viewed the school result, shortage of teacher and social issues, the most of the parents feared of student future life so he admitted of her son/daughter in English medium school. Teen age problem is more affected girls. So parents her daughter goes to private school .

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# STUDY ON PANCHAYAT RAJ INSTITUTIONS AND PRIMARY EDUCATION IN AKKARAPALAYAM GRAM PANCHAYAT OF VEERAPANDI BLOCK, SALEM DISTRICT

PRIs are play an important role in development of primary education, health service, agriculture, road transportation, women and child care and agri-business. They also play an important role in implementing the Sarva Shiksha Abhiyan (SSA) successfully. Really, it is n important instruments which are playing a vital role in eradication of illiteracy and facilitating the primary education at large extent (Prasad and Gautam, 2013). The Gram Panchayat (GP) is responsible for maintaining school registers and preparing data base of human resources and available facilities at the primary schools (Annon, 2013). As Education facilitates and creates an opportunity to the equity, the Government of Tamil Nadu has passed the Tamil Nadu Right of Children to Free and Compulsory Education Rules, 2011 (age of student 6-14 years).

## Objective

By keeping the current issues of delivering primary school, the present study focuses on the availability of primary education in the study area.

## Methodology

Data were collected from both primary and secondary sources and however, large scale primary data was used. The primary data were collected purposively from 37 sample respondents in Akkarapalayam GP. This study interviewed only parents of children studying in government primary schools. The secondary sources collected from Directorate of School Education of Tamil Nadu websites. Statistical tools like percentage and simple tabulation were used.

## Results and Discussion

The following section discusses the secondary source like structure of education in Tamil Nadu. The field level data analyze the general, socio-economic information of the respondents and level of satisfaction of the respondents.

## Educational Level

Majority of respondents are illiterate with a percent of 49. The highest number of respondents had educated up to primary and secondary which is 24 percent. The least number of respondents had educated up to higher secondary which has formed 3 percentages. Finally, it is concluded that most of the respondents are illiterate.

## Occupational Structure

There are 10 percent of the respondents who are doing their daily wages as agriculture labour. The little numbers of respondents are cultivating (Agriculture) their land. They are 22 percent. The highest number of respondents are engaged some other like go to works MGNREGS, factory etc., they are 68 percent because they don't know any other.

## Family Type

The highest number of respondent's family live in the joint family system. They are 78 percent where as only 22 percent of respondents live in nuclear family system.

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**Number of Children**

The above table includes number of children of the respondents, there are 51 percent of respondents had two children. The second highest number of respondents had only one child. They had formed a percent of 24. The least number of respondents who had formed a percent of 11 had four children.

**Family Size**

There were highly 49 percent of respondents have four members in their family. Then 29 percent of respondents have five members in their family, 19 percent of respondents have three members in their family and only 5 percent of respondents have above six members in their family.

**Number of Earning Members in the Family of the Respondents**

The above table comprise number of earning members in the family of the respondents. The highest numbers of respondents have only one earning member in their family. They are 51 percent, 45 percent of respondents have two earning members in their family and only 3 percent of respondents have three earning members in their family.

**Monthly Income**

The highest number of respondents are earn below Rs. 5000 are 65 percent. The second highest number of respondents earn within Rs. 5001 – Rs. 10000. They are 32 percent. The least number of respondents earn above Rs. 10001 per month. They have a formed a percent of 3. The following denotes that the level of satisfaction of the respondents

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**Human Resources**

The second category of human resources, majority of 65 percent of respondents are highly dissatisfied for panchayat president (women) approach because that panchayat president not include public and the same situation continued from panchayat member approach like 73 percent of respondents are dissatisfied. The highest numbers of respondents are highly satisfied (54 percent) for teachers approach. 43 percent of respondents are satisfied for NGOs approaches, because they are directly contact with public and get opinion (arrange meetings).

**Major Findings and Suggestions**

Infrastructure facilities like water, class room, building and equipments are available but they are not properly handled. Particularly toilets facilities (student toilets) are very worst, they are not properly maintain so, students are using open place for toilets. Therefore students are easy to affect diseases like diarrhea, cholera and typhoid. Government and panchyat take immediate step to provide toilets facilities for students.In the case of human resources, compare to teachers and NGOs approach, the approaches of panchayat president (women), members are need to improve their ability, so government or NGOs must be trainee for the panchayat president, members to create the awareness of panchayat for rural development and how to manage the panchayat. It is observed from the field level many of the respondents don't know about the importance of the GS, educational scheme, NGOs, PTAs etc., so government take step to create the awareness for people.

**Conclusion**

Education is one of the vital roles to improve the ability of the people. Education creates equality of the society. Therefore the grass root level like panchayat is a major role of primary education. The activities of panchayats in primary educations, like to provide water and toilets facilities i.e., it creates safety health measures to reduce open defecation; plant saplings; it creates good environmental awareness of school students etc., so, panchayats and teachers more responsibility to make good generation for social development.

# CONSEQUENCES OF DROPPING OUT OF GIRL CHILDREN IN DHARMAPURI DISTRICT

The main objective of the study is to analyze the drop out of High School Education for Girl Child especially SC/ST in Dharmapuri District.

## Material and Methods

The present study is based on both primary and secondary data. While secondary data collected from large of documentary, records, journals, thesis, books and the primary data was collected through on interview schedule.

## Results and discussion

The status of women education in the study area, education samples were collected from the people of Dharmapuri district. Totally 1461 school in Dharmapuri district covering 8 blocks. 110 samples are collected from the SC/ST people in Dharmapuri district. The chi-square analysis is used.

**Table 1 Perception about Education of Girl Child at Household Level**

| Particulars | HDA | | DA | | NN | | A | | HA | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | F | % | F | % | F | % | F | % | F | % | |
| Education is equally important for boys & girls | 7 | 6.36 | 27 | 24.55 | 37 | 33.64 | 25 | 22.73 | 14 | 12.73 | 110 |
| Education is Important for Boys only | 23 | 20.91 | 36 | 32.73 | 23 | 20.91 | 19 | 17.27 | 9 | 8.18 | 110 |
| Girls Should be given primary education but should be given higher education | 17 | 15.45 | 39 | 35.45 | 25 | 22.73 | 17 | 15.45 | 12 | 10.91 | 110 |
| For Financial Problem Parents could not educate their girl child | 11 | 10.00 | 33 | 30.00 | 23 | 20.91 | 24 | 21.82 | 19 | 17.27 | 110 |

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Source: Compiled

It is understand from the table 1 that 12.73% of the respondents are highly agreed with education is equally important for boys and girls , 8.18% of the respondents are highly agreed with education is important for boys only 10.91% of them are highly agreed with girls should be given primary education but boy should be higher education and 17.27%of them are highly agreed with financial problems parents could not educate their girls child.It could be noted that among the four factors "education is equally important for boys and girls" was ranked first.

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**Table 2 Reasons for not sending girls to school**

| Particulars | Frequency | Percent | Valid percent |
|---|---|---|---|
| Social Pressure | 10 | 9.1 | 16.95 |
| Poverty | 12 | 10.9 | 20.34 |
| Household Chores | 13 | 11.8 | 22.03 |
| Sibling cane | 17 | 15.5 | 28.81 |
| Migration | 7 | 6.4 | 11.86 |
| **Total** | **59** | **53.6** | **100** |

Source: Compiled

It is clear from the above table 2 that 16.95% of the respondents who are not sending their girls due to social pressure this is following by the reason as poverty household, chores, sibling care and migration and the percentage of 20.34, 22.03, 28,11.86 respectively.

**Table 3 Opinion about causes of drop outs**

| Particulars | Frequency | Percent | Valid Percent |
|---|---|---|---|
| Family pressure | 5 | 4.5 | 23.81 |
| Lack of Motivation | 4 | 3.6 | 19.05 |
| Financial reason | 3 | 2.7 | 14.29 |
| They needed at home for household chores | 5 | 4.5 | 23.81 |
| They earn for family | 4 | 3.6 | 19.05 |
| **Total** | **21** | **19.1** | **100** |

Source: Compiled

It is clear from the table 3 23.81% of the respondents dropout the girls child due to family pressure this is following by the reason as lack of motivation financial reason, they needed at home for house hold chores and they earn for family and their percentage 19.05, 14.29,23.81 and 19.05 respectively.In order to find the relationship between the personal profile of the respondents and the opinion about status of education of girl child, a chi square test was used

**Chi square test – personal profile factors and opinion about status of education of girl child**

From the analysis it is concluded that there is highly significant association is found between the age, education, income, and number of girls in household ender and the opinion about status of education of girl child.

**Conclusion:**

The study examined the trends in women education in Dharmapuri. The status reveled that there had been significant progress in the performance of women education revealed from female literacy levels and its changes over time. It was also observed that the gaps between SC and ST female literacy rates one narrowing down. The significant influence of urbanization of women's education implied that urbanization had been playing time the drop-out rate had a negative effect on women's education. It revealed that reduction of girl's drop-out rates is necessary for achieving women's education.

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# A STUDY ON YOUTH UNEMPLOYMENT PROBLEMS AND QUALITY OF EDUCATION IN SALEM DISTRICT

The present study emphasis about various reasons and quality of educated youth and their unemployment

## Objectives of the Study

1. To highlight the problem faced by the educated unemployed youths and to explore the quality of education on various perspectives of educated unemployed youths;

## Hypothesis

1. There is no significant relationship between age and unemployed years
2. The quality of education differs significantly among various educational groups.

## Methodology of the Study

The study is based on first hand and second hand data. Samples collected from unemployed youths, were the total sample size of the respondents was around 350. The data collected from age group of 15- 24 of the respondents. Through systematic random sampling method, the respondent has been selected. Out of 35000 various educated registered youths, one percent representative sample of base year 2008 who registered in District Employment Office (DEO) was collected. So the researcher has undertaken this study specifically for educated youth in Salem District which consists of 9 taluks and 20 blocks and equal chances has been given to the study. The data collected from the unemployed youths through interview schedule to make primary data. The collected data analyzed with the help of statistical package, percentage, chi square test, one way ANOVA were employed.

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## Result and Discussion

It is inferred that there is no significant relationship between age of the respondent and years of unemployment.

In the above table 1.4 living pattern were classified rural and urban. Out of 350 respondent 247 number of candidate from rural areas and remaining urban areas 103 candidates respectively. Rural mean square value 12.49 , urban 13.82 mean square. Total t test value 4.186,degree of freedom value 348 respectively. One way ANOVA was applied to find whether the mean quality of education score vary significantly among different education groups. The ANOVA results shows that the calculated F ratio value is 4.186 which is higher than table value 2.59 it is inferred that the quality education score vary significantly among different living pattern of the respondent and quality of education score. Hence the hypothesis is rejected.

The analysis shows that there is any significance relationship between various institute of educated youth and infrastructure compared. Basically quality of education measured by availability and access of education services like that library facilities, method of teaching, drinking water facilities, class rooms, etc.. following the above table explain with scaling technique used. The study shows that no high level quality in education also no low level quality of education. Notably, moderate of them were government institution (15.7 percent), private of them (14.5 percent), and finally both government and private only (5.4 percent) respectively.

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## Conclusion

The unemployment is causing great concerns to all in recent years. The educated youth are rising in number. It is obviously the unemployment of youth is increasing over the years. The government should study the problem of unemployment and take necessary action to overcome problem. The government should increase wide awareness on the self-employment opportunities among the youth and encourage them to get benefits from the various schemes. The curriculum of school and colleges should incorporate and provide technical education for creating and setting employment opportunities in the labour market.

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# THE ROLE OF EDUCATION IN THE ECONOMIC DEVELOPMENT OF A COUNTRY: A THEORETICAL PERSPECTIVE

This article reveals the role of education in promoting economic growth, with a particular focus on the role of educational quality.

**Public expenditure on education in India**

During the Financial Year 2011-12, the Central Government of India has allocated Rs.38,957 crores for the Department of School Education and Literacy which is the main department dealing with primary education in India. Within this allocation, major share of Rs.21,000 crores is for the flagship programme *'Sarva Siksha Abhiyan'*. However, budgetary allocation of Rs.21,000 crores is considered very low in view of the officially appointed Anil Bordia Committee recommendation of Rs. 35,659 for the year 2011-12. This higher allocation was required to implement the recent legislation 'Right of Children to Free and Compulsory Education Act, 2009. In recent times, several major announcements were made for developing the poor state of affairs in education sector in India, the most notable ones being the National Common Minimum Programme (NCMP) of the United Progressive Alliance (UPA) government. The announcements are: (a) To progressively increase expenditure on education to around 6 percent of GDP,(b) To support this increase in expenditure on education, and to increase the quality of education, there would be an imposition of an education cess over all central government taxes, (c) To ensure that no one is denied of education due to economic backwardness and poverty, (d) To make right to education a fundamental right for all children in the age group 6-14 years. (e) To universalize education through its flagship programmes such as *Sarva Siksha Abhiyan* and Mid Day Meal.

However, even after five years of implementation of NCMP, not much progress has been seen on this front. Although the country targeted towards devoting 6 % share of the GDO towards the educational sector, the performance has definitely fallen short of expectations. Expenditure on education has steadily risen from 0.64 % of GDP in 1951-52 to 2.31 % in 1970-71 and thereafter reached the peak of 4.26 % in 2000-01. However, it declined to 3.49 % in 2004-05. There is a definite need to step up again. As a proportion of total government expenditure, it has declined from around 11.1 per cent in 2000 -2001 to around 9.98 per cent during UPA rule. Due to a declining priority of education in the public policy paradigm in India, there has been an exponential growth in the private expenditure on education also.

**What Ails Our Higher Education System?**

The moot questions one may then ask "What Ails Our Educational System", the answer is for there for us to see. Apart from competence, corruption, paucity of innovative ideas ; lack of drastic reform in education sector and particularly higher education, paucity of funds, lack of students for certain traditional courses ; lack of infrastructural facilities; lack of vision, lack of leadership and influence of demagogue politics in educational institutions interference of external forces and last, but not the least, in this long list is the lack of enthusiasm among students to inculcate value based education. It is not possible for us to delineate all these factors in detail that affect our educational system excepting to consider a few of the above enumerated issues for our closure scrutiny.

One of the most important maladies of our education system is the quality of education that is most important to our students. Teachers encourage the rote system of learning which ends up producing encyclopedic robots, not creative human beings. Both the teacher and the taught, lack practical experience to handle issues and challenges of our day-to-day existence. Our educational system does not

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provide – an opportunity for holistic knowledge; we either produce defective and substandard human intellect or produce highly specialized, subject-specific grounded persons. It is high time we bring drastic reform in our educational system by introducing choice based credit system, which paves the way for an inter-disciplinary approach. Unfortunately, the Ministry of Human Resource Development of the Govt. of India is yet to concentrate in these vital sectors. Our education should, be relevant to our country, society and culture. For nearly three decades since the 50s. We were comfortable imbibing colonial education without a whimper. In 1980s, the government woke up and felt the need to change the structure of our educational system. From mid-80's to 2009 nothing drastic has happened as a part of the higher education excepting making few noises here and there as part of the 100-day goals of the educational ministry.

**What do we need to change about the Indian Education System ?**

Education has been a problem in our country and lack of it has been blamed for all sorts of evil for hundreds of years. Even Rabindranath Tagore wrote lengthy articles about how Indian education system needs to change. We have established IITs, IIMs, law schools and other institutions of excellence; students with 90+ percentages find it difficult to get into the colleges of their choice; but we do more of the same old stuff.

Rote learning still plagues our system, students study only to score marks in exams, and sometimes to crack exams like IIT JEE, AIIMS or CLAT. The colonial masters introduced education systems in India to create clerks and civil servants, and we have not deviated much from that pattern till today. If one the youngsters prepared en masse for civil services and bank officers exams, they now prepare to become engineers. If there are a few centres of educational excellence, for each of those there are thousands of mediocre and terrible schools, colleges and now even universities that do not' meet even minimum standards. If things have changed a little bit somewhere, elsewhere things have sunk into further inertia, corruption and lack of ambition.

**Conclusion**

It concludes that there is strong evidence that the cognitive skills of the population ration than mere school attainment are powerfully related to long run economic growth. The relationship between skills and growth proves extremely robust in empirical applications. The effect of skills is to complementary to the quality of economic institutions. Growth simulations reveal that the long run rewards to educational quality are large but also require patience.

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# EMPLOYMENT OPPERTUNITIES TO UNEMPLOYED YOUTH

The present paper aims at providing an insight into some of the economic and growth aspects of educated unemployment during ten years from 2002 to 2011 with the objective; to analyze the community-wise registration and placement in Tiruchirappalli District. Objective of the Study is to analyze the community-wise registration and placement in Tiruchirappalli District.

## Methodology

The present study aims at providing an insight into some of the economic and growth aspects of educated unemployment during ten years from 2002 to 2011. This study is based on the secondary data relating to employment opportunities in Tiruchirappalli District. The information has been collected from District Employment Exchange in Trichy. And also the data were collected from various journals and books. In order to study the various objectives and to make our inference statistical tools like percentage and annual growth rate have been used in this study.

## Results and Discussions

Percentage and annual growth rate is studied with reference to the following indicators. They are Community wise Registration, Community-Wise Placements, Community – wise & Live Register, Sector wise placing Central Government, Sector wise placing State Government Quasi, Sector wise placing local body.

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| Year | SC&ST | AGR | BC | AGR | MBC | AGR | OC | AGR | Total |
|---|---|---|---|---|---|---|---|---|---|
| 2006 | 187 (33.09) | 139.74 | | -100 | 3 (2.17) | -90.323 | 6 (8) | -50 | 196 (18.67) |
| 2007 | 16 (2.83) | -91.45 | 8 (2.97) | 0 | 4 (2.84) | 33.333 | 1 (1.34) | 83.333 | 29 (2.76) |
| 2008 | 82 (14.51) | 412.5 | 61 (22.67) | 662.5 | 30 (21.27) | 650 | 7 (9.34) | 600 | 180 (17.14) |
| 2009 | 41 (7.25) | -50 | 89 (33.08) | 45.902 | 56 (39.72) | 86.667 | 21 (28 | 200 | 207 (19.72) |
| 2010 | 33 (5.84) | -19.51 | 11 (4.08) | 87.6404 | 0 | -100 | 2 (2.67) | -90.476 | 46 (4.38) |
| 2011 | 12 (2.12) | -63.64 | 1 (0.37) | 90.9091 | 2 (1.42) | 0 | 0 | -100 | 15 (1.48) |
| **Total** | 565 (53.89) | | 269 (25.61) | | 141 (13.4) | | 75 (7.14) | | 1050 |
| **Means** | **56.5** | | **26.9** | | **14.1** | | **7.5** | | |

Table-explains the details about the related to Sector wise placing local body in the period 2002-2003 to 2010-2011. The total number of Sector wise placing local body (1050persons). Out of the

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total, the majority of local body has been witness by SC&ST i.e. (565 persons) and followed by BC (269percens), MBC (141persons) and OC (75Persons.In year wise Sector wise placing Local Body analysis of maximum number of persons has local body in the year 2009 (207 persons), the minimum number of (15 persons local body in the year 2011. It is evident annual growth rate was fluctuated all over communities and the negative growth rate. From the analysis annual Sector wise placing local body SC&ST high registered in trichy district.

**Conclusion**

It is evident that all communities have got placement but no equal registration of all communities .Registration was high in all communities and have register also increased year –by-year, but the employment opportunities were very low. The registration and employment opportunities were high to SCA, ST, and BC (Muslim) communities than other communities through employment exchange in Tiruchirappalli.

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# EDUCATION AND DEVELOPMENT: IS IT RELEVANT TO OUR SEARCH FOR INDIA'S RENAISSANCE?

Education and Development are intimately intertwined whether you cite example like Japan or Sweden or a large number of other advanced nations, human resource development thro' education led to the development of indigenous natural resources or the setting up of industries based upon raw materials. The spread of knowledge was thus the first step in creating wealth and sharing it. There are some major issues in education today. The most important issue is that of access to education. Tremendous expansion has taken place and yet illiteracy prevails. It is said by the turn of the century the largest number of illiterates in the world would be in India.The important issue facing education is its quality. The general standards of education are appallingly low in this country.

**Impact of Globalistion on Management Education In India**

Globalisation is impacting and impinging the institutional framework in both developing and industrial countries. With borderless education and knowledge getting linked with education it leads to education becoming a commercialized world trade. Globalisation of education and creation of market for education has become a thumb rule today.

**Globalisation-Education and HR., development**

Knowledge is the driving force in the rapidly changing globalised economy and society. Globalisation has a multi-dimensional impact on the system of education. Even within the educational sector, relative priority assigned to higher education has been remarkably commercial institutions offering specialized education have started mushrooming up everywhere. In view of Globalisation, many corporate universities, both foreign and Indian, are encroaching upon our Govt., institutions. Which is prone to abuse.

**Impact of Education on Development of Self-Concept in Adults**

Education affects the self-concept of adults. Adults with highest qualification showed highest mean score and adults with lowest qualification showed lowest mean score on likeability, morality, task accomplishment, giftedness and power sub scales of self-concept. Giftedness sub-scale of self-concept was scored lowest by all groups while morality sub-scale was scored highest in all groups collectively. The level of education helps in improving one's self-concept; so our society and Govt., at all levels should take diligent measures to educate the masses so that their self-concept can be raised for healthy nation. Management and teachers should be provided to foster child centered teacher education trainings.

**Strategies For Development :**

**1.**While thinking of development and nation building and viewing education as an instrument for societal change we are sidetracking the main function of education, namely, learning. Since education is the container and knowledge is the content, it is time to conceive of a paradigm that restores to learning its primary and treats education as secondary to learning.

**2.**Even in capitalist country like USA., the major efforts in raising educational standards, in linking education more closely to the developmental needs of society were made by the organized teachers'. I think it is possible to practice such technologies too. Even before the break of Berlin Wall, East Germany followed the same policy to rebuild a war ravaged nation.

**3.** Education has become a sort of passport to power. The youth is reacting accordingly. They only want a piece of paper and not lecturers and words of wisdom. We have ourselves delinked education from

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knowledge. Instead of tinkering with education, we must make it a tool in our perennial search for a virtual renaissance.

**4.** We have to devise low-cost, high efficiency delivery system for education. This is a problem to which a great deal of thought should be bestowed as a part of our search for a renaissance.

**5.** The whole world is moving towards new structures of thought. I have a feeling that the Aristotelian, Ptolemic world continued till about the days of Copernicus and Newton. This new model continued up to the 19th century Darwin and Marx came, and presented a third model which kept us going, with minor changes, thro' relativity and Quantum mechanics and Keynesian economics up to the II World War. What we are witnessing now is a world of a new kind which calls for a global renaissance atleast the crash of Europe and American economy teaches us that. I have a perennial feeling that the renaissance is searching for India.

**EPILOGUE :** Is our educational system, as it is at the present moment relevant to our search for India's renaissance? Is an educated man today a better humanist? Is he more rational than an uneducated person? I have to say that it is doubtful that an educated man is superior in this respect. Hence, the question arises, if rationalism and humanism do arise in a segment of our educational system, is it planned or is just accidental? If it has to be planned how do we go to usher such a renaissance? This I regard to be crucial question.

The tragedy of the modern era is that the Third World is already getting fragmented into the Third and the Fourth, and the developing countries into the less and the least developed. Education is unfortunately playing a key role in this process of inequalisation.

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**Conclusion**

In India, our concern with illiteracy dates back to very early times when the importance of education was well recognized. Subramania Bharati, an outstanding Tamil Poet-espoused the cause of mass literacy and free education to the poor. In his well-known poem 'Viduthalai' (Liberation), he says:

"Let us educate ourselves thoroughly, become wise in this land,

No one shall be poor

No one shall be a slave

In India there is no one who is low born,

Everybody will attain learning

And happily shall we get together and live as equals".

Swami Vivekananda saw the need to employ education as on instrument for social and economic progress. But he scoffed at mere book-learning and memory-training, saying "..... we must have life-building, man-making, character-making, assimilation of ideas. If education is identical with information, the libraries are the greatest sages of the world and encyclopaedias are the rishis". He was also an ardent champion of women's education and often quoted Manu : "Daughters should be supported and educated with as much care and attention as the sons".

There is too much intellectual flabbiness because seriousness in the pursuit of studies is not encouraged. There should always be a vision of the future: the image of society which we wish to fashion, a society in which people will have hope and opportunity to develop themselves.

# EDUCATION OF CHILDREN WITH SPECIAL NEEDS

Education in any society tends to reflect the political philosophy of that society. 'All men are created equal. ' This implies educational opportunity for all children-the right of each child to receive help in learning to the limits of his/her capacity, whether that capacity is small or great. Educating the special children is not as unique as normal children. In this paper, the some types of special children, their characteristics, and training imparted to teachers regarding educating the special children are analyzed.

**Objectives**

1. To evaluate the administrative services rendered to the special children and
2. To suggest some policy measures for the development of education of special children

**Discussion**

The analysis of various literature, research studies relating to the special educational needs of children shows that most of these children liked to attending regular schools and almost all the teachers except a few were not trained to understand their special needs. Special needs of children with mental illnesses were "neither being identified nor being addressed seriously."A vast majority of teachers could say nothing on how to meet the special educational needs of disabled children in their classrooms. Only one third of the teachers could identify the needs of students with disabilities. More than half of all teachers interviewed gave no response to questions on how they included disabled children in their day-to-day teaching.

**Policy Suggestions**

The study has recommended that enrolment of girls with special needs be accorded top priority; dropout rates of these students at the elementary level be arrested; awareness and availability of assistive aids be improved; service and pre-service teacher training be restructured, and recruitment policies be geared towards appointing special educators. The study has also suggested a more flexible curriculum with space for creative arts and multimedia, and hostel facilities for children with severe physical disabilities. The issuing of disability certificates should be facilitated, and attempts made to ensure that most children with disabilities (CWD) are enrolled in regular schools rather than being schooled at home

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# HIGHER EDUCATION AND ITS CHALLENGES

Higher Education is a very important sector for the growth and development of human resource which can take responsibility for social, economic and scientific development of the country. Higher education in India is passing through a phase of unprecedented expansion, marked by an explosion in the volume of students, a substantial expansion in the number of institutions and a quantum jump in the level of public funding. The enormity of the challenge of providing equal opportunities for quality higher education to ever-growing number of students is also a historic opportunity for correcting sectoral and social imbalances, reinvigorating institutions, crossing international benchmarks of excellence and extending the frontiers of knowledge.

## Statement of the problem

The higher the level of education is, the faster the socio-economic, political and cultural change could take place. But higher education in India today is ridden with various problems. Some of them are both crucial and controversial. There is no doubt about the advanced countries moving fast towards mass higher education. In general, the advanced countries have more than 50 percent of the relevant age group (18-23) in university level education. This paper is a small attempt to know the higher education system in India and its issues, challenges, socio-economic change and growth.

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## Objectives

1 To study the growth of student enrolment in higher education

2 To study the challenges of higher education

3 To study the strategies of higher education

## Trends in the Growth of Higher Education

Indian higher education system is one of the largest in the world. There were only 20 universities and 500 colleges with 0.1 million students at the time India attained independence. This has increased to 611 universities and university-level institutions and 31,324 colleges. The concern that merely increasing the number of higher educational institutions and their enrollment capacity will not achieve the national developmental goals without concurrent attention to quality and its access.

## Enrolment

Another parameter of the size of the Indian higher education system is reflected in the current enrolment of students in the institutions of higher learning. The number of students enrolled in the universities and colleges (formal system) has increased since independence to 13,642 million in the beginning of the academic year 2009-10, with 1,669 million (12.24%) in the university departments and 11.973 million (87.76%) in the affiliated colleges (Source: MHRD, Annual Report, 2009-10). The trends in enrolment from the year 1984-85 to 2009-10 as given in Table 1 reflect the size in absolute terms as well as percentage increase on year to year basis.

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**Table 1: All India Growth of Student Enrolment: 1984-85 to 2009-10**

| Year | Total enrolment | Increase over year | Percentage |
|---|---|---|---|
| 1984-85 | 34,04,096 | 96,447 | 2.9 |
| 1990-91 | 49,24,868 | 3,22,188 | 7.0 |
| 1994-95 | 61,13,929 | 2,96,680 | 5.1 |
| 2000-2001 | 83,99,443 | 3,48,836 | 4.3 |
| 2004-2005 | 1,06,62,744 | 6,13,032 | 6.1 |
| 2005-2006 | 1,13,38,253 | 6,75,509 | 6.3 |
| 2006-2007 | 1,21,02,521 | 7,64,268 | 6.7 |
| 2007-2008 | 1,29,81,179 | 8,78,658 | 7.3 |
| 2008-2009 | 1,37,82,837 | 8,01,658 | 6.2 |
| 2009-2010* | 1,46,24,990 | 8,42,153 | 6.1 |

Source: UGC Annual Report, 2009-10

**Current Issues and Challenges**

Access to higher education is still less than the minimum international threshold levels, distribution of institutions is skewed, enrolment in public universities is largely concentrated in the conventional disciplines whereas in the private self-financed institutions, the student enrolment is overwhelmingly in the market-driven disciplines. Much greater challenges continue to exist with respect to quality and the provision of relevant education. Curricular reforms leading to regular revision and upgrading of curricula, introduction of semester system, choice-based credit system, and examination reforms are yet to take place in all higher educational institutions across the country. Exceptions apart, majority of our higher education institutions perform poorly in the area of quality on a relative global scale.Higher education, there have been certain constraints and opportunities which need to be identified so that strategies could be evolved not only for addressing them but also to leverage the opportunities. Some of the constraints have a bearing on the expectations of the education sector from other Ministries and the States, including the private sector.

**1. Issues and Challenges in Relation to Access**

The challenge of keeping pace with this expansion is not just about making room for ever-higher numbers. This is also about directing these numbers in the right stream and sectors, to the appropriate kind of institution and towards a judicious mix of the various levels within higher education. Much of the expansion comes from, and much more needs to come from, hitherto marginalized sections of society, backward regions and villages. The challenge of excellence is not just about placing a few institutions and individuals at par with given international norms of quality. It is also about expanding the pool of institutions, scholars and students who can aspire to achieving excellence and redefining given standards themselves.

**2.Issues and Challenges in Relation to Equity and Inclusion**

Concerns of equity are central to the expansion of higher education in India. Historically, education in India had an elitist, and upper caste-centred basis. Higher education which is at the apex of the educational ladder is even narrower at the top since fewer students from the marginalised sections and groups graduate into it, due to either non-enrolment or high drop-out rate at the school level, high cost of education including opportunity cost, and inherent social biases in the system.

**Strategies of higher education**

1.The focus will be towards achieving higher access through expansion by consolidation and better utilization of the existing infrastructure, upgradation of the infrastructure as and where necessary, and creation of new institutions primarily to meet the objective of regional equity.

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2. The strategy for promoting equity at all levels and all branches of higher education, from enrolment to pass-out stage, shall be through new schemes for financial support of socially deprived groups, minorities and women, along with significant remedial support for such students and faculty.

3. The system of financial support to girl students and students from SC/ST, Minorities and Other Backward Category (OBC) category is proposed to be considerably enhanced at all levels of higher education and for all branches, including professional and technical education. Financial support will be expanded in the form of scholarships, transport/rent allowance, book banks, and fee-plusscholarship system for professional students.

4. There will be strengthening of infrastructure to provide access, and retention of women students, differently-abled students and students from socially deprived backgrounds.

5. .For promoting private sector participation in higher education, newer models based on quality shall be explored, supported and incentivized by well-defined policies, norms, and monitoring mechanisms.

**Higher Education and its Impact**

Social Change is not a mechanical process. It is clearly a human enterprise and like all human enterprises, its outcome will depend finally on the skill, the quality and the attitude of the men who undertake it. As the lower level skill cannot help generate greater output per worker than the higher level skilled workers, so rate of social progress and development depends naturally on the levels of education. Beyond this economic benefits of education, human enterprise and efficiency have their great social impact and values. Change is intrinsic to any creative function of an individual or an institution. Similarly, it is with education, which, if, it needs stimulation acceptance and creativity must undergo social transformation. The educational system in our country is undergoing many pedagogical as well as institutional changes.

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# THE NEED OF THE HOUR IS EDUCATION AND NOT THE SCHOOLING: PERSPECTIVE ON UNIVERSAL ELEMENTARY EDUCATION

Education that enhances human capital has a symbiotic relationship with economic development. It is not only important for economic growth but also for the complete realisation of the hidden endowments of an individual person. Education as a process involves different levels and elementary education is one among them. As it is the bedrock for the complete education of a person, it requires proper care and execution in its delivery.

**Education is fundamental:**

Education in any forms – be it formal or informal – is very basic for a dignified and prosperous human existence at an individual level. Every individual needs to have certain basic command over literacy and numeracy to function as a good citizen and fulfil the individual needs. It is clear education is both a fundamental need and right to everyone.

**Education for development:**

At collective level education plays a vital role in the economic growth and development of a nation. In case of elementary education, it lays a sound foundation which helps to form an individual capable of rising and sustain above the poverty line. The plain literacy and basic education rarely provide employment skills that can ensure a reasonable economic empowerment. The elementary education mealy ensures that children do not relapse into illiteracy and ignorance. It just provides a foundation that prevents them from the precarious state of falling below the poverty line again. Taking the human mind to a higher level is the only way to make possible all other development in health, agricultural innovation, infrastructure construction and private sector growth. To materialise these fruits the developing countries need to unleash the potential of the human mind through education. Education is effective in bringing economic development only when it could impart skill to individuals to eke out their livelihood without much hassle. This empowerment needs a strong foundation in the elementary education and the higher levels of education thereon. Anything short of this, inappropriate and inefficient in elementary education or abrupt termination and deprivation of higher level of learning, will not bring a desired effect on the life of an individual or a nation.

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**Elementary education in India:**

India as a nation committing to the cause of education feels that every child has a right to elementary education of satisfactory and equitable quality in a formal school which satisfies certain essential norms and standards. Therefore the Right of Children to Free and Compulsory Education (RTE) Act was passed in the year 2009. We have made considerable progress towards this goal. But in the light of above thinking on "enrolment" and "education" we are obliged to assess the strengths and weakness of our provision of education and to know where do we stand in terms of performances in the world context.

**Growth in enrolment**

India has considerably achieved in bringing children to school. The government has taken steps to improve the rate of enrolment over a period of time. Elementary enrolment has increased from 1343 lakhs in 2009 to 1370 lakhs in 2012 Nearly 30 lakh children are made to come to school after the Right to Education Act. This enrolment also includes the positive sign of growing female enrolment and retention of 76 per cent of the enrolled students till the completion of their primary education.

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# ENERGY CRISIS IN TAMILNADU

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**Growth in number of schools**

Government has taken steps to provide the necessary infrastructure to ensure free elementary education to the children in India. The chart reveals there is a continuous growth in the number of schools in the primary level and elementary level which includes both primary and upper primary level schools between the years 2004 - 2012.

**Growth in number of teachers and class rooms**

We have improved the infrastructure in elementary schools over the years. There is a considerable growth in the number of teachers per school in elementary level. There were times when the schools were run with single teacher per school. And even schools were run under trees without a building. The data shows a great achievement in the provision of teacher and a place for learning.

**The paradox of free education**

India has taken steps to provide free education to children below fourteen. But in spite of the efforts taken by the government it is found that still people spend on the education of their children at primary level. The data shows that the people spend on primary education which means still elementary education is not free.

**Quality of learning**

The worth of education depends on the integrity, fineness and capability of the teacher. The teachers need to be trained and equipped to deliver the pupil in a manner which make them productive. A study conducted by Pratham a NGO reveals that in India less than half of children surveyed in grade 5 could read a grade 2 level story, one in four could not read a simple sentence, and only slightly more than half could do subtraction.

**Conclusion**

The researches reveal that the level of skills in a workforce predicts economic growth rates far better than the average schooling levels. The level skills and values needed in children and youth cannot be developed without the foundational education provided by schools. It is essential to provide standard education to children rather than simply providing the inputs —such as school buildings, trained teachers, or textbooks— though it is crucial to a nation's educational progress. A clear mentioning of the presence or absence of a specific ingredient will help anyone to measure up to that level. This will certainly ensure the quality of the students. Along with the level of education the environment and the facilities that are essential for each level of education need to be expressed definitely for cross checking. The parameters should not be bereft of the social needs based on sound ethical principles.

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# A STUDY ON THE POWER CRISIS IN TAMILNADU

Energy has been universally recognized as one of the most important inputs for economic growth and human development. There is a strong two-way relationship between economic development and energy consumption. On one hand, growth of an economy, with its global competitiveness, hinges on the availability of cost-effective and environmentally benign energy sources, and on the other hand, the level of economic development has been observed to be reliant on the energy demand. Energy is one of the major drivers of a growing economy like India and is an essential building block of economic development. In an effort to meet the demands of a developing nation, the Indian energy sector has witnessed a rapid growth. Areas like the resource exploration and exploitation, capacity additions, and energy sector reforms have been revolutionized. However, resource augmentation and growth in energy supply have failed to meet the ever increasing demands exerted by the multiplying population, rapid urbanization and progressing economy. Hence, serious energy shortages continue to plague India, forcing it to rely heavily on imports.

## Objectives

1. To study the trend in the installed capacity, generation and per capita consumption.
2. To evaluate the generation of renewable and non-renewable energy sources.
3. To examine the demand-supply mismatch and its impact on various sectors.
4. To highlight on the strategies adopted by the Government.

## Scenario in Tamilnadu

Tamilnadu is the eleventh largest state in India by area and the seventh most populous state. The State of Tamilnadu is located in the southern region of India with installed electricity generation capacity of 18,382 MW (as on 31st January, 2013).

**Table 1 Time Series Data – Development of Energy in Tamil Nadu**

| Year | Installed Capacity(Mw) | Annual Gross Generation(Mu) | Purchases (Mu) | Percapita Consumption (Kwh) |
|---|---|---|---|---|
| 2000-01 | 7513 | 25147 | 16617 | 510 |
| 2001-02 | 7924 | 25562 | 18358 | 708 |
| 2002-03 | 8268 | 24929 | 21263 | 740 |
| 2003-04 | 9319 | 24114 | 25384 | 780 |
| 2004-05 | 9531 | 26450 | 25895 | 815 |
| 2005-06 | 10031 | 26915 | 29091 | 860 |
| 2006-07 | 10098 | 29481 | 33357 | 960 |
| 2007-08 | 10122 | 66848 | 37607 | 1000 |
| 2008-09 | 10214 | 66966 | 37984 | 1000 |
| 2009-10 | 10214 | 27860 | 45027 | 1080 |
| 2010-11 | 10237 | 25639 | 49351 | 1040 |

Source: TANGEDCO

The state constitutes 9% of the total installed electricity generation capacity of India which is mainly from fossil fuels such as coal and natural gas. Private sector has a 47% share in the total installed capacity, implying a healthy investment environment, renewable power forms 52% of the total installed capacity (including small hydro).

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**Generation capacity**

The total installed generation capacity of Tamil Nadu as on August 2012 was 17,686.37 MW in August 2012. Table 2shows technology- and ownership-wise status of the existing installed capacity.

**Table 2 Installed generation capacity (MW) in Tamil Nadu by fuel (August 2012)**

| Ownership sector | Thermal | | | Total thermal | Nuclear | Hydro | Renewable | Grand total |
|---|---|---|---|---|---|---|---|---|
| | Coal | Gas | Diesel | | | | | |
| State | 2970.00 | 523.20 | 0 | 3493.20 | 0 | 2122.20 | 118.55 | **5733.95** |
| Private | 250.00 | 503.10 | 411.66 | 1164.76 | 0 | 0 | 7304.29 | **8469.05** |
| Central | 2959.37 | 0.00 | 0 | 2959.37 | 524 | 0 | 0 | **3483.37** |
| Total | **6179.37** | **1026.30** | **411.66** | **7617.33** | **524** | **2122.20** | **7422.84** | **17686.37** |

Source: Central Electricity Authority [CEA]

As can be seen, the present installed capacity of 17,868.37 MW mostly consists of coal (35%), hydro (12%) and renewable energy (42%), mostly comprising installed wind power base of about 6,984 MW as on 31 March 2012 (source: Indian Wind Turbine Manufacturers Associations [IWTMA]). This makes wind the single largest power generation technology in Tamil Nadu in terms of installed base.

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**Impact of power shortage on various sectors**

**1. Agriculture**

The power crisis has dealt a severe blow to the agriculture sector in the state. Many rural areas experience power cuts ranging from 10 to 12 hours a day, crippling the agricultural operations. Due to the inadequate water supply in the water bodies, the farmers cannot utilize the groundwater as well due to the power shortage.

**2. Small Industries**

The industrial production capacity of micro, small and medium enterprises (MSME) in Tamil Nadu has declined by over 40 per cent in the past two years alone due to power crisis, and, if the trend continues, small industries will face a bleak future. According to a survey by the Union Ministry of MSME, the daily industrial production in Tamil Nadu has plummeted to around Rs. 600 crore this year from Rs. 1,500 crore last year. While Tamil Nadu has the highest per capita investment in the MSMEs and also the largest number of MSME units, it has slipped to the seventh position in terms of production efficiency. Combined with the power crisis, an acute shortage of skilled labour is also punishing the small units.

**3.Leather Industry**

Acute power crisis is threatening to cripple Tamilnadu's leather exports. Hundreds of companies in Tamil Nadu's leather belt have been hit by power shortages, leading to as much as a 25 per cent increase in production costs. Leather industry in Tamil Nadu is a major export industry; 90 per cent of it goes for export. Tamil Nadu is on the verge of losing its edge as India's leader in leather exports owing to this acute power shortage and it's no better across the state. From a 2000mw crunch a year ago, Tamil Nadu now suffers a deficit of 3000-4000mw, and a debt ridden Tamil Nadu Electricity Board (TNEB) is unable to manage the situation.

**Future Projections**

Increasing pressure of population and increasing use of energy in different sectors of the economy is an area of concern for India. Driven by the rising population, expanding economy, and a quest for improved quality of life, the total primary energy consumption is expected to be about 412 MTOE (million tonnes oil

equivalent) and 554 MTOE in the terminal years of the Eleventh and Twelfth Plans, respectively. Total capacity that will be added in the state from 2011-12 to 2015-16 is 7310 MW, out of which 1860 MW will come from the state sector, 4250 MW from the central sector and 1200 MW from the private sector.

The International Energy Outlook projects India's gas consumption to grow at an average annual rate of 5.1%, thereby reaching 2.8 trillion cubic feet by 2025 with the share of electric power sector being of 71% by that time. The use of coal for electricity generation in India is expected to increase by 2.2% per annum during 2010-25, thus requiring an additional 59 000 MW of coal-fired capacity. Oil demand in India is expected to increase by 3.5% per annum during the same time. Renewable energy sources offer viable option to address the energy security concerns of a country. Today, India has one of the highest potentials for the effective use of renewable energy. India is the world's fifth largest producer of wind power, Tamilnadu's contribution being the highest. There is a significant potential in India for generation of power from renewable energy sources— wind, small hydro, biomass, and solar energy. The Government of India is targeting a 20 fold increase in solar power generation to 20GW by 2022. The total target of renewable energy sources for the year 2014 is 4,325MW, out of which wind energy is 2500MW and solar energy covers 1100MW.

**Conclusion**

Electricity is a primary source of energy. Hence, availability of electricity to all segments of society at reasonable prices and at adequate level at all times is very important for development of the economy in the state. In order to meet this shortage and to keep in pace with the future requirements, the State Government has adopted few strategies in the sphere of generation, transmission, distribution and conservation. It is extremely important for the Tamilnadu Government to manage its power projects and also to ensure that private power projects would be managed very efficiently to reduce power shortage.

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# POWER CRISIS IN TAMILNADU

The Tamil Nadu government has come under heavy criticism for its failure to contain the power crisis in the state. While wind energy had provided a temporary two-month respite to citizens sweating it out in the summer heat, power cuts are now back in full force. Also: 9 power PSUs to donate Rs 25 cror for Uttarakhand relief Tamil Nadu is bracing for dark days ahead; already reeling under a peak power shortage of 4000 MW, the Central Electricity Authority now expects the states deficit to increase to 5099 MW in 2013-2014. As the combined impact of poor planning, lack of infrastructure, a bleeding state electricity board (SEB) and non commissioning of new projects by both public and private sectors, render Tamil Nadu powerless,"It's a combination of planning and execution which has not been properly factored into. The result of which is that now we have moved from power surplus to power deficit state." Tamil Nadu's failure to recharge its wind energy sector. Despite being the largest base for wind energy in India, the state reported a 91 per cent drop in attracting investments for the sector from Rs 7,000 crore in 2012-13 to just Rs 600 crores this year. While wind energy had helped reduce power cuts over the last two months; infrastructure bottle necks and non-payment of dues by Tamil Nadu Electricity Board (TNEB) to wind firms meant the respite was only temporary.

"Roughly about 30per cent of electricity that goes into the system comes from wind but we can give more because 7000 MW with plant load factor which is very high during the high wind season, we can give about 5000-6000 MW. Rest is going waste because transmission system is not there. To tide over the power crisis, the state government now plans to invest over Rs 67,000 crore in various generation and transmission projects; with Rs 3410 crore investment announced this month itself. The government hopes to add 6000 MW of power in the next two years. Additionally it plans to purchase 1000 MW of power daily from the open market for the next 15 years. It is also in the process of partially bailing out the TNEB from its massive Rs 53,000 crore debt. However, as of now there is no immediate respite for industry and residents in the state, who are still subjected to daily power outages.

**The major reasons for the power crisis in Tamil Nadu are the following:**

**1. Lack of long term vision:**

The following states demonstrates how the gap between requirement and availability of power in Tamil Nadu has altered significantly in comparison with other industrialized states between 2003-04 and 2010-11. Comparing this with the situation in 2003-04, it can be seen that the status of deficits in most of the states was the same, except in Tamil Nadu and Andhra Pradesh. Tamil Nadu, in particular, only had a deficit of around 1per cent in 2003-04. This deficit has been increasing rapidly, especially in the last five years. Anticipating a huge increase in demand, driven by economic growth, states such as Maharashtra, Gujarat and Andhra Pradesh put in added efforts to increase the availability of power. This was done both by increasing own capacity and by encouraging private investment in power generation. On the contrary, such a long term vision to increase availability of power was absent in Tamil Nadu.

**2. Overdependence on external sources:**

There are five main sources of power in a state – own generation, central allocation, power purchased from others, short term power from the exchange and other sources (including wind mills). among all the states, Tamil Nadu is the most dependent on outside sources. Further, installed capacity in Tamil Nadu increased from around 13,000 MW at the end of the 10th plan to around 14,700 MW in 2010-11,

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representing an increase of around 12per cent. This represents the least capacity addition among all the states in this period.

**3. Overdependence on wind energy:**

All the capacity additions in Tamil Nadu were in private wind generation, which, as mentioned before, is highly seasonal. TNEB has been forced to give power at subsidised rates incurring heavy losses to the tune of round 50000 crores. Moreover, due to these losses private players like windmill owners have not been paid for the electricity generated for the last two or three years. So they have stopped supplying to TNEB as well.

**Action taken by the government**

TamilNadu state by increasing tariffs, launching new projects, unveiling an ambitious solar policy and approving the bailout of the state utility. Yet, Tamil Nadu continues to be hobbled by a lack of adequate reforms, say those in the industry. The state government does provide subsidies to its generation and distribution utility. In 2010, the former regulator Kabilan said, it was suggested to the state government that regional autonomous distribution companies be created in Chennai, Vellore, Madurai and Coimbatore to ensure efficiency. Tamilnadu government raised power tariffs by 37 per cent this year, an increase that has come about for the first time in eight years. Between those years, 2003-11, the average revenue realised increased just 3.4 per cent while the cost of supply increase by 11.5 per cent.

**Conclusion**

The use of energy in India is highly as well as Tamilnadu also is skewed in favour of the urban elite and social priorities are not prominent in influencing its consumption. In the perspective of the growing energy scarcities that lie ahead, considerations of efficiency, equity and ecological sustainability will have to be enforced in order to redress inequalities and correct distorted priorities. In such a context, energy conservation is of fundamental importance. Energy conservation in its widest sense involves the efficient production, distribution and use of energy, the application of social priorities in energy development and utilization, and the pursuit of energy policies that are ecologically appropriate. The development of conventional and non-conventional commercial energy sources will require high technology and large investments in which the states resources will need substantial supplementation by the centre. On the other hand, rural energy problems and energy conservation are tasks that involve decentralized participatory action at the micro level. Policy and action are thus indicate on several fronts and at several levels. These will demand political, technical, and administrative leadership of a high order on the part of the state Government.

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# ENERGY CRISIS OF TAMIL NADU

In India, Tamil Nadu is the only state where one-third of the installed power comes from renewable sources. The present installed capacity of 17,868.37 MW mostly consists of Coal (35%),Hydro (12%) and Renewable Energy (42%). Tamil Nadu's higher percentage of renewable energy comes from the fact that State has geographic conditions that are suitable for harnessing such sources of energy. The government is also supporting by taking proactive steps to tap various sources of energy through policy framework and research. Tamil Nadu constitutes 9% of the total installed electricity generation capacity of India, which is mainly from fossil fuels. The private sector has a 47% share in the total installed capacity. Renewable power forms 52% of the total installed capacity (including small hydro). The total renewable energy potential here is over 720,000 MW (including grid connected and off-grid power), according to World Institute of Sustainable Energy (WISE).The Tamil Nadu Electricity Board (TNEB), a state sector enterprise, is the main energy provider and distributor in the state. TNEB was formed in 1957, and continued to be the sole energy provider and distributor in the state till 2008. After that, due to mandatory requirements of the Electricity Act 2003, the state reorganized TNEB by establishing TNEB Ltd and two subsidiary companies namely Tamil Nadu Transmission Corporation Ltd (TANTRANSCO) and Tamil Nadu Generation and Distribution Corporation Ltd (TANGEDCO). TANTRANSCO took care of electricity transmission. TANGEDCO was into both electricity generation and distribution.

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**Position of Tamilnadu in Electricity and Reason for Energy Crisis**

Electricity is a primary source of energy. Hence availability of electricity to all segments of society at reasonable price and at adequate level at all times is very important for development of the economy in the state. The demand for power is mainly due to population and economic growth, which reflects growth process – taking place in the primary, secondary, and tertiary sectors. Power development is one of the key inputs for the overall economic development of a state. It has been estimated by the World Bank that the demand for power will grow by nearly twice the rate at which the economy grows. Therefore adequate provisions have to be made for augmenting power supply to bridge the gap between demand and supply as well as to meet the increasing future demand.Customers for electricity are classified as Domestic, Agriculture, Commercial, Industrial, and Others. There is a major government initiative to provide free supply of electricity to the agriculture sector as well as for SC/ST households. Table 1 gives us the growth pattern of different consumers served in the state from the years 2004–2009.

Establishment of new industries and also migration of work force from other places into Tamil Nadu, has increased the demand for power over the years. When compared to 2007–2008 commercial consumer has increased by 0.2% and others (free electricity provided by the government) have increased by 0.1% in 2008–2009. To meet the demand TNEB also increased generating capacity every year from all sources. The total installed generation capacity of Tamil Nadu is 15,100 Mega Watts till 2009, but it failed to meet the need of electricity among public, hence there arose Energy crisis.

**Other reasons for Energy Crisis in Tamilnadu are**

1. Poor Utilization of Electrical Equipments
2. High Transmission Losses
3. Power Theft
4. Delay in Commissioning of Power Project
5. Shortage of Coal

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6. Faulty Planning and Plant Outages

**Energy Deficit/ Crisis in Tamil Nadu**

Energy deficit in Tamil Nadu was 3% in FY 08 and is projected to increase to 30% in FY13.Despite 18,382 MW of installed capacity, the state is struggling to fulfill its demand. Most of the districts face long power cuts for over six hours. Between April 2012 and February 2013, the energy and peak shortage of power in Tamil Nadu were 17.4 per cent and 12.3 per cent respectively. According to the 2011-12 policy note of the Tamil Nadu Electricity Board (TNEB), for financial year (FY) 2010-11, the deficit during peak hours (1800 hrs to 2200 hrs) ranged from 140MW to 3400 MW. During the day it ranged between 1700 MW to 3700 MW. The policy note also mentioned that gross energy consumption for the same year was 77,218 million units (MU). Of this, state-owned generating stations contributed to 27,941 MU, while 49,277 MU was purchased from central generating stations, wind, open market, exchanges, etc.

**Some of the measures are highlighted below:**

- 40 per cent cut on base demand and energy for high tension (HT) industrial and commercial services
- Daily two hour load shedding in Chennai and its suburbs, and four hours in other areas
- A nine-hour (six hours during day time and three hours at night) three-phase supply for agricultural services
- HT industrial and commercial consumers are not allowed to draw more than 10% power from the grid during evening peak hours (1800 hrs to 2200 hrs) for lighting and security purposes
- Introduction of power holiday to all HT, low tension (LT) and low-tension current transformer (LTCT) industries for one day between Monday and Saturday on a staggered basis.
- In addition to above mentioned points, all HT industries are required to declare Sunday as a weekly holiday
- All HT industries are permitted to procure power through both inter-state and intra-state open access (Source: Policy Note 2012-13).

According to Deepak Krishnan, Manager, Deloitte, "In the past, power generation capacity additions of conventional technologies in Tamil Nadu have fallen significantly short of government targets resulting in a huge power deficit scenario. The primary reason for continuous losses is the high power purchase cost to meet demand. This is a result of generation projects not adhering to timelines. They are forced to rely on costly power purchase from IPPs which rely on imported coal."

**Conclusion**

The Government of Tamilnadu has taken many steps in order to overcome the energy crisis in state, even peoples have launched many ideas to get rid of this energy crisis such that in Arcot, 265 units of Electricity is produced by the cost of Rs.46 Lakhs by using the wastes of vegetables, and other natural wastes, and many suggests that Public Private Partnership can be played vital role in enlightening the present situation from the worse core. In this way it is better to find the alternate method to produce energy that is vital to run our day to day life.

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# ENERGY CONSUMPTION PATTERN OF RURAL HOUSEHOLDS IN MANUR BLOCK OF TIRUNELVELI DISTRICT

Energy is an important input in all sectors of the economy of any country. The standard of living of a given country can be directly related to per capita energy consumption. Presently, energy crisis has become the major concern all over the world because of two reasons. The first, the population of the world has increased rapidly and the second, the standard of living of human beings has increased. The per capita energy consumption is a measure of the prosperity of the nation. Indian households use both commercial and non-commercial energy sources inefficiently. In most cases the usage is supported by easy availability and low prices of the commodity. Average fuel efficiency for cooking is estimated at 8 percent for biomass, 18 percent for coal, 25 percent for charcoal, 45 percent for kerosene, and 50 percent for gas and LPG.

## Objectives of the Study

The specific objectives of the study are:

1. To understand the present pattern of energy use in rural households;
2. To identify the determinants of energy consumption in rural households;
3. To suggest a rational pattern of energy use and solutions to problems associated with it.

## Methodology

The present study was carried out in the Manur block of Tirunelveli district. In the Manur block there are 10 revenue villages namely Alagiapandipuram, Ettankulam, Kalakkudi, Kattarangulam, Kurichikulam, Manur, Mavadi, Therkkupatti, Ukkirankottai and Vagaikulam and all the 10 were taken for the study. From each revenue village a sample of 12 rural households was taken for this study. Thus, a total of 120 rural households were selected for statistical investigation. The data collected were carefully processed, edited and tabulated for analytical purposes. The study is a cross-sectional one, mainly based on primary data. The field investigation was carried out during the period August 2013 to September 2013, which is the normal period. In this study, various statistical tools such as correlation, 't' test, Multiple Regression Analysis are used.

## Results and Discussion

### Pattern of Gross Energy Consumption – Total Sample

The sample households use different types of fuels for different purposes. The pattern of energy use differs according to the level of consumption, the purposes for which energy is used and so on. The amount of energy used by the households is discussed in terms of quantities, calorific values and costs of different fuels. Specially, it examines the consumption of total energy and its components, e.g., electricity, kerosene, petrol, diesel, L.P.Gas, firewood, dung cake and agricultural waste. This section is devoted to discuss the pattern of domestic energy consumption of the sample as a whole. The total gross energy is calculated with the help of the standard conversion factors of domestic fuels into energy units (Annexure - I). The pattern of energy consumption of sample households is depicted in Table 1. It can be seen from the table 1 that the energy consumption of the sample households is 48.43 Giga Joules (GJ)[1] of energy for domestic purposes and its estimated value is Rs.1.20 lakhs per year. Out of the total energy used (in terms

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of MJ) firewood constitutes 60.12 percent and thus it is the major fuel used in the sample households. Electricity is the next important fuel, accounting for 23.36 percent of the total energy use it. Agricultural waste comes next constituting 7.04 percent of the total energy used. L.P. Gas accounts for 3.93 percent of the energy used by the households. Kerosene forms 3.11 percent of the total energy used. Petrol and diesel consumed by the personal vehicles of the sample households share 1.29 percent of the total energy consumed, while the share of cow dung is 1.14 percent. The share of dung cake is found to be minimum and that of firewood is found to be maximum. The reason is that the supplies of firewood make the people use more firewood and the use of dung cake is minimum due to its better use in agriculture as manure. No sample household is found using solar or wind energy for domestic requirements. The people consume plenty of firewood because it is freely available.

**Per Capita Use of Fuels**

Table 2 shows that per household and per capita consumption of different fuels. Table 2 reveals that, on an average a household uses firewood (2.13 kg), agricultural waste (0.25 kg), electricity (0.83 kwh), kerosene (0.11 litre), petrol and diesel (0.04 litre), cow dung (0.04 kg) and L.P.Gas (0.14 kg) per day. In the present study, the per household per day use of L.P. Gas is 0.14 kg which shows that only a limited number of households use L.P.Gas. The use of petrol and diesel is 0.04 litre per day. There are a very few households using petrol for transport purpose. The per day use of dung cake is 0.04 kgs due to the limited use by the households and hence their shares are negligible. Moreover, the use of firewood is around 2.13 kgs per day, which is less when compared to the earlier studies. The reason is that households make use of agricultural waste and kerosene for cooking purposes along with firewood. A more or less similar pattern is observed in per household per annum, per capita per day consumption of various sources of energy.

**Energy and Family Expenditure**

There is some relationship between energy and family expenditure. The family expenditure is classified into three heads like food expenditure, non-food expenditure and energy expenditure. The annual average food expenditure per household was Rs.10,729.73 and non-food expenditure (other than on energy) was Rs.6,671.47. That is, the food and non-food expenditure formed 57.72 percent and 35.88 percent of the total expenditure respectively. The annual expenditure on energy stood at Rs.1190.55, which formed 6.40 percent of the total family expenditure. A household, on an average, consumed 4.04 MJ of energy and spent Rs.1.19 on energy for a rupee of food expenditure. Likewise, a household consumed 2.86 MJ of energy and spent Rs.0.06 on energy, for a rupee of total expenditure.

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**Table: 4 - Regression Coefficient of Energy Consumption**

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .749 | .601 | .593 | 1042.33272 |

a Predictors: (Constant), Sf, In, Ed, Pr

**ANOVA**

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Regression | 2.18E+08 | 3 | 72516349.87 | 66.746 | .000 |
| Residual | 5.05E+08 | 117 | 1086457.491 | | |
| Total | 7.23E+08 | 120 | | | |

a Predictors: (Constant), Sf, In, Ed, Pr b Dependent Variable: Ec

**Coefficients**

| | Unstandardized Coefficients B | Std. Error | Standardized Coefficients Beta | t | Sig. |
|---|---|---|---|---|---|
| (Constant) | 22.695 | 56.560 | | 8.514 | .000 |
| Sf | .982 | 1.351 | .437 | 2.755 | .000 |
| In | 6.644 | 2.085 | .385 | 7.290 | .000 |
| Ed | 1.038 | 6.135 | .642 | 1.931 | .001 |
| Pr | 0.462 | .976 | .135 | 1.190 | .001 |

a. Dependent Variable: Ec

The calculated 'F' value is 66.746 and it is significant at 5 per cent level. So it is concluded that the data of the variables are good fit, and overall the variables Sf, In, Ed and Pr are linear. The regression coefficient of size of family, significant at 5 percent level has a positive influence on energy use. The value of regression coefficient suggests that other things being constant, an increase in the size of family by one adult person will lead to an increase in the yearly use of energy by 0.982 GJ. Among the factors influencing the use of energy, size of family is the second important. It is obvious that the quantity of food to be cooked increases as the size of family increases. Hence, the energy consumption has a greater degree of responsiveness to the size of the family. The correlation matrix pertaining to the variables is presented. The correlation coefficients give the first indication of which variables are correlated and to what extent, with what sign and how significant. For example the price of energy is correlated with the size of the family, income and education of the head and not all should be used simultaneously to explain the association. The correlation coefficient between the education of the head and income level of energy is as very high as 0.626. It is significant at five percent level. Secondly the correlation coefficient between price of energy and education of the head is as high as 0.564. It is significant at one percent level. The price of energy is significantly and positively related to the variable energy consumption (0.248), size of family (438), income 413) and education of the head (0.564). The results show that correlations among the selected variables are as expected on a priority grounds.

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**Recommendations**

- The following proposals and energy planning recommendations are proposed for an effective, efficient and productive energy use pattern in the immediate future.
- A special programme for improving the construction of kitchen has to be included in the existing household energy programmes.
- Awareness of kitchen hygiene, ventilation and maintenance of store should be brought to the person responsible for cooking through audio–video visual media.
- There is also a need to provide investment support or subsidies to investment in renewable energy sources.
- The government is advised to set up plantations of the best species of wood. A typical example is the *Anogeissus leicarpus,* commonly called 'mark'.

- The households should avoid the reheating of food to save not only energy but also the nutritional value of food.
- Women should be involved in planning of household energy issues as a means of getting a more realistic scenario of the end-users of household energy.

**Conclusions**

At the outset, it should be stated that the empirical investigation into the energy scenario of the villages of Manur block in Tirunelveli district has helped to take this research work. The study reveals that in the villages of Manur block, bio-fuels are the dominant fuels satisfying a large part of the energy requirements. In the villages of Manur block crop residues, rather than firewood are the chief fuel. Energy purposes, in this study area household depend on forests, farm lands and home gardens for firewood. The conclusion reached is that energy consumption can be reduced using improved heating and cooking ovens with greater efficiency. Among the rural households, people belonging to high income brackets still cling to non-commercial energy sources despite their obvious disadvantages because their every day need for heat energy to prepare feed for animals and food for men and women in their employ is always on the increase.

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# AN ECONOMIC ANALYSIS OF SOLAR ENERGY IN SALEM DISTRICT

## Introduction

Energy is a driving force to foster economic, social and health condition. Energy effect all the dimensions and supporting pillars of sustainability. All of these supporting pillars namely Environment, Social and Economic should go hand in hand without compromising on its ability for the future generation to satisfy their own need. Every energy generation and transmission method affects the environment. As it is obvious conventional generating options can damage air, climate, water, land and wildlife, landscape, as well as raise the levels of harmful radiation. Renewable technologies are substantially safer offering a solution to many environmental and social problems associated with fossil and nuclear fuels. Renewable energy sources also called non-conventional energy are sources that are continuously replenished by natural processes. For example, solar energy, wind energy, bio-energy, and bio-fuels grown sustainable hydropower etc., are some of examples of renewable energy sources. A renewable energy system converts the energy found in sunlight, wind, falling-water, sea-waves, geothermal heat, or biomass into a form, can use such as heat or electricity. Most of the renewable energy comes either directly or indirectly from sun and wind and can never be exhausted and therefore they are called renewable. Renewable energy sources are essentially flows of energy, whereas the fossil and nuclear are, in essence, stocks of energy. There are various forms of renewable energy available such as solar energy, Wind energy, Bio energy, Hydro energy, geothermal energy, Wave and tidal energy. India gets more than 5000 trillion kwh of solar energy, every year.

## Materials and Methods

The researcher highlights the solar energy position instead of electricity in India and further narrowing down to Tamil Nadu ending with the micro study of Salem District. This study attempts to find out the whether the solar energy power plants are economically viable to the users. The study based on both primary and secondary data, the primary data been collected through interview and questionnaire method. The total sample size is 64 users of solar energy plan. For the selection of samples; the purposive sampling technique has been adopted. The secondary data collected from the Records of Pallavan Grama Bank, Salem, during the period 1998 to 2013. The present study covered 10 areas of Salem District, viz., Sivathapuram, Tharamangalam, Nangavalli, Steel Plant, Omalur, Arisipalayam, Fairlands, Nethimedu, Korimedu and Old Suramangalam.

## Statistical Tools

Paired sample test used to compare the significant relationship between before and after installation of solar energy technology in the study area. It gives clean impact of solar energy instead if electricity on the economic analysis of Salem District. In Salem district, there are several solar power system companies are involved to install the power plant systems. The famous companies are Tata power solar, My solar, Bharat Power Engineer, Shanmuga Solar Energy and Balaji Solar Technologies. NABARD recommended authorization to sanction subsidies and loans through Pallavan Gramma Bank, Salem for install the solar power plants system. According to NABARD, Jawaharlal Nehru National Solar Mission scheme, every model has different price level and subsidy. Solar array capacity differentiates from model of solar technology and price.

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## Table 1

## Total Number of Users and Cost of Solar Energy in Salem District (1998 to August 2013)

| Sl. No. | Areas | Users | Initial cost | Installation cost | Total cost |
|---|---|---|---|---|---|
| 1 | Sivathapuram | 10 | 195000 | 419000 | 614000 |
| 2 | Tharamangalsam | 4 | 82000 | 160000 | 242000 |
| 3 | Nangavalli | 4 | 171000 | 260000 | 431000 |
| 4 | Steel plant | 13 | 524000 | 1150000 | 1674000 |
| 5 | Omalur | 6 | 185000 | 385000 | 570000 |
| 6 | Arissiplaayam | 10 | 303000 | 613500 | 916500 |
| 7 | Fairlands | 6 | 489000 | 940000 | 1429000 |
| 8 | Nethimadu | 5 | 158800 | 355000 | 513800 |
| 9 | Korimadu | 2 | 112000 | 200000 | 312000 |
| 10 | Old suramangalam | 4 | 52000 | 150000 | 202000 |
| | **Total** | **64** | **2271800 (33)** | **4632500 (67)** | **6904300 (100)** |

Source: *Records of pallavan Band 1998-2013*. Note: *Figures in Parentheses are percentages.*

Table 1 shows the total number of users and Cost of Solar Energy in Salem District during the period 1998 to August 2013.

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## Table 2

## Performance of Solar Power Plant in Salem District

| S.No. | Name of the Blocks | No. of users | Installed period | Electricity bill before launching solar energy | | Electricity bill after launching solar energy | |
|---|---|---|---|---|---|---|---|
| | | | | Year | Total bill in (Rs.) | Year | Total bill in (Rs.) |
| 1 | Arisipalayam | 1 | 2005 | 2003-04 | 10895 | 2012-13 | 8785 |
| | | 2 | 2008 | 2006-07 | 10922 | 2012-13 | 7031 |
| | | 3 | 2008 | 2006-07 | 9784 | 2012-13 | 7088 |
| | | 4 | 2008 | 2006-07 | 15072 | 2012-13 | 10283 |
| | | 5 | 2008 | 2006-07 | 11429 | 2012-13 | 8869 |
| | | 6 | 2009 | 2007-08 | 16118 | 2012-13 | 13353 |
| | | 7 | 2013 | 2011-12 | 14489 | 2013 | 2968 |
| 2 | Steel plant | 1 | 2004 | 2002-03 | 23395 | 2012-13 | 16910 |
| | | 2 | 2005 | 2003-04 | 17156 | 2012-13 | 12891 |
| | | 3 | 1998 | 1996-97 | 10363 | 2012-13 | 7685 |
| | | 4 | 1998 | 1996-97 | 12000 | 2012-13 | 8665 |
| | | 5 | 2012 | 2010-11 | 7704 | 2012-13 | 5983 |
| | | 6 | 2013 | 2011-12 | 6443 | 2012-13 | 2170 |
| 3 | Tharamangalam | 1 | 1998 | 1996-97 | 8083 | 2012-13 | 6556 |
| | | 2 | 1998 | 1996-97 | 9633 | 2012-13 | 7128 |
| | | 3 | 2002 | 2000-01 | 7963 | 2012-13 | 6425 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4 | Sivathapuram | 1 | 1998 | 1996-97 | 39400 | 2012-13 | 29934 |
| | | 2 | 1998 | 1996-97 | 29532 | 2012-13 | 20291 |
| | | 3 | 1999 | 1997-98 | 35184 | 2012-13 | 33840 |
| | | 4 | 1999 | 1997-98 | 45351 | 2012-13 | 36643 |
| 5 | Nangavalli | 1 | 1998 | 1996-97 | 3845 | 2012-13 | 8769 |
| | | 2 | 2009 | 2007-08 | 7901 | 2013-13 | 6792 |
| | | 3 | 2010 | 2008-09 | 11109 | 2012-13 | 8769 |
| 6 | Nethimedu | 1 | 2007 | 2005-06 | 10821 | 2012-13 | 8260 |
| | | 2 | 2007 | 2005-06 | 9771 | 2012-13 | 7660 |
| | | 3 | 2010 | 2008-09 | 17582 | 2012-13 | 11268 |
| 7 | Omalur | 1 | 2004 | 2002-03 | 9754 | 2012-13 | 7690 |
| | | 2 | 2004 | 2002-03 | 10304 | 2012-13 | 8150 |
| | | 3 | 2006 | 2004-06 | 9222 | 2012-13 | 6856 |
| | | 4 | 2006 | 2004-05 | 10000 | 2012-13 | 7178 |
| 8 | Old Suramangalam | 1 | 2007 | 2005-06 | 12971 | 2012-13 | 9761 |
| | | 2 | 2012 | 2010-11 | 11346 | 2012-13 | 9023 |
| 9 | Fairlands | 1 | 2004 | 2002-03 | 11898 | 2012-13 | 8800 |

Source: Primary Data.

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**Paired Samples Correlations**

| | N | Correlation | Sig. |
|---|---|---|---|
| Pair 1 Before solar enerty & After solar energy | 64 | .942 | .000 |

**Paired Samples Test**

| | | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|---|---|---|---|---|---|---|---|---|---|
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | | Lower | Upper | | | |
| Pair 1 | Before solar enerty - After solar energy | 4189.15625 | 3238.27161 | 404.78395 | 3380.26007 | 4998.05243 | 10.349 | 63 | .000 |

The above table reveals that there is significant difference between before and after installation of solar technology in the study areas. The Sig (2-tailed) value is 0.000.

## Conclusion

Solar energy has huge potential and its use is growing fast, yet in many quarters it is still viewed with concern about costs and doubts over efficacy. All countries and economies stand to gain by understanding solar energy's potential to fill a very large part of total energy needs economically, in a secure and sustainable manner in the future. It can also help to reduce the Green House Gases (GHGs) that threaten irreversible climate change for the planet. To that end an environmental impact assessment for central solar systems, which should estimate the magnitude of potential environmental impacts and propose appropriate mitigation measures, can play a significant role to proper project design and to a subsequent project public acceptance.

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# POWER SHORTAGE AND ITS IMPACT ON THE TAMIL NADU ECONOMY

The major challenge of the power sector is to continue with the reforms, improve the financial health of the utilities, to enable competitionand acceleration of economic growth while protecting the environment and, most importantly, to raise the comfort level of the comman man by making available quality and affordable power. Power developmentis the key to the economic development.Ever since the process of planned economic development began in 1950, the power sector has registered significant progress. During the six and half decade since independence, power generating capacity in the country has increased by more than fifty times. Electricity generation has increased by more than seventy times. In our country around 23 million farmers use subsidized electricity and about seventy million households are electrified. Electric power is one form of energy. It is recognized as one of the most essential ingredients of economic development. It powers almost all economic activities. It is positively correlated with economic development. That is why Prof. Homi Bhabha has asserted that " no power is more expensive than no power" (or power at any cost is better than no power.

***Objective of the Paper***

This paper attempts to look at the reasons for the growing power deficits in Tamil Nadu. In particular, the objectives of this paper are twofold:

- To analyse the current power situation in Tamil Nadu and identify areas in which Tamil Nadu can improve.
- To analyse the future power scenario in the state and estimate the power deficit/surplus in 2015-16.

**Requirement versus Availability of Power**

Tamil Nadu is expected to have a deficit of around 18%, which was the highest among all the States considered. Maharashtra and Andhra Pradesh are also expected to have a high deficit of 11% followed by Gujarat with an 8% deficit. Rajasthan and West Bengal on the contrary are expected to perform well with Rajasthan displaying a perfect balance and West Bengal having a large surplus of 16%. Comparing this with the situation in 2003-04, it can be seen that the status of deficits in most of the states was the same, except in Tamil Nadu and Andhra Pradesh. Tamil Nadu, in particular, only had a deficit of around 1% in 2003-04. This deficit has been increasing rapidly, especially in the last five years as can be seen from the following table

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**Table No:I Power Deficits in Tamil Nadu (2002-03 to 2010-11)**

| YEARS | POWER DEFICITS % |
|---|---|
| 2002-2003 | 6.0 |
| 2003-2004 | 1.4 |
| 2004-2005 | 0.6 |
| 2005-2006 | 0.6 |
| 2006-2007 | 1.7 |
| 2007-2008 | 2.8 |
| 2008-2009 | 7.8 |
| 2009-2010 | 6.2 |
| 2010-2011 | 18.4 |

**Source:CEA**

The reason for the huge deficits in Tamil Nadu is due to the lack of power availability. Anticipating a huge increase in demand, driven by economic growth, states such as Maharashtra, Gujarat and Andhra Pradesh put in added efforts to increase the availability of power. This was done both by increasing own capacity and by encouraging private investment in power generation. On the contrary, such a long term vision to increase availability of power was absent in Tamil Nadu. This is analysed in detail in the following section

**Demand for Power**

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**Table No:III Sector-Wise Power Consumption (2010-11)**

| SECTOR | CONSUMPTION PERCENTAGE |
|---|---|
| Agriculture | 20 |
| Industry | 40 |
| Commercial | 12 |
| Domestic | 24 |
| Public Utility | 2 |
| Others | 1 |
| Traction | 1 |

***Source: CEA***

**Table No:IV Sector -Wise Power Consumption (2015-16)**

| SECTOR | PERCENTAGE |
|---|---|
| Agriculture | 20 |
| Industry | 36 |
| Commercial | 14 |
| Domestic | 25 |
| Public Utility | 1 |
| Others | 3 |
| Traction | 1 |

*Source: CEA*

**Demand – Supply Gap**

The demand and supply projections presented in the above tables. In order to estimate power deficits/ surplus in the state in the next five year. The above table shows a deficit of around 13% in the year 2010-11, which is lower than the 18% deficit estimated by the CEA. As is expected, supply of power increases after 2011-12 and levels off after 2013-14. Due to the capacity additions in 2011-12, the state is expected to become power surplus in 2012-13. However, as can be seen from the figure, the lack of capacity additions after 2013-14, again lead to power deficits. In 2015-16, it is estimated that Tamil Nadu will have a power deficit of around 11%.

**Reasons for Power Shortages**

High Aggregate Technical and Commercial Losses (AT& C Losses), Poor Financial Health of DISCOMs, Shortage of Fuel, Low Plant Load Factor

**Suggestion and conclusion**

The major challenge of the power sector is to continue with the reforms, improve the financial health of the utilities, to enable comptetition and acceleration of economic growth while protecting the environment and, most importantly, to rise the comport levels of the comen man by making avilable quality and affordable power.

**A detailed list of policy recommendation or suggestions is provided below:**

- Increase capacity of installed sources- this step is the most obvious measure.
- To cater to the growing power demand, implementation of smart grid is the only way forward. Further, a process to curb over drawing of power must be set in place.
- The Electricity Act had mandated the grant of open access option to the consumers, which will allow all the bulk consumers to choose their distributors.
- Use of alternate sources of power generation must be encouraged.
- Create industrial co-operatives that can source electricity or have a dedicated captive generation source.
- Encourage industry usage of alternate sources of power in place of conventional methods of back-up power.
- Require different types of industrial units to post requirements of electricity. Impose stricter fines and higher penalties if a company with the poster normal requirements exceeds that load.
- Investment in technology that will reduce transmission losses. This includes scheduled maintenance of transmission lines and power plants. Privatization of the installation, management and maintenance of these power lines can help relieve the government of some financial and manpower burdens.

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# WIND ENERGY SCENARIO IN TAMIL NADU – A BRIEF OUTLINE

Winds are caused by the uneven heating of the atmosphere by the sun, the irregularities of the earth's surface, and rotation of the earth. The earth's surface is made of different types of land and water. These surfaces absorb the sun's heat at different rates, giving rise to the differences in temperature and subsequently to winds. During the day, the air above the land heats up more quickly than the air over water. The warm air over the land expands and rises, and the heavier, cooler air rushes in to take its place, creating winds. At night, the winds are reversed because the air cools more rapidly over land than over water. In the same way, the large atmospheric winds that circle the earth are created because the land near the earth's equator is heated more by the sun than the land near the North and South Poles. Humans use this wind flow for many purposes: sailing boats, pumping water, grinding mills and also generating electricity. Wind turbines convert the kinetic energy of the moving wind into electricity. Wind Energy, like solar is a free energy resource. But is much intermittent than solar. Wind speeds may vary within minutes and affect the power generation and in cases of high speeds- may result in overloading of generator. Energy from the wind can be tapped using turbines. Setting up of these turbines needs little research before being established.

**Review of Literature:-**

In pursuit of understanding the Power Sector, the authors have reviewed the following related literature **Ronald Rosenberg (2007)** "Making Renewable Energy a Reality"— the paper finding ways to site wind power facilities. **Jayabalan (2010)** "A study on power scenario in Tamil Nadu" in his research work had in length and breadth analysed the reality of power sector in Tamil Nadu. Further it has been recorded by the author that the Coimbatore district is a pioneer in demonstrating the uses of gasifiers for power generation to operate water pumps with 100 percent producer gas engine. **Saroj Gupta (2011)** "Sustainable wind energy system: Role of energy policy and security—cases study from India" This study reviews the development of wind energy in India and diffusion prospects of wind energy in six Indian states.

**Objectives of the Study:**

1. To understand the wind energy scenario in India in general and Tamil Nadu in particular.
2. To assess the status of wind energy in terms of availability and requirement in Tamil Nadu.
3. To suggest appropriate measures and polices to overcome the problems faced by wind energy producers in Tamil Nadu.

**Methodology:**

The present study is primarily based on secondary data. Information relating to the availability of energy, Renewable energy, wind energy and certain other details of energy were collected from the following sources: TANGEDCO, Planning commission report, New Delhi, Central statistical office, Ministry of New and Renewable energy, New Delhi, Report from C-WET

**Wind power Installations State wise:**

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Table 1

**Installed wind power capacity between 1/4/2011 and 31/3/2012.**

| States | Annual Installation (MW) | Cumulative Installation (MW) |
|---|---|---|
| Tamil Nadu | 1,083.5 | 6,987.6 |
| Gujarat | 789.9 | 2,966.3 |
| Rajasthan | 545.7 | 2,070.7 |
| Maharashtra | 416.75 | 2,733.3 |
| Karnataka | 206.7 | 1,933.5 |
| Madhya Pradesh | 100.5 | 376.4 |
| Kerala | 0 | 35.1 |
| Others | 0 | 3.2 |
| **Total** | **3,197.15** | **17,351.6** |

Source: C-WET, MNRE 2012

**Tamil Nadu tapping the wind resource:** The wind installed capacity of the state is 7134 MW as on 30.09.2012. This is 40% of the country's total wind installed capacity. Tamil Nadu has 31% of country's renewable energy installed capacity. Tamil Nadu is the pioneer in developing wind energy programme in the country. Tamil Naidu's all time high capacity addition of 1083.460 MW achieved in 2011-12. During the year 2011-12, renewable energy contribution to the grid stood at 14.9% of which wind energy alone contributed 12.6%. This explains the wind energy potential of our state. Tamil Nadu is endowed with three prominent passes having high wind potential, due to the tunneling effect during south West Monsoon.

Table 2

**Annual Average Wind speed (Km/hour) in Tamil Nadu.**

| Sl.No | Name of the Pass/Districts | Annual average Wind Speed (Km/hour) |
|---|---|---|
| 1 | Palghat Pass, Coimbatore, Erode | 18-22 |
| 2 | Shencottah Pass, Tirunelveli, Tuticorin | 18-22 |
| 3 | Aralvoimozhi Pass, Kanyakumari | 19-25 |
| 4 | Kambam Pass , Dindigul district* | 19-25 |

Source http://www.mnre.gov.in/prog-wind.htm

*Kambam Pass in Dindigul District has been identified as wind potential area in the recent past.

**Few Suggestions as Remedial Measures to combat the problems of wind power producers:**

· The wind capacity of all the states in southern region may be viewed as a whole and all the beneficiaries of SR may come forward to spare their spinning reserve so that one of the major problem faced in extracting maximum possible generation from wind in an economic way is solved. That is during heavy

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wind season the same shall be utilised fully by all the constituents of southern region by conserving their Hydro sources and vice versa.

· In addition to the above, to fully utilize the availability from Wind, necessary arrangements may have to be initiated to export the surplus wind power to the other regions at a reasonable rate so that it will be beneficial not only to the beneficiaries but to the nation by utilising the natural source and preserving the fossil fuel.

· Necessary transmission network enhancement may also have to be developed for smooth evacuation of wind power from sourther regions to other regions. The southern region power producing companies may study the above suggestions and come up with suitable remedial measures so as to utilise the natural resources in full till the implementation of availability based tariff (ABT) mechanism to Renewable Energy sources.

· Introduction of Real time Power Exchange to counter balance the variability of Wind Mass Storage system (Grid Scale Storage System) shall be introduced as ancillary service.

**Conclusion:** TANGEDCO which is facing a huge financial crises and is unable to carry out the evacuation work with its own or borrowned resources has requested MNRE to grant Rs.4160 Crores through "Clean Energy Fund", for completing evacuation projects of five 400 KV SS & about 540 KM of associated transmission lines. Central Electricity Authority has already recommended to MNRE for release of Rs.2752.397 Crores for Phase I & Rs.1407.825 Crores for Phase II scheme totaling to Rs.4160 crores. India is already one of the global leaders in wind power production. The delay in evacuation infrastructure strengthening will stall the growth of wind power in the state, thereby affecting the growth at the National level. To avoid the situation MNRE to support Tamil Nadu for speedy evacuation infrastructure works, by granting the required fund of Rs.4160 crores at the earliest, enabling development of onshore wind power projects in the state and also to provide exclusive fund for setting up of Wind Energy Management System (WEMs) towards wind forecasting & scheduling (the ultimate need for huge wind farms) for demonstrating the technology to the nation.

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# ENERGY CRISIS AND ALTERNATIVE SOURCE OF SUSTAINABLE WIND ENERGY IN TAMIL NADU

Wind Energy conversion is now a proven technology and has reached a level of sophistication that the system can be operated economically with a high degree of efficiency. The wind while passing through the windmill, converts its kinetic energy with the help of wind mill blades into mechanical energy and that mechanical energy is converted into electrical power by means of a generation. Being introduction type, the generator works with the help of the gird. Hence the wind mills are connected to the Electricity boards grid and the power generated is fed into the grid. The most important parameter is the location and characters of the windmill meet the needs in the least expensive and most efficient way.

**Methodology:**

This study paper essentially depends on secondary data for correct analysis. Wind energy related data were collected from the Tamil Nadu Energy Development Agencies (TEDA) and Center for Wind Energy and Technology(C-WET).

**Objectives:**

1. To study the scope and importance of Wind energy.
2. To study the growth of wind mills power generation in Tamil Nadu.

**Wind Energy in Tamil Nadu**

Energy development has been high priority by Tamil Nadu State over the plan periods. In Tamil Nadu, State Sector investment for power development has been very high; cumulatively upto the X plan, over 22 percent of plan expenditure has been devoted for the development of this vital infrastructure. There are a complex mix of energy sources available for use covering both conventional sources such as oil, coal, natural gas and non-conventional sources also called as renewable sources such as bio-mass, wind solar and hydel. However, electricity from coal and hydel is considered to be the most important form of energy which is convenient to transmit and use at our places of choice. Even though consumption of fossil fuels for generation of electricity is expected to last for many more years, fast depletion these resources and high cost of production and transport and environment damage make it imperative for exploiting renewable sources of energy as a major supplement to conventional sources. Government of Tamil Nadu is giving increasing attention to the harnessing of wind energy, solar energy and bio-energy. Tamil Nadu which is one of the highly potential states for wind power in the country and has been a pioneer in taping the perennial wind source for power generation. The potential available in the state was estimated by the ministry of non-conventional energy sources. Government of India at 2000 MW. Suitable places for wind farms have been identified in the Coimbatore district opposite to Palghat pass. Tirunelveli and Thoothukudi districts under the funding effect of Shencottah gap and Kanniyakumari district opposite to Aralvaimozhi. The policies and incentives in particular announced by the State Government had helped to develop wind power generation as a viable and cost effective technology. The wind energy can be used for pumping also apart from power generation.

**Performance of the Wind Energy**

Growth of wind mills power generation is encouraged by its ability to generate agricultural, industrial and service sector to increase the standard of living and its linkage effects with other sectors of the economy. Hence growth of wind energy is analyzed by studying the growth of wind power generation, as it is the

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main indicators of the growth of sustainable energy resources. The need for energy in developing economy can hardly be over- emphasized. It is basic required to sustain economic growth and to provide basic amenities of life to entire population of the country. The details of the growth of Wind mills power generations is presented in the following table.

**Wind Energy Capacity Utilization Factors and Generation in Tamil Nadu**

| Year | Total Generation (mu) | Capacity Factors in % |
|---|---|---|
| 2000-2001 | 1155.08 | 17.90 |
| 2001-2002 | 1095.84 | 16.01 |
| 2002-2003 | 1245.76 | 17.26 |
| 2003-2004 | 1305.50 | 16.73 |
| 2004-2005 | 1592.63 | 16.78 |
| 2005-2006 | 2113.65 | 15.77 |
| 2006-2007 | 3845.80 | 19.50 |
| 2007-2008 | 5301.01 | 19.93 |
| 2008-2009 | 6065.86 | 19.47 |
| 2009-2010 | 6206.00 | 17.91 |
| 2010-2011 | 8146.00 | 20.96 |
| 2011-2012 | 8623.48 | 21.50 |

Source: Center for Wind Energy and Technology

From the table, it is understood that the Wind Mills Power Generation in Tamil Nadu has increased from 1155.08(mu) during the year 2001 to 8623.48 in the year 2012. This shows that Wind Mills Power Generation is significantly increased in Tamil Nadu. The installed capacity of Wind Power has grown considerably from 857MW in 2001 to 6696MW in 2011-12. There is also further scope for adding 10.800MW by various promoters. At present, the Wind energy generation to the state is predominately from Udumalpet, Theni, Tirunelveli and Kanyakumari area. The power generated by these wind mills are being evacuated using the nearby existing substations of TANTRANSCO/TANGEDCO.

**Conclusion:**

A country, which has enormous supply of energy resources, can sustain its industrial development. Therefore, energy is considered as a critical infrastructure as far as economic development is considered. Energy is an essential input of all productive economic activities, and so the process of economic development inevitably demands higher levels of energy consumption energy demand of the different productive economic activities is met by different sources of energy. Tamil Nadu is one of the important states, in promoting wind power technology in India. In order to provide an impetus to the development of wind farms in Tamil Nadu, the Tamil Nadu energy development agency was formed during 1985 in Tamil Nadu. Many wind power development programmes have been launched in order to disseminate the wind power technology in all the wind abounding sites in Tamil Nadu. The several efforts made by the Government of Tamil Nadu and the Tamil energy development agency, Tamil Nadu is number one position in India.

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# A STUDY ON THE ENERGY CRISIS IN TAMILNADU

"Power is the foundation of all development today. Just the industrial revolution of the 18th century led to the Machine Age, the 20th century is now leading to the Power Age"

– Jewaharlal Nehru.

Energy is defined as the ability to produce change or do work, and that work can be divided into several main tasks easily recognize. "Energy produces Light, Energy produces Heat, Energy produces Motion, Energy produces Sound, Energy produces Growth and Energy produces Technology".

**Objective of the Study:**

The major objective of the present study is to analyse the energy crisis prevailed in Tamil Nadu and to find alternative solution to this crisis.

**Collection of Data:**

The data for the present investigation are collected from Web Portals, Books, Journals, Reports, and News Papers etc.

**Statistical tools used:**

For the purpose of analysis the investigator used simple arithmetic means, averages etc as statistical tools.

**Tamil Nadu Energy Consumption by sector, 2010:**

- Industrial 30.8% Top industrial sources like, Petroleum, Natural Gas, Electricity.
- Transportation 28.1% Top industrial sources like, Petroleum, Bio Mass, Natural Gas.
- Commercial 18.6% Top commercial sources like, Electricity, Natural Gas, Petroleum
- Residential 22.6% Top residential sources like, Natural Gas, Electricity, Petroleum.

**Table: 1**

| Renewable Energy/ Programme Systems | Wind Power | Bagasse Cogeneration | Biomass | Small Hydro Power | Solar Power (SPU) | Waste to Energy | Total |
|---|---|---|---|---|---|---|---|
| Cumulative Achievement (MW) | 7,134.00 | 659,00 | 167,15 | 90,05 | 17,00 | 4,25 | 7979,17 |

Date as of 30th September 2012, Source : TEDA

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**Energy Deficit:**

Energy deficit in Tamil Nadu was 3% in financial year- 2008 and is projected to increase to 30% in financial year-2013. Despite 18,382MW of installed capacity, the state is struggling to fulfill its demand. Most of the districts face long power cuts for over six hours. Between April 2012 and February 2013, the energy and peak shortage of power in Tamil Nadu were 17.4% and 12.3% respectively.

According to the 2011-12 policy note of the Tamil Nadu Electricity Board (TNEB), for financial year 2010-11, the deficit during peak hours (1800 hrs to 2200 hrs) ranged from 140MW to 3400MW. During the day it ranged between 1700MW to 3700MW. The policy note also mentioned that gross energy consumption for the same year was 77,218 million units, of this state owned generating stations contributed to 27,941MU, while 49,277MU was purchased from central generating stations, wind, open market, exchanges etc.

To address the present shortfall of about 1700-3700 MW at different times during the day, the state government took steps to manage the grid by using strong measures like curtailing the load. Another example of the energy deficit being faced appears in table: 2

**Table: 2**

| Tamil Nadu | Requirement (MU) | Availability (MU) | Shortage (MU) |
|---|---|---|---|
| Energy Units ( April-Nov 2012) | 61,218 | 50,776 | -10,442 |
| The information is from power shortage discussion in the parliament 20th December, 2012 | | | |

**Tamil Nadu Strategy for Energy Summary of Investments:**

| S. No | Projects | Rs. Crore |
|---|---|---|
| 1. | Ultra mega power projects | 50,000 |
| 2. | Case 2 bidding | 60,000 |
| 3. | Wind power | 25,000 |
| 4. | Solar power | 55,000 |
| 5. | LNG terminal | 20,000 |
| 6. | Gas grid | 20,000 |
| 7. | Transmission and Distribution | 200,000 |
| 8. | Investment in smart grid | 20,000 |
| | **Total** | **450,000** |

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**Conclusion:**

Energy crisis is burning issue in Tamil Nadu. A energy determines not only the life of an individual but also future of politician. It's, in this contest, needless to emphasis much on the importance of energy as primary source for increasing the output of Tamil Nadu economy and theirby increasing the employment opportunities for the millions of people. Energy conservation is more than the task of energy production. It's a bound duty of every individual to save energy, amidst the shortage of energy. The Government of Tamil Nadu has to concentrate more on finding alternative solution to the energy crisis by way of encorage the scientist and also administrator. "Delivering on the promise of a low-carbon economy means fostering renewable alternative to petroleum."

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# AN ANALYSIS OF ELECTRICITY CONSUMPTION AND PRODUCTION IN INDIA FROM 1991 TO 2011

Electricity has been universally recognized as one of the most important inputs for economic growth and human development. There is a strong two-way relationship between economic development and Electricity consumption. On one hand, growth of an economy, with its global competitiveness, hinges on the availability of cost-effective and environmentally benign energy sources, and on the other hand, the level of economic development has been observed to be dependent on the Electricity demand. India has recorded impressive rates of economic growth in recent years, which provide the basis for more ambitious achievements in the future. However, a healthy rate of economic growth equaling or exceeding the current rate of 8 per cent per annum would require major provision of infrastructure and enhanced supply of input such as energy. High economic growth would create much larger demand for energy and this would present the country with a variety of choices in terms of supply possibilities. Technology would be an important element of future energy strategy for the country, because related to a range of future demand and supply scenario would be issues of technological choices both on the supply and demand sides, which need to be understood at this stage, if they are to become an important part of India's energy solution in the future.

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## Objectives of the Study

The objectives of this paper are

1. To study the key features of power sector in India.
2. To study the different forms of energy used in India.
3. To study the demand and supply position of power in India.
4. To study the consumption pattern of power by various sectors in India.
5. To analyses the future power scenario in the state and estimate the power deficit.

## Data and Methodology

The study deals with total Electricity consumption and production in India from 1991 to 2011. Methodology adopted in the study is based on collection of secondary data's available from various sources. The sources of data include published and unpublished articles from internet, data from Central Electricity Authority (CEA) and Central Electricity Regulatory Commission (CERC), Statistical survey of India, Annual report of NTPC etc.

## Review of Literature

There exists an extensive literature on electricity demand projection, and different approaches are found. This section provides a brief review of those that have focused on India's electricity demand. One approach makes use of aggregate macro data at the country or sub-national/state level (for example, Bose and Shukla 1999, CEA 2007a). Examples include Pachauri (2004), Filippini and Pachauri (2004), and Tiwari (2000). These authors estimate price and income elasticities of electricity demand in the residential sector using household survey data. Filippini and Pachauri (2004) regressed household electricity consumption on household expenditure (as a proxy for income), the average prices of electricity and other

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fuels, and a set of other geographic (regional dummies) and socio-economic (such as household size and the age of the household head) variables. The approach used in this study is a variant of the microeconomic approach and is sometimes referred to as an end-use or bottom-up approach. As with the microeconomic approach, the end use approach makes use of micro-level data. While the former aims to analyze income-electricity demand relationship through a reduced-form equation, the latter examines the ownership and the use of household electricity-consuming devices and considers efficiency scenarios from an engineering point of view, as opposed to micro-economic/econometric.

**Findings of the Study**

1. *The study was found that Installed capacity in Tamil Nadu increased from around 13,000 MW at the end of the 10th plan to around 14,700 MW in 2010-11, representing an increase of around 12%. As shown in the table this represents the least capacity addition among all the states in this period. Other power deficit states such as Maharashtra and Gujarat have capacity additions of 53% and 21%.*

2. The study was found that *The substitution of electricity in place of coal is taking place due to high end-use of the former. The installed capacity of both hydro and thermal power has grown significantly from 1700 MW (550 MW of hydro and 1153 MW of thermal) in 1950 to 112058 MW (29500.23 MW of hydro, 77968.53 MW of thermal, 2720 MW of nuclear, and 1869.66 MW of wind) in 2004.*

3. Agriculture sector, commercials and railways. Comparing the yearly data it can be concluded that the overall requirements of the entire sector in increasing every year. Due to increasing demand of all these sectors India faces challenges for increasing the production capacity of electricity.

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**Conclusion**

The paper examined the trend of total Electricity consumption and production in India from 1991 to 2011. Power sector in India is characterized by shortage. Therefore there exists huge challenge in front of power companies to produce, regulate and integrate power system in India. Thermal power production in India still exists to be highest contributor in power sector. But with exhausting resources in the form of coal country must look forward for likely substitution in near future to come. In terms of efficiency power sector under the control of central government have the greatest PLF followed by private and state sectors. Indian Industries are the major consumers of electricity followed by Domestic sectors, Agriculture sector, commercials and railways. A combination of rapidly increasing electricity demand and fuel imports plus growing concern about economic and environmental consequences is generating growing calls for effective and thorough energy governance in India. Numerous policy reforms over the past 20 years have shifted the country's energy sector from a state-dominated system towards one that is based on market principles. The study explores in detail the policies, players and issues of the country's power, coal, oil and gas, renewable and nuclear sectors. It also highlights the key challenges India faces, challenges that must be resolved for the evolution of the fast-growing country's energy sector towards a sustainable energy future and eventually critical for the prospects of the Indian and global economies.

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# POWER CRISIS IN INDIA: CAUSES, CONSEQUENCES AND REMEDIAL MEASURES

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The need to ensure energy security in today's economic climate is imperative and urgent. Energy security is a critical component of regional stability and plays a key role in supporting economic development and national security. The fundamental energy challenges that individual countries face are energy security, climate change, and energy access. Electricity access in India, for instance, is only 67.0 per cent of the population. This means that there are almost 400 million people who are without service or underserved. In addition to these three challenges, the fourth major obstacle is capital mobilization for energy infrastructure investments. India's power market is the fifth largest in the world. The power sector is high on India's priority as it offers tremendous potential for investing companies based on the sheer size of the market and the returns available on investment capital.

## Objectives of the study

1. To identify energy gap (Demand and Supply imbalances) in India;

2. The promotion of Research and Development on various combinations of renewable energy technologies.

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## Power Supply Position India and Energy Gap during 2001-02 to 2011-12

| Year | Energy Requirement | Energy Availability | Energy Shortage | Energy Shortage (%) | Peak Demand (MW) | Peak Supply (MW) | Peak Shortage (MW) | Peak Shortage (%) |
|---|---|---|---|---|---|---|---|---|
| 2001-02 | 522537 | 483350 | 39187 | 7.5 | 78441 | 69189 | 9252 | 11.8 |
| 2002-03 | 545983 | 497890 | 48093 | 8.8 | 81492 | 71547 | 9945 | 12.2 |
| 2003-04 | 559264 | 519398 | 39866 | 7.1 | 84574 | 75066 | 9508 | 11.2 |
| 2004-05 | 591373 | 548115 | 43258 | 7.3 | 87906 | 77652 | 10254 | 11.7 |
| 2005-06 | 631554 | 578819 | 52735 | 8.4 | 93255 | 81792 | 11463 | 12.3 |
| 2006-07 | 690587 | 624495 | 66092 | 9.6 | 100715 | 86818 | 13897 | 13.8 |
| 2007-08 | 737052 | 664660 | 72392 | 9.8 | 108866 | 90793 | 18073 | 16.6 |
| 2008-09 | 777039 | 691038 | 86001 | 11.1 | 109809 | 96785 | 13024 | 11.9 |
| 2009-10 | 830594 | 746644 | 83950 | 10.1 | 119166 | 104009 | 15157 | 12.7 |
| 2010-11 | 861591 | 788355 | 73236 | 8.5 | 122287 | 110256 | 12031 | 9.8 |
| 2011-12 | 613869 | 569081 | 44788 | 7.3 | 127724 | 114233 | 13491 | 10.6 |

Source: Central Electricity Authority 2012

## Per- Capita Energy Consumption & Energy Intensity

Per-capita Energy Consumption (PEC) during a year is computed as the ratio of the estimate of total energy consumption during the year to the estimated mid-year population of that year. Energy Intensity is defined as the amount of energy consumed for generating one unit of Gross Domestic Product (At constant prices). PEC and Energy intensity are the most used policy indicators, both at national and international levels. In the absence of data on consumption of non-conventional energy from various sources, particularly in rural areas in the developing countries, including India, these two indicators are generally computed on the basis of consumption of conventional energy. The consumption of energy in peta Joules was in the form of Electricity which accounted for about 57.57% of the total consumption during 2011-12. Coal and Lignite were second (19.91%), while Crude Petroleum (18.75%) was third. .

**Reasons for Energy Crises:**

Sharp Increase in Demand:; Poor Utilization of Electrical Equipments: High Transmission Losses: Power Theft: Delay in Commissioning of Power Project,Shortage of Coal: Faulty Planning and Plant Outages:

**Causes of Energy Crisis:** Two reasons for this trend are demographics and economics: not only is India's economy growing, thereby demanding more energy and electricity, but the population is as well. There is also massive urbanization, which is putting more pressure on energy and the environment.

**Demand (Consumption) and Supply (Production) Gap:** The power sector demand in india has grown at a CAGR of 8.0 per cent over the last five years. At the same time, the supply CAGR of 6.8 per cent has not able to keep pace with the demand. Accordingly, the deficits have increased steadily from 5.0 per cent in 2003-04 to 11 per cent in 2009-10 (Ministry of Power). The past few years have seen an increase in the per capita consumption from 410 kwh in 2002 to 879 kwh in 2012. Despite the growth, the power consumption is lower than other BRICs countries like China (2150 Kwh), Brazil (2100 Kwh), and Russia (6000 Kwh) (EIA and United Nations, 2010);

**Regulatory reforms:**

Increased rate of capacity addition: Equipment shortages: Land Acquisition and environment Clearance: financial: Manpower shortage: Transmission lines: Inadequacies in support enablers (equipments, transmission and distribution):

**Consequences and Remedial Measures in power sector:**

Save Energy, Use Efficient Equipments, and Pay for what you use.

**Conclusion:**

The Indian power sector is at a stage that provides significant opportunities for growth and investment. However the environment is increasingly becoming challenges. Government will need to ensure timely and effective implementation of next generation reforms. Renewable energy has significant growth potential in India. It also enhances the "sustainability" of the power industry through 'green' energy. It is however imperative for the government to keep supporting the sector through several interventions are; ensure effective implementation of the national solar mission, including clear policy on feed in tariffs; incentivize renewable to match expensive peak load requirements/unmet demand, so that it complements the significant investments in base load that are already being undertaken through conventional energy; high intensity renewable 'Zones' and establish all enablers therein.

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# RENEWABLE ENERGY IN INDIA: OPPORTUNITIES AND CHALLENGES

India is now the eleventh largest economy in the world, fourth in terms of purchasing power. It is poised to make tremendous economic strides over the next ten years, with significant development already in the planning stages. In recent years, India has emerged as one of the leading destinations for investors form developed countries. This attraction is partially due to the lower cost of manpower and good quality production.

## Roll of Renewable Energy Sources in India

Renewable energy is derived from natural processes that the replenished, constantly. In its various forms it derives directly from the sun, or from heat generated deep within the earth. Included in the definition is electricity and heat generated from solar, wind, ocean, hydropower, biomass, geothermal resources, bio fuels and hydrogen derived from renewable resources.

## Biomass and Biogas Energy

The biomass power generation potential in India is estimated at 30000 MW. It results in a saving of about Rs.20,000 crores every year. Biomass can be used in three ways - gasification, methane gas production and combustion. The technologies being promo d include combustion either for power in captive or grid connected modes, or for heat applications.

## Wind Energy

Energy of wind can he economically used to generat electrical energy Wind can also be used to provide mechanical power such as for water pumping. In India generally wind speeds obtainable are in the lower ranges. Therefore, attempts are on the development of low cost, low speed mills for irrigation of small and marginal farms for providing drinking water in rural area.

## Solar Energy

Solar energy has the greatest potential of all the sources of renewable energy. If only a small amount of this form of energy could be used, it will be one of the most important supplies of energy specially when other sources in the country have depleted energy comes to the earth from the sun. This energy keeps the temperature of the earth above than in colder space, causes current in the atmosphere and in ocean.

## Ocean Thermal Energy

This is also an indirect method of utilizing solar energy. A large amount of solar energy is collected and stored in tropical oceans. The surface of the water acts as the collector for solar heat, while the upper layer of the sea constitutes infinite heat storage reservoir. Thus the heat contained in the oceans, could be converted into electrical energy by utilizing the fact that the temperature difference between the warm surface waters of the tropical oceans and the colder waters in the depth is about 20 - 25°K. Utilization of this energy, with its associated temperature difference its conversion into work, forms the basis of Ocean Thermal Energy Conversion (OTEC) systems.

## Tidal Energy

The tides in the sea are the result of the universal gravitational effect of heavenly bodies like sun and moon on the earth. Due to fluidity of water mass, the effect of this force becomes apparent in the motion of water. It shows a periodic rise and fall in levels. It is in synthesis with the daily cycle of rising and· setting of sun and moon.

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### Geo Thermal Energy

This energy lies embedded in the earth. According to various theories the has a molten core. The steam and the hot water come naturally to the surface of the earth in some locations of the earth.

### Hydrogen Energy and Fuel Cells

In recent years hydrogen has been receiving worldwide attention as a clean and efficient energy carrier with a potential to replace liquid fossil fuels. Significant progress has been reported by in the development of hydrogen energy as an energy carrier and an alternative to fossil fuels. Depleting fossil fuel reserves, green house gas emissions and air quality are driving this global transformation effort towards a hydrogen based economy. Hydrogen has high energy content, when burnt, it produces only water as a byproduct. Therefore, it is environmentally benign, At present hydrogen is available as a by-product from several chemical processes, plants or industries.

### Opportunities of renewable energy in India.

Innovative financing

Mainstreaming of renewable is very essential.

Energy security, economic growth and environment protection are the national energy policy drivers of any country of the world.

There is a need to boost the efforts for further development and promotion of renewable energy sources.

Promoting renewable energy technologies as a way to address concerns about energy security and economic growth.

Specific action included promoting deployment, innovation and basic research in renewable energy Technologies.

### Conclusions

There is an urgent need for transition from petroleum-based energy systems to one based on renewable resources to decrease reliance on depleting reserves of fossil fuels and to mitigate climate change.

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# POTENTIAL REDUCTION OF BITUMEN CONSUMPTION AND POLYMER MODIFIED BITUMINOUS ROADS

Energy has been universally recognized as one of the most important inputs for economic growth and human development. There is a strong two-way relationship between economic development and energy consumption. India is becoming a major player in the international oil and gas industry and is willing to take on the political and financial risks inherent in overseas investments. The country currently imports 70% of its oil and this share is expected to exceed by90% by 2030.

## Objectives

1. To study the consumption pattern of fossil fuel.
2. To analyse consumption pattern of Bitumen in specific.

## Consumption of petroleum products

| Products | 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 | 2009-10 | 2010-11 | 2011-12 |
|---|---|---|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| **Light distillates** | **35201** | **33660** | **37075** | **38557** | **39878** | **38995** | **41443** | **43657** |
| Lpg | 10245 | 10456 | 10849 | 12165 | 12344 | 13135 | 14331 | 15358 |
| Mogas | 8251 | 8647 | 9285 | 10332 | 11258 | 12812 | 14194 | 14992 |
| Naptha | 13993 | 12194 | 13886 | 13924 | 13911 | 10134 | 10676 | 11105 |
| Ngl | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Others | 2712 | 2363 | 3055 | 2766 | 2365 | 2908 | 2242 | 2202 |
| **Middle distillates** | | | | | | | | |
| SKO | 9395 | 9541 | 9505 | 9365 | 9303 | 9304 | 8928 | 8229 |
| ATF | 2813 | 3296 | 3983 | 4543 | 4423 | 4627 | 5078 | 5536 |
| HSDO | 39650 | 40191 | 42896 | 47669 | 51710 | 56242 | 60071 | 64742 |
| LDO | 1477 | 883 | 720 | 667 | 552 | 457 | 455 | 415 |
| OTHERS | 572 | 512 | 491 | 579 | 390 | 490 | 497 | 485 |
| **Heavy distillates** | **22526** | **25129** | **26078** | **27568** | **27343** | **27693** | **24568** | **24931** |
| FURNACE OIL | 9136 | 8921 | 9257 | 9469 | 9419 | 9145 | 8807 | 7473 |
| LSHS/HHS | 4404 | 3904 | 3361 | 3248 | 3169 | 2484 | 1982 | 1759 |
| LUBES/GREASES | 1348 | 2081 | 1900 | 2290 | 2000 | 2539 | 2429 | 2745 |
| **BITUMEN** | **3339** | **3508** | **3833** | **4506** | **4747** | **4934** | **4536** | **4628** |
| PETROLEUM COKE | 3129 | 4928 | 5441 | 5950 | 6166 | 6586 | 4982 | 6145 |
| PARAFFIN WAX | 80 | 268 | 303 | 241 | 203 | 211 | 198 | 194 |
| OTHER WAXES | 0 | 105 | 64 | 65 | 65 | 78 | 56 | 56 |
| OTHERS | 1090 | 1414 | 1919 | 1799 | 1574 | 1716 | 1578 | 1931 |
| **TOTAL** | **111634** | **113212** | **120748** | **128948** | **133591** | **137808** | **141040** | **147995** |
| **REFINERY FUEL** | **8537** | **9141** | **10920** | **11751** | **11912** | **11607** | **15873** | **15499** |
| **GRAND TOTAL** | **120171** | **122353** | **131668** | **140699** | **145511** | **149415** | **156913** | **163494** |

Notes: Consumption included sales by all companies and direct private imports

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Source: Petroleum Planning & Analysis Cell, New Delhi

**Estimated Demand for Petroleum Products in 12th Plan Period**

| Products | Demand For Petroleum Products | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2012-13 | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 12th Plan | 13th Plan |
| LPG | 16,986 | 18,363 | 19,765 | 20,857 | 21,831 | 97,802 | 118,848 |
| MS | 16,091 | 17,527 | 19,083 | 20,766 | 22,588 | 96,055 | 144,634 |
| NAPTHA/NGL | 12,353 | 11,417 | 11,417 | 11,022 | 11,022 | 57,231 | 72,400 |
| ATF | 6,009 | 6,587 | 7,202 | 7,849 | 8,540 | | 54,304 |
| SKO | 7,949 | 7,631 | 7,326 | 7,033 | 6,751 | 36,690 | 30,838 |
| HSDO | 65,040 | 68,654 | 72,589 | 76,904 | 81,599 | 364,786 | 491,557 |
| LDO | 400 | 400 | 400 | 400 | 400 | 2,000 | 2,000 |
| FO/LSHS | 7,954 | 7,902 | 7,899 | 7,872 | 7,872 | 7,954 | |
| BITUMEN | 5,254 | 5,541 | 5,732 | 5,971 | 6,114 | 28,612 | |
| PET COKE | 6,765 | 7,514 | 8,345 | 9,268 | 10,294 | 42,486 | |
| OTHERS | 20,155 | 21,954 | 23,043 | 24,269 | 25,606 | 20,155 | |
| TOTAL | 152,937 | 160,435 | 168,724 | 176,972 | 186,209 | 845,277 | 1,104,986 |
| Natural Gas | 293 | 371 | 405 | 446 | 473 | 1,988 | 2,761 |

Source :Report of the Working Group on Petroleum & Natural Gas Sector for the 12th Five Year Plan ( 2012-17)

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**Trends in Consumption of Bitumen in India**

(in million tonnes)

| Year | Consumption |
|---|---|
| 2006-07 | 3.83 |
| 2007-08 | 4.51 |
| 2008-09 | 4.71 |
| 2009-10 | 4.92 |
| 2010-11 | 4.54 |
| 2011-12 | 4.63 |

Source: Ministry of Petroleum & Natural Gas

**Estimated Demand for Bitumen 12th Plan Period**

| Year | Demand For Bitumen |
|---|---|
| 2012-13 | 5,254 |
| 2013-14 | 5,541 |
| 2014-15 | 5,732 |
| 2015-16 | 5,971 |
| 2016-17 | 6,114 |
| 12th Plan | 28,612 |

tmt : Thousand metric tonnes

**Source: Report of the Working Group on Petroleum & Natural Gas Sector for the 12th Five Year Plan ( 2012-17)**

**Cost And Energy Saving Mechanism**

Waste plastics like carry bags, disposal cups, thermo Coles, multi-layer films and polyethylene and polypropylene foams can be used without segregation and cleaning. The process needs no new machinery and it is in situ process, therefore cost of processing plastic for road construction is nil. The overall consumption of bitumen is less by 10 to 15 percent and thus the cost is reduced. By laying 1 km single lane plastic road, 10 lakhs carry bags are consumed which save of 1 ton of bitumen cost Rs 40,000

**Findings**

1. Though India is shifting its energy dependence from conventional to non-conventional energy, fossil fuel still playing a very vital role in the total energy consumption pool and major part of Indian imports.

2. There is the existence of huge demand – supply gap in production and consumption of major petroleum products including bitumen.

3. Polymer Modified Bituminous technology not only strengthened the road construction, as well as helps to minimize the bitumen usage level.

**Suggestions**

It is highly necessary to implementcombined approach to energy security, comprising domestic exploration and production, and fuel diversification and innovative technology use. It is high time that a year-round Bitumen pricing methodology be established that reasonably reflects the general market conditions and is not unduly influenced by seasonal demand, shut-down at the refineries, Heavy and light crude differential, weather-driven or cataclysmic price movements.

**Conclusion**

The study throws light on fossil fuel usage and alternative technology available for minimal and optimum utilisation of petroleum products as they are of non – renewable in nature. And also tries to bring down the demand - supply gap exists in conventional energy requirements. The need of the hour is to develop and accept the designs and technology which is environment friendly and economically feasible adding an edge to energy conservation with lower cost and less maintenance.

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# ENERGY CONSUMPTION PATTERN OF RURAL HOUSEHOLDS IN MANUR BLOCK OF TIRUNELVELI DISTRICT

Energy is an important input in all sectors of the economy of any country. The standard of living of a given country can be directly related to per capita energy consumption. Presently, energy crisis has become the major concern all over the world because of two reasons. The first, the population of the world has increased rapidly and the second, the standard of living of human beings has increased.

**Statement of the Problem**

Firstly, the block has a vast rural area. Secondly, over a period of time the extent of land in this block, which is the main source of bio-fuel supply, has shown a sharp decline due to transfer of agricultural lands to industrial, commercial and infrastructural purposes. This may also increase the dependence of households on fossil fuels and electricity. Therefore, a study of the rural households of the block is expected to suggest changes in pattern and level of energy use to solve the problems of scarcity.

**Objectives of the Study**

1. To understand the present pattern of energy use in rural households;
2. To identify the determinants of energy consumption in rural households;
3. To suggest a rational pattern of energy use and solutions to problems associated with it.

**Methodology**

From each revenue village a sample of 12 rural households was taken for this study. Thus, a total of 120 rural households were selected for statistical investigation. The data collected were carefully processed, edited and tabulated for analytical purposes. The study is a cross-sectional one, mainly based on primary data. The field investigation was carried out during the period August 2013 to September 2013, which is the normal period. In this study, various statistical tools such as correlation, 't' test, Multiple Regression Analysis are used.

**Results and Discussion**

**Per Capita Use of Fuels**

Table 1 shows that per household and per capita consumption of different fuels. Table 1 reveals that, on an average a household uses firewood (2.13 kg), agricultural waste (0.25 kg), electricity (0.83 kwh), kerosene (0.11 litre), petrol and diesel (0.04 litre), cow dung (0.04 kg) and L.P.Gas (0.14 kg) per day. In the present study, the per household per day use of L.P. Gas is 0.14 kg which shows that only a limited number of households use L.P.Gas. The use of petrol and diesel is 0.04 litre per day. There are a very few households using petrol for transport purpose. The per day use of dung cake is 0.04 kgs due to the limited use by the households and hence their shares are negligible.

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**Table:1 – Per Capita and per household Energy use by the types of Fuels for the Whole Sample**

| Fuel | Unit of Measure-ment | Annual Per Household | Annual Per Capita | Per Day Per Household | Per Day Per Capita |
|---|---|---|---|---|---|
| Electricity | Kwh | 301.68 | 105.53 | 0.83 | 0.29 |
| Kerosene | Litres | 40.14 | 14.04 | 0.11 | 0.04 |
| L.P.Gas | Kgs | 50.74 | 17.75 | 0.14 | 0.05 |
| Petrol and Diesel | Litres | 16.71 | 5.85 | 0.04 | 0.02 |
| Fire wood | Kgs | 776.45 | 271.61 | 2.13 | 0.75 |
| Cow dung | Kgs | 14.75 | 5.16 | 0.04 | 0.01 |
| Agricultural waste | Kgs | 90.94 | 31.81 | 0.25 | 0.09 |

Source: Field Survey

**Factors Determining Energy Consumption**

The energy consumption has been examined in relation to these factors and the relationship is discussed with the help of regression models.

**Model Specification**

To understand the relationship between per household energy consumption and the factors, which affect energy consumption, a multiple regression analysis has been done on the household data collected. Correlations were also worked out. Based on this, the best set of independent variables for each dependent variable is obtained. The function applied to a cross section of households to examine the factors influencing the energy consumption pattern of households in per household model is,

$C = a + b_1SF + b_2 In + b_3Ed + b_4Pr + b_5Du + e$

Where, C = Energy consumption of households in mj / year,

SF = Size of family in adult persons,

In = Income of the family (in Rs. / year),

Ed = Education of housewife,

Pr = Price of energy (Rs/ mj),

Du = Dummy variable with value 1 for a farm family and 0 for non-farm family,

e = error term and b (j = 1, 2, ....., 5) are parameters to be estimated.

The regression coefficients for the whole sample size are given in Table 4.

The value of $R^2$ is statistically significant, making the model valid for interpretation. In the table 4.20 multiple coefficient of determinant $R^2$ is 0.601. It is concluded that the variables size of family (Sf), income of the household (In), education of the head (Ed) and price of energy (Pr) are 60 per cent variation in the depended variable energy consumption (Ec). The intercept was positive showing the minimum energy required per household was 22.695 GJ irrespective of the influence of any of the specified variables.

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**Table: 2 – Correlation Matrix Pertaining to the Selected Variables**

| Variables | Y | $X_1$ | $X_2$ | $X_3$ | $X_4$ |
|---|---|---|---|---|---|
| Energy Consumption (Y) | 1.000 | | | | |
| Size of Family ($X_1$) | 0.387 | 1.000 | | | |
| Income ($X_2$) | 0.559* | 0.305 | 1.000 | | |
| Education of the Head ($X_3$) | 0.518* | 0.139 | 0.626** | 1.000 | |
| Price of Energy ($X_4$) | 0.248 | 0.438 | 0.413* | 0.564* | 1.000 |

Note: * Indicates the Co-efficient is statistically significant at 5% level

** Indicates the Co-efficient is statistically significant at 1% level

The correlation coefficient between the education of the head and income level of energy is as very high as 0.626. It is significant at five percent level. Secondly the correlation coefficient between price of energy and education of the head is as high as 0.564. It is significant at one percent level. The price of energy is significantly and positively related to the variable energy consumption (0.248), size of family (438), income 413) and education of the head (0.564). The results show that correlations among the selected variables are as expected on a priority grounds.

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**Recommendations**

1. A special programme for improving the construction of kitchen has to be included in the existing household energy programmes.

2. Awareness of kitchen hygiene, ventilation and maintenance of store should be brought to the person responsible for cooking through audio–video visual media.

3. There is also a need to provide investment support or subsidies to investment in renewable energy sources.

4. The government is advised to set up plantations of the best species of wood. A typical example is the *Anogeissus leicarpus,* commonly called 'mark'.

5. The households should avoid the reheating of food to save not only energy but also the nutritional value of food.

6. Women should be involved in planning of household energy issues as a means of getting a more realistic scenario of the end-users of household energy.

**Conclusions**

The conclusion reached is that energy consumption can be reduced using improved heating and cooking ovens with greater efficiency. Among the rural households, people belonging to high income brackets still cling to non-commercial energy sources despite their obvious disadvantages because their every day need for heat energy to prepare feed for animals and food for men and women in their employ is always on the increase.

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# WIND ENERGY SCENARIO IN TAMIL NADU

Tamil Nadu is the leading state in generation of wind energy sources in India. Tamil Nadu has three wind passes which are Western side with a potential of 1650 MW in Palghat pass in Coimbatore District, 1300 MW in Shengottai pass in Tirunelveli District and 2100 MW in Aralvoimozhi pass in Kanniyakumari District and 450 MW in other areas totaling 5500 MW. There are 41 Wind potential sites in eight districts in the state (Wind assessment studies carried out by TEDA, 2012).

**Objectives of the Study**

1. To analyse the growth and trends in wind energy capacity in Tamil Nadu during the Tenth and Eleventh Five Year Plans.

2. To assess the possibilities of sustaining wind energy capacity in Tamil Nadu during the Twelfth Five Year Plan.

**Methodology**

This study is based on secondary data. The period of study is Tenth and Eleventh Five Year Plans of Tamil Nadu. The required data were collected from TNEB Statistics at a Glance Report published by Government of Tamil Nadu. By using percentage, Annual Growth Rate and trend analysis the data were analyzed.

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**Analysis and Results**

The top 8 States which ranked by wind power installations in India are Tamil Nadu, Gujarat, Maharashtra, Rajasthan, Karnataka, Andhra Pradesh, Madhya Pradesh and Kerala. The data on this was available for the year 2011-12.

Table : 1 State wise wind power installations in India

| Rank | State | Wind power installed capacity( MW) | % |
|---|---|---|---|
| 1 | Tamil Nadu | 7162.18 | 37.59 |
| 2 | Gujarat | 3174.58 | 16.66 |
| 3 | Maharashtra | 3021.85 | 15.86 |
| 4 | Rajasthan | 2684.65 | 14.09 |
| 5 | Karnataka | 2135.50 | 11.20 |
| 6 | Andhra Pradesh | 447.65 | 2.34 |
| 7 | Madhya Pradesh | 386.00 | 2.02 |
| 8 | Kerala | 35.10 | 0.18 |
| 9 | Others | 4.30 | 0.02 |
| | Total | 19051.46 | |

Source: TNEB policy note 2012

During 2011-2012 Tamil Nadu (37.59%) has occupied first rank for wind power installations in India and followed by Gujarat (16.66%) was second rank which has installed in wind power. The state of

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Kerala (0.02%) was lower rank for the installations of wind power in India. During Tenth Five Year Plan, the wind power installations capacity of Tamil Nadu has increased from 990.27 MW in 2002-2003 to 3475.69 MW in 2006-2007. The Annual Growth Rate of wind power capacity of Tamil Nadu has increased from 37.49% in 2003-2004 to 49.85% in 2004-2005. A slow down was observed in 2006-2007 at 19.94%.

**Table: 2 Wind Power Installations in Tamil Nadu**

| 10th Five Year Plan | | | 11th Five Year Plan | | |
|---|---|---|---|---|---|
| Year | Wind Power Capacity(MW) | Annual Growth Rate | Year | Wind Power Capacity(MW) | Annual Growth Rate |
| 2002-2003 | 990.27 | - | 2007-2008 | 3856.77 | - |
| 2003-2004 | 1361.49 | 37.49 | 2008-2009 | 4287.74 | 11.17 |
| 2004-2005 | 2040.23 | 49.85 | 2009-2010 | 4889.77 | 14.04 |
| 2005-2006 | 2897.78 | 42.03 | 2010-2011 | 5887.17 | 20.39 |
| 2006-2007 | 3475.69 | 19.94 | 2011-2012 | 6970.63 | 18.40 |

Source: TNEB statistics at a glance 2012

During Eleventh Five Year Plan, the wind power installations capacity of Tamil Nadu has increased from 3856.77 MW in 2007-2008 to 6970.63 MW In 2011-2012. The Annual Growth Rate of wind power capacity has increased from 11.17% in 2008-2009 to 20.39% in 2010-2011. A slow down was observed in 2011-2012 at 18.40%.

**Wind energy capacity Trends in Tamil Nadu**

Trend values were calculated to forecast of wind energy capacity in Tamil Nadu by 2017.

The estimated trend values for wind energy capacity in Tamil Nadu from 2002-2003 to 2016-2017 are found as positive. If the same trend continues, the wind energy capacity in Tamil Nadu would be at 10453.68 MW in the year 2016-2017.

**Conclusion**

From the data it has been found that Tamil Nadu has been facing acute power shortage and the state has to increase the capacity of wind power generation in the state. Further, the state requires long term planning in the field of power generation to avoid the impending energy crisis.

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# A CRITICAL STUDY ON ECONOMIC IMPACT OF WIND POWER GENERATION IN TAMIL NADU

The amazing growth of wind power in the past ten years is attributable to a multiplicity of enabling factors, including the evolution of a conductive policy and regulation framework. The wind is commercially and operationally the most viable remarkable energy resource. Tamil Nadu has high wind potential due to the tunneling effect during South West Monsoon. The wind installed capacity of the state is 7134 MW, which is a whopping 40% of the country's total wind installed capacity. This paper analyses the problems and prospects of wind power generation in Tamil Nadu.

**Table 1 : Wind Mill Installed Capacity in 1997-98 – 2012-2013**

| Year | Cum Installed | Generation in Million Units |
|---|---|---|
| | Cum. Total | |
| 1997–1998 | 707.295 | 765.854 |
| 1998–1999 | 725.06 | 928.865 |
| 1999–2000 | 770.735 | 1156.593 |
| 2000–2001 | 812.63 | 1094.175 |
| 2001–2002 | 856.665 | 1257.11 |
| 2002–2003 | 990.265 | 1305.703 |
| 2003–2004 | 1361.49 | 1714.475 |
| 2004–2005 | 2040.23 | 2260.732 |
| 2005–2006 | 2897.78 | 3444.281 |
| 2006–2007 | 3475.69 | 5268.982 |
| 2007–2008 | 3856.765 | 6066.646 |
| 2008–2009 | 4287.74 | 6655.149 |
| 2009-2010 | 4889.765 | 8145.507 |
| 2010-2011 | 5887.165 | 8720.045 |
| 2011-2012 | 6970.625 | 9763.048 |
| 2012-2013 | 7055.475 | 3197.149 |

Source: TNEB, Report– 2013

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## Advantages of wind energy

The capital cost is comparable with conventional power plants. For a wind farm, the capital cost ranges between 4.5 crores to 6.85 crores per MW depending upon the type of turbine, technology, size, and location. Construction time is less. Fuel cost is zero. Operation and Maintenance cost is very low. Capacity addition can be in modular form. There is no adverse effect on global environment. The whole system is pollution free and environment friendly

## Conclusion

Tamil Nadu Electricity Board was able to attract private investment to the wind sector by identifying potential sites and developing the initial infrastructure for setting up wind turbines. Tamil Nadu is host to prestigious centre for wind resources assessments along with standardization and certification support to the wind industry in India with compare to other states in Tamil Nadu is leading producer of wind energy.

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# A STUDY ON POWER SCENARIO IN TAMIL NADU

Electricity is a primary source of energy. Hence availability of electricity to all segments of society at reasonable price and at adequate level at all times is very important for development of the economy in the state. The demand for power is mainly due to population and economic growth, which reflects growth process – taking place in the primary, secondary, and tertiary sectors.Customers for electricity are classified as Domestic, Agriculture, Commercial, Industrial, and Others. There is a major government initiative to provide free supply of electricity to the agriculture sector as well as for SC/ ST households.

**Objective**

1. To ensure quality of power to the consumers.
2. To establish stable network for supply of power.

**Kudankulam Atomic Power Station**

Kudankulam NPP with two Vodo - Vodyanoi Energetichesky Reactor (i.e., water – Water Energetic Reactor) (VVER-1000), reactor plants of 2000 MW total capacity is the basic object of the Russian-Indian cooperation in the field of nuclear engineering. The construction of Kudankulam NPP in India is stipulated by the agreement between the former Union of Soviet Socialist 30 Republics (USSR) and the Republic of India dated 20 November 1988, and also by the supplement to this agreement signed on 21 June 1998. This project is expected to commission in December 2009. VVER-1 and VVER-2 expected to commission on September 2010.

**Solar energy**

solar energy is radiant energy that is produced by the sun. The sun radiates more energy in one second than people have used since the beginning of time. Nearly 15 % of the sun's energy that hits the earth is reflected back into space. Another 30% is used to evaporate water, which when lifted into the atmosphere, produces rainfall. Solar energy is also absorbed by plants, the land and the oceans. The rest could be used to supply our energy needs.The solar water heater gained popularity in Florida, California, and the Southwest in America. The industry started in the early 1920s and was in full swing just before World War II. This growth lasted until the mid-1950s when low-cost natural gas became the primary fuel for heating American homes.The public and world governments remained largely indifferent

to the possibilities of solar energy until the oil shortages of the 1970s. Today, people use solar energy to heat the water and to generate electricity.

**Solar Power Generation:**

In order to promote the use of solar Energy for producing grid quality power in the country, the ministry of New and Renewable Energy (MNRE), Government of India, has introduced new guidelines in January 2008, whose salient features are given below.For the first time, generation based incentives will be provided for grid interactive solar power generation. A maximum amount of Rs.

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12.00 per Kwh will be provided as incentive for electricity generated from solar photovoltaic and Rs. 10.00 per KWh for electricity generated through the solar thermal route and fed to the grid from a power plant of 1 MW capacity and above. This incentive will be provided to the project developers at a fixed rate for a period of ten years for the projects which are commissioned by 31 December 2009. This incentive will be available for the existing registered companies, Central and State Power generation companies and public/private sector power project developers who have set up or propose to set up a registered company in India. The maximum capacity per project will be 5 MW either through a single project or multiple projects of a minimum Capacity of 1 MW each. Each state may be allowed to set up to 10 MW under this programme. These projects are to be undertaken on Build, Own and Operate basis. Based on the Global Tender issued by TEDA, 5 MW SPV project and 1 MW Solar Thermal Power Project by private promoters has been identified under this scheme and the proposals received from the firms have been recommended to MNRE. They had also entered into an Energy Purchase Agreement (EPA) with TNEB. The one great advantage of renewable energy is that it can be generated wherever it is required using available systems namely.

**Solar Water Heating Systems:**

In Tamil Nadu, Totally 3522 domestic solar water heating systems and 419 industrial systems were installed under subsidy schemes of MNRE (up to 1992–93) and the state government as on 31.3.2008. Solar water heating systems have also been installed in 70 government buildings such as hospitals, hostels etc., with 100% funding by the state government. For the year 2007–08, the sate government has sanctioned Rs. 10,000 lakhs for installation of solar water heating systems in government institutions. Solar Street Lighting SystemThe most common and widely used outdoor lighting system is the SPV street lighting systems with SPV module capacity of 74 WP, a lead acid battery (12 v 75 Ah) and a CFL of 11 Watt. It can operate from dusk to dawn with automatic switch ON/ OFF for 10–12 hours daily.

A Solar PV water pumping system consists of a number of Solar PV modules connected in series-parallel combination to generate sufficient power to operate a motor pump. No battery is provided and hence can be run only during the day when sunshine is available.Solar educational kits help students on the beneficial use of solar energy.

**Solar Traffic Signals:**

The Solar Traffic signals are operating in five places in Chennai with a Government subsidy of Rs. 1.5 lakhs for each signal. Solar Vaccine RefrigeratorsThis scheme with a sanction of Rs. 10 lakhs per year from the State Government is operating in five primary health centres which are in remote villages.

**Environmental Benefits:**

Agricultural land that might otherwise be converted to residential or industrial use– because we will need fewer and fewer acres to meet the market demand for food –can be used to grow biomass crops which will restore soil carbon, reduce erosion, and chemical runoff, and enhance wildlife habitat. Perennial energy crops can be harvested without damage to the root structure and thus continue to serve as a soil stabilizer and stream buffer and habitat for wildlife. The use of biomass will greatly reduce greenhouse gas emissions. Fossil fuels remove carbon that is stored underground and transfer it to the atmosphere. In a combustion system, biomass releases carbon dioxide as it burns, but biomass also needs carbon dioxide to grow – thus creating a closed carbon cycle. In a gasifier – fuel cell combination, there is a net reduction of carbon dioxide.

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**Conclusion**

Comparing the two heat based power generation, gas based power generation has a much cheaper cost of production than the coal based plants. Since 2001, the Narimanam plant has stopped power generation. Being a small plant with a capacity of only 120MW Basin Bridge station generates very little energy and for the past few years, production has been at a slow pace. This power plant is operated only four hours in a day. The cost of generation is Rs.10 per unit and it is very expensive because of the fuel used. Naphtha is a costly fuel and the mode of operation is open cycle. In the Open cycle mode heat that is used to operate the generator is released after being used the first time. Currently there is a proposal to replace the open cycle mode of operation with the closed cycle mode at the Basin Bridge plant so as to reduce the cost of production by 50-60%. The Kovilkalappal power plant with its installed capacity of 108 MW has a satisfactory generation, but does not belong to TNEB. The TNEB purchases power from them. Valuthur power plant started in 2011–2012 has gradually increased power generation like.

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# RENEWABLE ENERGY IN INDIA: OPPORTUNITIES AND CHALLENGES

India is now the eleventh largest economy in the world, fourth in terms of purchasing power. It is poised to make tremendous economic strides over the next ten years, with significant development already in the planning stages. In recent years, India has emerged as one of the leading destinations for investors form developed countries. This attraction is partially due to the lower cost of manpower and good quality production.

***Opportunities of renewable energy in India.***

1. Innovative financing
2. Mainstreaming of renewable is very essential.
3. Energy security, economic growth and environment protection are the national energy policy drivers of any country of the world.
4. There is a need to boost the efforts for further development and promotion of renewable energy sources.
5. Promoting renewable energy technologies as a way to address concerns about energy security and economic growth.
6. Specific action included promoting deployment, innovation and basic research in renewable energy Technologies.

**Conclusions**

here is an urgent need for transition from petroleum-based energy systems to one based on renewable resources to decrease reliance on depleting reserves of fossil fuels and to mitigate climate change.

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# AN ECONOMIC ANALYSIS OF SOLAR ENERGY IN SALEM DISTRICT

Energy is a driving force to foster economic, social and health condition. Energy effect all the dimensions and supporting pillars of sustainability. All of these supporting pillars namely Environment, Social and Economic should go hand in hand without compromising on its ability for the future generation to satisfy their own need. Every energy generation and transmission method affects the environment. As it is obvious conventional generating options can damage air, climate, water, land and wildlife, landscape, as well as raise the levels of harmful radiation. Renewable technologies are substantially safer offering a solution to many environmental and social problems associated with fossil and nuclear fuels.

## Materials and Methods

The researcher highlights the solar energy position instead of electricity in India and further narrowing down to Tamil Nadu ending with the micro study of Salem District. This study attempts to find out the whether the solar energy power plants are economically viable to the users. The study based on both primary and secondary data, the primary data been collected through interview and questionnaire method. The total sample size is 64 users of solar energy plan. For the selection of samples; the purposive sampling technique has been adopted. The secondary data collected from the Records of Pallavan Grama Bank, Salem, during the period 1998 to 2013. The present study covered 10 areas of Salem District, viz., Sivathapuram, Tharamangalam, Nangavalli, Steel Plant, Omalur, Arisipalayam, Fairlands, Nethimedu, Korimedu and Old Suramangalam.

## Statistical Tools

Paired sample test used to compare the significant relationship between before and after installation of solar energy technology in the study area. It gives clean impact of solar energy instead if electricity on the economic analysis of Salem District. In Salem district, there are several solar power system companies are involved to install the power plant systems.

## Performance of Solar Power Plant in Salem District

The study deals with the performance of solar power plant in different areas of Salem district. It shows the electricity bill before and after installed solar energy technology. Out of 64 respondents only 34 installed the solar power plant in their house and remaining 30 respondents installed only solar water heater. In Sivathapuram users paid more electricity bill before installation of solar power plant in their house. Almost all the area users paid minimum amount electricity bill after installed the Solar Energy Technology.

**Paired Samples Correlations**

| | | N | Correlation | Sig. |
|---|---|---|---|---|
| Pair 1 | Before solar enerty & After solar energy | 64 | .942 | .000 |

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**Paired Samples Test**

| | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|---|---|---|---|---|---|---|---|---|
| | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | Lower | Upper | | | |
| Before solar enerty - After solar energy | 4189.15625 | 3238.27161 | 404.78395 | 3380.26007 | 4998.05243 | 10.349 | 63 | .000 |

The above table reveals that there is significant difference between before and after installation of solar technology in the study areas. The Sig (2-tailed) value is 0.000.

## Conclusion

Solar energy has huge potential and its use is growing fast, yet in many quarters it is still viewed with concern about costs and doubts over efficacy. All countries and economies stand to gain by understanding solar energy's potential to fill a very large part of total energy needs economically, in a secure and sustainable manner in the future. It can also help to reduce the Green House Gases (GHGs) that threaten irreversible climate change for the planet. To that end an environmental impact assessment for central solar systems, which should estimate the magnitude of potential environmental impacts and propose appropriate mitigation measures, can play a significant role to proper project design and to a subsequent project public acceptance.

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# ENERGY CONSERVATION FOR ENVIRONMENT DEVELOPMENT

## Meaning of Energy

Energy is the ability to do the work. Energy helps in powering business, manufacturing and transportation of goods. Energy comes from different forms: heat, light, thermal, mechanical, electrical, chemical and nuclear energy' in modern age, energy is very important for human kind. Energy can be transformed from one form into another energy cannot be created or destroyed. For example, a person on a tall diving board has some specific amount of potential energy.

## Energy Conservation

Energy conservation refers to actively reducing the amount of energy used, or making sure it is used as efficiently as possible to reduce the amount of energy being used. Conservation of energy, an empirical law of physics (meaning it cannot be derived), states that the total amount of energy within an isolated system is constant. Energy is conserved, although it is transferred from one body to another and converted from one form to another.

## Objectives of the study

1. Status of the energy conservation in India
2. Sustainable use of different energy resources requires
3. Focus on efficiency, conservation, and protection of human life and environment

## Need for the study

Energy conservation is at this point much better solution than increased energy production, especially because increased energy production means even more fossil fuels, and even bigger dependence on foreign fuel import. The main purpose in reducing the total amount of energy that is currently being used by industry, households and various other sectors of our society.Energy conservation is important from many different perspectives and not just because saving energy means saving our money by lowering our monthly energy bills (the economic importance of energy conservation). Energy conservation methods are also extremely important from the environmental point of view because we are still heavily dependent on fossil fuels, and by reducing our energy needs.

## Conventional Fuels in India

India depended on a variety of fuels that fall under the categories of conventional and non conventional fuels' some of these fuels enter the market economy to reach the end users. Coal continues to be a major fuel in power generation industry (thermal power plants) and other select commercial industrial venture et.al on January 2007 the coal reserves were 253.3 billion tones, out of which 97.92 but is in the 'proved' category. In the locomotive sector, coal enjoyed a unique position as the major energy form in use until diesel engines and electricity came to be sources of energy to power locomotives. Char coal (cooking coal) used fuel for cooking in Indian domestic sector until the 1980s. This was more so in the central and northern Indian states. But today, it has taken a back seat in this regard.

## Renewable Sources of Energy

Apart from bio-mass, other renewable energy forms of relevance include solar energy, wind energy, small hydro energy, geothermal energy, ocean thermal energy, bio-gas and bio-energy, and bio-fuels. Projections made in the Integrated Energy Policy Report (IEPR) reveal that a range of imports such as

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imported oil (31 5 to 451 mtoe), gas (0 to 97 mtoe), and coal (72 to 462 mtoe) will be required and these energy sources will play an increasingly major role in the medium term (2032) in India's efforts to achieve its development goals.

**Solar Energy**

Nearly 140 million strong domestic sectors is viewed as a prominent sector to control consumption of biomass through renewable energy forms and more fuel efficient technologies since cooking emerged as the largest biomass consuming end use task and the conventional cook stoves the least efficient in energy transfer in nearly almost all of the cases. A variety of designs like box solar ovens with castor wheels, parabolic cookers, hybrid varieties, dual fuel cookers, solar steam cookers and so on emerged in due course of time as viable options to choose from. **Wind Energy**

The oil- crisis in 1973 truly revived the interest in renewable sources of energy including wind energy. Wind energy is an indirect form of solar energy. About one per cent of the total solar radiation that reaches earth is converted into energy of wind. Wind results from differential heating of the earthly-and its atmosphere by sun. As the sun heats different parts of the earth at different rates, air circulates from cold to warn areas producing winds.

**Wastes to Energy**

Industries generate effluents which when treated generate value added products. The waste generated from industries like starch, palm oil, distilleries, dairy, poultry, favorable and so on can be treated to generate electricity. Low head hydel power projects can be installed on canal drops, dam toes, waterfalls, streams and rivers. Small hydro projects aim at harnessing the energy contained in flowing water without consumptive use and pollution in an environment friendly way. It also improves the local voltage conditions near the project, generates local employment and, entrepreneurship development.

**Conclusion**

Energy conservation is important to realize that the desired quality of environment can be achieved only through making industry energy sectors and people-the consumers follow energy environment sensitive life style in day to day living and act in a responsive manner to the environmental concerns. By and large, consumers of energy in every sector are slowly coming out of their status of being unaware and negligent about their role in adopting energy environment sensitive life style vis-ivis quality of environment. Sustainable use of resources requires community participation in assessment, planning, execution and evaluation, future strategy development in energy demand and consumption with a focus on efficiency, conservation, and protection of life and environment.

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# ENERGY TRANSITION POSSIBILITIES AND PROSPECTS IN INDIA

India's energy problems are complex, multidimensional, and difficult to solve. India's transportation sector as well as the power sector faces tremendous challenges to sustain themselves. India's power shortage is about 15 per cent compared to the contemporaneous demand, and about 70 per cent when compared to the electricity use in the middle income countries viz., over 3,000 (MW per annum. Hence, 70 per cent of India's transportation fuel has to be imported.Unless long-term corrective steps are taken, India is in danger of importing almost 100 per cent of transportation fuel by 2030, and is even in danger of using coal for transportation purpose. If coal is used for transportation, its availability for power generation will shrink faster, and it will also cause enormous amount of pollution.

**India's Energy Security Concerns**

India and the world as a whole need a sustainable future. Energy security environmental sustainability and economic competitiveness are the backbone of sustainable future. Sustainable energy security holds the key to economic sustenance and economic competitiveness. Renewable energy is essential to ensure sustainable energy security because the conventional resources of energy viz., coal, oil and natural gas are fast depleting. India imports over 70 per cent of its oil requirements and over half of its natural gas requirements. In so far as the oil is concerned, India's share of imports would increase to about 90 per cent by the year 2031-32.

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**Energy Security**

In India, energy security is determined by the fuel security' energy efficiency measures, environmental considerations and technological up gradation issues. In India, coal is the major source of power' Domestic coal supply falls short by about 10 per cent viz., only 363 million tones is supplied as against the target of 401 million tones' There are major problems in the establishment and running of the coalmines. coal mines need to be established after acquiring land' providing relief, rehabilitation services, obtaining environmental clearances' etc' All these processes consume years of time in India 'Power generation should also comply with environmental standards 'Power transmission faces the 'Right of the Way' problem. Power distribution needs comprehensive modernization as discussed above. Price of coal varies substantially. Captive coal mines can provide coal at Rs 500-600 per tone. Coal India Ltd's mines provide coal at Rs 1,200, and imported coal costs Rs 3,000-4,000 per tone. The estimates are based on the calorific value. Natural gas has a small role to play in power generation and a larger role in transport. Up to 5 per cent of India's power would be produced using the natural gas. Up to 75 per cent of natural gas is supplied by the public sector oil marketing companies (OMCs). The importance of private sector is growing rapidly with the discovery of gas reserves, and production from the Krishna Godavari Basin, and from other sources. However, gas prices are highly volatile, and are subject to the spot market volatilities to a large extent. The energy-efficiency measures adapted in India under the leadership of the Bureau of Energy Efficiency (BEE) could reduce the capacity expansion needs by about 10,000 MW or by about 3 per cent in India. Similarly, the low carbon growth strategies would help reduce the use of low PLS highly polluting technologies.

There is immense scope for the adoption of the clean coal technologies viz., the supercritical and the ultra supercritical technologies, so that the PLF increases up to 95 per cent and the plant shut down period gets reduced substantially. There is increased scope for increasing the PLF of the renewable energy sources and reducing the initial capital cost through RSD strategies and initiatives. Nuclear power will result in 50

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per cent cost reduction on a per unit basis once the plant operates for beyond 10 years. Nuclear power plants can operate for over 60 years if sufficient maintenance is undertaken.

**Conclusion**

The Integrated Energy policy must be augmented to reserve certain portion of electricity to be traded in the power exchange so that the energy wasting industries would be dis incentivised. India's thorium-based nuclear programme should be the Government priority and the civilian nuclear programme should be opened. For the private sector with due consideration for human security so that scarce government financial resources can be put to better use.

Renewable energy should be adapted at the domestic, commercial and at the industrial level in India using the most proven technology' India's scientific and technological brains must be properly utilized to foster R&D in the renewable energy arena. Even the international collaboration efforts and the education of Indian scientists and technical personnel in foreign universities and research institutions must result in gainful patent recognition for India. The proven technologies and those technologies becoming cost- effective must be dropped from the Government incentive basket so that its resources can be used to promote higher level of technologies in research and use. This is already recognised by the INNSM which discusses the focus shift from the second phase to incorporate medium and high temperature applications.

**1.8 Recommendations**

A comprehensive strategy is required to make India's power sector qualitative, reliable and provide adequate and cost-effective services to the consumers. India lags behind in the technical, technological and financial spheres. Besides the prefect execution capability of India's public sector enterprises is far short of those in the private sector. A comprehensive study needs to be conducted on the reasons behind the poor performance of the public sector management in this respect, identify key remedial measures, and implement them. Salary component could not be the reason. The salary paid by the private sector to the key personnel is more than in public sector. Perhaps, the reasons have to do with incentive structures and motivational factors.

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# ENERGY CRISIS IN TAMIL NADU

In India, Tamil Nadu is the only state where one-third of the installed power comes from renewable sources. The present installed capacity of 17,868.37 MW mostly consists of Coal (35%),Hydro (12%) andRenewable Energy (42%) Tamil Nadu's higher percentage of renewable energy comes from the fact that State has geographic conditions that are suitable for harnessing such sources of energy. The government is also supporting by taking proactive steps to tap various sources of energy through policy framework and research. Tamil Nadu constitutes 9% of the total installed electricity generation capacity of India, which is mainly from fossil fuels. The private sector has a 47% share in the total installed capacity.

**Position of Tamilnadu in Electricity and Reason for Energy Crisis**

Electricity is a primary source of energy. Hence availability of electricity to all segments of society at reasonable price and at adequate level at all times is very important for development of the economy in the state. The demand for power is mainly due to population and economic growth, which reflects growth process – taking place in the primary, secondary, and tertiary sectors. Power development is one of the key inputs for the overall economic development of a state. It has been estimated by the World Bank that the demand for power will grow by nearly twice the rate at which the economy grows. Therefore adequate provisions have to be made for augmenting power supply to bridge the gap between demand and supply as well as to meet the increasing future demand.Customers for electricity are classified as Domestic, Agriculture, Commercial, Industrial, and Others. There is a major government initiative to provide free supply of electricity to the agriculture sector as well as for SC/ST households. Table gives us the growth pattern of different consumers served in the state from the years 2004–2009.

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**Table No.1**

**Consumption of Electricity**

| Description | Year wise Consumer Growth | | | | |
|---|---|---|---|---|---|
| | 2004-05 | 2005-2006 | 2006-07 | 2007-08 | 2008-09 |
| Domestic | 1,14,59,503 | 1,19,74,293 | 1,25,28,391 | 1,30,64,075 | 1,36,61,431 |
| Agriculture | 17,36,946 | 17,68,052 | 18,01,972 | 18,39,241 | 18,80,450 |
| Commercial | 19,92,868 | 21,22,967 | 22,26,580 | 23,43,407 | 24,93,310 |
| Industrial | 4,05,827 | 4,30,248 | 4,45,110 | 4,64,609 | 4,63,463 |
| Others | 14,33,409 | 15,01,907 | 15,73,994 | 17,15,954 | 18,23,411 |
| Total | 1,70,28,553 | 1,77,97,467 | 1,85,76,047 | 1,94,27,286 | 2,03,22,065 |

**Source:** TNEB, Statistics at a Glance-2008 Annual Report( A Study on Power Scenario in Tamil Nadu - P. Jayabalan)

Establishment of new industries and also migration of work force from other places into Tamil Nadu, has increased the demand for power over the years. When compared to 2007–2008 commercial consumer has increased by 0.2% and others (free electricity provided by the government) have increased by 0.1% in 2008–2009. To meet the demand TNEB also increased generating capacity every year from all sources. The total installed generation capacity of Tamil Nadu is 15,100 Mega Watts till 2009, but it failed to meet the need of electricity among public, hence there arose Energy crisis.

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## Energy Deficit/ Crisis in Tamil Nadu

Energy deficit in Tamil Nadu was 3% in FY 08 and is projected to increase to 30% in FY13.Despite 18,382 MW of installed capacity, the state is struggling to fulfill its demand. Most of the districts face long power cuts for over six hours. Between April 2012 and February 2013, the energy and peak shortage of power in Tamil Nadu were 17.4 per cent and 12.3 per cent respectively. According to the 2011-12 policy note of the Tamil Nadu Electricity Board (TNEB), for financial year (FY) 2010-11, the deficit during peak hours (1800 hrs to 2200 hrs) ranged from 140MW to 3400 MW. During the day it ranged between 1700 MW to 3700 MW.

**Table No.2 Energy Crisis in Tamilnadu**

| Tamil Nadu | Requirement (MU) | Avalability (MU) | Surplus (MU) |
|---|---|---|---|
| Energy Units (Apr-Nov 2012) | 61.218 | 50.776 | -10.442 |

**Source:** Power Shortage Discussion in the Parliament 20th December, 2012.

The policy note also mentioned that gross energy consumption for the same year was 77,218 million units (MU). Of this, state-owned generating stations contributed to 27,941 MU, while 49,277 MU was purchased from central generating stations, wind, open market, exchanges, etc. To address the present shortfall of about 1700–3700 MW at different times during the day, the state government took steps to manage the grid by using strong measures like curtailing the load.

## Challenges

At the recent Solar Energy Investment & Technology Forum conference, experts identified the following as key challenges to integrating renewable energy in Tamilnadu: Evacuation Infrastructure,Power system stability,Power system operation,Banking issues

Costs and impacts of balancing generation and Infrastructure Development costs

## Conclusion

The Government of Tamilnadu has taken many steps in order to overcome the energy crisis in state, even peoples have launched many ideas to get rid of this energy crisis such that in Arcot, 265 units of Electricity is produced by the cost of Rs.46 Lakhs by using the wastes of vegetables, and other natural wastes, and many suggests that Public Private Partnership can be played vital role in enlightening the present situation from the worse core. In this way it is better to find the alternate method to produce energy that is vital to run our day to day life.

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# POWER CRISIS IN TAMILNADU AND ITS SOLUTION THROUGH RENEWABLE ENERGY

At present , the key factor which drives the growth in energy demand include increasing human population, modernization and urbanization .Poverty, hunger, disease, illiteracy and environmental degradation are the most important challenges faced by the world. Poor and inadequate access to secure an affordable means of energy in one of the crucial factors behind these issues. Electricity for example is vital for providing basic social services such as education and health, water supply and purification, sanitation, and refrigeration of essential medicines.

**Electric Power –the power of the present of world:**

Power is one of the most important factors for a developing country like India. Like the rest of the countries of the world, the demand for power is increasing day by day in our country. At present, power failure has become an acute problem for this country. It has become hard to solve the power crisis. There are several reasons behind this problem such as limitation of resources, low generation capacity, high demand, derated capacity of power station machineries etc. we need to overcome the problem of power crisis soon. Renewable energy can be a great source to solve the power crisis problem at a great extent.. Renewable energy is the energy that comes from different types of natural resources mainly from sunlight, wind, rain, tides, and geo thermal heat, biodiesel, biofuel etc.

**Power Crisis in Tamil Nadu**

Tamil Nadu is the eleventh largest state in India with an area of 130,058 km2 [50,216 sq mi] and the seventh most populous state with a population of 66,396,000. It is the fourth largest contributor to India's GDP and the most urbanised state in India. The state has the highest number (10.56%) of business enterprises in India compared to its population share of about 6%. Tamil Nadu lately emerged as the most literate state in India as announced by Ministry of Human Resource Development (MHRD). The top 13 cities in Tamil Nadu are Chennai, Coimbatore, Madurai, Trichy, Salem, Erode, Tirunelveli, Tirupur, Vellore, Tuticorin, Thanjavur, Nagercoil and Dindigul. These cities are built-up with the presence of large and small industries that use electricity as a main component. Now a days, It has become a common sight that angry citizens take to the streets in protesting against the abysmal power situation. Some of the areas receive only an hour of electricity every day. Police has to control the law and order situation on account of people's agitation. State governments blame Centre for not allocating enough electricity to their states. The states blame the Centre. The Centre blames the states. Power is on the Concurrent List of the Constitution. Both the Centre and tates must share the blame. The Centre must take the rap for the shortage in generation of power.

**The major reasons for the power crisis in Tamil Nadu are the following:**

1. Absence of a long term vision to increase availability of power by capacity addition and encouraging private investment in power generation compared to other states, over the last 10 years.
2. Overdependence on outside sources.
3. Considerable dependence on wind energy which is highly seasonal in nature and therefore not completely reliable.
4. Failure to reduce power transmission losses in the last 10 years.

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**Table 1 The Growth of Consumers from the years 2005-06 to 2009-10**

| *Descript* | *Year- Wise Consumers in lakhs* | | | | |
|---|---|---|---|---|---|
| | *2005-06* | *2006-07* | *2007-08* | *2008-09* | *2009-2010* |
| *Domestic* | *119.74* | *152.28* | *130.64* | *136.64* | *141.42* |
| *Agriculture* | *17.68* | *18.02* | *18.39* | *18.73* | *19.12* |
| *Commercial* | *21.23* | *22.27* | *23.43* | *24.97* | *26.32* |
| *Industrial* | *4.36* | *4.51* | *4.71* | *4.89* | *5.10* |
| *Others* | *15.02* | *15.74* | *17.16* | *18.65* | *20.09* |
| ***Total*** | ***178.03*** | ***185.82*** | ***194.33*** | ***203.88*** | ***212.05*** |

***Source:*** *TNEB,* www.tnenvis.nic.in/tnenvis_old/PDF/energy.pdf,)

Lopsided priorities, poor management and lack of accountability can be denoted as the reasons for dearth of energy in Pakistan. The number of consumers of electricity are now increased owing to the rapid urbanization process. The facility of electricity is now provided to the remote villages. We waste a lot of energy, about 15 to 20 percent through poor distribution system. Industrial, transport and domestic sectors are the three important consumers of energy. It is assumed that a misplaced use of energy is rampant in industries which need to be curtailed. The hidden crisis of energy poverty condemns billions of men, women and children in the developing world to continue to live in absolute poverty because they have no access to modern energy services: energy which is taken for granted in the developed world at the flick of a switch or the press of a button. Over 1.6 billion people – almost one third of humanity – have no electricity. This means they have no light in the evening, limited access to radio and modern communications, inadequate education and health facilities, and not enough power for their work and businesses.

**Solution through Renewable Energy**

Biodiesel,biogas,solar energy,wind energy, ocean wave energy,tidal power andgeothermal energy.

**Conclusion**

The current power crisis is not a temporary hiccup in the power system, but rather a symptom of the entire energy sector reaching the tipping point, is worrying . Time has come to look forward and work in these renewable energy fields to produce electricity rather than depending wholly on conventional method. With the help of these resources our country can export electricity meeting the internal demand in the future. Therefore, the Government and the Private sector should work hand in hand to emphasize more on renewable energy source to produce electricity to solve our power crisis problem.

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# POWER CRISIS AND SITUATION IN TAMIL NADU

In India, Tamil Nadu is the only state where one third of the installed power comes from renewable sources. The present installed capacity of 17,868.37 MW mostly consists of Coal (35%) Hydro (12%) and renewable Energy (42%). Tamil Nada's higher percentage of renewable energy comes from the fact that state has geographic conditions that are suitable for harnessing such sources of energy. The government is also supporting by taking proactive steps to tap various sources of energy.

**Objectives**

1. To Study on Energy Deficit in Tamil Nadu

2. To Understand Wind, Solar, Small Hydro Energy in Tamil Nadu.

3. A Study on Kudankulam nuclear power generator capacity in TamilNadu

**Methodology**

The present study is based on secondary data. The secondary data were collected from books, journals, annual reports, news paper and official records.

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**Challenges on Energy**

At the recent Solar Energy Investment &Technology Forum conference, experts identified the following as key challenges to integrating renewable energy in Tamil Nadu: Evacuation Infrastructure, Power system stability, Power system operation, Banking issues, Costs and impacts of balancing generation and Infrastructure Development costs

**Steps taken by State Government**

Power production requires visionary steps and proper planning on the part of Government. The Tamil Nadu Government is well aware of this. In recent years, the state government has taken several steps to ensure increased electricity generation. It has also thought of other ways to help the power production secter. The Tamil Nadu Government has thought of utilizing the ports at Chennai, Ennore and Tuticorin. This will help the transportation of coal to the Tamil Nadu Power plants.

- It has taken steps to attract investment in power generation in the state.
- It is planning ways to ensure increased power production in the Tamil Nadu thermal plants.
- It is making arrangements for bringing more coal from other states.

**Kudankulam on nuclear power generator capacity in Tamil Nadu**

Tamil Nadu will generate 1,440MW of nuclear power, the most in the country, once Unit 1 of the Kudankulam reactor begins operating at its full capacity of 1,000MW. It is also the first state to have nuclear power plants in two locations-Kalpakkam and Kudankulam. After decades of delay, Kudankulam in southern Tamil Nadu went on stream on Tuesday transmitting 160MW of power to the southern grid. Tamil Nadu will displace Maharashtra, which has four reactors with a total capacity of 1,400MW, from the top spot. Other states with significant nuclear power are Rajasthan with six reactors capable of gener-

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ating 1,180MW, and Karnataka with four reactors with a total capacity of 880MW. Uttar Pradesh and Gujarat each have two reactors with a total capacity of 880MW. The Kudankulam in India will increase its nuclear power capacity to 5,780MW from the present 4,780MW. Kudankulam will add its weight to the Kalpakkam plant, which has two reactors of 220MW each. As per the original agreement between the beneficiary states of Tamil Nadu, Karnataka and Kerala and the Union territory of Pondicherry, the Nuclear Power Corporation authorities were to sell the power at Rs 3.50 per unit. "Though the original agreement fixed per unit cost at Rs 3.50, we are planning to revise the price at which the power will be sold to the beneficiary," said Kudankulam Nuclear Power Project site director R.S. Sundar.Though the cost of per unit of nuclear power may be lower than thermal-based plants or other forms of energy, the fixed cost of around Rs 14,000 crore for two units of 1,000MW each is high, say power experts..

**Conclusion**

Energy projections for Tamil Nadu based on the 18th Draft Electric Power Survey with respect to future energy requirements suggest an increase in annual energy requirement.The Vision Tamil Nadu 2023 document released by the state Chief Minister on 22 March 2012, envisages a massive investment of Rs. 4,50,000 crore (Rs. 4500 billion) in the state energy sector. This money is looked to be spent in State's power generation capacity development of transmission and distribution.

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# ENERGY TRANSITION POSSIBILITIES AND PROSPECTS IN INDIA

India's energy problems are complex, multidimensional, and difficult to solve. India's transportation sector as well as the power sector faces tremendous challenges to sustain themselves. India's power shortage is about 15 per cent compared to the contemporaneous demand, and about 70 per cent when compared to the electricity use in the middle income countries viz., over 3,000 (MW per annum. Hence, 70 per cent of India's transportation fuel has to be imported. The recent trends suggest that electricity is becoming indispensable for transportation as well. The recent introduction of fuel cell/hybrid vehicles, the future promises stored in the upcoming solar energy technologies, and the advances in the battery storage technology is to make electricity a perfect substitute for fossil fuels in transportation.

**India's Energy Security Concerns**

India and the world as a whole need a sustainable future. Energy security environmental sustainability and economic competitiveness are the backbone of sustainable future. Sustainable energy security holds the key to economic sustenance and economic competitiveness. Renewable energy is essential to ensure sustainable energy security because the conventional resources of energy viz., coal, oil and natural gas are fast depleting.India imports over 70 per cent of its oil requirements and over half of its natural gas requirements. In so far as the oil is concerned, India's share of imports would increase to about 90 per cent by the year 203I-32. Moreover as noted above, oil and natural gas as a whole would be exhausted in about 40-50 years and the use of coal is being discouraged even in power generation due to environmental reasons. A complete transition to the use of renewable energy should be achieved by the time the Depletable energy resources get exhausted. By the time the Depletable recourses get exhausted, renewable energy resources should be sustainably available, price competitive, freely tradable, legally accessible and technically feasible. The study of 'energy future' henceforth requires a proper understanding of the economic implications of energy harnessing and use/ energy conservation and the legal and institutional support provided to ensure energy security, environmental sustainability and economic competitiveness.

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**Energy Security**

In India, energy security is determined by the fuel security' energy efficiency measures, environmental considerations and technological up gradation issues. In India, coal is the major source of power' Domestic coal supply falls short by about 10 per cent viz., only 363 million tones is supplied as against the target of 401 million tones' There are major problems in the establishment and running of the coalmines. coal mines need to be established after acquiring land' providing relief, rehabilitation services, obtaining environmental clearances' etc' All these processes consume years of time in India 'Power generation should also comply with environmental standards 'Power transmission faces the 'Right of the Way' problem Power distribution needs comprehensive modernization as discussed above. Price of coal varies substantially. Captive coal mines can provide coal at Rs 500-600 per tone. Coal India Ltd's mines provide coal at Rs 1,200, and imported coal costs Rs 3,000-4,000 per tone. The estimates are based on the calorific value.

Natural gas has a small role to play in power generation and a larger role in transport. Up to 5 per cent of India's power would be produced using the natural gas. Up to 75 per cent of natural gas is supplied by the public sector oil marketing companies (OMCs). The importance of private sector is growing rapidly with the discovery of gas reserves, and production from the Krishna Godavari Basin, and from other sources. However, gas prices are highly volatile, and are subject to the spot market volatilities to a large extent. The energy-efficiency measures adapted in India under the leadership of the Bureau of Energy Efficiency (BEE) could reduce the capacity expansion needs by about 10,000 MW or by about 3 per cent

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in India. Similarly, the low carbon growth strategies would help reduce the use of low PLS highly polluting technologies.

There is immense scope for the adoption of the clean coal technologies viz., the supercritical and the ultra supercritical technologies, so that the PLF increases up to 95 per cent and the plant shut down period gets reduced substantially. There is increased scope for increasing the PLF of the renewable energy sources and reducing the initial capital cost through RSD strategies and initiatives. Nuclear power will result in 50 per cent cost reduction on a per unit basis once the plant operates for beyond 10 years. Nuclear power plants can operate for over 60 years if sufficient maintenance is undertaken.

Manpower needs to be augmented in the supercritical and ultra supercritical areas of thermal power, high technology welding, fitting, and machinery operations, and in the field of construction and operation of high capacity and high voltage transmission and distribution infrastructure.

**Conclusion**

The development and production of unconventional oils like the tar sands and the heavy oils from the oil shale should not cause environmental problems and earthquakes. Power trading must be transparent and the instruments of the contracts should fulfill the expectations of all the market participants. Renewable energy should be adapted at the domestic, commercial and at the industrial level in India using the most proven technology' India's scientific and technological brains must be properly utilized to foster R&D in the renewable energy arena.

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# POWER SHORTAGE AND ITS IMPACT ON TAMIL NADU ECONOMY

Power developmentis the key to the economic development.Ever since the process of planned economic development began in 1950, the power sector has registered significant progress. During the six and half decade since independence, power generating capacity in the country has increased by more then fifty times. Electricity generation has increased by more than seventy times. In our country around 23 million farmers use subsidized electricity and about seventy million households are electrified. Electric power is one form of energy. It is recognized as one of the most essential ingredients of economic development. It powers almost all economic activities. It is positively correlated with economic development.

***Objectives***

1.To analyse the current power situation in Tamil Nadu and identify areas in which Tamil Nadu can improve.

2.To analyse the future power scenario in the state and estimate the power deficit/surplus in 2015-16.

**Power Shortage In Tamil Nadu.**

Starting from the second quarter of 2010, the total energy demand in Tamil Nadu state is increasing exponentially and the state government is helpless to cut off power supply to an vast extent to the consumers. The complete state (except Chennai city, the capital) suffers a power cut for more than 11 hours a day. The city of Chennai only has 2 hours of power cuts a day.

Over the last few years, Tamil Nadu has been facing massive power deficits. The impact of this power shortage is being felt mainly by the industries, leading to a loss in efficiency and production. A marked feature is increasing use of electricity in agriculture. With programmes of rural electrification, the demand for the power for life irrigation and energisation of pump sets has increased during recent years, from 4 percent to 24 percent. The establishment of new industries like iron, and steel, machhine tools. Engineering, fertiliers etc., and the expansion of capacity of consumer goods industry have led to considerable increase in the consumption of power in Tamil Nadu.The establishment of new industries like iron, and steel, machine tools, engineering, fertilizers etc., and the expansion of the capacity of consumer goods industry have led to cosiderable increase in the consumption of power in India.

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**Table No:1 Power Deficits in Tamil Nadu (2002-03 to 2010-11)**

| YEARS | POWER DEFICITS % |
|---|---|
| 2002-2003 | 6.0 |
| 2003-2004 | 1.4 |
| 2004-2005 | 0.6 |
| 2005-2006 | 0.6 |
| 2006-2007 | 1.7 |
| 2007-2008 | 2.8 |
| 2008-2009 | 7.8 |
| 2009-2010 | 6.2 |
| 2010-2011 | 18.4 |

**Source:CEA**

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Comparing this with the situation in 2003-04, it can be seen that the status of deficits in most of the states was the same, except in Tamil Nadu and Andhra Pradesh. Tamil Nadu, in particular, only had a deficit of around 1% in 2003-04. This deficit has been increasing rapidly, especially in the last five years as can be seen from the above table.

**Demand for Power:** The following tables explain year wise consumption demand of power and sector – wise consumption of demand.

**Table No: 2 Power Consumption in Tamil Nadu (MU)**

| YEARS | MU |
|---|---|
| 2003-2004 | 39240 |
| 2004-2005 | 41286 |
| 2005-2006 | 44516 |
| 2006-2007 | 49934 |
| 2007-2008 | 52953 |
| 2008-2009 | 53065 |
| 2009-2010 | 56698 |

***Source: Athena Infonomics, TNEB Tariff Order 2010, CEA***

The demand forecasts presented above were calculated using a regression analysis, where sectoral power consumption was forecasted based on the movement of relevant variables such as number of consumers, Gross State Domestic Product (GSDP), etc. Demand for power is expected to steadily increase over the next five years. However, the sectoral composition of demand is expected to remain almost the same.

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**Conclusion**

The major challenge of the power sector is to continue with the reforms, improve the financial health of the utilities, to enable comptetition and acceleration of economic growth while protecting the environment and, most importantly, to rise the comport levels of the comen man by making avilable quality and affordable power.

**Policy Recommendations**

1. Increase capacity of installed sources- this step is the most obvious measure.
2. To cater to the growing power demand, implementation of smart grid is the only way forward. Further, a process to curb over drawing of power must be set in place.
3. The Electricity Act had mandated the grant of open access option to the consumers, which will allow all the bulk consumers to choose their distributors.
4. Use of alternate sources of power generation must be encouraged.
5. Create industrial co-operatives that can source electricity or have a dedicated captive generation source.

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# ENERGY CRISIS IN VELLORE REGION

Modern economy is dependent on energy. Compared to the ancient times when electricity was used only for lighting, the modern economy requires electricity for so many purposes. Demand for domestic consumption of electricity (22.0) has increased by manifold times due to introduction of electronic gadgets. Industrial consumption of electricity (44.84) has increased because of mass production and wider markets. Transportation is also using more of electricity in India. The Indian railways uses electricity for transport and in countries like UK, more and more are automobiles driven by electricity and, electric bunks are slowly replacing petrol and diesel bunks. Since agricultural and industrial productions are on very large scale, refrigerated godowns (storing tamarind, fruits) are also on the rise. Information and communication technology have also added to the demand for electricity[1].

**Demand and Supply of electricity in Tamil Nadu:**

Demand for electricity in Tamil Nadu ranges between 12500 MW to 13500 MW. According to Central Electrical Authority, the deficit between production and demand for the 2011- 2012 for Tamil Nadu was 34.1 percent, which is the highest in the country (last year deficit was 17.5 percent),

**Solar energy:**

Solar energy power from the sun is a vast and in exhaustible resources. Once a system is in place convert it into useful energy, the fuel is free and will never be subject to the ups and downs energy markets. Solar energy represents a clean alternative tool the fossil fuels the currently pollute our air and water, threaten our public health and contribute to the global warming. The amount of energy from the sun that falls on the surface of earth is enormous. 20 days of sunshine is equal to the entire energy resources of the earth from coal, oil and natural gas.

**Vellore as a strategic centre:**

Vellore is at 12.92°N 79.13°E, 220m above the mean sea level. The city has a semi-arid climate with high temperatures throughout the year and relatively low rainfall. It is in Vellore district of the South Indian state, Tamil Nadu, 135 km (84 mi) west if the state capital Chennai. Vellore lies in the Eastern Ghats region and Palar river basin. The topography is almost plain with slopes from west to east. There are no notable mineral resources. Black loam soil is found in parts of Vellore Taluk. The other type of soil in the city is chiefly gravelly, stony and sandy of the red variety. Total square meter area in Vellore 5920.18 Sq.km. Vellore experiences hot and dry weather throughout the year. The temperature ranges from a maximum of 40.5 °C (104.9 °F) to a minimum of 18.4 °C (65.1 °F). Like the rest of the state, April to June is the hottest months and December to January are the coldest. Vellore receives 996.7 mm (39.24 in) of rainfall every year. The southwest monsoon, with an onset in June and lasting up to August, brings scanty rainfall. The bulk of the rainfall is received during the northeast monsoon in October, November and December. The humidity ranges from 40%–63% during summer and 67%–86% during winter[8].

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Vellore has a total geographical area of 592.0 ('000 ha), of which 145.2 ('000 ha) of unused lands. The area is equal to 14.52 thousand square meters. If one KWH of electricity can be generated per day per year per square meter, and even if 50% of the unused land is brought under solar power generation, (7.25 thousand $M^2$), total electricity generated will be 72,500 KWH can be generated. (75 MW approx.) This can help considerably the power situation of the state[9].

**Conclusion:**

Cost of solar power generator works out to be Rs. 7 Crores to Rs. 8 Crores per MW. For producing 75 MW, cost of the project shall be around Rs 500 Crores. Project can be started on PPP (Public Private Partnership). If more area brought under solar power generation in Vellore districts, supply will be more than demand and this can help the development of Vellore-Arcot-Thiruvannamalai corridor.

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# BIOENERGY; A GREEN CHOICE TO SOLVE ENERGY CRISIS

Bio energy is energy derived from the conversion of biomass where biomass may be used directly as fuel, or processed into liquids and gases. Biomass-based energy accounted for roughly 10% of world total primary energy supply in 2009. Modern bio energy supply on the other hand is comparably small, but has been growing steadily in the last decade. Bio energy is derived from plant- or animal-based organic matter called "biomass". Biomass sources include: animal wastes, agricultural feed crops, waste and residues, aquatic plants, landfill gases, municipal wastes, trees, wood waste and residues, other organic waste materials, Natural oils from plants like oil palm, soybean, or algae can be burned directly in a diesel engine or a furnace, or blended with petroleum, to produce fuels such as biodiesel, Wood and its byproducts can be converted into liquid bio fuels, such as methanol or ethanol, or into wood gas, Wood can also be burned as solid fuel, like the familiar firewood.

**Issues related to bio fuels**

Despite the opportunities, certain concerns with regard to overall energy efficiency of biofuels, environment, prices, food security, and economic rationale are coming in the way of the sector's development. Most of the present generation biofuels are diverting agricultural commodities away from the animal and human food chain, thereby threatening food security.

Several growing concerns prevail with regards to the usage of fossil fuels, foremost among them being the impact on the environment, followed by energy price increases, complete dependence on oil exporting countries for supply, market volatility as in 2008 and 2009, and limited resources.

**Biofuel in India**

Biofuel development in India centers mainly around the cultivation and processing of Jatropha plant seeds which are very rich in oil (40%). The drivers for this are historic, functional, economic, environmental, moral and political. Jatropha oil has been used in India for several decades as biodiesel for the diesel fuel requirements of remote rural and forest communities, jatropha oil can be used directly after extraction (i.e. without refining) in diesel generators and engines. Jatropha has the potential to provide economic benefits at the local level since under suitable management it has the potential to grow in dry marginal non-agricultural lands, thereby allowing villagers and farmers to leverage non-farm land for income generation. As well, increased Jatropha oil production delivers economic benefits to India on the macroeconomic or national level as it reduces the nation's fossil fuel import bill for diesel production (the main transportation fuel used in the country); minimizing the expenditure of India's foreign-currency reserves for fuel allowing India to increase its growing foreign currency reserves (which can be better spent on capital expenditures for industrial inputs and production).

The government has contracted the development of Jatropha in Tamil Nadu in a large scale to four entrepreneurs. Namely M/s Mohan Breweries and Distilleries Limited. M/s Shiva Distilleries Limited, M/s Dharani Sugars and Chemicals Limited and M/s Riverway Agro Products Private Ltd. Currently the firms have cultivated the plant in about 3 square kilometres as against the goal of 50 km². The government of Tamil Nadu has also abolished purchase tax on Jatropha.[1], but presently government has announced to reduce the 7.5% tolgate charges to 2.5%.

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**Conclusion**

India's total biodiesel requirement is projected to grow to 3.6 Million Metric Tons in 2011-12, with the positive performance of the domestic automobile industry.The Government is currently implementing an ethanol-blending program and considering initiatives in the form of mandates for biodiesel. Due to these strategies, the rising population, and the growing energy demand from the transport sector, biofuels can be assured of a significant market in India.

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# ECONOMY OF VELLORE REGION

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# MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT GUARANTEE SCHEME IN TAMILNADU – AN ANALYSIS

Mahatma Gandhi National Rural Employment Guarantee Scheme provides a legal guarantee for one hundred days of employment in a every financial year to adult members of any rural households willing unskilled manual work at minimum wage. MGNREGS is considered as a silver Bullet for eradicating rural poverty and unemployment, by way of generating demand for productive labour firce in villages. Tamil Nadu is the second largest contributor to India's GDP. Tamilnadu's gross state domestic product for the year 2011-2012 was 4.28 lakh crore or $145,868 million. The state has shown a growth of 9.4% in the year 2011-2012. The percapita income in 2007-2008 for the state was Rs. 72,993 ranking third among states with a population over 10 million and has steadily been above the national average.

## Working of MGNREGS in Tamil Nadu

The Mahatma Gandhi National Rural Employment Guarantee Scheme was initially implemented with effect from 02-02-2006 on words in six notified districts of Tamil Nadu (Phase I). It was extended to 4 districts (in Phase II) from 01-04-2007 onwards and to the remaining 20 districts (in Phase III) with effect from 01-04-2008 onwards. The details are as given below the table.

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**Table : 1**

**District's coverage in phases under MGNREGS**

| Phase – I (02-02-2006 Onwards) | Phase – II (01-04-2008 Onwards) | Phase – III (01-04-2008 Onwards) | |
|---|---|---|---|
| 1. Cuddalore | 1. Thanjavur | 1. Kancheepuram | 11. Trichy |
| 2. Villuppuram | 2. Tiruvarur | 2. Tiruvallur | 12. Perambalur |
| 3. Tiruvannamalai | 3. Karur | 3. Vellore | 13. Ariyalure |
| 4. Nagapattinam | 4. Tirunelveli | 4. Salem | 14. Pudukottai |
| 5. Dindigul | | 5. Namakkal | 15. Theni |
| 6. Sivagangai | | 6. Nilgiris | 16. Madurai |
| | | 7. Dharmaburi | 17. Virudhunagar |
| | | 8. Erode | 18. Thoothukudi |
| | | 9. Krishnagiri | 19. Kanniyakumari |
| | | 10. Coimbatore | 20. Ramanathapuram |

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**Table : 2**

**MGNREGS – India's Performance**

| S.No. | Particular | 2011-2012 | 2012-2013 | 2013-2014 |
|---|---|---|---|---|
| 1. | Total No. of Districts | 635 | 636 | 644 |
| 2. | Total No. of Blocks | 6378 | 6568 | 6576 |
| 3. | Total No. of Gram Panchayats | 247643 | 247643 | 247643 |
| 4. | Total No. of Villages | 778133 | 778134 | 778134 |
| 5. | Total No. of H.H Registered (in crore) | 12.6 | 12.9 | 12.8 |
| 6. | Number of ongoing works (in lakhs) | 53.2 | 88.8 | 99 |
| 7. | Total wage expenditure (in crore) | 24306.2 | 27127.2 | 13181.5 |
| 8. | Average days of employment provided per Household | 43.2 | 46.1 | 30.6 |
| 9. | Total No. of HHS completed 100 days of wage employment (in lakhs) | 41.7 | 51.4 | 6.1 |

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In the year 2011-2012 only 635 districts covered in all India level but it was extended in 644 districts in the year 2013-2014. In the year 2011-2012 Total No. of households registered 12.6 crore, it was continuosly increasing 12.8 crore in the year 2013-2014. In the year 2011-2012 Average days of employment provided per household was 43.2 days, it was further increasing 46.1 per household in the year 2012-2013.

**Number of Households Demanded and Provided Employment 2009-2014:**

In the year 2009-2010, 51,99,861 households demanded employment under MGNREGS and 51,94,265 households were employed. Only 5596 households were not exployed. In the year 2010-2011, 59,93,776 households demanded employment, and 59,66,944 households were employed, only 26,832 households were not provided the opportunity. In the year 2011-2012, 63,76,452 households demanded employment and 63,40,419 households were employed. Only 36033 households were not employed. In the year 2012-2013, 70,98,049 households demanded employment and 61,74,146 households were employed. Only 9,23,903 households were not employed. In the year 2013-2014, 55,01,047 households demanded employment under MGNREGS and 5459003 households were employed, ony 42,044 households were not employed. In the year 2009-2010 all the three phase more than 99.85 percent of demanded of households were employed. In the year 2010-2011 more than 98.95 percent of household were employed. In the year 2011-2012 all the three phase 99.43 percent of demanded of households were employed. In the year 2012-2013 only 86.98 percent of households were employed. In the year 2013-2014 more than 99.20 percent of households were employed. In the year 2009-2010, only 4,01,237 households received employment for the entire 100 days on 7.72 percentage. In the year 2010-2011 all the three phase only below 1 percent of the households completed 100 days. It includes 5,785 households are completed 100 days. In the year 2011-2012 only 6,01,747 households received employment for the entire 100 days on 9.44 percentage. In the year 2012-2013 all the three phase 13,52,534 households are completed 100 days, in 19.05 percentage. In the year 2013-2014, 1,34,097 households received employment for the entire 100 days on 2.44 percentage.

**Participation of women in MGNREGS in Tamil Nadu**

The share of women in the workforce was much more. The states specific figures and ranking for 2006-07 and 2008-09 are fairly stable with Tamilnadu having the highest participation of women

in both years by a long margin. Women dominate MGNREGS worksite all states. Women are supposed to take up economic activities under MGNREGS, they are also bound to make certain decisions on the kind of work they would do, like taking decision on spending their hard earned wages, contribution to family expenditure and participation in community association. In tamilnadu MGNREGS have the potential of addressing women's practical needs through wage employment and the certain assets that address basic needs of food, water, fuel and the fodder community based womens group such as self help groups (SHGS) play a very important role. This can help in the more confident and effective expression of needs and affect the selection of works.

**MGNREGS and Food security**

Workforce programmes have been important programme interventions in India like MGNREGS. These programmes typically provide unskilled workers with short term employment on public works. They provide involve transfers to poor households during periods when they suffer on account of absence of opportunity of employment. The experience with MGNREGS so far suggests that it is one of the main planks of rapid poverty reduction in the eleventh five year plan.

**Findings and Conclusion**

In the year 2009-2010 all the three phase more than 99.85 percent of demanded of households were employed. In the year 2011-2012, 99.43 percent of demanded of households were employed. In the year 2010-2012, all the three phase 9.44 percentage of households received employment for the entire 100 days. In the year 2013-2014, only 2.44 percentage of households received employment for the entire 100 days. MGNREGS is landmark legislation in the history of social security legislation in India after independence. Enacted after a successful struggle for a comprehensive employment guarantee law, this legislation is a partial victory towards a fullfledged right to employment. Though MGNREGS is a well thought out legislation, a powerful tool in the hands of the common people to get their basic livelihood, but its poor execution deprives the rural poor from their basic rights. MGNREGS works of Tamilnadu focused on building poverty alleviation initiative like renovation of water bodies, land development etc., These works are very much gelling with the vision of the programme. The programme should also address specific infrastructure initiatives that would deliver multiplying effect to their villages. For developing rural economy, the programme is definitely a boon but it needs to metamorphose fitting to the locality needs and there by maturing its activities from being just a means of short term job provider to long term sustainable livelihood enhancement initiatives.

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# FACTORS INFLUENCING STRESS AMONG THE UNAIDED WOMEN TEACHING STAFF OF SACRED HEART COLLEGE (AUTONOMOUS), TIRUPATTUR, VELLORE DISTRICT

Now-a-days stress has become an universal phenomenon. The word Stress originally has been derived from a Latin word 'STRINGERE' meaning to 'draw tight' (Pabla, 2012). Stress is a general term applied to various mental and physiological pressures experienced by people feel in their lives. Stress may also be defined as "a state of psychological and / or physiological imbalance resulting from the disparity between situational demand and the individual's ability and / or motivation to meet those demands." Stress can be positive or negative. Stress depends on the personality general outlook on life, problem solving abilities, and social support system (Manjula C, 2012). Stress can be positive when the situation offers an opportunity for a person to gain something; it acts as a motivator for peak performance. Stress can be negative when a person faces social, physical, organizational and emotional problems. Stress is a state of anxiety, conflict, heightened emotion and frustration, diagnosed from psychological and physiological symptoms (Pabla, 2012). Teaching is becoming an increasingly stressful and brainstorming activity in the modern days. There are several factors operating around the field of teaching, especially in colleges. The profession of teaching has become from 'command of respect' to 'demand for respect' in the modern society. Teaching in higher educational institution in India today is rambling in quagmire of uncertainty of purpose, lack of professionalism and crisis of status (Dhrub Kumar, 2011).

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**Objectives of the study**

- To identify the multiplicity of factors which cause stress among the women unaided teaching staffs working in this college.
- To analyze the role played by these factors on their socio–economic conditions.

**Methodology**

The entire women unaided teaching faculty of this college is taken for the study. There are about 36 unaided women teaching staffs in both shifts in different departments in both arts and science disciplines. Data collection was carried out with the help of a well structured questionnaire. The women staffs were given proper instructions before responding to the questions and a good rapport was created among the unaided women teaching faculty. They were also informed about the confidentiality of the information which they provide and would be kept secret strictly. They were also given enough time to answer all the questions. After the collection of information from the respondents the data was further analyzed with the help of appropriate statistical tools. Simple frequency table was used to present the socio-economic conditions of the respondents. Later factor analysis was adopted to identify the most important contributing variables for the stress among the unaided women teaching staff in Sacred Heart College (Autonomous), Tirupattur.

**Analysis and Interpretations**

Occupational stress related to women in higher educational institutional is becoming more sporadic and complicated. The combination of various factors that cause stress among the unaided women staff is discussed in detail in this chapter. Some of the factors taken into this study defi-

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nitely have impact on the performance and aspiration among the respondents. The collected data was further analyzed with the help of appropriate statistical method. The results from Table 1 shows that majority of the women staffs were under the age 30 i.e. around 70% while only 30% were above the age of 30. It is predicted that women who were not in a position to sustain stress tend to quit the job and only few are in a position to continue even after 30 years of age. Another reason is that some reveal that when they get a better prospect or committed to family expectations like marriages or other rituals they are not in a position to continue their job. Now days the government is posing more conditions in the recruitment process especially in terms of educational qualification. Under the collegiate education it is must for every candidate has to pass the NET/SET exams and added to that a Ph. D degree. Women working under stressful condition are not in a position to clear these eligibility tests. As recruitment norms are becoming more tough and difficult for the women staffs have to cope up with the upcoming challenges. Another important factor is the family set up. In the present day world people prefer to live in nuclear type of family rather than to live in joint family system.Out of these 36 respondents nearly 26 of them are living in a nuclear family set up whereas only 10 was living in joint family system. Regarding the income pattern the minimum income was around Rs. 12,000/- per month and the maximum was around Rs.19,500/- per month. The increase in income totally depends on the experience and qualification of the respondent. These two factors are having very high positive correlation of 0.893. In this study factor analysis was used to analyze the factors which have got more influencing character in creating stress among the women unaided teaching staff of Sacred Heart College (Autonomous) Tirupattur. The Principal Component Analysis with Varimax (orthogonal) rotation of 22 of the 26 Scaling questions from the questionnaire was gathered from 36 participants. An examination of the Kaiser – Meyer – Olkin measure of sampling adequacy suggested that the sample was favourable (KMO = .628) and it was statistically significant at1% level of significance and the Bartlett's test of Chi-square was 384.493 which was also significant for further analysis.

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**Rotated Component Matrix**

| Component : Factors influencing Stress | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Lack of opportunities to utilize my skills and abilities | .893 | | | | | |
| Lack of motivation support from the management | .812 | | | | | |
| Hard work not recognized | .743 | | | | | |
| I have aspirations by the organizational set up does not promote | .700 | | | | | |
| Lack of promotion | .644 | | | | | |
| I lack the freedom to ask for any sort of help when I need from my superiors | .588 | | | | | |
| Salary not sufficient | | .813 | | | | |
| College in rural setup | | .762 | | | | |
| Lack of autonomy | | .667 | | | | |
| Lack of my involvement in decision making process | | | .805 | | | |
| Extracting work from my subordinates is an ordeal for me | | | .796 | | | |
| I find it suffocating to function within my organizational system where there is no place for questioning approach | | | .770 | | | |
| Family problem | | | | .833 | | |
| Lack of clarity about the responsibility given to me | | | | .727 | | |
| My responsibilities interfere with my family setup | | | | .598 | | |
| Heavy Syllabus | | | | .597 | | |
| Pressure to produce results | | | | | .771 | |
| More roles & responsibilities | | | | | .744 | |
| Extra efforts I need to take, to prove myself in my role puts me under pressure | | | | | .690 | |
| Heavy Work Load | | | | | .615 | |
| Uncertain about Job Security | | | | | | .835 |
| Poor or weak students | | | | | | .504 |
| **Eigen Values** | **5.830** | **3.032** | **2.109** | **2.043** | **1.683** | **1.031** |
| **Percentage of Total Variance** | **26.502** | **13.784** | **9.585** | **9.286** | **7.652** | **4.687** |
| **Number of Test Measures** | **6** | **3** | **3** | **4** | **4** | **2** |
| **Cumulative Percentage = 71.496** | | | | | | |
| **Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 12 iterations.** | | | | | | |

**Suggestions to reduce Stress**

· The management of the college should concentrate more on the financial problems, unsatisfactory working environment the level of stress faced by the women unaided teaching staff so that certain problems can be solved.

· The individual staff member who often gets into stress due to organizational setup, proper care should be given to reduce stress by the organization. The institute can seek professional help whenever needed.

· Make the environment eco friendly and give enough time to enjoy an activity outside the work place. Do those activities that may help you to feel relaxed and comfortable.

· Maintain a positive attitude towards others and this will make it easier to live and work with others. Learn about the various coping mechanisms available to ease out your daily tensions.

**Conclusion**

The findings of the study clearly reveal that work stress is a real challenge for college teachers especially women teachers working in unaided mode in autonomous colleges. It is important from the management point of view that the workplace is being continuously monitored for the various reasons causing stress among the individuals. Further, it is not only important to identify stress problems and to deal with them but to promote healthy working atmosphere and reduce harmful effects of work. The individuals working in autonomous colleges need to be self-promoting, developing positive attitudes and create a health- promoting environment. There are several coping strategies to manage stress which can be adopted simultaneously and should be made part and parcel of every profession.

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# SPICES CULTIVATION IN VELLORE DISTRICT- AN DISAGGREGATE ANALYSIS FROM 2006-07-2011-12

India is rightly called as the "spice bowl of the world" for its varied production and superior quality spices. Growing spices for various purposes has been famous since ancient times. There are records about various spices and their properties in the *Vedas* as early as 6000 BC. India is well known for the spice trade which led to the exploration of various sea routes around the world. This attracted foreigners to India and this is the key reason India was invaded by the European countries and imperialized. This shows to which extent India was famous for the spices. The *National Horticulture Mission Report* revealed that curry leaves were grown only in Coimbatore, Salem and Thoothukudi. Turmeric was grown in Erode, Coimbatore, Vellore and Salem in Tamil Nadu while coriander was grown in Cuddalore, Perambalur and Virudhunagar; Chillies were grown mainly in Ramanathapuram, Thoothukudi. Tamarind was grown in Dindigul, Theni, Coimbatore and Madurai. A survey conducted by **Season and Crop Report of Tamil Nadu (2005-2010)** revealed that the production of chillies, turmeric, tamarind and coriander is spread across the districts of Tamil Nadu. The percentage share of turmeric production had increased by 16.7 percent, production of chillies had decreased by 1.8 percent and there had also been a fall in coriander production by 1.6 percent. The share of tamarind production had declined to 16.7 percent during the period 2005-2010.

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**Objectives of the Study**

1. To understand the spices production in Tamil Nadu.
2. To examine the area, production and yield of spice performance in Vellore district from 20006-07 to 20011-12 at a disaggregated level.
3. To identify the problem in spices production.
4. To suggest further strategy to increase a spices production.

**Hypothesis**

Ho: There is no association between area, production and yield in the study area.

**Methodology**

The study is exclusively based on secondary data. The major spices chosen for the study are chilies, turmeric, tamarind coriander, ginger, pepper, cloves and cinnamon, garlic and cardamom.The information relating to spices production in different districts of Tamil Nadu has been collected from ***Season and Crop Report of Tamil Nadu, Department of Economics and Statistics*** and Deputy Director of Horticulture, Vellore for the study period 2006-07 to 20011-12. Disaggregate Analysis was made to understand the Vellore district – Area under cultivation, Production and Yield of Spice Performance from 2006-07-2011-12. Similar model was used by **Ogunleye and Ayeni (2012)** to examine the demand for energy at disaggregate level (gas, electricity and petroleum) for Nigeria over the period 1970-2007. Further **Eduardo Loria (2003)** has also used a disaggregate analysis of the external constraint to growth for the Mexican Economy 1980-2000.

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## Results and Discussion

### Area, Production and Yield of Chillies in Vellore District

The empirical verification indicates the area of chillies for Vellore was 396 hec in 2006-07, which increased to 916 hec in 2011-12. The production and yield of Chillies has also miniscule increase during 20011-12. This implies that the extended area was not given adequate care to boost production or farmers did not provide better care to their existing plantation in order to increase yield this also establishes the point that land is subject to the universal Law of Diminishing Returns. Lack of technical assistance, lack of availability of fertilizer, disease problems, lack of credit facility, non-availability of suitable PPC (Plant Protection Chemicals) and labour availability problems were the major constraints in chilli cultivation as perceived by the farmers.

**Ho: There is no association between area, production and yield in the study area.**

| Chillies | | | | | | | Chi Square Test | P Value |
|---|---|---|---|---|---|---|---|---|
| Year | Area | Growth(%) | Production | Growth(%) | Yield | Growth(%) | | |
| 2006-07 | 396 | | 275 | | 694 | | 18.9 | <0.005 |
| 2011-12 | 916 | 131.3 | 916 | 233.1 | 1000 | 44.1 | | |
| Turmeric | | | | | | | | |
| 2006-07 | 861 | | 4947 | | 5746 | | 17.4 | <0.005 |
| 2011-12 | 1824 | 111.8 | 7296 | 47.5 | 4000 | -30.4 | | |
| Tamarind | | | | | | | | |
| 2006-07 | 428 | | 2495 | | 5829 | | 20.2 | <0.005 |
| 2011-12 | 374 | -12.6 | 3740 | 49.9 | 10000 | 71.6 | | |
| Coriander | | | | | | | | |
| 2006-07 | 65 | | 21 | | 323 | | 12.3 | <0.005 |
| 2011-12 | 93 | 43.1 | 465 | 2114.3 | 5000 | 1447.99 | | |

The chi Square test applied to find out the association between area, production and the yield. Since P value is less than 0.005, the null hypothesis is rejected at 5% level of significance. Hence it could be concluded that there is association between area, production and yield of the product of Chilles, Tamarind, Turmeric, and Coriander. Based on the row and column, during the study period there has been sustainable increase in area, Production and Yield for Chillies, and Coriander, but negative trend observed in Tamarind in area under production and similar trend observed in yield of Turmeric, however, the association among area under cultivation, production and yield appears positive in the study period in Vellore district.

### Policy Suggestions

· The outbreak of pests and diseases played a major role in reducing the yield of spices and the profit margin. Therefore, it is necessary to develop pest and disease resistant varieties of spices by research agencies. Government should also think of establishing disease forecasting centers in major spice growing areas so that outbreak of disease can be controlled.

· Exploitation of farmers by village merchants who take more profit constitutes another major problem. This could be eliminated by producers who would sell their produce in the regulated market through a co-operative marketing society. Hence, primary co-operative societies should be encouraged to arrange for sale of produce of its members in the regulated market through Taluka Agricultural Produce Co-operative Marketing Society (TAPCMS) via a system of pooling.

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- Indian spices are export competitive; there is a high instability in their export into the international market. Therefore, to capture the higher share in the world trade, much emphasis needs to be given on sanitary measures and standardization of packing and simplification in export procedure so that export may be increased to countries like Bangladesh, Malaysia, Uganda and Indonesia.

- Lack of technical knowledge in spice cultivation is an important lacuna. Therefore, the Agriculture Department should arrange for periodical training programmes for spice cultivaters in order to desseminate technical know-how of recently developed research in spices and improve their knowledge.

**Conclusion**

The above empirical analyses reveals all the nuances of spice cultivation in Vellore District. The results indicate that significant fluctuation occurred in area under cultivation, production and yield during the study period. Fluctuation was high, accentuated by various climatic and institutional factors. The research paper exemplifies the overall picture of spice cultivation in the state of Tamil Nadu. Similarly, there could some reasonable hike in production and yield at the marginal level which could be the manifestation of the usage of modern equipments in agricultural sectors. The empirical picture shows the impact of the implementation of new economic policy on spices performance at the state level is somewhat significant. Tamil Nadu is endowed with suitable climatic conditions for spice production like Kerala. Thus, the paper illustrates the spice performance in a comprehensive manner.

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# A STUDY ON WOMEN EMPOWERMENT AND SELE HELP GROUP'S FOUR DISTRICT OF TAMILNADU

Poverty and unemployment are the major problems of any under developed countries, to which India is no exception. Women and SHGs in many parts of the country have achieved success in bringing the women to the main stream of decision making. The SHG's in our country has become a source of inspiration for women's welfare. Formation of SHG's is a viable alternative to achieve the objectives of rural development and to get community participation in all rural development programme.

**Objectives**

1. To classification of the income, expenditure and savings of the members after joining SHGs.
2. To estimation for the four villages study areas and four districts of Tamil Nadu
3. To find the impact of self help groups of women in Tamil Nadu

**Research Methodology**

The present study has covered only four villages and four districts of Tamil Nadu Viz., Yellagiri Hills of Vellore District, Vengikal Village of Thiruvannamalai District, and Paparapatti Village of Dharmapuri District and Soolagiri Village of Krishnagiri District. The primary data were collected with the help of specially prepared interview schedule. The schedule include the questions related to the general information about the income, expenditure, savings and loan schemes available to SHG's members. Total 372 respondents were selected from 34 SHGs of four districts by simple random sampling method. This is purely a descriptive study. Therefore only percentage and average analysis tools were used for the analysis.

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**Date Analysis, Results and Discussion:**

The present date on the age-wise distribution of the households. In this study 21.00 percent of the respondents. In this study 22.00 percent of the respondents 20-30 age-wise majority of the age groups. It could be seen clearly from the discussion that study very 7.00 percent of the age-wise low level.

**Distribution of the households Amount of Loan Through SHGs Sample**

The SHGs charge reasonable interest. In the study are the prevailing interest rate is 1% to 4%. All the members are responsible to repay the loan to the banks. Therefore members are repaying the loan on time. Almost all the members in the study area are availing the loan facilities from their SHGs. The family expenditure has been increased due to positive change in the SHGs members' income. The incremental income not only enhance the expenditure of the family but also promote the savings of the family after they join in the SHGs. Here the objective of the SHGs is fulfilled. This is an achievement of the women SHGs in the study area.

**Classification of Households per Monthly Family Expenditure and SHG's**

The family expenditure has been increased due to positive change in the SHGs members' income. The incremental income not only enhance the expenditure of the family but also promote the savings of the family after they join in the SHGs. Here the objective of the SHGs is fulfilled.

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This is an achievement of the women SHGs in the study area. Usually working women are being respected by the household members and the society. Nowadays the women in the SHGs are also respected by the others, because they are independent in earning the income and they are contributing to household income, expenditure and savings.

**Distribution of Households and Repayment of Loan in SHGs'**

The moreover banks instruct the members to save minimum Rs. 200 per month. So re-payment is very easy for SHGs. The loans can be used by individual group members for their personal needs, some time the group may invest on any economic activities. Nowadays many SHGs are starting small business, cottage industries, food processing units etc. The SHGs in the study area grant the loan to their member for various purposes.

**Conclusion:**

In this study 22.00 percent of the respondents 20-30 age-wise majority of the age groups. It could be seen clearly from the discussion that study very 7.00 percent of the age-wise low level. Almost all the members in the study area are availing the loan facilities from their SHGs. The family expenditure has been increased due to positive change in the SHGs members' income. The incremental income not only enhance the expenditure of the family but also promote the savings of the family after they join in the SHGs. the moreover banks instruct the members to save minimum Rs. 200 per month. So re-payment is very easy for SHGs. The loans can be used by individual group members for their personal needs, some time the group may invest on any economic activities.

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# WOMEN HEALTH IN RANIPETTAI TOWN IN VELLORE DISTRICT

This study explores the nature of diseases and utilization health care among women in Ranipettai industrial town in Vellore district. The household are selected on the basis of income category of different location in Ranipettai town and simple random sampling method of methodology is used in the study. The section II provide socio-economic condition of women, section III deals nature of disease, IV provide utility of health care services and finally provide conclusion.

**Socio-Economic Conditions**

Age plays an important role in balancing work-life for the Women. The age of the respondents is classified into five categories. Among the respondents age-wise classification out of 100 respondents, that less than half (46%) of the respondents are belongs to 26 to 35 years, (30%) of the respondents are in the age group of 36 to 45 years, (9%) of the of the respondents are in the age group of below 25 years and (9%) of the of the respondents are in the age group of 46 to 55 years and very minimum 6 per cent of the respondents are in the age group of above 56 years. In the caste-wise classification of the respondents, (36%) of the respondents are belongs to BC community, (36%) of the respondents are belongs to MBC community and (28%) of the respondents are belongs to SC community. The researcher has to conclude that the majority of the respondents were BC and MBC community. The BCs are Mudilayar, Chettiar, Yadvar, Muslims are (Labbi and Thatni). MBC are Vanniyar and SCs are Adi-Dravidar. In the religion the majority 82 Per cent of the respondents are belongs to the Hindu, 16 Per cent of the respondents were belongs to Muslim and minimum 2 Per cent of the respondents were belongs to Christian. The educational qualification of the women's 21 Per cent of the respondents were studied middle school, 18 Per cent of the respondents were studied High school, 17 per cent of the respondents were illiterate, 16 per cent respondents were studied Primary school, 13 Per cent of the respondents were studied Higher secondary school, 12 Per cent of the respondents were Post Graduate and 3 Per cent of the respondents were studied Diploma.

**Nature of Diseases of the Respondents**

In the nature of diseases that majority of 99 per cent of the respondents has no viral fever and only one per cent of the respondent having viral fever of 1 to 3 years. The majority of 95 per cent of the respondents are not affected in Diabetes, 4 per cent of the respondent having Diabetes of 1 to 3 years and only one per cent of the respondent having Diabetes of more than 3 to 5 year. As majority of 94 per cent of the respondents having no heart problems, 3 Per cent of the respondents having Heart Problems of 1 to 3 years, 2 per cent of the respondents having Heart Problems of more than 8 to 10 years and 1Per cent of the respondent having Heart Problems of more than 5 to 8 years. That the majority of 98 Per cent of the respondents having No Dermatology Problem, 1 per cent of respondent having Dermatology Problem of 1 to 3 years and 1 per cent of respondent having Dermatology Problem of more than 3 to 5 years. The majority more than half 54 Per cent of the respondents having No Menstrual Problem, 23 Per cent of the respondents having menstrual problem of 1 to 3 years, 13 per cent of the respondents having menstrual problem of 3 to 5 years, 8 per cent of the respondents having menstrual problem of more than 5 to 8 years and only 2 per cent of the respondents having menstrual problem of more than 8 to 10 years. 48 per cent of the respondents having No Stomach Pain, 33 per cent of the respondents having Stomach pain of 1 to 3 years,

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12 per cent of the respondents having Stomach pain of 3 to 5 years, 5 per cent of the respondents having Stomach pain of more than 5 to 8 years and only 2 per cent of the respondents having Stomach pain of more than 8 to 10 years.

Majority of 68 per cent of the respondents having No Blood Pressure, 18 per cent of the respondents having Blood Pressure of 1 to 3 years, 13 per cent of the respondents is having Blood Pressure of 3 to 5 years and 1per cent of the respondents having Blood Pressure of more than 5 to 8 years. Majority of more than three fourth 79 per cent of the respondents having No Abortion, 12 per cent of the respondents having Abortion of 3 to 5 years, 5 per cent of the respondents having Abortion of 5 to 8 years, 3 per cent of the respondents having Abortion of more than 1 to 3 years and only 1 per cent of the respondent having Abortion of more than 8 to 10 years.More than half 76 per cent of the respondents having Joint pain from 1 to 3 years, 15 Per cent of the respondents having no Joint Pain and 9 Per cent of the respondents having Joint Pain from 3 to 5 years. Majority of 75 per cent of the respondents having Back Pain from 1 to 3 years, 15 Per cent of the respondents having no Back Pain, 9 Per cent of the respondents having Back Pain of 3 to 5 years and 1 Per cent of the respondent having Back Pain of more than 5 to 8 years,

**Utility of Health Services**

The majority 72 per cent of the respondents prefers the Female Doctor and 28 Per cent of the respondents prefers the Male Doctor.The majority of more than 56 per cent of the respondents prefers the Private Hospital and 44 per cent of the respondents prefer the Govt. Hospital.The majorities more than half 56 Per cent of the respondents are not applicable to prefer Govt. Hospital, Due to the low financial condition 39per cent of the respondents prefer Govt. Hospital, 3 Per cent of the respondents prefer Govt. Hospital due to free of cost and 2 Per cent of the respondents prefer Govt. Hospital due to free Treatment. The Reason for not prefer Govt. Hospital. 51 Per cent of the respondents do not prefers Govt. Hospital due to delay in the test, 44 per cent of the respondents are not applicable, 3 per cent of the respondents do not prefers Govt. Hospital due to the lack of infrastructure facilities and 2 Per cent of the respondents do not prefers Govt. Hospital due to lack of preference to patients. The majority more than half 44% of the respondents is Not Applicable to prefer Private Hospital, Due to the immediate checkup 35% of the respondents prefers Private Hospital, 13% of the respondents prefers Private Hospital due to the immediate cure and 4 per cent of the respondents prefers Private Hospital due to more importance to patients. The Reason for not prefer Private Hospital, 56 per cent of the respondents are not applicable, Due to treatment charges are high 35 per cent of the respondents do not prefers Private Hospital, 7 per cent of the respondents do not prefers Private Hospital due to Extra fees for medicine and 2 per cent of the respondents do not prefers Private Hospital due to lack imbalances.More than half 54% of the respondents spends medical expenditure of Rs.101 to 200, 26% of the respondents spends medical expenditure of above Rs.401, 13% of the respondents spends medical expenditure of below Rs.100, 6 per cent of the respondents spends medical expenditure of Rs.201 to 300 and 1 per cent of the respondents spends medical expenditure of Rs.301 to 400.Majority more half 61% of the respondents manages the medical expenditure from Debt, 37% of the respondents manages the medical expenditure from Family income, 1% of the respondents manages the medical expenditure from Friends and relatives and mortgage of jewels.The total amount for spending medical expenditure, the majority of 94% of the respondents spending total amount for medical expenditure of Rs.1000 to 2000, 5% of the respondents spending total amount for medical expenditure of Rs.3000 to 5000, 1% of the respondents spending total amount for medical expenditure of Rs.6000 to 8000.

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**Conclusion:**

Health policy for integrating women's health care needs, holistically. Such an approach would include safe motherhood and child survival services for effectively containing morbidity due mainly

to malnutrition and sex bias against girl children which is evidenced by the continually declining sex-ratio. It should contain proper counseling for planned and responsible parenthood, development of user friendly IEC, mechanism to address the physical, social, mental/psychological well-being of all human beings. Hence, the essence of empowering women and the community at large for better health care is to regulate their lifestyles with responsibility for safer health, reproductive health and safe sex behaviors: Both reproductive health and development framework should cater to meeting a 'basic needs' agenda.Identify the public health system as a key mediator between individual women, households, social structures and the state. Increase public investment and donor agency support to reach the poorest to empower them to exercise their reproductive rights through rational choices. Government and non-governmental organizations (NGOs) must focus their much needed attention to investing in the development of women and girl children and give priority to their education, skill development; ensuring sustained self development opportunities; access and control over property resources, credit support systems and their legal and economic rights. Only this can ensure equality of women and thereby paving the way for a futuristic scenario of hope and thereby paving the way for a futuristic scenario of hope and the sustainable development of human-kind on earth. To increase higher levels of education and health awareness among women.To provide better utilization of health services because of high levels of education and public awareness of rights and access to health services

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# ROLE OF NON-GOVERNMENTAL ORGANISATIONS IN MICRO FINANCE THROUGH SHGS –A STUDY IN VELLORE DISTRICT OF TAMIL NADU.

Non-governmental Organisations are playing a vital role in the formation of Self-Help Groups and motivating women to join in Self-Help Groups. Nongovernmental Organisations in India were responsible for converting the pilot programme of Self-Help Groups into a mass movement in our country.

**Statement of the Problem:**

The above studies have narrated the role of NGOs in delivering microfinance through SHGs. There was no study conducted earlier in Vellore district about the role of microfinance. The present study was undertaken in Vellore district of Tamil Nadu to assess the role of NGOs in microfinance. The present study is undertaken with the following specific objective:

- To evaluate the role of Non-governmental Organisations in microfinance.

**Research Methodology:**

**Selection of Blocks:**

There are 11625 Self Help Groups in Vellore district. The district has 20 blocks. The average percentage of SHGs per block comes to five. Of these blocks, two blocks have numbers of Self Help Groups nearly equal to 5 percent. These two blocks, viz., Nemili and Natrampalli are situated at the opposite ends of the Vellore district. Nemili 580 Self Help Groups (4.99%) ; Natrampalli 559 Self Help Groups (4.81%) ; Only these two blocks have number of Self Help Groups nearly equal to the mean value, hence these two blocks were selected for the study. Nemili block occupies 298.30 Sq. km. in the district. Its population is 141813 and covers 4.07 per cent population of the Vellore district. 60 per cent of the population in Nemili block is literate. There are 31588 rural families, of which BPL families are 11020. Thus, it can be concluded that 35 per cent of its families live below poverty line. Area of Natrampalli Block is 229.36 Sq. km. Its population is 94301 as per 2001 census and constitutes 2.71 per cent of Vellore district's population. 56 per cent of its population is literate. There are 20927 rural families in the block of which 7534 families live below poverty line and it can be said that 36 per cent of rural families are poverty stricken and 31 per cent of population lives below poverty line. So both the blocks taken for study have similar features of BPL families, population and poverty.

**Sampling Design:**

A three stage sampling procedure was adopted. Vellore district in Tamil Nadu was selected based on the number of SHGs in the state of Tamil Nadu. In the second stage, two blocks in Vellore district were selected which are having the average number of SHGs in the district, out of the 20 blocks in the district. Accordingly Natrampalli and Nemili blocks which are located at opposite ends of the district were selected. List of SHGs in these two blocks were obtained from the Project Officer of Tamil Nadu Women Development Corporation, Vellore. The SHGs were selected randomly in the two blocks at 45 SHGs from each block.

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**Selection of Respondents:**

45 Self-Help Groups were identified from each block and 5 members from each SHG were selected randomly and in total 450 sample respondents comprising 225 respondents from Nemili block and 225 from Natrampalli block, were selected for study were chosen for the study. The study was carried out during 2008-09. Groups formed in the last ten years were studied. Members of the groups were interviewed with the pre-tested and well structured questionnaire/schedule.

**Analysis of Data:**

Descriptive statistical analysis such as mean, percentage, etc., was carried out and ANOVA tests were also applied as necessary.

**Testing of Hypotheses**:

**Null Hypothesis:** ***There is no relationship between educational status of the respondents and role of NGOs.***

The null hypothesis was formulated to analyse the relationship between the educational status and awareness regarding the role of NGOs and normally it is expected that the higher the educational status and more will be the awareness regarding the role of NGOs. the calculated value of F is significant at 1% level (F= 6.925, p=.000). In other words, there exists a significant relationship between the educational level of the respondents and the roles of NGOs. The result indicates that illiterate respondents are well aware of the role of NGOs in micro finance than other category of respondents since practically they are impressed by the role of NGOs.

| Educational level of respondents | Mean | Std. Deviation | F | Sig. |
|---|---|---|---|---|
| Illiterate | 3.8021 | .97015 | 6.925 | .000 |
| SSLC | 3.3701 | 1.08346 | | |
| Higher Secondary | 3.0638 | .68740 | | |
| Degree and above | 3.3833 | 1.65047 | | |
| Total | 3.5039 | 1.06470 | | |

Source : Output of SPSS

**Null Hypothesis:** ***There is no relationship between period of membership in the SHG and role of NGOs.***

The null hypothesis was formulated to analyse the relationship between the years of membership in SHG and awareness regarding the role of NGOs and normally it is expected that the higher the period of membership in SHG, more will be the awareness regarding the role of NGOs. The 450 respondents were divided in to two groups i.e. groups formed before 2005 and groups formed after 2005.It is evident from the table 11 that the calculated value of F is significant at 1% level (F= 8.250, p=.000). Respondents belonging to the older or matured groups i.e. groups formed before 2005 are well aware of the role of NGOs than the respondents belonging to recently formed groups.

Effect of period of membership on the role of NGOs

| Groups formed during | Mean | Std. Deviation | F | Sig. |
|---|---|---|---|---|
| Groups formed before 2005 | 3.6807 | .98369 | 8.250 | .004 |
| Groups formed after 2005 | 3.3882 | 1.10099 | | |
| **Total** | **3.5039** | **1.06470** | | |

Source : Output of SPSS

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**Null Hypothesis:** ***There is* no *relationship between the loan amount and role of NGOs.***

The null hypothesis was formulated to analyse the relationship between the loan amount and awareness regarding the role of NGOs and normally it is expected that the higher the loan amount, the more will be the awareness regarding the role of NGOs. It is evident from the table 12, that the calculated value of F is significant at 5% level (F= 2.177, p=.044). It is concluded that there is a relationship between the loan amount and the role of NGOs, higher the loan amount higher the awareness about the role of NGOs among rural women in Vellore district.

**Effect of loan amount and the role of NGOs**

| Loan Amount | Mean | Std. Deviation | F | Sig. |
|---|---|---|---|---|
| Upto 5000 | 3.3873 | 1.15351 | 2.177 | .044 |
| 5001 to 9999 | 3.3272 | .93761 | | |
| 10000 to 24999 | 3.6825 | .98451 | | |
| 25000 to 50000 | 3.6669 | 1.04694 | | |
| 50001 to 100000 | 3.665 | 1.02169 | | |
| Above 150000 | 4.1043 | .65105 | | |
| **Total** | **3.5039** | **1.06470** | | |

Source : Output of SPSS

**Findings of the Study:**

1. Majority of the respondents is less than 40 years of age (343 respondents out of 450) and 107 respondents were beyond 40 years. Most of the respondents (59.1%) have studied up to S.S.L.C, while nine respondents (2%) are graduates. One third of the respondents joined Self-Help Groups for the purpose of savings and 22% of respondents joined to supplement their family income and 11% of respondents joined the groups to save as well as to avail loans. It is worthwhile to mention that only 43 respondents joined Self-Help Groups exclusively to start income generating activities. Some of the respondents have multiple reasons to join the groups and very few joined to gain special status and to get subsidy from banks. Most of the respondents (46%) received loans less than INR five thousands and 88% of the respondents received loans less than INR fifty thousands. Only 14 respondents out of 450 respondents received more than one hundred thousands as loan. Only 13.33% respondents used loans for consumption purposes and remaining respondents used loans for production purposes.

2. NGOs remain as the largest single motivating force for group initiation and formation process as per the views of 247 respondents; Banks and Government departments played minimal role in motivating the women to join in SHGs

3. More than fifty per cent of the respondents expressed that they were motivated to join in the groups by the NGOs. Banks and Government departments played minimal role in motivating the women to join in SHGs. The present study concludes that NGOs remain as the largest single motivating force for group initiation and formation process and Government departments, neighbours, relatives of women play negligible role in the formation of SHGs. Most of the respondents expressed that they were motivated to join in the groups by the NGOs. Banks and Government departments played minimal role in motivating the women to join in SHGs.

4. NGOs play an important role in SHG formation, linking the groups with the banks, arranging for loans and imparting training to start income generating activities.

5. NGOs are playing very little role in arranging for marketing activities, subsidy from DRDA and exhibitions. There is no doubt that the SHG mechanism increases the savings habit and enhances the income of the family so as to enable them to meet the daily domestic responsibilities.

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6. Education of the respondents, period of membership in the SHG and loan amount significantly influences the awareness about the role and impact of NGO.

**Conclusion:**

Non-governmental Organisations play a vital role in helping rural women to form Self-Help Groups and they motivated women to join Self-Help Groups. Nearly 55% of the respondents informed that Non-governmental Organisations helped them to form Self-Help Groups. Government departments and neighbouring Self-Help Groups play very negligible role in the formation of Self-Help Groups. It is concluded that NGOs and self motivation of women are the main motivational factors to join SHGs and Self-Help Group members also influence other women to join the groups. These finding are similar to the earlier findings of some studies carried out by Loyola (2004) in Kerala that NGOs played a major role and neighbours played a minimal role in group formation. Respondents are well aware about the role of NGOs where NGOs are active in their quality of work rather than the no of players and is reflected in the study. It is concluded that NGOs play an important role in SHG formation, linking the groups with the banks, arranging for loans and imparting training to start income generating activities.

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# FARMERS INDEBTESS IN THIRUVANAMALAI DISTRICT: A STUDY OF AMMAPALAYAM VILLAGE

The present study aim to explore the source of credit of farmers household and to find the causes of indebtness. This study divided into Socio-Economic Conditions in the study village and agrarian conditions of the study village, landholding pattern, sources of credit and conclusion.

**Socio-Economic Conditions in the Study Village:**

Majority 89.0 percent of the respondents are Most Backward Castes (MBCs), are they were belong *Vanniyar* caste and remaining 11.0 percent of the respondents are Backward Castes (BC) among these 9 respondents were *Mudaliyar* and 2 respondents were *Yadava*. Among the respondents 99 percent belong respondents were Hindus and remaining 1.0 percent of the respondents were Muslims. In gender, males are predominant group in the sample. About 97 percent of the respondents were found to be male and remaining 3 percent of the respondents were female, first, female respondents is involved in agriculture for her husband worked in army; second female respondents is widow so involved in agriculture; and third female respondents are involved in agriculture because her husband job at Chennai. In the status of education, among the respondents 51 percent the respondents are in the category of primary level education, 30 percent of the respondents are in the category secondary level education. 11 percent of the respondents are in the higher secondary level education and least 8 percent of the respondents were in the category degree level education, 5 respondents are studied B.A. History, 2 respondents are studied B.A. Tamil and remaining 1 respondents are studied B.Com.

**Agrarian Conditions of the Study Village: Landholding Pattern**

Out of 100 samples, 48.0 percent of the respondents were having 1 to 3 acres of land, 17 percent of the respondents having 3 to 5 acre, 6 percent of the respondents are having 7 to 10 acres of land, 3 percent of the respondents are having above 10 acre of land and remaining 2 percent of the respondents are having land 7 to 10 acre. It clearly should that majority of land holding belong to the marginal cultivators. Out of 100 samples, 98.0 percent of the respondents are having own land and remaining 2 percent of the respondents are having leased land.

**Indebtness of the Respondents**

For institutional credit, the loan received from primary agriculture credit society, i.e., co-operative society, out of 100 respondents, 72.0 percent of the respondents are not received from credit 19 percent of the respondents are received credit below Rs. 25000, 5 percent of the respondents are received credit from above Rs.45,001, 3 percent of the respondents are received credit from Rs.35,001 to 45,000 and remaining 1 percent of the respondents are received credit from Rs.25001 to 35000. For other than co-operative ban and it means that other bank, out of 100 respondents, 86.0 percent of the respondents are not received from credit, 6 percent of the respondents are received credit from below Rs.25000,4 percent of the respondents are received credit above Rs.45001, 3 percent of the respondents are received credit from Rs.35001 to 45000, 3 percent of the respondents are received loan from Rs.35,001 to 45,000 and remaining 1 percent of the respondents are received credit from Rs.25001 to 35000. The credit received from Self Help Group (SHG) out of 100

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respondents, 90.0 percent of the respondents are not received credit SHG, 5 percent of the respondents are received credit from SHG above Rs.10001 3 percent of the respondents are receive credit from SHG below Rs.5000 and remaining 2 percent of the respondents are received credit from SHG Rs. 5001 to 10000. In the non-institutional credit from money lenders, out of 100 respondents, 87.0 percent of the respondents are not received credit from money lenders,7 percent of the respondents are received credit from money lenders Rs.25000 to 35000 and remaining 3 percent of the respondents are received credit from money lenders below Rs.25000 and above Rs.35001. Credit received from friends and relatives, out of 100 respondents, 93.0 percent of the respondents are not received credit from friends and relatives, 3 percent of the respondents are received credit from friends and relatives below Rs.5000, 2 percent of the respondents are receive credit from friends and relatives above Rs.8001 and remaining1 percent of the respondents are received credit from friends and relatives Rs.7000 and Rs.8000. For the purpose of loan, out of 100 respondents, 40.0 percent of the respondents purpose to credit agriculture cultivation, 29 percent of the respondents are no credit, 8 percent of the respondents are purpose to credit agriculture cultivation, medical expenditure and education, 5 percent of the respondents are education, 3 percent of the respondents are agriculture cultivation and medical expenditure, 1 percent of the respondents are marriage, medical, agriculture cultivation, marriage and medical expenditure.

**Conclusion:**

The state governments have implemented crop insurance schemes in major crops like paddy, sugarcane and other major crops. The state governments have strengthened primary agricultural co-operative societies and to timely provide short-term loans. To strengthen microfinance at gross root level. The central government have to increases the rural branches and to improve the priority sectors loans. The government have extension activities and to advice less cost crops.

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# TRENDS IN AREA, PRODUCTION AND PRODUCTIVITY OF PULSES IN TAMIL NADU

Pulses are considered to be the bread bone of the destitute people on India. India is one of the largest producer and consumer of Pulses in the world (Sekar I, 2003). Pulses are rich in protein and are used by many of the Indian families along with other food products. The consumption of pulses is more in poor families when compared to rich people. It is sometimes referred to as poor man's diet. Pulses are cultivated more under rainfed conditions in many parts of the country (Devaraj, 2003). When the cost of cultivation soars high in the case of food crops like rice, wheat then the farmers tend to shift towards cultivating different types of pulses. In India common pulses like chickpea, field pea, pigeon pea, lentil, mungbean, urd, cowpea, etc, are cultivated in different seasons according to the availability of the resources (Jitendra Singh, 2009). In India there are about six leading states in the production of pulses namely Madhya Pradesh, Maharashtra, Rajasthan, Uttar Pradesh, Karnataka and Andhra Pradesh. However, certain varieties of pulses are cultivated in Tamil Nadu with limited supply of land. In Tamil Nadu pulses like bengal gram, red gram, black gram, green gram, horse gram, cowpea, motchai, avarai, narpayiru, etc are cultivated in different parts of the state.

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**Objectives of the study**

1. To examine the trends in area, production and productivity of pulses in Tamil Nadu.
2. To study the problems faced by the farmers in Tamil Nadu and suggest appropriate measures to enhance pulses production.

**Methodology**

The present study is based on the secondary data collected from Season and Crop Reports published by the Department of Economics and Statistics, Government of Tamil Nadu for the agricultural years 1999-2000 to 2010-2011. A simple tabulated mean, standard deviation and coefficient of variation is used for analyzing the data and simple graphical representation is used for trend analysis. Statistical package like SPSS is used for analyzing the data.

**Results and Discussion**

**Growth Trend** –There is an oscillating trend in the area and production of pulses in Tamil Nadu from the year 2000 to 2011. In the initial years of the study there area under cultivation and proportionately the production was high. This was mainly because of the sufficient rainfall and low cost of production. Wherein after 2003 there seems to be a steep decline in the area under pulses cultivation and correspondingly the production also decreased. The decline in the area and production in pulses were due to the persistent problems of insects and diseases, uncertain rainfall, low price, institutional constraints, problems related to technological upgradation and moreover increase in the cost of production. The non availability of good hybrid seeds, poor technical guidance, untimely availability of inputs, poor storage and marketing facilities are some of the major constraints which prevent the expansion of pulses cultivation in Tamil Nadu. On the other hand the yield rate of pulses also depicts a decreasing trend since 2001. The main reasons for the low level of productivity in pulses are poor quality of seeds, farmers lack of information regarding the soil

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manure conservation, the status of farmers especially the small and marginal farmers who were poor were not in a position to buy hybrid seeds, fertilizers, pesticides and other farming inputs. Apart from these pest attacks, grazing of crops by animals, low market prices are added constraints for the existence of low productivity of pulses in Tamil Nadu. As the study progressed an effort is made to study the variation in the area, production and yield of pulses in Tamil Nadu from 2001-02 to 2010-11. For this purpose coefficient of variation is applied for the data and results were obtained accordingly. The results show that the coefficient of variation for area under pulses cultivation is 11.107, production 21.683 and yield rate 16.785, which shows that very low growth rates has been obtained over the study period. Ultimately, the need for Government intervention becomes compulsory.

**Suggestions to Enhance Pulses Production**

To meet the challenges of pulses production in second generation as in the post world trade organization regime, there is need to adopt multi-pronged strategies which involves enhancing pulses production through area expansion and productivity through better adoption of improved technology, value addition in raw pulses to increase their competitiveness and profitability, overcoming the constraints of domestic marketing and final liberalizing trade of pulses in Tamil Nadu. In Tamil Nadu there is an urgent need to make a buffer stock of pulses, government support price policy to protect the farmers as well as from heavy fluctuations in pulses prices, establishment and development of improved storage facilities and small scale pulse processing industries are essential in rural area to prevent post harvest losses of pulses due to incidence of insect and pest and excess moisture stresses during the storage. There are various factors like cultivation of pulses on marginal land, negligible or minor use of nutrients in pulse crops, cultivation of pulse crops in rainfed or unirrigated situation, lack of water and weed management, higher incidence of diseases and pests, lack of improved techniques for storage, processing and post harvest management of pulses, unfavorable policy of government for price support and purchasing of produce at government level etc. responsible for slow growth or stagnation for pulses in India since more than last fifty years in India. There is also an pressing need to enhance the productivity and profitability of pulses in the country through development of early maturity, photo insensitive, high yielding, hybrid varieties, multi pronged biotic and abiotic stress resistant by the network of research institutions. The government support price policy is needed for effective market intervention to protect the distress sale by farmers when the market price falls below the minimum support price and diversion of pulses area to other competing crops. There is need to future trading for owing to wild intra and inter seasonal fluctuations in pulses prices and for stabilizing the prices in the long run. The wider support and coverage of comprehensive crop insurance scheme is essential for minimizing risk and uncertainly due to various natural as well manmade calamities. Effort should be made for identification of area/region specific approaches where area, production and productivity of different pulses crops can be increased with cost effective technology and management methods in sustainable manners.

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# PERFORMANCE OF MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT GUARANTEE ACT (MGNREGA) IN VELLORE DISTRICT, TAMILNADU.

The Mahatma Gandhi Rural Employment Guarantee act (MGNREGA), notified on 7th September, 2005 by the Government of India. This Act aims at enhancing livelihood security of households in rural areas of the country by providing at least one hundred days of guaranteed wage employment in a financial year to every household, whose adult member volunteer to do unskilled manual work. The chronic poverty like drought, deforestation and soil erosion etc,. so that the process or employment generation could be maintained on a sustainable basis. The MGNREGA promises wage employment to every adult person who resides in any rural area and is willing to do casual manual work at the statutory minimum wage. The employment seeker has to register with the Gram Panchayat for a job card that will be valid for a minimum of 5 years. Different persons belonging to the same household shall share the same job card which is renewable. All applications must be for at least 14 days of continuous work. There is no limit on the number of days of employment for which a person applies, or on the number of days of employment actually provided to him or her. It is the responsibility of the state government to provide to every applicant within 15 days of receipt of his application. Else, it is liable to pay and unemployment allowance to the applicant at the minimum wage rate. Panchayat Raj Institution are principal planning, implementing and monitoring authorities. The Gram Sabha must monitor the execution of projects and conduct social audits of all projects executed within territorial jurisdiction. For this programme Central Government bears the 90 per cent of its expenditure and State Government has to bear 10 percent of its total cost.

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**Data and Method of Study**

The objective of the present study is to assess the performance of NREGA activities in Vellore District,Tamilnadu. Secondary data only have been assessed to review the performance of NREGA. The data were collected from the official website of MGNREGA, research papers, and journals. The duration of the study period is 2006-07 to 2012-13. The Act covers all 615 rural districts in India, in 200 districts in the first phase in 2006-2007, 330 additional districts in phase II in 2007-08, and all the remaining rural districts were notified with effect from April 1, 2008 making phase III of the Act.

**An Overview Performance of MGNREGA in Tamil Nadu**

The performance of MGNREGA has significant in quantitative terms in the study period. The Number of households in Tamilnadu has increased significantly from 6 83481 lakhs in 2006-07 to 7054997 lakhs in 2012-13. In the year 2008 – 09 all the rural districts of Tamilnadu were included in MGNREGA.

**An Overview Performance of MGNREGA in Tamil Nadu**

The Number of person days generated for SC in the year 2008 – 09 was 725.39 and in the year 2012 – 13 it increased and created 1139.88 person days. Likewise for ST 20.93 in the year 2008 – 09 and in the year 2012 – 13 it was 54.11. Women number of person days generated in the year

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2008 – 09 was 457.27 while during the 2012 – 13 it was 3025.61 person days. It shows that lot of women were benefited through the scheme. Its financial position n the year 2008 – 09 was 179459 lakhs while in the year 2012 – 13 its fund available for the scheme was 459513 lakhs, 38862 works were held in 2008 – 09 it was 134238 in the year 2012 – 13.

**Major District wise No of Household Provided Employment**

The Number of household demanded and provided employment for the financial years 2010-11 to 2012-13, In Tamilnadu total rural population according to 2011 census was 37189229. In Vellore district the rural populations were 2234049, during the financial year 2010-11, 322139 household demanded employment within that 321130 household were provided employment, in the year 2011-12, 411015 household demanded employment and 408059 were provided employment. In the year 2010-11 5993757 rural household were demanded employment among that 5950863 were provided employment and in the year 2011- 12 it was 7105422 household were demanded employment and 7061409 household were provided employment. It shows that every year the employments were remarkably increased in the scheme every year the beneficial were gradually increased.

**Employment Generated by MGNREGA during the 2009-13:**

The employment generation during the Financial Year 2009-10 to 2012-13 in the Vellore District. In the year 2012-13 number of SC household received job card was 124791, ST household received job-card was 11215, and total number of house hold received job-card was 5115354. In 2010-11, 422071 household received job card addition to it 31175 more household received in the year 2011 – 13 addition to 58288 household received job card in the year 2012-13.total person days generated in the year 2012 – 13 was 27003587. While it increases 5707066 from 2010-11 addition to it 1441253 person days in 2011-12 and 8471117 person days were generated in the year 2012-13.number of person days completed 100 days were 39147 in the year 2010-11 and addition to it 12711 days in 2011-12 and 58770 days in the year 2012-13 total of 110628 person days were completed.

**Total Works Taken Up and Labour Expenditure under MGNREG in Vellore District**

The details of Total Works Taken Up and Labour Expenditure under MGNREGA in Vellore District. In the year 2010-11 total number or work completed were 3544 with labour expenditure or 12363.92 lakhs, in the year 2011-12 it was 4101 work completed with labour expenditure of 15228.68 lakhs and in the year 2012-13 it was 5256 completed work 2326.52 lakhs expenditure towards labour. It shows that the every year the amounts were increased for the benefit of the labour and in turn it will raise the purchasing power of the rural people. In 2012-13, 426 rural connectivity works were completed and it will increases better transportation. More over water conservation and harvesting work 3027 were completed that will results in the water storage and moister in the agricultural field. 1675 irrigation canals works were completed with labour expenditure of 7274.78 lakhs. 75 Other works such as Flood control, Drought proofing, rural sanitation, were completed with 26.72 lakhs on labour expenditure.

**Conclusion**

From the data source it concluded that most of the people in the Vellore district were benefited from the MGNREGA scheme. Every year the employment generations were increased it is observed from the issue of job-card and the house hold completed their 100 days of work. Every year demand for employment is increases and also they provide employment. The works which are taken up in the scheme will ensure the rural livelihood of the people. The work such as rural connectivity will increases better rural connectivity and also useful for marketing the agricultural and other product, the water related work will increases water storage and the better irrigation facility.

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# ROLE OF DAIRY FARMING IN RURAL DEVELOPMENT OF TAMIL NADU WITH SPECIAL REFERENCE TO TIRUVANNAMALAI DISTRICT

Dairying provides livelihood to millions of Indian farmers and generates additional income and employment for a large number of families in the countryside. Dairy industry is the single largest contributor to India's GDP and with its profound social impact, involves over 80 million small farming households. However, India with about18.36 per cent of the world's total cattle and buffalo population accounts for only about 14.5 per cent of the world's total milk production. Our livestock are roughly half as efficient as the average milk animals in the world and probably only one-fifth as efficient as those in the advanced countries. Although milk production in India has shown a rising trend ever since the inception of 'Operation Flood (OF)' programme in 1970-71, the Indian dairy industry acquired substantial growth from eighth plan onwards with rise in milk production from 58 million tonnes in 1992-93 to 108.5 million tonnes in 2008-09. This has not only placed Indian dairy industry on top of the world but also led to sustained growth in the availability of milk and milk products for the burgeoning population of the country. India has acquired the position of the largest producer of milk in the world despite constraints like rearing of livestock under sub optimal conditions due to low economic status of dairy owners. The development of Indian dairy sector is an unprecedented success story as it is based on millions of small producers.

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## Objectives

The overall objectives of the present study are to investigate the role of dairy farming in rural development of Tamil Nadu with special reference to Tiruvannamalai district With this view in mind the following specific objectives are framed.

- To examine the role of dairy farming in rural economy in drought prone areas.
- To study the factors affecting the performance of dairy farming and to examine their potential role in further enhancement /sustenance of rural livelihoods.
- To identify and study the feasibility of community action in bringing out efficiency in dairy output and, thereby, improvements in rural livelihoods
- To study the impact of sustainable dairy farming on the social development aspects of rural livelihoods.
- To suggest measures to improve rural livelihoods through dairy farming.

## Methodology

In the present study the data for the study was collected from primary and secondary sources in District Co-Operative milk production centre, Assistant Director of Statistical office in Tiruvannamalai. The relevant particulars were collected from the in various milk production centres in Chengam block.

## Data Base and Period of the Study

The study uses both primary and secondary data. The primary data were collected for the financial year 2011 - 2012. The data were collected from the respondents through interview method during December 2011 to January 2012. The secondary data were also collected.

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**Sampling Design**

The study was conducted in Tiruvannamalai District of chengam Block. The study area was purposefully selected by the researcher due to the following reasons: Agricultural based area, Animal Intensity Rearing habit and livelihood pattern and Employment opportunity. The above facts are presented based on the pilot survey conducted by the researcher. The researcher felt that Chengam Block is viable and potential one to conduct so meaningful and systematic study for dairy Industry. There are three veterinary dispensaries of which three zones have been identified viz., Puduppalayam, Chengam and Ammappalayam. The data relating to age, sex, community, occupation, family size, education and source wise income of the respondents have been obtained. Details on borrowings of the sample household for bovine rearing population and so on were collected for the present study. The respondents belong to the following religions namely Hindus and Christians. Majority of 80 per cent of the respondents are Hindu and 20 per cent of the respondents are Christians. The majority of the milk producers belong to Hindu religion. The respondents are belonging to the following communities namely Scheduled Caste, Backward Community and Most Backward Community. 32 per cent of the milk producers are Backward Community, 26 per cent of the respondents are Scheduled Caste, and 30 per cent of the respondents are Most Backward Caste. Sex ratio is one of the power full indicators of the social health conditions of the any society. It conveys a great deal about the state of gender relations. It gives the ratio of women and men in the population and reflects the relative chances of survival of women in relation to men. Among the total number of the respondents, 40 per cent of the milk producers are male while, 60 per cent are female. As for sex wise distribution of the respondents, female respondents dominate the male respondents and the males are less in number. There is low per cent with 21 of the milk producers who are up to the age of 30 and the milk production is lower when compared to the age group 31-50. 50 per cent of the Respondents' belonging to the age group 31-50 have higher percentage of their milk production. Majority of the respondents belong to the age group of 31-50 are involved in milk production. Human development basically comprises of income, health and education apart from various other factors like gender equality and political freedom. Among the various factors, the principal, institutional mechanism for human development is the development of educational systems. According to the census definition, a person is confirmed as literate if he or she can read and write with understanding in any language. A person who can merely read but cannot write is not literate. Any person, who is not literate according to the above definition of literacy, is an illiterate person. The level of literacy is an important part of the study of the socio-economic structure of households. It has great significance on the occupational structure and animal husbandry as one is no exception to this. 16 per cent of the milk producers are illiterate and they are unable to read and write any language. 17 per cent of the respondents have completed the primary education that is upto-5th standard. 24 per cent of the milk producers have finished the middle school education that is 6-8 standard. 15 per cent of the milk producers have completed the High School education that is 9-10 standard. 11 per cent of the respondents have completed the higher secondary school education that is 11-12 standard. 10 per cent up the respondents have completed diploma education and only 7 per cent of the respondents have completed the under graduate level of education. The majority of the respondents have not crossed middle school Education. Out of hundred respondents, 63 per cent of the respondents have borrowed money while 27 per cent of the respondents have not borrowed money. From this analysis the researcher observes that the majority of the respondents have borrowed money.

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**Suggestions to Improve the Growth of Dairy Farming in Tiruvannamalai**

· Cooperative banks and other national banks should come forward to extend liberal credit facilities to the farmers particularly small and marginal farmers for the development of dairy enterprise.

· Establishing a veterinary service centre to improve the efficiency of the artificial insemination scheme, veterinary services must be provided to the farmer door on all bases at a reasonable cost.

· The changing cropping pattern should aim to produce sufficient green and dry fodder to livestock population in the village and encourage the farmer to take up fodder cultivation on a commercial basis.

· Attempts should also be made to improve the quality and increase the quality of manufactures feed in the cooperative sector so that quality feed can be supplier at reasonable prices. The dairy farmer especially weaker sections of society will be supported with subsidized credit for calf rearing and feeding the cattle during dry seasons.

· The organizational support for milk producers through the cooperative sector should streamlined and expanded organization for primary cooperatives for milk procurement should be extended to areas where the local market is unable to absorb the milk production steps should be taken to reorganize and develop rural market for milk.

· Take essential steps for reducing the effect of middleman because middleman exploited the dairy farmers so our governments have taken any measure to reduce their interference.

· The governments have to give support to the dairy farmers by providing subsidies, proper prices and market facilities.

· Main problem in the unorganized dairy sector is quality, which creates a serious threat to the health of consumers. Unsanitary local conditions, unhygienic containers, substandard processing equipment, poor handling methods etc. Contribute to poor quality and at times unsafe milk in the unorganized dairy sector. To bring about structural changes in this sector, measures like processing at village level, process and market pasteurized milk in a cost effective manner, quality up-gradation of traditional technology to commercial sale using modern equipment and management skills are needed.

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# A COMPARATIVE STUDY ON PERFORMANCE OF PRIMARY HEALTH CARE CENTERS AND PRIVATE HOSPITALS IN TIRUPATHUR – VELLORE DISTRICT

## Health Care System in Tamil Nadu

The four basic objectives of a health care system are equity, access, quality, and efficiency. In order to evaluate the health care system in Tamil Nadu on public-private utilization of health care services as a basis by which to assess these criteria. The all India household survey of 33,000 rural households conducted by the National Council for Applied

Economic Research in 1994, focusing in particular on Tamil Nadu. Along with general household characteristics this survey has data on short term and long-term illness, including type of provider, health expenditures, and access to health care,

## Research problem formulation

The government has achieved more success with the development of healthcare sector reforms. The primary goal of the health care reform process needs to be an improvement in publicly provided primary health care services, public private partnerships in order to achieve an effective healthcare system. This effectiveness is not that much level when compared to the expectation of the stakeholders. But by the service providers, they themselves argue that the services provided by them are more than the need of the society. Hence there is a possibility for gap between the service providers and service seekers or beneficiaries. On the other hand, even though the services are on part with price, the people are willing to pay for the same even they have services at a low cost or zero price. Hence an attempt has been made by the researcher to identify the existence gap between the providers and stakeholders by using community scorecard method to know the degree of magnitude of gap between the same.

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## Objectives of the study

Keeping this research problem in mind, the following objectives are framed for the study.

1. To compare the level of benefits received from both private and public hospital; and
2. To investigate the gap between health service providers and consumer through score care method.

## Methodology

To analyze the framed objectives of the study, the researcher has collect primary data through interview schedule from the rural stakeholders about the services provided in primary healthcare centers as well as from the private hospitals. In addition to this information were also collected from the services providers from PHCs and private hospitals in Tirupathur. By using random sampling techniques the samples has been selected and the sample size is restricted to 120 due time and resource constraint. The researcher has also used 5 point scales to identify the gap between the providers and stakeholders about the services in hospitals. Moreover, for the analysis of data, simple statistical tools viz., percent and mean also used.

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**Analyse of the study:**

**Health Problems of the Respondents**

The health problems of the respondents in which 40% of the respondents suffer from fever, 27% of the respondents suffer from cold and cough problem, 13% of the respondents suffer from head ache, 8% of the respondents suffer from nervous problems, 3% and 10% of the respondents suffer from diabetics and others respectively comes to primary health centre for the treatment.54% of the respondents suffers from fever, 20% of the respondents suffers from cold and cough problem, 7% of the respondents suffers from headache, 8% of the respondents. Suffer from nervous problem; no respondents suffer from diabetes and 16% of the respondents from others health problems, comes for treatment in private health centers. The analysis clearly shows that most of respondents come to primary health centre that is 40% suffers from fever and 54% of the respondents come to private health centre who suffers from fever only.

**Visiting of respondents to health centers**

The visiting to health centre, 20% of the respondents goes for normal check up once in 3 months to primary health centre and 20% of respondents in private health centre. 80% of the respondents and 70% of the respondents goes to primary and private health centre only in time of suffering from any problem. Here, most of the respondents 80% goes to primary health centre in time of suffering and for the same reason 70% of the respondents goes to private health centre.

**Extra amount for treatment paid by respondents**

The extra amount paid by respondents to primary health centre that is 13% of the respondents is paying and 87% of the respondents are not paying.

**Score for facilities given by respondents**

The total score given by 60 respondents, in doctors responses, respondents given 212 score for primary and 230 score for private health centre in nurse responses respondents gave 184 scores to primary and 216 scores to private health centre. Score given by respondents to regular doctor's visit is 184 and 204 to primary and private respectively. Ward boys response, 168 scores to primary and 180 scores to private health centre given by respondents. About quality of medicines 236 scores given to primary and 240 scores given to private health centre by respondents. The cleaning equipment facility, 226 score and 234 score given to primary and private health centres respectively by respondents. The bed facilities, 158 and 174 scores by respondents given to primary and private health centres. Surrounding facilities, 166 and 170 scores given by respondents to primary and private health centres respectively. About water facilities, 134 and 168 scores given by respondents to primary and private health centres respectively. In toilet facilities 134 scores and 174 scores given by respondents to private and primary health centres respectively. Therefore, by comparing both primary and private health, high scores are given to private health by respondents. It means that respondents feel that better facilities are given in private health centres.

**Score given by respondents and service provider in public health centre**

The scores given by respondents and services provider in private health centre for doctor responses, patients gave 106 scores and services provider gave 147scores. To nurse responses, patients gave 92 score and 141 score given by service provider for regular doctors, patients gave 92 scores and 138 scores given by service provider. Ward boys responses, patients gave 84 score and 141 scores given by service provider quality of medicine, patients gave 118 scores and 147 scores given by service provider. Cleaning of equipments, 113 scores given by patients and 135 scores given by service provider due to surrounding facility, 79 scores given by patients and 129 scores given by service provider. About bed facility patients gave 83 scores and service provider gave 135

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scores. About water facility patients gave 67 scores and service providers gave 132 scores. Finally for toilet facility patients gave 67 scores and service provider gave 126 scores. By comparing the scores given by patients which is less than the service provider. It cleans patients feels that service given to them is not fulfill.

**Score given by patients and services provider in private health centre**

The score given by patients and services provider in private health centre for doctor response, 115 scores given by patients and services provider gave 132 scores. To Nurse responses, 108 scores given by patients and 141 scores given by service provider for regular doctors, 102 scores given by patients and 138 scores given by service provider. Ward boys responses, 90 scores given by patients and 132 scores given by service provider about quality of medicine, 120 scores given by patients and 147 scores given by service provider. Due to cleaning of equipments, 117 scores given by patients and 132 scores given by service provider.

About bed facility 87 scores given by patients & 132 scores given by service provider. About surrounding facility 85 scores given by patients and 123 scores given by service provider. Regarding water facility 84 scores given by patients and 123 given by service provider and finally regarding toilet facility patients gave 87 scores and 111 scores given by service provider. Thus, patients gave low scores compare to services providers regarding the facilities given in private health centre. It is concluded that patients gave high scores to facilities provide in private health centre comparing to primary health centre.

Before going to analyze the exact objective of the study is to compare the level of benefits received from PHC and private hospitals, it is necessary to have a knowledge on the health problems they had and amount paid by the respondents. In both cases, the respondents have suffered from fever only when compared to all other diseases, viz., cough, head-ache, nervous problem and diabetes. Most of the respondents goes to both the health care centres at the time of suffering only. Moreover, by comparing both primary and private health, higher scores are given to private hospital by the respondents. It means that respondents feel that better facilities are given in private hospital in the form of doctor and nurse response to the patients quality medicine, cleaning of equipments bed facilities, surrounding facilities the basic facilities such as water and toilet facilities also.

The second objective of the study the gap between health providers and consumers through score card method. The gap is too wide in PHC between health providers and consumers. By comparing the scores given by patients which is less than the service provider. It clearly explains that patients feel that service given to them is not that much level. Further, in case of score given by patients and service providers in private health care centres, the gap between these two groups is not too wide when compared to PHC. Hence, it is concluded that paients gave high scores to facilities provided in private hospital compared to PHCs.

**Conclusion**

The purpose of having PHCs is that to provide better health care facilities to the down trodden people. But the facilities are too poor to the requirement of the society. Even in private hospital also certain facilities are poor and amount paid to the hospitals are high. It is concluded that both the hospitals should uplift their grade in terms of facilities to the consumers.

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# A STUDY ON TOURISM DEVELOPMENT WITH SPECIAL REFERENCE TO TIRUVANNAMALAI DISTRICT IN TAMILNADU

Tourism plays a pivotal role in promoting goodwill among the people and thereby fostering socio-economic development of the country. In the rapidly changing global economic scenario, tourism is considered to be one of the largest and fast growing industries. The occupation of tourism is providing very useful and fruitful avenues especially to those people who are engaged in tourism activities because through this smokeless industry, they are not only enhancing their standard of living but also generating income and employment opportunities. In the contemporary era of globalization and industrialization, the whole world has shrunk into a global village. The tourism has played a very decisive role to transform the world into a globalized economy where all nations can exchange free trade and culture and share their interest of mutual benefits based on tourism industry. Tourism has exposed destinations in developing countries to the behaviour and values of visitors from foreign, mostly western, cultures. In some destinations, the local residents copy the visitors and the culture changes. Old customs die out. Dishes that foreigners expect and prefer to replace with traditional foods. In many locations, craft workers make low quality, inauthentic souvenirs for a quick profit.

**Tourism scenario in Thiruvannamalai District.**

Thiruvannamalai District is known for everlasting peace and divine with the proud possession of the holy shrine of Lord Arunachaleswarar and Ashrams. It is considered superior to all the other eminent shrines. Thiruvannamalai confers salvation to one who merely thinks of it. Sri Seshadri Swamigal Ashram: Mahan Sri Seshadri Swamigal lived in the late 20th Century. Sri Seshadri Swamigal Ashram is one of the holy places in the Thiruvannamalai. People from all over the world visit this Ashram, which is situated near the Sri Ramana Ashram. The Garden in this Ashram attracts the people who visit here. Sri Ramana Ashram: Mahan Sri Ramana Maharishi lived in Thiruvannamalai town. Sri Ramana Ashram is one of the holy places in this town. People from all over the world visit his Ashram. He attainted Mukthi in the year 1950. Sathanur Dam : Sathanur dam is one of the major dam constructed across Pennaiyar River among Chennakesava Hills. This Dam was constructed during the year 1958. It has beautiful parks and a mini zoo. The Garden is dotted with colourful statues. There is a swimming pool and a crocodile farm. Jawadhu Hills is situated 75 km from thiruvannamalai. The cliffs and precipices of hills allure and excite tourists. Places of interest in the jawadhu hills are Beema Falls, Komutteri Lake, Kavalur Observatory, Amirthi Forest and Glass House.

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**Objectives of the Study**

- The overall objective of the research was to capture devotees' perception, preferences and satisfaction with various services and facilities available in Tiruvannamalai.
- To measure the level of satisfaction of respondents with respect to transportation facilities in the temple town, accommodation, information and communication, CDs, Calendars etc and behavior of local vendors in particular.

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**Methodology**

The study is basically a survey based research, which was done in Field work. For collection of primary data, a sample size of 100 was arrived picked by convenience and random sampling techniques. Data relating to devotees perception was collected through structured interview schedules and personal discussions. Secondary data is gathered from publications of study area, Text books, journals, newspapers and web sources. The respondents' views and level of satisfaction could have been influenced by their most recent experience, from which generalizations must be drawn with great caution.

**Analysis of data**

This section deals with analysis and interpretation of the primary data collected from the 100 sample respondents. The analysis includes age and sex, Occupation, Tourist arrivals from variable states, purpose of visit, types visit and travelling style.

**Age Wise Profile of the Respondent**

In this study, 28% of respondents are below 30 years of age, 22% between 31-45 years, 26% between 46 years to 55 years, and the rest are above 55 years.

**Sex Wise respondents**

It is evident that male and female respondents are 53 and 47 % respectively, Hence it is inferred that majority of the sample respondents are male.

**Occupation of Respondents**

It is found out that 15 per cent of the sample respondents are professionals; 18 per cent of them are educationalists; 29 per cent of them are businessmen; 12 per cent of them are students and the rest 26 per cent of them are others category. Hence it is inferred that majority of the sample respondents are businessmen.

**Tourist arrivals from various states**

Persons from other than Tamil nadu represent Karnataka (15%), Andhra Pradesh (12%), and the rest from other parts of the country. Most of the respondents (65%) are visiting the divine shrine 2nd time or more, but still finding new procedure/ system/ development in every visit, which shows the how Tiruvannamalai administration responds to keep pace with the needs of ever-increasing number of pilgrim tourists to the most sought after spiritual destination. the number of respondents (32 %) visited for tour operators. Only 30% came to the Tiruvaanamalai with prior arrangement for accommodation, 38% said they did not require accommodation as pilgrims amenities.

**Purpose of Visit**

In the study, 15 per cent of the sample respondents have visited due to pleasure; 40 per cent of them due to pilgrimage, 24 per cent of them due to their business purpose and the rest 21 per cent of them due to academic purpose. Hence it is inferred that majority of the sample respondents have visited due to develop their business/profession.

**Types of tourists vs. travelling style**

Among the domestic tourists 11 per cent of them have visited the tourist spot individually; 48 per cent of them have visited with their family and the rest of them have visited with their friends. Among the foreign tourists, 15 per cent of them have visited individually, 6 per cent of them have visited with their family and the rest of them have visited with their friend. In general, 26 per cent of them have visited individually, 54 per cent of them have visited with their family and the rest of them have visited with their friends.

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## Conclusion

To conclude, all these improvements and facilities are done and created, in order to bring a sea change in the tourism industry in general and specifically for Tiruvannamalai District in particular. For the effective development of the potentials in the tourism industry, government should formulate and design policies related to development of travel industry as well as travel education scenario in India.

Tiruvannamalai, the divine abode of lord Sri Arunachaleshwarar, attracts millions of tourists to Tamil Nadu from places across the state, country and the world. Practically, it may not be possible to provide highly personalized services to the all the tourists, however, better care could be and must be taken to make the pilgrim experience more divine and cherishing. The following suggestions could help towards the endeavour.

Security should be tightened up to ensure safety of pilgrims' valuables and belongings local vendors must be sensitized to deal with pilgrims decently, and conduct business on fair terms.

## Suggestions

Giving wider publicity to potentially attractive places of tourist attractions, along with history, traditions, art, music, climate and information about availability of accommodation in different cost segment, transportation etc. will attract more tourists. The summer stay of foreign tourists is to be increased by increasing facilities and services. The cleanliness, quick services, moderate room rent, etc. are to be maintained in the places of accommodation for the increase of revenue through the increase in the number of tourists. An Information Center for tourists at bus stand and railway station at important places may be established. The quality of the tourism services should be improved and the beautification is to be made in the places of archaeological importance.

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# HEALTH PROBLEMS OF WOMEN AGRICULTURAL LABOURERS IN KANDHILI VILLAGE OF TIRUPATTUR TALUK IN VELLORE DISTRICT OF TAMIL NADU

Women form the bed rock of the Indian economy. They are engaged in sowing, planting, manuring, watering, weeding, reaping, threshing, winnowing, cleaning, packing etc. as against ploughing normal done by men only. Agriculture is a process by which the farming activities and practices are done by the farmers. It is the backbone of our Indian economy. A large portion of the world's food output originates in the hands of women farmers, particularly from LDCs. Of 79% of rural women are involved in agriculture of which 36% are cultivators and 43% are agricultural labourers.

**Need for the Study**

Agricultural Women labourers make arrangements for their children's care, to stay to home, for their in-laws and also bring children with them. They start their works early in the morning right from 5 am and work till late night. The life of rural women is a constant and regular struggle for clean water, pure and healthy dieted foods, sanitation, good surroundings with good environment conditions, physical soundness, healthy mental status etc. So the need for the study about the importance of health of women labour is concentrated in this study.

**Statement of the Problem**

The rural female work force an alarming large size, i.e. 80% are employed as labourers in agriculture sector. But they are illiterates, ignorants, married at early ages by compulsions, given early and frequent child births, malnutrious, maternal mortality, infant morbidity and mortality, stresses internal and external, debts, living with poor sanitations, severe poverty, unfulfilled desires, infections, and infestations and uncurable diseases etc. Hence this study attempts to assess the health problems of agricultural women labourers in Kandhili village at Tirupattur Taluk of Vellore District of TamilNadu which appears crucial for their quality of life which is to be improved a lot at least in feature too.

**OBJECTIVES**

1. To study the socio-economic status of agricultural women labourers in the study area.
2. To know the expenses incurred for medical purposes (treatments) by the respondents.
3. To assess the diseases (health problems) of the respondents in the study area.
4. To access the types of works done by the respondents.

**Methodology**

Based on the research problem and framed objectives of the study, primary data was collected in Tirupattur Taluk of Vellore District from randomly selected village by name Kandhili with the size of population, literate rate, type of agricultural works, income size, expenditure size, types of diseases, health indicators, availability of health care facilities, the distances to the nearby clinic or hospitals in km, the mortality rate and life expectancy rate of the people. In the selected village, there were 500 women workers among them 50 (10% of population size) samples were selected by

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using simple random sampling methoid. Both quantitative and qualitative information were collected from the respondents through interview schedule techique. The collected information were processed, tabulated and analysed by using simple statistical tools. The duration of data collection was the months of September and October 2013.

**Interpretation of Primary Data**

The face to face interview was conducted by using the simple structured interview schedule. The interview was conducted by the researcher at the residence of the respondents during the evening time. During the interview, the researcher observed the respondents in order to ensure the free and spontaneous responses. The data thus collected were analysed and the findings and conclusion are followed :

- 35 % of the agricultural women workers are youngsters ranging between 20-30 age group; 33.3% between 30-40 age group, 11.7 % between 40-50 age group 11.7 % between 50 – 60 age groups but only 8.3 % contribute 60 years and above.
- 68.3 % of respondents are married, 26.7 % are widow 5 % of them are spinster, divorced and separated respectively.
- 72 % of the respondents are illiterates and 28 % of them are literates upto + 2 standards but no graduates and post graduates.
- 82 % of the respondents do all types of agricultural works like planting, weeding, reaping paddy, maize, millets etc, picking up ground nut, sugarcane cutting, cattle rearing etc. but only 18 % of them do two or three works only.
- 69 % of the respondents live in group house, thatched, & huts but only 2 % line in concrete house, other 29 % live at tiled house.
- Majority 66 % of the respondents are scheduled caste and rest 34 % of them are MBCs, BCs etc.
- 69 % of the respondents are landless agricultural labourers, 25 % of them have own land but only 6 % are tenants.
- Majority 74 % of the respondents from nuclear family and 26 % of them others from joint family.
- 35 % of the women workers are come under the income group of above Rs.12,000 per annum but 65 % of them are come under the income group below Rs.12,000 per annum.
- 70 % of the respondents spent yearly expenditure of below Rs.10,000 but 30 % of them spent above Rs.10,000 per annum.
- 25 % of the respondents have a little bit of saving habits but 75 % of the do not have saving but they borrow when they are affected by any disease to take treatment.
- 98 % of the respondents go for latrine in an open-air-defection without slippers but only 2 % of them using a house attached latrine with slippers.

**Health Problems**

1. 22 % of the respondents are affected by respiratory system pertaining to diseases like bronchitis, asthma and pneumonia.
2. 19 % of the respondents are severely affected by vitamin deficiencies like vitamin A, Vitamin B, Calcium deficiencies etc.

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3. 14 % of the respondents are strongly affected by diseases like piles, arthritis hysteria etc.

4. 11 % of the respondents are affected by psychosomatic (physical disorder) diseases like headache, mental disorders depressed etc.

5. 9 % of the women are affected by skin related diseases, like boils, scabies, ringworm, dermatitis etc.

6. 9 % of the women are affected by scalp related diseases (upper part of head) like dandruff, hair falling, pediculosis etc.

7. 7 % of the women are caught by ears, nose and throat diseases like oddities, sore throat, rhinitis etc.

8. 5 % of them are affected by reproductive systems like irregular menstruation / prolapsed vagina.

9. 2 % of them are having urinal track problems like retention of urine / frequent urine.

10. 2 % of the respondents are having the problems in digestive systems like indigestion, constipation, diarrhoea.

**Suggestions :**

1. The majority of women agricultural labourers are illiterates and landless with low level of training and low money earners. Women folk should need to concentrate on literacy, skill develoopments by the government.

2. The Government should create a platform for building a strong society, nation through sthrough SHGs.

**Conclusion :**

Thus the result of the present study concluded that TirupatturTaluk in Vellore Dist. is going through an alarming phase of health transition as reflected by a steep spurt in prevalence of chronic diseases added to the continuing burden of existing income inequalities, educational and social and health unawarenesses etc. which are lacking behind for women and children in rural India.

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# WOMEN IN INFORMAL ECONOMY: A STUDY ON WOMEN STREET VENDORS IN VELLORE TOWN

This paper divided into four sections; first section provides introduced the concept of informal economy, objectives and area of study. The second section delivers the socio-economic condition of the respondents. Third section provides the employment and income conditions of the respondent. Fourth section provide conclusion.

**Concept of Informal Economy:**

The term, 'informal economy' was introduced by Hart in a study on Ghana and to describe the urban employment outside the organized labour market. This study based on anthropological field work and to bring verity of economic activities. These activities were outside framework of official regulation and often clandestine in nature. But those engaged in these activities were lived in poverty. The first country investigated in informal economy by Kenya and the Philippines and latter extended to third world cities such as Kolkata, Jakarta, Dakar, Abidjan and Sao Paulo. In addition to this, the development economists Sethuraman (1976) sophisticated the concepts and measurement of informal sector and afterward, join by Kanappan (1980) and Mazumdar(1975).The concept of informal economy was popularized by International Labour Organisation (ILO), as part of its World Employment Programme. This programme studies the employment situation outside the modern, organized, large-scale and capital-intensive sectors of the economy.The ILO World Employment Report (ILO 1998) characterises the informal sector thus: "Informal units comprise small enterprises with hired workers, household enterprises using mostly family labour, and the self-employed. Production processes involve relatively high levels of working capital as against fixed capital, which in turn reflects the relatively low level of technology and skills involved." However,In India, the term informal sector has not been used in the official statistics or in the National Accounts Statistics (NAS). The terms used in the Indian NAS are 'organised' and 'unorganised' sectors. The organised sector comprises enterprises for which the statistics are available from the budget documents or reports etc. On the other hand the unorganised sector refers to those enterprises whose activities or collection of data is not regulated under any legal provision or do not maintain any regular accounts. The NCEUS (2009) defines informal or unorganized employment as follows, "Unorganised workers consist of those working in the unorganised enterprises or households, excluding regular workers with social security benefits, and the workers in the formal sector without any employment/social security benefits provided by the employers".In this context, the present study examines the socio-economic conditions of women street vendors and to examine the employment and income conditions the vendors. The women vendors were selected in Vellore town and in the areas were new bus-stand, old bus-stand, Katpadi, Saduvacherrai, Virupachipuram. These area street vendors particularly women are dominated compared to male. The simple random sampling method will be used to select respondents.

**Socio-Economic Characteristics of the Vendors:**

Age is an important component of the workforce structure. It is indicated that majority (34.1%) of the respondents fall under the age group of 41–50 years, more than one fourth (29.4%) of the respondents age group between 31–40 years, 15.3 per cent of the respondents age under 51–60 years, 12.9 per cent of the respondents age group above 61 years and finally very minimum 8.2 per

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cent of the respondents are below 30 year. The researcher has to concluded that majority of the respondents were in the productive age group between 30–50 years. Among the respondent majority (97.6%) of the respondents belong to Hindu religion and very minimum (2.4 %) of the respondents are Christians. In the field observation not to found any Muslim women vendors but the male vendors were available plenty. Another social dimension is the caste, in which majority half (50%) of the respondents fall under the category of Most Backward Community (M.B.C) vendors, One fourth (25%) of the respondents were Scheduled Caste Vendors and 10 per cent of the respondents were Backward Community (B.C). Educational qualification is an important aspect for overall development of the people. Among the sample respondents the majority, more than half (52.9 %) of the street vendors are illiterate, more than one third (37.6%) of the respondents were elementary level of education and very minimum 10.5 per cent of the respondents are high school and only one respondents belong to the arts degree in correspondence course.

**Employment and Income Conditions**

The nativity of the respondents designated that more than half (55.3%) of the street vendors native place has near the village and 44.7 per cent of the respondent's native place has within in the Vellore town and they were closer to their residence. In the type of vending that sample respondents demonstrated to more than one third (38.8%) of the respondents engaged fruits vending, more than one fourth (27.1%) of the respondents are engaged with flower vending,24.7 per cent of the respondents engaged in vegetable business, 5 per cent of the respondents engaged vegetable and fruit business..

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**Working Experience of the Respondents**

For working experience makes a person more effective, creative and confident an experienced person is worth more than a qualified person. And experienced person is a practical person. The more a person works for the better experience the greater will be his effectiveness in work. In this study more than half (51.8%) of the street vendors having more than 15 years experience, 17.6 per cent of the respondents having 1-3 and 5-10 years experience, 8.2 per cent of the respondents having 3-5 years experience and minimum 4.7 per cent of the respondents having 10- 15 years' experience. The researcher has to conclude that majority of the street vendors having experience above 15 years. . As the experience increase the urge for more income will be present in everyone's mind. Income will depend with experience. The vendors have to spend long hours at work and that 40 per cent of the respondents told that they work less than 5 hrs, 23.5 per cent of the respondents work continuously more than 10 hrs, 16.5 per cent of the respondents were worked 8 hrs in a day, 10.6 per cent of the respondents worked 10 hrs per day and 9.4 per cent of the respondents worked 9 hrs per day. In the current days of employment, majority 96.5 per cent of the respondents are worked 30 days in the month and only 1.2 per cent of the respondents worked 22, 25 and 27 days respectively.

**Daily Investment & Daily Earnings**

Financial investment of street vendors depends on the volume of trade and types of the product they have sold. Among the respondents that 44.7 per cent of the respondents are invested below Rs. 500, more than one fourth (25.9%) of the respondents invest for vending Rs. 501 – 1000 per day, 17 per cent of the respondents invest Rs. 1501 – 2000, 9.4 per cent of the respondent invest for vending. Daily Investment activities above Rs. 2001 per day and very minimum 2.4 per cent of the respondent invest Rs. 1001 – 1500. Finally the researcher has to conclude that majority of the respondents are investing below Rs. 500 per day. The above investments all are depend on products. For the earning status of street vendors depends on the products they sell, and it deviates from trade to trade, location to location, the volume of trade and terms of trade. The respondents have been classified into different groups based on their daily income. The income is calculated after

deducting their expenditure incurred on payment of rent for storage of unsold material, transportation of goods from the wholesale market, bribe payment to the police, municipalities, pavement rent (legal or illegal), etc. An around 44.7 percent of the vendors' daily income are between Rs. 101 – 200, 21.2 per cent of the respondents daily income below Rs. 100, 17.6 per cent of the respondents were daily income between Rs.201- 300, 10.6 per cent of the respondents were daily income between Rs.401- 500, 4.7 per cent of the respondents were daily income between Rs.301- 400, and 1.2 per cent of the respondent daily income above Rs.501.

**Conclusion**

In most Indian cities the urban poor survive by working in the informal sector. Poverty and lack of gainful employment in rural areas and in smaller towns drive large numbers of people to the cities for work and livelihood. These people generally possess low skills and lack the level of education required for the better paid jobs in the organised sector. Besides, permanent protected jobs in the organised sector are shrinking; hence even those having the requisite skills are unable to find proper employment. For these people work in the informal sector offers the only means for their survival. This has led to a rapid growth of the informal sector in most of the larger cities. For the urban poor, hawking/street vending is one of the means of earning a livelihood, as it re-quires minor financial input and the skills involved are low.

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# DOMESTIC WORKERS IN VELLORE TOWN

## Social Background of the Respondents

In the context of religion wise distribution of the domestic servants in this sample shows that the majority of the Respondents are to Hindu (84 per cent), there are about 10 per cent Christian and 6 per cent belong to Muslim. In the caste compositions are majority of belongs to the Scheduled Caste (40 per cent), 35 per cent from B.C and others M.B.C. Out of total covered, 75 per cent of the Respondents are between the age group of 15-45 and 25 per cent below the age of 45-and above. In the marital status of the Respondents, 10 per cent of the Respondents are unmarried, separated are 8 per cent, widowed are 31percent and married are 51 per cent. Education is of great social significance and it is an achieved status of an individual. The educational status of the domestics shows that a majority of them are illiterates (68 per cent) and 26 per cent has complete elementary education, around 5 per cent had educated up to middle school and only one worker reported that she had failed in X standard. Occupational history of the Respondents clearly shows that majority of these workers (88 per cent) are unemployed before joining this occupation and the domestic work is the first occupation of the Respondents. 11 per cent of the workers were engaged in other informal sector occupations like beedi work, tannery work etc.

A substantial proportion of respondent 57percent reported that they entered the workforce through the personal contact. While 29per cent entered through their friends who are mostly their neighbours and 14percent admitted that they came to work because of their mother (who were domestic workers). The tasks performed by all the domestic workers are almost same (see table 1). They perform a bunch of work such as cleaning utensils, sweeping and cleaning rooms, washing clothes etc.., Most of the domestic maids in Vellore town carry out all domestic work except cooking.

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**Table 1 Nature of work**

| Nature of Work | No of Respondents | Per cent |
|---|---|---|
| Only washing | 9 | 9.0 |
| Only cooking | 3 | 3.0 |
| Cleaning vessels | 17 | 17.0 |
| Child care | 3 | 3.0 |
| All the household work (except cooking) | 61 | 61.0 |
| All the household work (including cooking) | 7 | 7.0 |
| Total | 100 | 100.0 |

**Source:** Field Survey

Number of hours these respondents work varies with the number of household and the number of household to be served by the workers largely depends on the physical ability of the individual servant (see table 2). Generally domestic workers are not given holidays. They are expected to work even on local holidays and Sunday. However of these workers had taken leave for an emergency none of the employer is cutting their wage. It is rational that maids should get refreshment like tea, coffee or snacks and minimum one time food at work place irrespective of their nature of

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work. Among the respondents all the workers get fringe benefit.

**Table 2 Hours of Work Per-Day**

| Hours per Day | No of Respondents | Per cent |
|---|---|---|
| Less than 6 hrs | 49 | 49.0 |
| 7-8 hrs | 20 | 20.0 |
| 9-10 hrs | 11 | 11.0 |
| More than 10 hrs | 20 | 20.0 |
| Total | 100 | 100.0 |

**Source:** Field Survey

**Income, Saving, Expenditure and Debt of the Respondents**

The domestic labour of the women worker which was compensated by nothing but emotional value in their own household is now paid for in cash when working in other households. Wages were primarily fixed on the basis of the rate of the area. The number of time any task was performed during the day and the time taken were also taken into consideration while fixing wages (see table 3).

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**Table 3 Wage of the Respondents**

| Source | No. of Respondents | Per cent |
|---|---|---|
| <1000 | 24 | 24.0 |
| 1000-2000 | 41 | 41.0 |
| 2000-3000 | 25 | 25.0 |
| >3000 | 10 | 10.0 |
| Total | 100 | 100.0 |

**Source:** Field Survey

**Table 4: Approximate Earning from Family Members**

| Approximate Earning | No. of Respondents | Per cent |
|---|---|---|
| Bread Winner | 31 | 31.0 |
| 1000-2000 | 12 | 12.0 |
| 2000-3000 | 15 | 15.0 |
| 3000-4000 | 13 | 13.0 |
| 4000-5000 | 15 | 15.0 |
| >5000 | 14 | 14.0 |
| Total | 100 | 100.0 |

**Source:** Field Survey

It is found that domestic workers have poor bargaining power regarding wage fixation and there is a difference in wage paid to the workers by their employers. 70 per cent informants reported positively for the difference in wage while 30 per cent negatively. The major factor responsible for differentiated wage rate is variance in work. But they hardly have any bargaining potential they accept for a very low wage in one household and a little bit high wage in another household for the same task. Regarding savings only 8percent of the workers are found to save for their

future and the rest, though willing to save their income is not sufficient. The domestic workers show an irregular pattern of consumption expenditure on food. Food provided by the employers satisfied the maximum needs of the workers. The single women prefer this occupation because of availability of free food.

**Table 5 Monthly Expenditure on Food**

| Expenditure | No of Respondents | Percentage |
|---|---|---|
| No Expenditure | 11 | 11.0 |
| >500 | 13 | 13.0 |
| 500 – 1000 | 22 | 22.0 |
| 1000 – 1500 | 18 | 18.0 |
| 1500 -2000 | 12 | 12.0 |
| <2500 | 24 | 24.0 |
| Total | 100 | 100.0 |

**Source**: Field Survey

On the basis of survey and in-depth interviews it is found that the only significant benefit provided to domestic workers was an interest free loan. Some workers got loan up to 10,000 but it depends on the trustworthiness of the employer.

**Table 6 Debt condition of the Respondents**

| Debt | No of Respondents | Per cent |
|---|---|---|
| No Debt | 41 | 41.0 |
| 1000 – 25000 | 19 | 19.0 |
| 25001 – 50000 | 22 | 22.0 |
| 50001-75000 | 5 | 5.0 |
| More than 75001 | 13 | 13.0 |
| Total | 100 | 100.0 |

**Source:** Field Survey

Of the respondents (59 per cent) who owe debt, only 3.4 per cent had taken loan from formal sources while 77.9 per cent from informal source and 18.7 per cent from both and the main reason for debt is consumption purpose (24per cent) like marriage and death ceremonies, household expenses.., 17 per cent for medical purpose and 18 per cent for Educational purpose.

**Economic Condition of the Respondents**

Nearly 33 per cent of these surveyed are living in their own houses. They belong to the slums of S.S.K. maaniyam and Aanaikulathamman maaniyam and the others in rental houses and these houses are thatched (57 per cent) tiled (29 per cent) and the rest concrete buildings (14 per cent). The domestic workers in Vellore town are predominantly living in slums and these slums seem to have poor infrastructure. The standards of living of the workers in slums are very low. The only facility available to the workers is electricity (see table 7).

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**Table 7 Facilities in House**

| Facility | No of Respondents |
|---|---|
| Electricity | 100 |
| Water | 24 |
| Bathroom | 91 |
| Toilet | 48 |

**Source:** Field Survey

**Conclusion**

The social security measures available to the domestic servants in Vellore town are common to the general public like Ration card, Free Health Insurance, Widow/deserted pension etc.., No certain measure is there for these workers in the unorganized sector. These workers do not have the awareness to form a union. There is no union found for the domestic workers. Tamil Nadu has included domestic work in the manual labour act and in January 2007 set up Domestic workers' welfare Board. The Central Government has included domestic workers in provision under the unorganised workers' Social Security Act that was passed in January 2011. Even though there are some legal measures available to domestic workers. No single worker in Vellore Town is aware of these workers.

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# A STUDY ON THE NEGLECTED AND UNDERUTILIZED MILLETS: FUTURE OF FOOD & FARMING

India is the top consumer of millets in the world. Indian eat 42% of millets produced globally In India, out of the total net sown area of 141.0 Mha, rainfed area accounts for 85.0 Mha spread over 177 districts. This constitutes approximately 60 percent of the total farming area in the country. Rainfed agriculture contributes 44% of the total food grain production of the country and produces 75% of pulses and more than 90% sorghum, millet and groundnut from arid and semi-arid regions. Even after half a century of neglect, the rainfed regions provide livelihood to nearly 50% of the total rural workforce and sustain 60% of cattle population of the country. Post Green Revolution, there has been a systematic decline in the production of millets. This can be understood from the production trends of millets vis a vis other crops such as rice and wheat that wererelentlessly promoted for intensive farming in select few resource rich areas under irrigated conditions.

**Objectives of the study**

1. To examine the actual harvested area and production of millets in India.
2. To study the institutional supports for developing millets cultivation in India.
3. To analyze the nutritional composition and value additional products of millets.
4. To give suggestions for government policy matters for improving millets cultivation in India.

**Table no: 1 Area, Production and Consumption of Millets in India**

**(Area in 1000 HA, Production in 1000 MT, Consumption in 1000 MT )**

| Market Year | Area Harvested | Growth Rate | Production | Growth Rate | Domestic Consumption | Growth Rate |
|---|---|---|---|---|---|---|
| 1960 | 18939 | NA | 7087 | NA | 7087 | NA |
| 1970 | 20168 | 0.79 % | 12172 | 32.65 % | 13672 | 121.37 % |
| 1980 | 17866 | 3.90 % | 9461 | 16.89% | 9361 | 7.67 % |
| 1990 | 15095 | -4.79 % | 10424 | -0.86% | 10324 | -2.73 % |
| 2000 | 13025 | 9.36 % | 10400 | 19.82 % | 10400 | 18.45 % |

**Source: The Directorate of Sorghum Research , Hydrabad.**

Over the last decades much has changed with regard to millets. Table no.1 represents a snapshot of the trends in area, production, and productivity of sorghum, pearl millet, finger millet, and other small millets between 1960 and 2000.

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**Disappearing Millet system**

In spite of all these extraordinary qualities and capacities of millet farming systems, the area under millet production has been shrinking over the last five decades and rapidly, since the Green Revolution period. Between 1966 and 2006, 44% of millet cultivation areas were occupied by other crops signifying an extraordinary loss to India's food and farming systems. Declining state support in terms of crop loans and crop insurance has significantly contributed to this decline and fall of millets in Indian agriculture. Unless this is halted urgently through a slew of policy and financial incentives,millets might disappear from the agrarian landscape of India over the next fifty years.

**Table no: 1 . Area, Production and Consumption of Millets in India**

**(Area in 1000 HA, Production in 1000 MT, Consumption in 1000 MT)**

| Market Year | Area Harvested | Growth Rate | Production | Growth Rate | Domestic Consumption | Growth Rate |
|---|---|---|---|---|---|---|
| 2006 | 10300 | -1.90 % | 10340 | -1.52 % | 10300 | -5.50 % |
| 2007 | 10800 | 4.85 % | 12410 | 20.02 % | 12400 | 20.39 % |
| 2008 | 10000 | -7.41 % | 11370 | -8.38 % | 11300 | -8.87 % |
| 2009 | 10400 | 4.00 % | 8780 | -22.78 % | 8800 | -22.12 % |
| 2010 | 11150 | 7.21 % | 13290 | 51.37 % | 12600 | 43.18 % |
| 2011 | 10800 | -3.14 % | 12800 | -3.69 % | 13000 | 3.17 % |
| 2012 | 9100 | -15.74 % | 10500 | -17.97 % | 10900 | -16.15 % |
| 2013 | 10000 | 9.89 % | 11500 | 9.52 % | 11500 | 5.50 % |

**Source: The Directorate of Millets Development ,Jaipur.**

Table no.2 emphasizing that for all millets there is a dramatic decrease in cultivated area from the year of 2001 onwards to 2008. There were 80% for small millets, 46% for finger millet, 59% for sorghum, and 23% for pearl millet. Dramatic also is the decrease in total production of small millets: 76% for India. Noteworthy are the significant productivity increases for all millets except small millets (excluding finger millet). Productivity of small millets has remained almost stagnant.

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**Table no: 3. Nutrient composition of millets and cereals (per 100 g)**

| Food gain | Protein (g) | Carbohy-drates (g) | Fat (g) | Crude fibre (g) | Mineral matter (g) | Calcium (mg) | Phospho-rous (mg) | Fe (mg) |
|---|---|---|---|---|---|---|---|---|
| **Millets** | | | | | | | | |
| Finger millet | 7.3 | 72.0 | 1.3 | 3.6 | 2.7 | 344 | 283 | 3.9 |
| Kodo millet | 8.3 | 65.0 | 1.4 | 9.0 | 2.6 | 27 | 188 | 12.0 |
| Proso millet | 12.5 | 70.4 | 3.1 | 7.2 | 1.9 | 14 | 206 | 10.0 |
| Foxtail millet | 12.3 | 60.9 | 4.3 | 8.0 | 3.3 | 31 | 290 | 5.0 |
| Little milet | 7.7 | 67.0 | 4.7 | 7.6 | 1.5 | 17 | 220 | 6.0 |
| Barnyard millet | 6.2 | 65.5 | 2.2 | 9.8 | 4.4 | 11 | 280 | 15.0 |
| **Cereals** | | | | | | | | |
| Wheat | 11.8 | 71.2 | 1.5 | 1.2 | 1.5 | 41 | 306 | 5.3 |
| Rice | 6.8 | 78.2 | 0.5 | 0.2 | 0.6 | 45 | 160 | |

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**Recognising and retrieving Millets : Policy matters**

1. Millets are water saving, drought tolerant crops. Therefore they must be viewed as climate change compliant crops. This quality makes them India's food and farming future.

2. The urgent and immediate need is to put millets into the Public Distribution System. Different parts of India grow diverse kinds of millets. Rajasthan is home to Pearl Millet (Bajra). Deccan plateau (Marathwada in Maharashtra, Telangana in Andhra Pradesh and North Karnataka in Karnataka) is well known for sorghum..

3. A nutritive analysis of millets vis a vis the major grains such as rice and wheat prove that nutrient to nutrient, millets score highly over the other grains. Compared to rice,they have 30 to 300% more nutritional elements such as Calcium, Minerals, Iron, Fibre, Beta Carotine and many other micronutrients. Therefore the inclusion of millets in PDS will make PDS a food and nutritional security programme .

**Conclusion**

While single crops such as rice and wheat can succeed in producing food security for India millets produce multiple securities. They include securities of food, nutrition, fodder, fibre, health, livelihood and ecology. Most millets have edible stalks which are the most favoured fodder for cattle. Many a time, crops such as sorghum and pearl millet are grown only for their fodder value. Besides fodder, millets are storehouses of nutrition and hence produce nutrition security. Being hosts to diverse crops such as red gram,millet fields also produce fuelwood and fibre through amaranth. The legume crops that are companion crops for millets are also prolific leaf shedders. This leaf fall acts as natural manure and maintains soil fertility. Thus, millet farms not just use soil fertility for their growth but also return this fertility to the soil.

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# SOCIO-ECONOMIC CONDITIONS OF AGRICULTURAL LABOURERS IN OLAPPALAYAM VILLAGE, PARAMATHI VELUR TALUK, NAMAKKAL DISTRICT

India is an agrarian economy and agriculture is the backbone of Indian economy. It is the largest sector in terms of employment and income generated in this sector in our country. The development of industrial sector depends upon the development of agriculture sector. Nearly 75% of the people are engaged in agriculture. Increase in agriculture production and productivity leads to increase in the income of the farmers. Nearly 40% of the National income of India is derived from agriculture.

**Objectives of the study**

1. To examine the socio-economic conditions of agricultural labourers.
2. To examine the income and expenditure pattern of the agricultural labourers.
3. To study the educational status of these agricultural labourers.

**Methodology**

In this study random sampling method of investigation has been adopted. In the chosen village nearly 780 people are living only 100 samples out of the total population was selected for study. This survey was conducted with the help of detailed questionnaire and the study is based on primary data. The selection of the sample was irrespective of caste, creed and social status.

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**Features of agricultural labour**

1. It is more unorganized
2. Its source of income is mostly wages.
3. It is found either landless or made up of very small farmers.
4. Economically it is poverty ridden.
5. Socially, they are conservative traditional and non-motivated.

**Working conditions of agricultural workers in General**

1. There is lack of sustained employment, they frequently suffer from social handicaps and are a source of serious weakness and even of instability in the present agrarian system.
2. They are the weakest section in the economy of the country and have all along suffered great hardships and privations.
3. They are the first victim of high prices and scarcity.
4. Ploughmen work either at a stretch with rest interval or work in two shifts, one in the morning and one in the evening, with a break of 4 to 6 hours.
5. Labourers employed in lift irrigation work in shifts of one or two hours at a time.

**Nature of work in agriculture**

Agricultural workers may be employed permanently on a part-time basis, or a season, or casually according to the exigencies of the work. The agricultural workers are broadly of two types.

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1. Attached Labourer
2. Casual Labourer

**1. Attached Labourer**

Attached workers being those working for one month or more at a time. They are more or less in continuous employment and are under some sort of contact with employers.

**2. Casual Labourer**

Casual workers are employed from time to time according to the exigencies of work. The number of attached works forms only about 10% to 15% of the total number of agricultural workers.

**Findings and suggestions**

**Findings**

1. Female respondents have formed 83 percentage of the total sample population.

2. In the present study out of 100 people, 97 are Hindus and the remaining are 3 percent are Christians and there is no Muslims at all.

3. Nearly 59 percentage of the respondents belong to Backward Class, 22 percentage of the respondents belong to Scheduled Caste and 15 percentage of the respondents belong to Most Backward Class.

4. The agricultural labourers are drawn from Backward Communities.

5. The Scheduled Caste people are living in a remote place, which is situated m the

**Conclusion**

Agricultural labourers can be saved and protected only by giving fair wages and continuous employment. Agricultural land can be saved by keeping the environment clean to get the seasonal rainfall regularly. Hope our future generation will make changes by changing their life style.

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# IMPACT ANALYSIS OF POWER SHORTAGE ON LIVELIHOOD OF POWER LOOM WEAVERS IN SALEM DISTRICT

Salem District has been lagging behind in industrial advancement. But handloom industry occupies a pivotal role in the economy of Salem District. Next to agriculture, it provides livelihood for 4.15 lakhs people in the district. Basically this Salem cluster, the weaving has been popular with a few communities. During the development of the industry, people from other communities also have taken up this power loom weaving as their occupation. Powerloom weaving is a way of life for these people rather than an occupation or an industry. The whole family is engaged in different activities of weaving and the earning is meager sum just enough for their existence only. The production in hundreds of powerloom units in Salem District was affected due to frequent power cuts. A large number of weavers who are dependent on the powerloom industry for income are non-jobless members. The home grown industries such as silver anklet units in which more than 25,000 people are engaged, weaving that provides livelihood to 2 lakh people and other small and tiny industries have closed down due to power shortage in Salem District. Hence an attempt has been made to analyse the livelihood of power loom weavers due to the problem of power shortage.

**Objective**

To analyse the power shortage on the livelihood of power loom weavers in Salem District.

**Methods and materials**

There are around 131 registered power loom units are operating in Jalakandaapuram of Salem District. A simple random sampling method has been adopted to identify the sample units and nearly 50 percent of the respondents were selected from the registered units in that particular locality. To study the livelihood of power loom weavers, the information related to employment opportunity and income generating capacity of them were received through interview schedule method.

**Results and discussion**

**Impact on level of output**

There is a positive association between the number of working days, the power loom weavers had and the level of production. The following table shows the same.

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**Table -1**

**Level of production by powerloom weavers**

| Level of production (metres) | | No. of respondents | |
|---|---|---|---|
| Before power shortage | During power shortage | Before power shortage | During power shortage |
| 5-15 | 5-10 | 49 (77.76) | 54 (85.91) |
| 16-40 | 11-25 | 9 (14.27) | 4 (6.34) |
| Above 40 | 26-40 | 5 (7.93) | 5 (7.93) |
| **Total** | | **63 (100.0)** | **63 (100.0)** |

***Source:*** *Primary Survey*

***Note*** *: Figures in parentheses are percent*

From the above table it is observed that before power shortage more than seven tenth (77.76 percent) of the power loom workers were able to produce 5-15 metres per day. During the problem of power shortage, more than eight tenth (85.91 percent) of the weavers produce just 5-10 metres per day. Likewise, less than one fifth (14.27 percent) of the respondents produced 16-40 metres per day before the problem of power shortage, more than one twentieth (6.34 percent) of the respondents produce only 11-25 metres of clothes in the form of silk sarees/chudhidars/lungies. Among the total respondents, only 5 of them replied that they have produced above 40 metres per day before the problem of power shortage and the same replied that they can able to produce just 26-40 metres per day during the time of power shortage. Hence, the problem of power shortage seriously affects the production level of the power loom industry and ultimately it influences the employment generation and income earning capacity of the power loom weavers.

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**Table –2 Impact on earnings per week of power loom weavers**

| Income level (Rs.) | | No. of respondents | |
|---|---|---|---|
| Before power shortage | During power shortage | Before power shortage | During power shortage |
| Upto 2000 | Upto 1000 | 41 (65.07) | 41 (65.07) |
| 2001-4000 | 1001 – 2000 | 20 (31.74) | 19 (31.15) |
| 4001 – 6000 | 2001 – 3000 | 2 (3.17) | 3 (4.76) |
| **Total** | | **63 (100.0)** | **63 (100.0)** |

***Source:*** *Primary Survey*

***Note*** *: Figures in parentheses are percent*

The previous table shows, how far the problem of power shortage affects the level of production. Consequently, this reduction in the production level will lead to negative effect in the income earning capacity of power loom weavers. Before power shortage, nearly two third (65.07 percent) of the respondents earned less than Rs.2000 per week. The same respondents replied that, during

the time of power shortage they can able to get uptoRs.1000 per week. This shows that the income earning capacity of the respondents has been reduced to 50 percent. Similarly one third (31.15 percent) of the respondents, earned Rs.2001-4000 per week before power shortage and the same replied that they can only Rs.1001-2000 per week and the rest (4.76 percent) of the respondents earned Rs.4001-6000 per week before power shortage problem and the same earned Rs.2001-3000 per week during the problem of power shortage respectively.

**Conclusion**

From the analysis of this present study, it may be concluded that, the livelihood of power loom weavers interms of employment generation and income earning capacity of them have been very much affected due to the problem of power shortage. Many small and medium enterprises have been affected by the power shortage. Hence an efficient approach is needed from the government side in order to solve these problems without any political retribution. Moreover, general public should have the awareness on the uses of renewable energy sources and it should be used as alternative one. Further more, arrangements should be made to purchase the excess power from some other states and powergrids should set up to transfer the energy from one place to another inorderto reduce the problem of power shortage in the state. This will help not only to power loom weavers but also to the enterprises which are running with the help of power.

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# STUDENT ENROLMENT IN PRIMARY AND UPPER-PRIMARY SCHOOLS WITH SPECIAL REFERENCE TO COIMBATORE DISTRICT

Education is one of the most powerful instruments for reducing poverty and inequality and for laying the basis for sustained economic growth. Education is crucial to development as it provide the individual with adequate skill for participating in various economic activities. Education brings out improvement in health, hygiene, demographic profile, productivity and practically connected with the quality of life. In this back ground the authors proposed a research article on 'Students Enrolment in primary and upper-primary schools with special reference to Coimbatore District' with the following objectives.

**Objectives**

1. To analyse the growth of student enrolment in primary schools and upper-primary schools
2. To understand the gender-wise student enrolment in primary schools and upper-primary schools

**Methodology**

The secondary data on student enrolment in primary and upper-primary in Coimbatore District were collected for 10 years from 2003-2004 to 2012-2013, form the office records of Coimbatore SSA office.The statistical tools like percentage mean and Standard Deviation are used to analysis the secondary data.

**Table I Growth of Student Enrollment In Primary And Upper-Primary Schools In Coimbatore District During 2003- O4- 2012-13**

| S.NO | Academic Years | Student Enrolment (numbers) | |
|---|---|---|---|
| | | Primary | Upper-Primary |
| 1 | 2003-2004 | 378565 | 210691 |
| 2 | 2004-2005 | 391525 | 220456 |
| 3 | 2005-2006 | 395586 | 230679 |
| 4 | 2006-2007 | 388475 | 242564 |
| 5 | 2007-2008 | 388134 | 249013 |
| 6 | 2008-2009 | 389484 | 249284 |
| 7 | 2009-2010 | 389407 | 249481 |
| 8 | 2010-2011 | 379727 | 228827 |
| 9 | 2011-2012 | 399807 | 234187 |
| 10 | 2012-2013 | 399807 | 229275 |
| | **Mean** | **390051.7** | **234445.7** |
| | **S.D** | **7215.53** | **13152.55** |

**SOURCE:** Compiled from the Statistics of Annual Work Plan & Budget 2013-2014 Education for All, SSA Office, Coimbatore.

The student enrollment has been increased from 3,78,565 to 3,99,807at primary school level and 2, 10,691 to 2, 29,275 at upper-primary level during the period 2003-2004 to 2012-2013. During

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this period, mean and standard deviation values of upper-primary student enrollment are comparatively higher which is a healthy sign for a developing economy like India.

**Table 2 Gender-Wise Enrolment of Students in Primary Schools of Coimbatore District During 2003-04-2012-13**

| Si.No | Academic Year | Boys | Percentage | Girls | Percentage | Total |
|---|---|---|---|---|---|---|
| 1 | 2003-2004 | 194840 | 52 | 183725 | 48 | 378565 |
| 2 | 2004-2005 | 201414 | 51 | 190111 | 49 | 391525 |
| 3 | 2005-2006 | 203363 | 51 | 192223 | 49 | 395586 |
| 4 | 2006-2007 | 198842 | 51 | 189633 | 49 | 388475 |
| 5 | 2007-2008 | 198708 | 51 | 189426 | 49 | 388134 |
| 6 | 2008-2009 | 198665 | 51 | 190819 | 49 | 389484 |
| 7 | 2009-2010 | 198170 | 51 | 191237 | 49 | 389407 |
| 8 | 2010-2011 | 194263 | 51 | 185464 | 49 | 379727 |
| 9 | 2011-2012 | 202511 | 51 | 197296 | 49 | 399807 |
| 10 | 2012-2013 | 202511 | 51 | 197296 | 49 | 399807 |

**SOURCE:** Compiled from the Statistics of Annual Work Plan & Budget 2013-2014 Education for All, SSA Office, Coimbatore.

The progress made in the enrolment of students in primary schools and the relative share of boys and girls in Coimbatore district from 2003-2004 to 2012-2013 is presented in the Table- 2. The data shows that though the girl child enrolment in primary schools has been increased in absolute terms from 1.83,725 to 1.97,296 during the period 2003-2004 to 2012-2013, the relative percentage share has been increased only from 48 to 49 during the second year and continued for the rest of the period which should be appreciated from the view point of female education at primary level.

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## Conclusion

In Coimbatore district there is a small gasp between boys and girls enrolment in primary and upper-primary schools. Awareness on the importance of education and its vital role in every human's life despite of gender must be given to all the parents. Parents should also be encouraged to enroll their offspring in schools.

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# A STUDY ON CONTRIBUTION OF TDCC BANK'S TOWARDS WOMEN DEVELOPMENT

In this paper an attempt is made to know the various schemes available in women development cell available in TDCC Bank. Due to the reason the TDCC Bank starts women development cell during the year 2001. The different types of loan schemes sanctioned through this cell are 1) Loan to self help groups 2) Loan to women entrepreneur 3) Revamped microcredit 4) Working women loan. Under this scheme the bank achieved 85% to 99% of repayment. In this paper an analysis is made about the quantum of loan disbursed, the impact of their lives and the success rate of repayment.

**Objectives of the study**

1. To study about the performance of TDCC Bank in the field of women development
2. To know the quantum of loan disbursed during the five years
3. To analysis the repayment percentage of the beneficiaries

**Methodology of the study**

Only secondary data have been collected for the study from the bank records, annual reports, Special Officer Demi Official Narrative Reports and web sites.

**Table-1 Loan to SHG**

Rs.in lakhs

| S.no | Year | No.of beneficiaries | Quantum of loan disbursed | % of increase or decrease | % of recovery |
|---|---|---|---|---|---|
| 1 | 2006-07 | 2669 | 1436.80 | --- | 92 |
| 2 | 07-08 | 2068 | 1593.07 | 11 | 94 |
| 3 | 08-09 | 3599 | 2327.22 | 32 | 95 |
| 4 | 09-10 | 3808 | 3507.83 | 51 | 94 |
| 5 | 10-11 | 3181 | 3365.08 | -.41 | 95 |

Sources: SODONR

The above analysis shows that each and every year Loan and the number of beneficiaries of SHG of TDCC Bank have been increased. During 2006-07 the loan amounted to Rs. 1436.80 lakhs and it has increased by 11 percent during 2007-2008. During 2008-2009 the loan of the bank was amounted to Rs. 2327.22 lakhs and it has increased by 51 percent and amounted to Rs.3507.83 lakhs. With the above analysis, it is observed that each and every year the percentage of increasing rate has been increased. During the year 2010-2011 the quantum of loan has been decreased by 3365.08 lakhs.

**Women Entrepreneur loan**

TDCC Bank provides loan at a maximum of Rs. 10, 00,000, which is repayable with in 8 years for the purpose of starting an enterprises. The rate of interest is 14 percent.

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**Table- 2 Loan under Women Entrepreneur loan**

Rs.in lakhs

| S.no | Year | No.of beneficiaries | Quantum of loan disbursed | % of increase or decrease | % of recovery |
|---|---|---|---|---|---|
| 1 | 2006-07 | 174 | 81.83 | ---- | 87 |
| 2 | 07-08 | 130 | 74.97 | -8.38 | 82 |
| 3 | 08-09 | 124 | 64.77 | -13.61 | 81 |
| 4 | 09-10 | 43 | 26.61 | -5.9 | 76 |
| 5 | 10-11 | 61 | 46.54 | 74.9 | 88 |

Sources:SODONR

The above analysis shows that each and every year the Loan under Women Entrepreneur loan of TDCC Bank has been increased. During 2006-2007 the loan under this scheme amounted to Rs.81.83 lakhs and it has decreased by 8.38 percent during 2007-2008. During 2008-2009 the loan of the bank was amounted to Rs. 64.77 lakhs and it has decreased by 5.9 percent and amounted to Rs.26.61 lakhs. During the year 2010-11 the amount has been increased by 74.9 percent and amounted to Rs.46.54. With the above analysis, it is observed that each and every year the percentage of increasing rate has decreased. The reason behind is that the rate of interest offered by the commercial banks are lower than the TDCC Bank.

**Findings of the study**

1. In TDCC bank the women development cell was started and functioning since 2001.The different type of loan schemes available through women development cell are (a) Loan to self help groups,(b) Working women development scheme,(c) Revamped micro credit scheme and (d) Women entrepreneur loan scheme

2. The maximum amount of loan is Rs. 5, 00,000 which is repayable within five years. The rate of interest is 14 percent.

3. The analysis shows that each and every year Loan and the number of beneficiaries of SHG of TDCC Bank have been increased.

4. The analysis shows that each and every year Loan under Working Women Development Scheme of TDCC Bank has been increased.

5. It is observed that each and every year the percentage of increasing rate has been increased under the Loan scheme revamped micro credit scheme.

**Conclusion**

Empowering the women economically and giving a life to them, the NABARD planned to start the women development cell in all DCCBs. Through the women development cell the DCCBs started to finance to the eligible women to start a small industries, to sell eatables, to purchase household articles, to meet their medical expenses during their pregnancy period, to repay their old debts etc. The aim of NABARD has been gradually achieved. If the TDCC Bank take necessary steps to create awareness among the public then it will cent percent achieved their object. Women can economically enrich through the bank schemes.

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# FACTORS DETERMINING DEMAND FOR HIGHER EDUCATION IN RURAL HOUSEHOLDS OF VELLORE DISTRICT

Educational investments in children have been shown to have high private and social returns. More equalities in educational attainment in India, due to the demand for higher education. In addition to this the public expenditure on higher expenditure is not sufficient to form better human capital. The burden has been put on the individuals. Hence an attempt has been made to study the factors determining the demand and private expenditure on higher education in rural households.

## Objective

To identify the factors determining the demand for higher education in rural households.

## Methodology

This research mainly based on the primary data. By using simple random sampling method, the sample households have been selected in Chinnapallikuppam village, Vellour District. Because of time and resource constraint the researcher has restricted the sample size of 80 households. Equal weightage has been given to demanders (40 households) and non-demanders (40 households). To carryout this research, simple statistical tools (percent and average) and econometric tool (binary logistic regression) are played. Further, in order to study the private cost of higher education, the household expenditure on higher education also received from the sample households.

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## Factors influencing the demand for higher education

The important objective of the present study is that factors influencing the demand for higher education. Total sample consists of both, those who are demanding and not demanding for higher education. The dependent variable comprises only two values, due to the fact that, it is qualitative in nature namely binary in character 1 and 0. The variable demand for higher education is captured by 1 and the non-demanders are denoted by 0. Hence the application of Ordinary Least Square (OLS) regression is not possible to identify the factors which are influencing the demand for higher education. In order to analyze the limited dependency of the dependent variable the researcher has used the logit regression by using the formula. Equation $P = e^z g (1+e^z) g$ is used for the present analysis.

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**Table 1Factors influencing the demand for higher education**

| Variables | Expansion of the variable(s) | Co-efficient(s) |
|---|---|---|
| Constant | - | 44.602 |
| Com-2 (Dummy) | Social-status; Backward Community=1; otherwise=0 | 18.687 (0.0046) |
| Come-3 (Dummy) | Social status; Scheduled Caste=1; otherwise=0 | -636.558 (13.558)* |
| Hh-size | Size of the household | -343.165 (1.752)*** |
| Hh-inc | Income of the household (Rs. Per month) | 471.935 (2.341) |
| V-pro | Value of property (Rs.) | 802.816 (2.699)* |
| F-age | Father's age (years) | -0.265 (0.748)* |
| F-edu | Father's education (years of schooling and college) | 590/916 (1.875)*** |
| M-age | Mother's age (years) | -0.030 (0.071) |
| M-edu | Mother's education (years of schooling and college) | 2.571 (20.998)* |
| No-coll | Number of college goers in the household | -3.3412** (2.1304) |
| Dependent variable | Demand for higher education = 1; Non demand for higher education=0 | |
| -2 log likehood<br>Iteration<br>sample size | 136.94<br>5<br>80 | |

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***Source : Primary data,***Note : Figures in parentheses are absolute 't' value

In the above binary logitic regression model, the variables has been justified in the above paragraphs are included in the analysis as explanatory variables. Only few variables have only explained its significant on the dependent. With reference to Most Backward Community (MBC), the Scheduled Caste (SC) influenced negatively on the dependent variable at 1 percent level significant, which reflects that there is lesser demand from SC people when compared to all other social groups. The size of the household negatively related at 10 percent level of significant. It is due to the fact, that whenever, increase in size of the household, then there is a possibility for higher consumption expenditure. Hence expenditure on higher education will be reduced, which scores less important in this household.

The factor namely income of the household, positively influenced at 1 percent level significant, which the result coincides with the general logical thinking. In addition to

this the unearned income which we have used in the name of the value of property, has positive impact on the demand for higher education at 1 percent level of significant. The property owned by the household is one source to them, to get credit for demanding higher education. Beyond these socio-economic variables of the household parental information are also incorporated in the regression analysis. The parental characteristics like, father's and mother's education also influences positively at 10 percent and 1 percent level of significant on the demand for higher education.

## Conclusion

The major focus of this study is that, to identify the factors determining the demand for higher education and the household expenditure on the same. From this study, it may be concluded, that there are various factors (household and demographic factors) are responsible for the demand for higher education.

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# A STUDY ON YOUTH UNEMPLOYMENT PROBLEMS AND QUALITY OF EDUCATION IN SALEM DISTRICT

There is a wide gap between the supply of human resources and demand for employment opportunities in the labour market. In order to find the various reasons for the wide gap between these things, there is a need for identifying the factors or ever increasing the rate of growth of unemployment among educated youth.

**Statement of the Problem**

Although today competitive market is very huge. After the completion of the study, waiting period of job extends more than one year and the job which is also not suitable to their education. On the other hand preparing competitive exams is a compulsory. Hence the educated youth unemployed or the job seekers are forced to prepare for the competitive exams in order to become an employed one. Hence, there is close relationship between quality education and employment. Moreover their quality education acts as a major indicator of identifying quality employment. The quality commonly states that infrastructure, quality of teachers and teaching methods play a significant role in education. The present study emphasis about various reasons and quality of educated youth and their unemployment

**Objectives of the Study**

To highlight the problem faced by the educated unemployed youths and to explore the quality of education on various perspectives of educated unemployed youths;

**Formulation of Hypothesis**

1. There is no significant relationship between age and unemployed years
2. The quality of education differs significantly among various educational groups.

**Methodology of the Study**

The study is based on first hand and second hand data. Samples collected from unemployed youths, were the total sample size of the respondents was around 350. The data collected from age group of 15- 24 of the respondents. Through systematic random sampling method, the respondent has been selected. Out of 35000 various educated registered youths, one percent representative sample of base year 2008 who registered in District Employment Office (DEO) was collected. So the researcher has undertaken this study specifically for educated youth in Salem District which consists of 9 taluks and 20 blocks and equal chances has been given to the study. The data collected from the unemployed youths through interview schedule to make primary data. The collected data analyzed with the help of statistical package , percentage, chi square test, one way ANOVA were employed.

**Result and Discussion**

It is necessary to find gender wise attended of number of interviews attended by youth. The number of interviews attended has been classified into three such as never attended interviews, less than five interviews, and above six interviews respectively.From the responses of the respondents less than one fifth (18.5 percent) of them had attended not even a single interview after finished their education. Within this category, one tenth (10 percent) of them are male members and remaining (8.5 percent) of the respondent are females. This shows that, there is no difference between males and females in attending the interviews soon after their completion of education. Either school or

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college level. Similarly less than five interviews of them were (15.7 percent) for male, remaining females were (16.8 percent) respectively. Also shows that there is no big differences between male and female respondents. Finally above six interviews were out of four tenth(48.8 percent) male for one third (33.7 percent), females were 15.1 percent comparing females male are highly represent the samples. respectively.

**Table 1 Quality of education and living pattern of the respondent**

| | | Quality of education score | | |
|---|---|---|---|---|
| | | Mean | S. D | N o. |
| living of the Respondent | Rural | 12.49 | 2.80 | 247 |
| | Urban | 13.82 | 2.45 | 103 |
| TOTAL | | 12.88 | 2.76 | 350 |

In the above table 1 living pattern were classified rural and urban. Out of 350 respondent 247 number of candidate from rural areas and remaining urban areas 103 candidates respectively. Rural mean square value 12.49 , urban 13.82 mean square. Total t test value 4.186,degree of freedom value 348 respectively. One way ANOVA was applied to find whether the mean quality of education score vary significantly among different education groups. The ANOVA results shows that the calculated F ratio value is 4.186 which is higher than table value 2.59 it is inferred that the quality education score vary significantly among different living pattern of the respondent and quality of education score. Hence the hypothesis is rejected.

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## Conclusion

The unemployment is causing great concerns to all in recent years. The educated youth are rising in number. It is obviously the unemployment of youth is increasing over the years. The government should study the problem of unemployment and take necessary action to overcome problem. The government should increase wide awareness on the self -employment opportunities among the youth and encourage them to get benefits from the various schemes. The curriculum of school and colleges should incorporate and provide technical education for creating and setting employment opportunities in the labour market.

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# HEALTH STATUS OF ELDERLY MALAYALI TRIBAL WOMEN A CASE STUDY OF THIRUVANNAMALAI DISTRICT

This paper explores the Health problems of the elderly in the Malayali Tribal women. It also explores the accessibility and availability of public health services to these disadvantaged women in the tribal population at Thiruvannamalai district of Tamilnadu and suggests solutions.

**Objectives of the study**

1. To identify the health problems of the elderly Malayali women.

2. To find out the problems faced in accessibility of health services by these women

3. To highlight the role of social worker in creating awareness on the causes, prevention and treatment of these problems.

**Methodology**

The present study was carried out in three villages among the tribal hamlets of Akaraipatti, Keezh Valasai and Mel Valasai located atop the Kalvarayan hills in Thandrampattu block in Thiruvannamalai district. All the three hamlets have similar socio-demographic backgrounds. These hamlets tribal communities belong to the Malayali community. The sample consisted of 30 females belonging to the age groups between 60-80. All the elderly in the three villages were taken as the sample and hence no sampling method was used.The main tool used for data collection was a semi-structured interview schedule. It was constructed after reviewing the past researches on elderly conducted in India with the tribal's covering the various health aspects.

**Results and discussion**

**Economic Status**

As per the data except one fourth of the respondents, the rest of them belonged to lower/medium economic group. The elderly women most of them were housewives and had no income. They depended on their children for food and shelter and all the other needs. The economic status of the widows (30%) was very pathetic. They had to do all house hold work for a square meal.

**Occupational Status**

Nearly 46.66 % of the elderly women were housewives taking care of the grandchildren and attending to household chores. The women who were agriculture coolie (10%) and construction workers (10%) also were employed on daily wages and employed only for 30-50 days per year. Other days they remain idle at home attending to household chores.

**Health Aspects**

All the respondents had health problems, the most common being hypertension (22%), arthritis (17%), diabetes (10%), or constipation (2%.) Others included anemia (10%), skin problems (12%) vision problems (18%) and other minor ailments (5%). The presence of bitot's spots on almost 4 % of the women studied shows signs of Vitamin A deficiency. It is seen that most of the respondents had more than one health problem. Hypertension, arthritis and diabetes were found to be more common among females. Most (60%) of the elderly women interviewed had been affected by any one or a combination of this diseases and symptoms like Parasitic infestation, Viral and Fungal infections, Conjunctivitis, Cough and Cold, Diarrhoea and

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**Problems faced by the elderly in accessibility of health services**

They often use home remedy or indigenous medicines for their ailments as the first preference. For them, seeking medical services is expensive unless it is from a public hospital. The elderly tribal generally is the last person in a household to seek or to demand the medical aid. Their inability to pay for their treatment is a problem. Another major problem is that they have the habit of getting treatment always free and the major reason quoted was poverty and family not willing to pay for their health problems. Most of the respondents could not gain access to medical care services due to under-developed communication and lack of transport facilities.

**Training**

1. Training of local women leaders in disease prevention, and referral services.

2. For nutritional deficiencies, the tribal women to be trained in healthy food habits based on the available foods through Nutritional education programmes.

**Conclusion**

In this study most of the elderly women live in joint families but they do not get the care and concern those traditional Indian joint families gave. They are thought of as dependents and merely helpers for their children. These elderly tribal women prefer to use indigenous medicines for their illness and feel that it is a waste of time to travel to places away at a long distance form home for treatment. If health services are available at their door step it would be a welcome change for them. The results of the study showed that there is a need for geriatric counseling centers that can take care of their physical and psychological needs.

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# LABOUR MARKET SITUATION IN VELLORE DISTRICT OF TAMIL NADU

In Tamilnadu Vellore district which formed part of the region Thondamandalam in the days of ancient is associated with many interesting and thrilling events in the history of South India. In Vellore agricultural research station at Virinjipuram is in theNortheastern Zone of Tamil Nadu. It is one of 32 research stations of Tamil Nadu Agricultural University (TNAU).

**Objectives:**

1. To examine employment structure in Vellore district of Tamil Nadu.
2. To analyze the labour market situation in Vellore district during the period 2005-06 to 2011-12.

**Methodology**

The data and information for the purpose of the study have been collected through secondary sources. Secondary data collected from Government records and reports like District Employment Exchange and District Inspector of Factories, Vellore.

**Table-1 Percentage of Government Placement in the Number of Persons Registered During the Year 2005-06 to 2011-12**

| Year | | Government placement during the year | No of persons registered during the year | Percentage of government placement % |
|---|---|---|---|---|
| 2005-06 | Men | 369 | 13837 | 2.66 % |
| | Women | 314 | 9458 | 3.31 % |
| 2011-12 | Men | 125 | 44187 | 0.28 % |
| | Women | 90 | 44360 | 0.20 % |

Source: District Employment Exchange, Vellore.

As per the Vellore district inspector of factories data denotes that 369 number of factories during the year 2005-06.the corresponding number for 2011-12 are 1202 working factories. Then that data denotes that 27326 number of workers during the year 2005-06. The corresponding number for 2011-12 is 98049 numbers of workers in those factories. In that above table clearly shows number of factories has increased in 30.69 percent during the year from 2005-06 to 2011-12, and number of workers has increased in 27.86 percent during the year from 2005-06 to 2011-12.

**Table-2 Percentage of Leather and Leather Products in Total Number Factories during the Year 2005-06 to 2011-12.**

| year | Leather and Leather product factories | Total number of factories | Percentage of leather and leather product factories % |
|---|---|---|---|
| 2005-06 | 207 | 369 | 56.09 % |
| 2011-12 | 451 | 1202 | 37.57 % |

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Source: District Inspector of Factories, Vellore.

As per the vellore district inspector of factories data 207 Leather and leather product factories out off 369 total number of factories during the year 2005-06.the corresponding number for 2011-12 are 451 Leather and Leather product factories out off 1202 total number of factories. The above table shows Leather and Leather product factories percentage has decreased from 56.09 percent in 2005-06 to 37.57 percent Leather and Leather product factories out off total number of factories in 2011-12. The Percentage of Leather and Leather Product Workers Only from the Total Number of Workers during the Year 2005-06 to 2011-12 is discussed below.

The study pointed out 17104 Leather and Leather product workers in 207 Leather and Leather product Factories during the year 2005-06.the corresponding number for 2011-12 are 35208 Leather and Leather product workers in 451 Leather and Leather product Factories respectively. In that table shows average of employment 82.62 in each Leather and Leather product Factories during the year 2005-06.the corresponding number for 2011-12 are 78.06 average employment of each Leather and Leather product Factories.

**Conclusion:**

It is concluded from the above analysis of results on the labour market situation of Vellore district that the picture of employment in public sector is dismal. The number of workers in private factories has increased by 27.86 percent during 2005-06 to 2011-12. However the percentage increase in the factor employment is less than the percentage increase of factories functioning in Vellore District. Therefore it is concluded that the increasing labour force is not absorbed by the factories in the district.

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# THE ECONOMIC DEVELOPMENT AND ENVIRONMENTAL PROTECTION WITH SPECIAL REFERENCE TO THE VELLORE CITIZEN WELFARE FORUM'S PUBLIC INTEREST LITIGATION

Vellore district is a major leather- processing centre in Tamil Nadu, with an estimated 50,000 tannery workers. The district is the top exporter of finished leather goods in the country. Leather production includes many operations with different exposures, which can be harmful for the health of the tannery workers as well as nearby dwellers because many chemicals used in the tanning processes are considered as probably being carcinogenic to humans The major components of air pollution in developed countries are nitrogen dioxide, sulphur dioxide, ozone and suspended solid or liquid particles. Many organic compounds of industrial origin contribute to airborne public health concerns, as well as environmental problems. High levels of air pollution can adversely affect lung function and triggers asthma and COPD exacerbations. People living in areas with more tanning industries, especially when stagnant air is created by waste water (effluent), are at particular risk.

The Vellore Citizen Welfare Forum filed this Writ Petition as public interest litigation. In this petition, the Welfare Forum alleged that the tanneries and other industries were discharging untreated effluent into the agriculture fields, roadsides, waterways and open lands in the State of Tamil Nadu. The untreated effluent of these tanneries and industries were finally discharged in the river Palar which was the main source of water supply to the residents of the area.

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**Suggestions**

1. This study recommends that the bio monitoring of air levels of chromium and gases levels at the work place and the nearby surroundings that can be used as a tool for mitigating health hazards and risk factors in the exposed community.

2. Central and State Government to take measures to protect and improve environment for the purpose of protecting improving the quality of the environment and preventing controlling and abating environmental pollution.

3. Lying down procedures and safeguards for the handling of hazardous substances; examination of such manufacturing processes, materials and substances as are likely to cause environmental pollution;

**Conclusion**

The tanneries have contributed significantly to the water scarcity issues facing the Vellore region and have contaminated the groundwater through the discharge of wastewater containing chromium and high dissolved solids concentration and the improper disposal of contaminated hides. The current environmental situation cannot continue and the threat of closing small-scale tanneries that don't meet regulations will lead to loss of jobs and economic activity in the Vellore region. It is, however, unfortunate that the importance of controlling pollution is generally not realized until considerable damage has already been done. There are immense benefits which result from the prevention of pollution. These include a general improvement in the standard of health of the population and the possibility of restoring stream waters to their original beneficial state.

**Dr.S.Jayaselvi**
**K.Vinoth Kumar**

# RAINFED FARMING AND DISASTER RISK REDUCTION IN VELLORE DISTRICT OF TAMILNADU

Rainfed farming makes up more than half of all sown land in India, provides almost all the country's pulses and minor millets, many of its oil seeds, much of its cotton and half of its cereals, and employs many poor Indians and ethnic minorities.However, rainfed farming is on the decline in most of south India. As a result of climate change, monsoon seasons are becoming vague and unpredictable, and the threat of drought or flooding rains make rainfed farming less viable as an occupation for many farmers. When their ability to make a living is destroyed in a disaster, some farmers borrow from money-lenders, migrate to find work, or resort to illicit trades, all ofwhich increase their vulnerability to future .As part of the study, researchers compiled and analyzed 40 years of secondary data and cross checked it with the communities' own experiences. They conducted a statistical analysis of rainfall, determining how much it varied from year to year, how likely it was to fall in a given month, what the trend was, and ultimately a new length for the growing period.

Finally this research highlights that, though climate change seems like a new issue in the public sphere, farmers are well aware of climate change and have already developed coping mechanisms to reduce their disaster risk.

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**Conclusion**

This research project and the supporting pilot projects demonstrate that research for disaster risk reduction cannot be conducted in universities alone. It must be checked against rural people's own perceptions of reality. This will be done more often when researchers change the paradigms by which they work; when they understand that rural people, who may not have university degrees, do have a kind of expertise. They are the experts in their own strengths and vulnerabilities, in their needs, and in their shifting climates. Only when research is done in partnership with the research subjects, in this case rural rainfed farmers, will the research do more than sit on a shelf or inform other research. Only then will it actually reduce the risks that these people face everyday, and help them to build resilience in the face of future hazards.

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# TOURISM IN TAMILNADU WITH SPECIAL REFERENCE TO KANCHIPURAM DISTRICT

Tourism is the sum of the relations and services connected with a temporary and voluntary change of residence for non-commercial or non- professional reasons. Tourism today has come to be equated with a world wide service industry. Tourism brings prosperity to the host nation by creating employment opportunities, generating income, foreign exchange earnings and improvement in overall quality of life. Tourism is more concerned with the satisfaction of individual rather than with the scientific and technological achievements

**Objectives of the study**

1. To study the flow and pattern of tourist in the study area.
2. To chalk out the attitudes of tourists towards the supporting services.
3. To offer suitable suggestions for improvement of tourism.

**Economic Importance of Tourism**

Department of tourism, Govt. of India has estimated that an investment of Rs. 10 Lakh in tourism creates 47.5 jobs. Tamilnadu attracted nearly 30 percent of the foreign tourists to India in the year 2010. The 7.90 Lakhs foreign tourists who visited the state for an average of 4.7 days spent foreign exchange equivalent to Rs. 4320 crores, a truly impressive figure. If the average length of stay could be enhanced by two days, then even without any increase in tourist arrivals foreign tourist expenditure in Tamilnadu can cross Rs. 6,000 crores. On an average, a foreign tourist spends Rs. 2,080 per day in Tamilnadu of which 35.5 percent is spent on shopping, 19.5 percent on accommodation and 12.5 percent an intercity transport.

**Suggestions**

Cleanliness, hygienic conditions and satisfactory catering should exist at every place of tourist interest. Department of Tourism and local bodies should give importance to it,Tourists gave preference for accommodation with affordable price, hence the hoteliers should concentrate on clean, pleasant and satisfactory accommodation without any irritants.Efforts should be taken both by government and private tourism sectors to improve transport and communication facilities. Special training should be given to the persons who come in direct contact with the visitors, To sell lesser attractive sites proper promotional efforts should be taken by tourist undertaking For the convenience of the tourists, Department of Tourism should put up a map with details at all tourist spots. Local people should aware of the value of the tourists and their attitude towards them should be cordial. Steps must be taken by the Tourism Department to give more publicity about Kanchipuram in foreign countries.Authorized trained guides should be provided to the tourists.The Tourism Department should arrange for a small conducted tour within Kanchipuram Dt.A western

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cuisine must be provided in Hotel Tamilnadu for the benefit of foreign tourists.The area in and around the Mamallapuram, Kanchipuram shall be beautified.

Viable transport system is a necessary prerequisite for comfortable journey.

**Findings**

1. Majority of the foreign and domestic tourists looked for good and comfortable accommodation at an affordable price rather than luxury.
2. Many of them preferred to travel by train.
3. Majority of the foreign tourists spent more amount on travel followed by accommodation
4. In the case of domestic tourists they spent more amount on accommodation followed by transportation.

**Conclusion**

Majority of the foreign tourists stay at Mamallapuram visit places of tourists attraction. Generally they are satisfied with the lodging food and other facilities. All the foreign tourists are stricken by the beauty of the Five Rathas, Arjuna's Penance in the shore temple.

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# PERFORMANCE OF MGNREGS IN FIVE BLOCKS OF THIRUVANNAMALAI DISTRICT

**Methodology:** Secondary data are used to study the performance of MGNREGS in five blocks of Thiruvannamalai District. Out of the total of 18 blocks , five blocks are selected for the study randomly. Anakkavoor, Arni, Chengam, Chetpet and Cheyyar are selected for the present study.

**Objectives of the study**

(i) To understand the employment status of the persons registered for job (whether household or worker) (ii) To estimate the Period Wise Employment Provided For Financial Year 2013-2014 (iii) To indicate the no of women employed under this scheme (iv) To understand the duration of job ( person days) (v) To analyse the no of jobs demanded and the no of jobs offered for diabled

**Table-1Person days generated (2013-14)**

| Total Attendance | Anakkavoor | Arni | Chengam | Chetpet | Cheyyar | Total |
|---|---|---|---|---|---|---|
| Household Employed | 19210 (16.30%) | 22089 (18.74%) | 28435 (24.13%) | 25313 (21.48%) | 22773 (19.32%) | 117820 |
| Persondays Generated | 1350682 (21.02%) | 1148169 (17.87%) | 883423 (13.75%) | 1208700 (18.81%) | 1831855 (28.52%) | 6422829 |

Data Source : homedpc - *Nrega*, www.google.com

place during frequent dimension to avoid fake information and transaction of income below recommended levels.

**Issues associated with payments:**

Payment of income is done through post offices as well as government or private banks. Through this scheme, people can be paid at right time without any error. The payment is done in their particular bank/post office account.

**Audit:**Provision of sufficient quality of perform place features for women and men labors Development and upkeep of durable resources sufficient review and assessment systems extensive organization of social review and use of conclusions.

**Less amount:**The payment under MGNREGS to the workers has been increased from Rs.134/- to Rs.148/- per day. But in reality, the workers under this scheme are getting very less amount. The Government officials in Tiruvannamalai district are not adhering to the prevailing rules. Workers were never paid the full amount i.e. Rs.148/- per day in Tiruvannamalai District **Recommendations for this district:**

1. There should be increased propaganda about NREG Scheme.
2. Job Cards to be issued to rest of the families.
3. Job Cards to be issued to Lactating mothers too.

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4. Those who are above the age of 50 years also to be accepted Registration based on their physical fitness.

5. Employment after 15 days of Registration should be made mandatory.

**Conclusion:**

Migration of people towards urban areas hinders the agricultural growth . Problem soil (alkaline soil) is one of the major problems in Arni, polur and Thiruvannamali blocks. The objectives of MGNREGA viz. (i)To enhance livelihood security in rural areas (ii)To generate productive assets, (iii) To protect the environment (iv)To empower rural women (v) To reduce rural urban migration and (vi)To faster social equity among others. May be fulfilled by the successful implementation of MGNREGA.

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# A COMPARATIVE STUDY ON PERFORMANCE OF PRIMARY HEALTH CARE CENTERS AND PRIVATE HOSPITALS IN TIRUPATHUR – VELLORE DISTRICT

There is a possibility for gap between the service providers and service seekers or beneficiaries. On the other hand, even though the services are on part with price, the people are willing to pay for the same even they have services at a low cost or zero price. Hence an attempt has been made by the researcher to identify the existence gap between the providers and stakeholders by using community scorecard method to know the degree of magnitude of gap between the same.

**Objectives of the study**

1. To compare the level of benefits received from both private and public hospital; and
2. To investigate the gap between health service providers and consumer through score care method.

**Methodology**

To analyze the framed objectives of the study, the researcher has collect primary data through interview schedule from the rural stakeholders about the services provided in primary healthcare centers as well as from the private hospitals. In addition to this information were also collected from the services providers from PHCs and private hospitals in Tirupathur. By using random sampling techniques the samples has been selected and the sample size is restricted to 120 due time and resource constraint. The researcher has also used 5 point scales to identify the gap between the providers and stakeholders about the services in hospitals. Moreover, for the analysis of data, simple statistical tools viz., percent and mean also used.

**Results**

**Table No 1 Visiting of respondents to health centers**

| Visiting to hospital | Primary Health Centre | Private Hospital |
|---|---|---|
| Once in 3 months | 12 (20%) | 18 (30%) |
| Only time of suffering | 48 (80%) | 42 (70%) |
| **Total** | **60 (100%)** | **60 (100%)** |

***Source :*** *Primary data*

The table about is of visiting to health centre, 20% of the respondents goes for normal check up once in 3 months to primary health centre and 20% of respondents in private health centre. 80% of the respondents and 70% of the respondents goes to primary and private health centre only in time of suffering from any problem.

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**Table 2 Score for facilities given by respondents**

| Details | Doctors response | Nurse response | Regular doctors | Ward boys response | Quality of medicine | Cleaning of equipments | Bed facilities | Surrounding facilities | Water facilities | Toilet facilities |
|---|---|---|---|---|---|---|---|---|---|---|
| Primary health care score | 212 | 184 | 184 | 168 | 236 | 226 | 158 | 166 | 134 | 134 |
| Private hospital score | 230 | 216 | 204 | 180 | 240 | 234 | 174 | 170 | 168 | 174 |

*Source : Primary data*

The table shows the total score given by 60 respondents, in doctors responses, respondents given 212 score for primary and 230 score for private health centre in nurse responses respondents gave 184 scores to primary and 216 scores to private health centre. Score given by respondents to regular doctor's visit is 184 and 204 to primary and private respectively. Ward boys response, 168 scores to primary and 180 scores to private health centre given by respondents. About quality of medicines 236 scores given to primary and 240 scores given to private health centre by respondents.

The third objective of the study the gap between health providers and consumers through score card method. The gap is too wide in PHC between health providers and consumers. By comparing the scores given by patients which is less than the service provider. It clearly explains that patients feel that service given to them is not that much level. Further, in case of score given by patients and service providers in private health care centres, the gap between these two groups is not too wide when compared to PHC. Hence, it is concluded that patients gave high scores to facilities provided in private hospital compared to PHCs.

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## Conclusion

The purpose of having PHCs is that to provide better health care facilities to the down trodden people. But the facilities are too poor to the requirement of the society. Even in private hospital also certain facilities are poor and amount paid to the hospitals are high. It is concluded that both the hospitals should uplift their grade in terms of facilities to the consumers.

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# EXTERNALITIES ASSOCIATED WITH TANNERY INDUSTRY POLLUTION IN VELLORE DISTRICT OF TAMILNADU: A MICRO LEVEL STUDY

Ecosystem services can be lost or diminished when there is over extraction or mismanagement of ecosystem. In countries where environmental regulation is weak, the wastes from different sectors are indiscriminately discharged into the ecosystems. The receiving ecosystems are seriously affected in terms of their functions. This is particularly true in the case of those ecosystems which are common property resources or in which property fights are not well defined. When the services provided by ecosystems are impaired, there is a reduction in productivity which ultimately impacts the well being of people who depends on the ecosystems for their livelihood. The most serious impact of pollution is on air and water resources and the associated ecosystems. The demand for water from different sectors is increasing at a rapid rate in proportion with the growth of population and the economy. Moreover, the structural transformation of the economy through the diversification from agriculture to the industry and service sectors has significantly influenced the allocation of water resources.

## The Palar River Basin: Issues and Concerns

The key issue is that one is not against the horizontal spread of cities but against an irresponsible, unplanned and unjust spreading of and encroachment into rural areas. Therefore, it is recognized that in the process of city development and vast urban expansion, its 'spill-over effects' are inevitable; but if such 'spill over effects' are minimal and mutually beneficial it may be sustainable; otherwise, if 'spill over effects' are *forced upon, negative and exploitative* it would not only become unsustainable but would also turn out to be a *contested terrain*, resulting in the surfacing of conflicts. Indeed, the clear case in point is water. The conflicts emerge mainly because of the following reasons:

1. The urban stress is transferred to adjoining areas when urban population migrate and settle down in rural areas

2. Industries are relocated or many industries prefer outer locations due to better land and water availability

3. Dramatic change in land use pattern: The land in the rural areas is bought over for urban use

4. Pollution and degradation of natural resources such as land and water due to increasing urban activities

5. Water, hitherto claimed only by the agricultural sector is used more and more for non-agricultural urban uses – there emerges competing demand for water – water transport from rural to urban areas

## Methodology

The researcher has selected Palar river basin in Vellore District of Tamilnadu for the purpose of the present study. The Palar river basin region has 27 villages. Among them six nearest villages are selected. From each village, 50 households are selected as sample. . From each village, 50 households are selected as sample only to study the economics of crop cultivation and they are excluded from the main stream of the analysis. Thus totally 300 households from the Tannery industrial polluted Palar river basin and 150 households from the non-industrial region are selected as sample. The purposive random sampling method is adopted to select the respondents from the non-industrial

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region. The stratified random sampling method is adopted to select the respondents from each village according to the education status of households. The collected data have been classified and tabulated with the help of computer programming. Cross tabulation is done putting independent variables such as village status, education status, and income status of the households and dependent variables such as externality variables, pollution variables, coping strategy variables, and so on. In order to study the association between socio-economics status of the households and the reviews on externalities, realization and effects of pollution and coping mechanisms to protect themselves against environment degradation, the Chi-square test is applied. Therefore this paper examines the households' views on externalities associated with Tannery industry pollution on Palar river basin area in Vellore District of Tamilnadu.

**Externalities associated with tannery industry pollution**

A study on data in table 1.1 indicates the village wise household's views on positive externality of starting tannery industries in Palar river basin. It could be noted that out of the total 300 households, 23.67 per cent of them observe the development of tannery industries in Palar river basin in the form of local employment generation along with development of non farm activities and 18 per cent of the households realize the positive externality of development of Tannery industries in the form of business development along with development of health and educational institutions. It could be noted that 17.67 per cent of them state that positive externality of development of Tannery industries in the form of an increase in the condition of living among the local households and 20 per cent of them state it as an increase in property value. Moreover, 20.67 per cent of them observe the positive externality of Tannery industrial development in the form of development of local infrastructure facilities like roads, electricity, drinking water, institutions and so on. A considerable number of households of Kailasagiri village (40%) and Kallaparai village (32%) observe the positive externality of Tannery industrial development in the form of increase in local employment along with development of nonfarm activities.

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**Table 1.1 Village wise households views on positive externality of starting Tannery industries**

| Village name | Increase in employment and development of non-farm activities | Business development and development of institutions | Increase in living condition | Increase in property value | Development of infrastructure facilities | Total |
|---|---|---|---|---|---|---|
| Kailasagiri | 20 (40) | 7 (14) | 9 (18) | 8 (16) | 6 (12) | 50 |
| Alankuppam | 8 (16) | 17 (34) | 6 (12) | 7 (14) | 12 (24) | 50 |
| Echampattu | 11 (22) | 8 (16) | 5 (10) | 9 (18) | 17 (34) | 50 |
| Kallaparai | 16 (32) | 6 (12) | 9 (18) | 12 (24) | 7 (14) | 50 |
| Pappanapalli | 7 (14) | 8 (16) | 12 (24) | 10 (20) | 13 (26) | 50 |
| Pakkam | 9 (18) | 8 (16) | 12 (24) | 14 (28) | 7 (14) | 50 |
| Total | 71 (23.67) | 54 (18) | 53 (17.67) | 60 (20) | 62 (20.67) | 300 |

Source: Computed Note: Figures in parentheses denote row percentage

## Conclusion

It could be concluded from above discussion that the households rate it as the first order priority to the positive externality of development of Tannery industries in the form of increase in local employment along with development of non farm activities, positive externality of development of Tannery industries in the form of development of infrastructure facilities the second, increase in property value the third, development of business along with development of institutions the fourth and increase in living conditions the last. The primary level educated households observe the positive externality of starting Tannery industries on local area development in the form of increase in local employment along with development of non farm activities. The low income group households observe the positive externality of starting Tannery industries on local area development in the form of increase in local employment along with development of non farm activities. Therefore, the hypothesis is that the positive and negative externalities of the establishment of Tanning industrial region differ significantly among the households in the study area is valid as per the results of chi-square test.

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# AN ECONOMIC ANALYSIS OF MICRO, SMALL AND MEDIUM ENTERPRISES IN INDIA

Micro Small Medium Enterprises is an integral part of the Indian industrial sector. The distinctive feature of Micro Small and Medium Enterprises (MSMEs) are less capital investment and high labour absorption which has created unprecedented importance to this sector. As per the Development Commissioner of Micro, Small and Medium Enterprises (2001), the sector has the credit of being the second highest in employment, which stands next to agricultural sector. The nature of the businesses in this sector plays an important role to alleviate poverty and propel sustainable growth and equitable distribution of income in India. The MSMEs play an important role in efficiently allocating the enormous labour supply and scarce capital by implementing labour intensive production processes.

**Objectives of the study**

1. To analyze the barriers of financial for MSME
2. To study about the MSME in organized and unorganized sectors

This study found that an increase of Rs. 1,000 crore in lending was linked to a 2.7 percent increase in profit, all else equal. Moreover, Indian bank lending patterns indicate that firms lack credit because "banks seem remarkably reluctant to make fresh lending decisions."

**High Growth Enterprises**

One end of the MSME spectrum contains highly innovative and high growth enterprises. These include MSMEs in sectors like textiles and garments, leather and leather products, auto components, drugs and pharmaceuticals, food processing, IT hardware and electronics, paper, chemicals and petrochemicals, telecom equipment, etc. Such enterprises not only have high potential for growth but could also contribute significantly in enhancing country's exports. One of the major constraints in growth of such enterprises is access to equity capital. At present, there is almost negligible flow of equity capital into this sector despite the fact that overall such capital inflow has witnessed significant increase in the recent years. There is, therefore, a need to promote inflow of equity capital into this sector by providing suitable incentive to MSME-focused angel/venture capital funds as well as by setting up of SME Exchanges/platforms.

**Enterprises with market linkages**

Promotion of sub-contracting has been one of the important ingredients of the policy envisaged for the development of MSMEs in the country. Several measures have been taken by the Government towards this endeavor such as ancilliarisation, vendor development programmes, buyer-seller meets, etc. This has resulted in a significant number of micro and small enterprises operating under some system of sub-contracting with large enterprises. Such arrangements has not only helped in providing marketing linkages but has also resulted in technological linkages through provision of product specification and design. However, in view of the dependent relationship of such enterprises with the large enterprise, they also face several problems. Some of the major problems include: (i) Considerable delays in payments;(ii) Uncertainty – in case of rejection, the small firms end up with practically no option but to dispose off their products; (iii) Linkages such as financial and supply of raw material are seldom provided by the buyer enterprises; and (iv) Buyer enterprises are not

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bothered to ensure that such enterprises operate with minimum working conditions or comply with various regulations related to their working.

**Policy implications**

In addition to the growth potential of the sector and its critical role in the manufacturing and value chains, the heterogeneity and the unorganized nature of the Indian MSMEs are important aspects that need to be factored into policy making and programme implementation. There is considerable segmentation among the MSMEs in terms of their size and need tailor made policies for each size class. The policies and programmes for the micro and small enterprises in the unorganized sector would need to address their survival strategies and should be in the direction of providing livelihood alternatives such as social security, skill formation and credit. On the other hand, policies/programmes for the larger sized MSMEs need to address issues relating to growth marketing, access to raw material, credit, skill development and technology up gradation. The Government policy must focus its attention to ensure support to the growth-oriented MSMEs to prosper as also to provide an enabling atmosphere for the MSMEs in the unorganized sector to flourish and progressively integrate with the organized sector. At the same time, the government must take effective steps for the welfare of the workers in this sector.

During the past few decades, for several reasons, not unconnected with the way industrial growth took place in our country, labour related issues had focused on regulation rather than welfare. Though labour welfare has taken deep roots, the actual number of workers in the country provided with social security continues to be quite small in relation to the workforce. Therefore, if we are to reach out to the uncovered segment we need to focus equally on regulation and welfare.

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**Conclusion**

In India MSMEs has achieved steady growth over the last couple of years. The role of MSMEs in the industrial sector is growing rapidly and they have become a thrust area for future growth. The Indian market is growing and the Indian industry is making rapid progress in various Industries like manufacturing, food processing, textile and garments, retail, precision engineering, information technology, pharmaceuticals, agro and service sectors. Under the changing economic scenario the MSMEs have both the opportunities and challenges before them. The support given by the national and the state governments to the MSMEs is not adequate enough to solve their problems. However for the sector to fully utilize its potential, it is essential that the entrepreneurs along with the government support take necessary steps for further development. It is quite evident that, nurturing this sector is essential for the economic well-being of the nation.

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# ROLE OF NON-GOVERMENTAL ORGANISATIONS IN MICRO FINANCE THROUGH SHGS- A CASE STUDY IN VELLORE DISTRICT OF TAMIL NADU

Non-governmental organization or voluntary agencies or valountary organization are committed for the up liftmen of poor, marginalized under privileged, impoverished and down trodden and they are close and accessible to their target group. Non-governmental organization are flexible in their operation, independent in its functioning quick in decision making people concerned driven by social values and humanitarian principles.NGos have tier origin in nonprofit value based voluntary organization and have been working throughout the word for countries of the north. On governmental organizations in India.were responsible for converting the pilot program me of self help groups in to a mass movement in our country.

**Objectives:**

1. To motivate the rural people to organize themselves and to form in to self help groups.
2. To educate train the group members in managing the group activities like maintance of books of accounts conducting meetings management of funds etc.
3. To help the SHG in identifying raw materials and local resource.

**Statement of the problem:**

The above studies have narrated the role of NGOs in delivering micro fiancé through SHGs.there was no study conducted earlier in Vellore district about the role of micro fiancé, the present study was undertaken in Vellore district of Tamil Nadu to assess the role of NGOs in micro finance.the present study is under taken with the following specific objectives, to evaluate the role of non – governmental organization in micro finance.

**Methodology:**

There are 32 revenue districts in Tamil Nadu as on 2011 to 2012 and 337744 self help groups are functioning in the state Vellore district, even though known for its leather industry and agriculture is one of the industrially back ward district in the state very few studies were attempted in general about the district and in particular, studies related to effectiveness of micro fiancé in Vellore district are almost nonexistent, Vellore district has 11625 SHGs as on 2012 which is nearer to the state average of 11258 SHGs per district.

**Results**

**Table -1 Education status:**

| S.No | Details | Frequency | Percentage |
|---|---|---|---|
| 1 | Illiterate | 154 | 34.2 |
| 2 | Up to S.S.L.C | 266 | 59.1 |
| 3 | Higher secondary | 21 | 4.7 |
| 4 | degree | 9 | 2.0 |
| | Total | 450 | 100.00 |

**Source: primary data**

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Table : Illiterates constitute nearly 34 per cent of the respondents according to census 2011report.the level of illiteracy among women is 44.80 per cent for the Vellore district in Nemili block it is 43.73 per cent and in Natermpalli block it is shows that most of the respondents 59.1 per cent have studied up to 10th standard and nine respondents 2 per cent are graduates.

Once third of respondents joined self help Groups for the purpose of saving and 22 per cent of respondents joined SHGs to supplement their family income and 11 per cent responds joined in groups to save as well as to avail loans.

**Table - 2 Amount of Loan Borrowed**

| S.No | Loan amount(INR) | Frequency | Percentage |
|---|---|---|---|
| 1 | Up-5000 | 207 | 46.0 |
| 2 | 5001-9999 | 53 | 11.8 |
| 3 | 10000 -24999 | 106 | 23.6 |
| 4 | 25000 -50000 | 32 | 7.0 |
| 5 | 50001 – 100000 | 20 | 4.4 |
| 6 | Above -150000 | 14 | 3.1 |
| 7 | No loan from bank | 18 | 4.0 |
| | **Total** | **450** | **100.00** |

**Source: primary data**

Null hypothesis states that there is no relationship between education status of the respondents and role of NGOs. The null hypothesis was formulated to analyses the relationship between the education status and awareness regarding the role of NGOs and normally it is expected that the higher the education status and more will be the awareness regarding the role of NGOs and normalcy it is expected that the higher the educational status and more will be the awareness regarding the role of NGOs Table shows that the calculated value of F is signification at 1 percent level (F:6925 p= .000) in other words there exists a significant relationship between the educational level of the respondents and the role of NGOs the result indicates that illiterate respondents are well aware of the role of NGOs in micro finance than other category of respondents sum role in the practically they are impressed by the role of NGOs.

**Conclusion:**

Nongovernmental organizations play a vital role in helping rural women to from self Help Groups and they motivated woman to join self help Groups. Nearly 55percent of the respondents informed that nongovernmental organizations helped them to from self Help Groups. Government departments and neighbouring self Help Groups playvery negligible role in the formation of self Help Groups it is concluded that NGOs and self motivation of women are the main motivational factors to join SHGs and self help Group members also influence other woman to join the groups.

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# STUDY ON PERFORMANCE OF COMPREHENSIVE EMERGENCY OBSTETRIC NEW BORN CARE CENTERS IN VELLORE DISTRICT

The present study was undertaken in Thirupathur Public Hospital in Vellore district with secondary data. The study is confined to CEmNOC Services, covering a period from April 2012 to June 2013. There are eight government hospitals in Vellore district, namely Walajapet, Ambur, Arakkonam, Arcot, Gudiyatham, Pentland, vanniyambadi and Tirupathur and for the present study Tirupathur government hospital alone was selected. Major activities under the TN-HSDP include construction and improvement of inpatient facilities in government hospitals and the supply of new equipment, instruments and vehicles to secondary hospitals located in sub-district and district headquarters. To complement the existing 66 Centres, 32 additional CEmONC centres were established in secondary hospitals.

**Discussion**

**Table 3: The Total Institutional Cost of Thirupathur Public Hospital from April 2012 to June 2013**

| Total institutional deliveries cases | Cost per delivery (in `) | Total cost for deliveries (in `) |
|---|---|---|
| 3380 | 12000 | 40560000 |

**Source:** Record note of government hospital, Thirupathur, 2012 and 2013.

The total institutional deliveries were 3380 cases. The government of Tamil Nadu spends ‘ 40506000/- for institutional deliveries in Thirupathur public hospital from April 2012 to June 2013 through Dr. Muthulakshimi Reddy Maternity Benefit Scheme. The total cost per delivery was ‘ 12000/-. A childbirth assistance scheme, named after Muthulakshmi Reddy, Tamil Nadu’s first women doctor and social activist, was launched in 1987 and is known as the Muthulakshmi Reddy Metarnity Benefit Scheme (MRMBS). Initially, its beneficiaries were offered ‘ 300 to cover the expenses of childbirth. The amount was enhanced to ‘ 500 in 1995. In September 2006, the amount was further raised significantly and clear set of guidelines were drawn to disburse the money. Between September 2006 and April 2011, cash assistance of ‘ 6000 was given to pregnant women living Below the Poverty Line (BPL) to compensate for the wage loss during pregnancy and for help in getting nutritious food to avoid low birth weight babies. The money was provided usually in two equal installments, the first in the seventh or later months of pregnancy and the second within three to six months after delivery. Now the state government announced its intention to double the support amount to ‘ 12,000.

The MRMBS was meant for the first two deliveries of BPL women, excluding those who owned mobile phones and motor vehicles. Over the years the eligibility criteria has undergone various changes. In its present version, all BPL women who access the services of a primary health centre are eligible for the benefits, but the annual household income limit has been raised to ‘ 24000 from ‘ 12000. Sri Lankan repatriate women are also eligible for the benefits. However, the scheme continues to cover only the first two deliveries. However, sometimes the beneficiaries get the fund first installment and admit themselves in private hospitals.

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## Conclusion

TNHSP has been instrumental in establishing a network of specialist emergency obstetric and neonatal care centers which service the entire population of the state. Beyond service delivery, the CEmONCs have institutionalized standardized human resource compliment; skill upgradation methodologies; excellent quality of care; data systems; and monitoring and evaluation mechanisms. This entire package has been catalytic in the enthusiastic uptake of CEmONC services by all representative populations in the state – especially the vulnerable groups. CEmONC Centers provide special care to HIV positive mothers, working with the Prevention of Parent to Child Transmission Program. Couples are counseled on the need to test for HIV, delivery in hospital and safety precautions.

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# INCOME GENERATING PROGRAMME: MGNREGS IN VILLUPURAM DISTRICT (TAMIL NADU)

The National Rural Employment Guarantee Act was notified on 7Th September 2005 to create a right based Frome work for wage employment. The rapid growth of agricultural labourers was mainly because the increased workforce in India was unable to find the employment in non agriculture section in rural and urban areas this tread of agriculture sector has been a adversely affecting the poor sections of all communities but the crisis of survival was most aggregated for the landless labourers and marginal peasants who are mostly form SCs, STs and female headed households.

**Objectives**

1. To examine 100 days Employment provided to workers on Villupuram district in Tamil Nadu

2.To find out how MGNREGA person job being generated in Villupuram District in Tamil Nadu

**Methodology:** Villupuram district is the 23 rd district of the Tamil Nadu state. It has been formed by bifurcating the erstwhile composite South Arcot district and commenced functioning since 30 the September 1993 with Villupuram as its head quarters It is the fourth largest district in Tamil Nadu .The secondary data which is collected by source of various Articles published on MGNREGA and data also collected from NREGA official websites. In this research work I also used complied percentage and ratio method for calculation of data, Villupuram District in Tamil Nadu .

**Data Analysis**

**Table 1Person Days Generate During (2009 to 2013 April) Villupuram District in Tamil Nadu**

| Year | Total Jobs provided | SC | % of Job for SCs | ST | % of Jobs for ST | Women | % of Jobs provide for women |
|---|---|---|---|---|---|---|---|
| 2009-2010 | 26024599 | 7561357 | 29.05 | 421508 | 1.61 | 19226348 | 73.87 |
| 2010-2011 | 2465641 | 6241009 | 25.53 | 380999 | 1.54 | 17605476 | 71.40 |
| 2011-2012 | 27392607 | 7422944 | 27.09 | 473425 | 1.72 | 18986223 | 69.31 |
| 2012-2013 April | 36742404 | 9576264 | 26.06 | 657380 | 1.78 | 25463683 | 69.30 |

Source: www.nrega.nic.in

The above explain the table 3 during 2009 to April 2013 on villupuram district in Tamil Nadu MGNREGA terms of role it is provided jobs for women's table 2 STs in this villupuram district received more jobs comparatively from SCs, STs have low level jobs person days in 2012 to2013 which was 1.61 percentage 2009to2010,Scs in 2010 to2011 are lower person days which were 25.53 percentage and in 2012 to2013 decreeing which was 26.06 percentage the shown table one impartment thing is that number of person days in STs is greater than to STs people that is shown better awareness about MGNREGA in STs because in this areas STs, population is less comparatively to SCs population (census2001) During this period Sts have more beneficiaries from Sts About women empowerment during this Tamil Nadu MGNREGA provided more jobs comparatively provision under the NRGEA scheme.

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**Table 2 Employment status under MGNREGA in Villupuram District during (2009 to2013) April**

| Years | Job card Issued household | Job Demanded Household | Job Provided Household | 100 Days Completed Household | % of Completed 100 days Households |
|---|---|---|---|---|---|
| 2009-2010 | 724441 | 620171 | 619770 | 40054 | 6.46 |
| 2010-2011 | 733610 | 613089 | 611156 | 31785 | 5.20 |
| 2011-2012 | 772089 | 625244 | 621051 | 38377 | 6.17 |
| 2012-2013 April | 817559 | 697362 | 693510 | 89881 | 12.96 |

Source: www.nrega.inc.in

Shown during this period between 2009-2013 data clear cut shown about employment status in this areas data shown 100days employment completion percentage in very high comparatively to jobs provided. In the year 2009-2010 percentage of 100 days completion of jobs6.46 which are medley and low percentage was 2010-2011 .in 2010-2011no of households issued jobs card was 733610 but no. of jobs demanded only 613089 that was around 83.57percentage which was very high cause of this thing is that many people did not do difference between MGRNEA job card issued. That no of households provided jobs cut of no of households demanded jobs is around 99.68 percentages due to this gap another problem arisen is that unemployment allowance, unemployment allowance has important safeguard of this scheme but unemployment allowance to the workers those Who are demanded jobs but government did not provided. And more important thing 100 days employment was about households those who are working in MGNREGA have not been completed 100 days. It is shown success of MGNREGA in this villupuram district because MGNREGA legally bounded 100 days employment; MGNREGA has a job guarantee scheme. It is completed 100 days employment in a year to people who are willing to do jobs in this scheme but unfortunately on villupuram district in Tamil Nadu

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**Conclusion:**

Rural development programmes which were implemented in rural areas. Since independence the difference is between MGNREGA and other rural development programmes. It is bounded 100 days employment to single rural households in a financial year who are willing to do unskilled manual workers under this scheme. Poverty ratio of villupurum district is a part of Tamil Nadu highly comparative to other part of the state so this scheme is more important for these peoples. We studied about women employment in this area during study period according to the MGNREGA official website its create social inclusion and given approximately 70.97 percentage jobs for women's there is single achievement of this scheme.

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# ROLE OF NON-GOVERNMENTAL ORGANISATIONS IN MICRO FINANCE THROUGH SHGS –A STUDY IN VELLORE DISTRICT OF TAMIL NADU.

**Statement of the problem:**

The role of NGOs in delivering microfinance through SHGs is studied in this paper. There was no study conducted earlier in Vellore district about the role of microfinance. The present study was undertaken in Vellore district of Tamil Nadu to asses the role of NGOs in microfinance. The present study is undertaken with the following specific objective:

To evaluate the role of Non-governmental Organisations in microfinance.

**Methodology:**

There are 11625 Self Help Groups in Vellore district. The district has 20 blocks. The average percentage of SHGs per block comes to five. Of these blocks, two blocks have numbers of Self Help Groups nearly equal to 5 percent. These two blocks, viz., Nemili and Natrampalli are situated at the opposite ends of the Vellore district. Nemili 580 Self Help Groups (4.99%) ; Natrampalli 559 Self Help Groups (4.81%) ; Only these two blocks have number of Self Help Groups nearly equal to the mean value, hence these two blocks were selected for the study. Nemili block occupies 298.30 Sq. km. in the district. Natrampalli and Nemili blocks which are located at opposite ends of the district were selected. List of SHGs in these two blocks were obtained from the Project Officer of Tamil Nadu Women Development Corporation, Vellore. The SHGs were selected randomly in the two blocks at 45 SHGs from each block.

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**Results**

**Null Hypothesis:** ***There is no relationship between period of membership in the SHG and role of NGOs.***

The null hypothesis was formulated to analyse the relationship between the years of membership in SHG and awareness regarding the role of NGOs and normally it is expected that the higher the period of membership in SHG, more will be the awareness regarding the role of NGOs. The 450 respondents were divided in to two groups i.e. groups formed before 2005 and groups formed after 2005.It is evident from the table 11 that the calculated value of F is significant at 1% level (F= 8.250, p=.000). Respondents belonging to the older or matured groups i.e. groups formed before 2005 are well aware of the role of NGOs than the respondents belonging to recently formed groups.

Effect of period of membership on the role of NGOs

| Groups formed during | Mean | Std. Deviation | F | Sig. |
|---|---|---|---|---|
| Groups formed before 2005 | 3.6807 | .98369 | 8.250 | .004 |
| Groups formed after 2005 | 3.3882 | 1.10099 | | |
| **Total** | **3.5039** | **1.06470** | | |

Source : Output of SPSS

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**Null Hypothesis:** ***There is* no *relationship between the loan amount and role of NGOs.***

The null hypothesis was formulated to analyse the relationship between the loan amount and awareness regarding the role of NGOs and normally it is expected that the higher the loan amount, the more will be the awareness regarding the role of NGOs. It is evident from the table 12, that the calculated value of F is significant at 5% level (F= 2.177, p=.044). It is concluded that there is a relationship between the loan amount and the role of NGOs, higher the loan amount higher the awareness about the role of NGOs among rural women in Vellore district.

**Effect of loan amount and the role of NGOs**

| Loan Amount | Mean | Std. Deviation | F | Sig. |
|---|---|---|---|---|
| Upto 5000 | 3.3873 | 1.15351 | 2.177 | .044 |
| 5001 to 9999 | 3.3272 | .93761 | | |
| 10000 to 24999 | 3.6825 | .98451 | | |
| 25000 to 50000 | 3.6669 | 1.04694 | | |
| 50001 to 100000 | 3.665 | 1.02169 | | |
| Above 150000 | 4.1043 | .65105 | | |
| **Total** | **3.5039** | **1.06470** | | |

Source : Output of SPSS

**Findings of the Study:**

1. NGOs remain as the largest single motivating force for group initiation and formation process as per the views of 247 respondents; Banks and Government departments played minimal role in motivating the women to join in SHGs.

2. NGOs play an important role in SHG formation, linking the groups with the banks, arranging for loans and imparting training to start income generating activities.

3. NGOs are playing very little role in arranging for marketing activities, subsidy from DRDA and exhibitions. There is no doubt that the SHG mechanism increases the savings habit and enhances the income of the family so as to enable them to meet the daily domestic responsibilities.

4. Education of the respondents, period of membership in the SHG and loan amount significantly influences the awareness about the role and impact of NGO.

**Conclusion:**

Non-governmental Organisations play a vital role in helping rural women to form Self-Help Groups and they motivated women to join Self-Help Groups. Nearly 55% of the respondents informed that Non-governmental Organisations helped them to form Self-Help Groups. Government departments and neighbouring Self-Help Groups play very negligible role in the formation of Self-Help Groups. It is concluded that NGOs and self motivation of women are the main motivational factors to join SHGs and Self-Help Group members also influence other women to join the groups. These finding are similar to the earlier findings of some studies carried out by Loyola (2004) in Kerala that NGOs played a major role and neighbours played a minimal role in group formation. Respondents are well aware about the role of NGOs where NGOs are active in their quality of work rather than the no of players and is reflected in the study. It is concluded that NGOs play an important role in SHG formation, linking the groups with the banks, arranging for loans and imparting training to start income generating activities.

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# WOMEN AWARENESS ON CONSUMER RIGHTS – A STUDY WITH REFERENCE TO VELLORE DISTRICT OF TAMILNADU

The exploitation of the consumers by manufactures and businessmen by producing sub standard goods and hiking of price necessitated the researcher to conduct this study in order to find out why consumers are taken for a ride for their money. Therefore to find out those women at Vellore city who shop for their households are aware of consumer rights and are actually utilizing them.

## Objectives

1. To study the socio-economic status of women consumers.

2. To examine the level of awareness of consumer rights among women consumers.

## Methodology

This study is broadly descriptive in nature where the main purpose is to give a description of the awareness of consumer rights among women consumers. A pilot study was conducted among 50 women consumers to decide upon the appropriate technique for which some methods simultaneously used. Women consumers of the Vellore city were purposively selected for the study. Data sample of 450 women consumers were interviewed by structured interview schedule.

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**Table 1 Awareness about Consumer's Rights**

| Level of awareness of consumer rights | No. of respondents |
|---|---|
| Unaware of all rights | 31 (6.9) |
| Low (Scored 1-2) | 252 (56.0) |
| Medium (Scored 3-4) | 122 (27.1) |
| High (Scored 5) | 45 (10.0) |
| N = 450 | |

Table 1 explains that 6.9 percent of the respondents are not aware of any of consumer rights, majority (56.0 percent) of the respondents are less aware of consumer rights, 27.1 percent are medium aware of consumer rights, and only 10.0 percent of the respondents are high aware of consumer rights.

**TABLE 2 Associations Between Background Characteristics and Awareness of Consumer Rights**

| S. No | Background Characteristics | Awareness of Consumer Rights (Co-Efficient of Correlation 'r' Value) |
|---|---|---|
| 1. | Age | - .088 |
| 2. | Educational Qualification | .212** |
| 3. | Occupation | -.119* |
| 4. | Marital Status | -.224** |
| 5. | Monthly income | .152* |
| 6. | Family income | .285** |

**Correlation is significant at the 0.01 level.

* Correlation is significant at the 0.05 level.

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Table 3 explores that Educational qualification, monthly income and family income showed positive and significantly associated with awareness of consumer rights. Occupation and marital status showed negative and significantly associated of consumer rights.

**Findings And Suggestions**

1. Age of this study reflects that 47.1 percent of the respondents belong to the age group of 31-40 years.

2. The educational qualification shows that more than half (51.1 percent) of the respondents have studied degree and above.

3. Occupation of this study explains that nearly half (49.5 percent) of the respondents are employed followed by unemployed (44.0 percent).

4. Marital status describes that about two-third (74.4 percent) of the respondents are married.

5. Income of this study shows that one-third (33.7 percent) of the respondents earn up to Rs. 5,000 per month.

6. Family income explains that one-third (34.0 percent) of the respondents' total family income up to Rs.10, 000 per month.

From this study it could be suggested that low income group were least educated, had low awareness about consumer rights. Therefore, this group needs to be trained on the awareness of consumer rights. The Government should make efforts to control the fraudulent practices by enactment of various laws. More legislation and strict rules and regulations will help to reduce the unfair trade practices and malpractices of goods and services. Consumer literacy is the need of the hour and special attention should be given to less educated people, lower income groups and the housewives who suffer the most.

**Conclusion**

Generally the women consumers showed low level of awareness about consumer rights. The main reason for low awareness of consumer rights among women consumers is low education and low socio-economic status. It can be further concluded that as the awareness of women consumers regarding consumer rights decreases, its utilisation of their rights also decreases. Thus, the exposure of media, awareness training camps through Government and NGOs and other educational institutions improve the awareness level of consumer rights and thereby increase utilisation of their rights.

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# THE GENERAL PROFILE VELLORE DISTRICT OF TAMILNADU

## Demography

As of the provisional population totals of 2011 census, Vellore urban agglomeration had a population of 185,895, with 91,464 males and 94,431 females. The sex ratio was 1032 females per 1,000 males. Vellore had an average literacy rate of 86.67% with a male literacy of 91.68% and a female literacy of 81.84%. A total of 18,363 of the population of the town was under 6 years of age. As of the census of India 2001, there were 36,728 households. A total of 20,531 people constituting 13.96% of the total population belonged to Scheduled Castes (SC) and 340 people constituting 0.22% of the population belong to Scheduled tribes (ST). There were 57,905 main workers: 171 cultivators, 257 agricultural labourers, 6,237 in house hold industries and 51,240 other workers. There were 2,674 marginal workers: 23 marginal cultivators, 60 marginal agricultural labourers, 796 in marginal workers in household industries and 1,795 other marginal workers. The decrease in the population growth during the 1981-2001 period is attributed to the migration to other cities in search of employment and fewer job opportunities at home.

## Economy

According to Indian Census of 2001, the urban workforce participation rate of Vellore is 43.64%. Vellore, being the headquarters of the district, has registered growth in the tertiary sector activities, with a corresponding decrease in the primary sector. Major employment is provided by the leather industry, agricultural trading and industries in and around the city. Approximately 83.35% of the workforce is employed in tertiary sector comprising transport, services and commerce. The secondary sector activities like manufacturing and household industries employs 13.52% of the workforce. Male workers participation (43.64%) is high compared to the female work participation (24.39%).

## Utility Services

Electricity supply to Vellore is regulated and distributed by the Tamil Nadu Electricity Board (TNEB). The city and its suburbs forms the Vellore Electricity Distribution Circle. A chief distribution engineer is stationed at the regional headquarters. Water supply is provided by the Vellore municipal corporation from the Palar river through Palar headworks and Karungamputhur headworks and distributed through ten overhead tanks. As of 2005, there were 16,371 connections against 33,772 households. In 2000–2001, a total of 7.4 million litres of water was supplied daily for households in the city. The other sources of water are Otteri Lake, Sathuvancheri town panchayat, Ponnai and stree bore wells.

As per the municipal data for 2011, about 83 metric tonnes of solid waste were collected from Vellore every day by door-to-door collection. The source segregation and dumping was carried out by the sanitary department of the Vellore municipal corporation. The municipal corporation covered 16 wards for waste collection as of 2001.

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# ECONOMY OF VELLORE DISTRICT

Vellore town is the head quarter of the Vellore district. Vellore district is one of historical places of southern India. Now it is counted as one of the fastest growing district of Tamil Nadu. The ancient history as 'city of spears' shows the district Vellore as battlefield, where warriors used to fifth. People also say another version of naming Vellore is supposed to have been derived from some precious stone, which had similar sounding name. the district has a blend of rich heritage and culture representing the ancient Dravidian civilization. Before the Dravidians, the pallavas, cholas, the nayakas and Marathas were the rulers of Vellore. Vellore was once the capital of the Vijayanagar Empire during the year 1606 to 1672. During the seventeenth century Vellore was described as the best and strongest fortress in the Carnatic war. The Vellore mutiny in the year 1806 was one of the earliest upsurges against the British rule in India.

## Agriculture

The district is primarily agrarian with majority of its population involved in agriculture. The chief food grains cultivated are Paddy, Cholam, Ragi and Redgram. Vellore is also one of the top producers of Sugarcane in the state. Oil seeds that are cultivated are Groundnut, Coconut, Sunflower and Gingelly.

## Industries

BHEL, present at Ranipet, is a major heavy engineering unit of Tamil Nadu. There are three industrial parks namely SIDCO at Katpadi, SIPCOT at Ranipet and SIDCO at Arakkonam. Numerous chemical industries located in Ranipet-**SIPCOT** form a major source of income. Tirumalai Chemicals and Greaves are among the many international brands located here. Arakonam, a town near Vellore is the home of major companies like MRF, while TVS Lucas has its major manufacturing facilities in Sholingur (40 km from Vellore). Asia's biggest explosives manufacturing company **TEL (Tamil Nadu Explosives Limited)** is located in Vellore at Katpadi.

## Demography

As per 2001 census, Vellore had a population of 177,413. Males constitute 50% and females 50% of the total population and 11% of the population is under six year of age. Vellore's average literacy rate is 74%, higher than the national average of 59.5%. Male literacy is 80% and female literacy is 68%.

## Conclusion

Vellore district has the blend of rich heritage and culture representing the ancient Dravidian civilization. Today, Vellore is a sparkling town of Tamil Nadu attracting people from all over the country owing to its various health and educational institutions, notable among them are Christian medical college and Vellore institute of technology. Vellore is one of the largest corporation and Ninth Corporation of Chennai lying in between Chennai and Bangalore. This area will soon see lots of development as it is in proposed Chennai-Bangalore-Mumbai industrial corridor. The economic condition of the district in the earlier stages was not very sound, in the absence of the Majpre industries.

**R.Veerachamy**
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# PERFORMANCE OF MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT GUARANTEE PROGRAMME IN TIRUVANNAMALAI DISTRICT

The National Rural Employment Guarantee Act, which confers legal right to employment on the rural citizens, is a land mark in the history of independent India. It seeks to provide enhancement of livelihood security of the households in rural areas in the country by providing atleaset one hundred days of guaranteed employment in every financial year for every household whose adult member volunteers to do the unskilled work with the schemes made under the Act. It was launched in Anantapur District on February 2nd 2006 by the Prime Minister Dr. Manmohan Singh,which came into effect from 01-04-2006 in 200 drought prone and backward districts in India. Out of 200 districts Tiruvannamalai District also included. Present study deals employment generated through MGNREGS in Tiruvannamalai District, Expenditure pattern and Block wise Registered of House Holds were studied.

**MGNREGS – Tiruvannamalai District**

In 2006 the Ministry of Panchayat Raj named Tiruvannamalai District as one of the country's 250 most backward districts (out of a total 640). It is one of the six districts in Tamil Nadu currently receiving funds from the Backward Regions Grant Fund Programme. According to the 2011 Census, Tiruvannamalai District has a population of 3,468,965. This gives it a ranking of 92 in India (out of total of 640). The district has a population density of 654 per sq. K.M. In this district MGNREGS implemented in 2006 onwards.

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**Table :12Employment Generations through MGNREGS in Tiruvannamalai District**

| S.No. | Particulars | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| 1. | Cumulative No. of HH issued Jobcards (Total) | 480668 | 535355 | 586953 |
| 2. | SCS | 95371 | 100180 | 131206 |
| 3. | STS | 13957 | 15619 | 20593 |
| 4. | Others | 371340 | 419556 | 435154 |
| 5. | Cumulative No. of H.H demanded Employment | 425938 | 475945 | 415974 |
| 6. | Cumulative No. of H.H provided Employment | 424579 | 474334 | 414001 |

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| | | | | |
|---|---|---|---|---|
| 7. | No. of H.H working under NREGA during the reporting month | 87776 | 298230 | 241421 |
| 8. | Cumulative person days generated (Total) | 24594753 | 33568434 | 17132140 |
| 9. | Women | 17435212 | 24264304 | 14023871 |
| 10. | Cumulative No. of H.H completed 100 days | 68203 | 148619 | 10356 |
| 11. | No. of H.H which are beneficiary of land reforms / IAY | 21167 | 22102 | 17269 |
| 12. | No. of disabled beneficiary individuals | 3907 | 4979 | 5241 |

Source www.nrega.nic.in

In the year 2011-2012 The total no. of Job Card issued was 4,80,668. The total schedule caste people got job card was 95,371 . They have 19.84%, St's are 13957 people are got Job Card it was 2.91%, and others are 3,71,340 people got Job Card it was 77.25%. The total No. of Households demanded employment was 4,25,938. The cumulative No. of Employment provided was 4,24,579 totally 99.68% households got employment. The total cumulative man days generated was 2,45,94,753, and women person got was 1,74,35,212 70.88% women dominant all NREGS worksite. The cumulative No. of households completed 100 days was only 68203 families. It was only 14.19% households are getting 100 days completed.

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**Table 2 Expenditure pattern of MGNREGS in Tiruvannamalai Districts**

| S.No. | Particulars | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| 1. | Total Expenditure (In lakhs) | 22322.26 | 29995.14 | 13724.32 |
| 2. | Labour | 21919.16 | 29566.31 | 13464.36 |
| 3. | Material | 0.01 | 0.67 | 0.02 |
| 4. | Administration | 403.09 | 428.16 | 259.94 |
| 5. | Projects Sanctioned | 75 | 152 | 375 |
| 6. | Projects Completed | 6169 | 6529 | 201 |
| 7. | In progress | 3236 | 2863 | 4527 |
| 8. | Person days generated SC | 5332093 | 8326715 | 4603333 |
| 9. | ST | 491897 | 922479 | 462163 |
| 10. | Others | 18772240 | 24317624 | 14110101 |

Source www.nrega.nic.in

The table explains expenditure pattern of MGNREGS in Tiruvannamalai Districts in the year 2011-2012. The total expenditure was 22322.26 lakhs, labour expenditure was 21919.16 lakhs (98.19%). only 0.01 lakh expenditure in material Ratio, this is used for Vandavasi Block in Tiruvannamalai District.The Administration expenditure was 403.09 lakhs (1.80%) of the total expenditure.

**Conclusion**

Based on the above analysis, the study concluded that the performance of MGNREGA is not uniform. The main reasons are lack of awareness, inability of workers to submit job applications and delayed payment of wages. MGNREGS in Tiruvannamalai District focused on building poverty alleviation initiatives like water harvesting , renovation of water bodies etc., These works are very much gelling with the vision of the programme. The programme should also address specific infrastructure initiatives that would deliver multiplying effect to their village. The MGNREGS will be a success only when it can improve the status of the household and women.

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## WATER CRISIS IN VELLORE

Vellore is surrounded by leather tanneries and small scale dying industries and their effluence are discharges into the Palar River causing quality of the underground water. Due to ground water pollution the psycho chemical parameter like the solid that are not it dissolved, chloride , hardness and salinity are found to be very high[3].

Table No. 1

**Area sown**

| Agricultural land use | Area (.000 ha) | Cropping intensity |
|---|---|---|
| Net sown area | 197.4 | 109.8 |
| Area sown | 194.4 | |
| Gross cropped area | 216.8 | |

Source: www.agricroop_tn.nic.in

**Conclusion:**

The Proposed peninsular Rivers development plan may involve cost of about Rs 5000 Crores (approx), but the benefits that it can provide for Vellore and surrounding districts are enormous. Water take should improve storage in tanks are likely to increase and prosperity for Vellore is on the cands . The elected representatives of the beneficiary districts (Vellore, Villupuram, Kancheepuram) should rise above political affiliation and be able to talk to the central government and state government for the benefits of our Districts.

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