

Peer Reviewed Journal

***Economy of
Kongu Region***

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ECONOMY OF KONGU REGION

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AGRICULTURAL COMMODITY EXPORTS IN INDIA: AN ECONOMIC ANALYSIS

Introduction

Indian economy is basically agricultural economy. Agriculture is a large sector of the economy and has a vital role to play in India's economic development by providing food grains, raw materials and employment. The agricultural sector contributes a significantly large share to the national income of India. Agriculture is the predominant activity in the Indian economy. A very high proportion of population in India is engaged in agriculture. Data provided by the census of India reveal that in absolute terms, agriculture provided employment to 235 million in 2001.

Under the changing scenario of world economy, it is necessary to assess the Indian agriculture under WTO regime. Only, in recent years, considerable attention has been focused on analyzing the impact of economic reforms measures on agriculture growth and agriculture exports. The advocates of globalization maintain the process of economic reforms and gradual opening up of Indian agriculture to the world markets would be major opportunity for raising the overall rate of growth. At the same time, the terms of trade are still against the low value added agriculture goods of developing economy like India.

Statement of Problem

At present the development of agriculture does not merely depend up on increasing the agricultural produce and productivity, but also upon the promotion of a better and well organized marketing by which the agricultural goods are moved from the field of farmer to the places of ultimate consumers.

After globalization majority of the agricultural commodities are exported to other countries and various essential agricultural commodities are also imported from foreign countries. Exports of plantation crops and a few commercial crops were free from export restriction but exports of essential commodities, particularly food products, were subject to bans, quotas and other restrictions. As a transitional area, India faced the problem of lower exports and higher imports resulting in the widening of gap between exports and imports. Most of the developing countries like India struggle to bridge this imbalance.

Very often Government imposes free trade policy from production centres to the marketing centres or exports to other countries. This also adversely affects the local price of agricultural commodities. In this context, to undertake a research on agricultural commodity exports in India with a view to suggesting proper policy measures.

Methodology

The specific objectives of the study are, to understand the status of total agricultural production and its various crops; to analyse the agricultural commodities export during the pre and post globalization period; to assess the globalization and its impact on Indian agriculture; and to suggest proper policies.

In this study, an attempt is made to estimate trends in the agricultural production, export in India. Towards the end, the study has employed different trend and ARIMA models. This study was conducted during the period from 1950-51 to 2006-07. Collection of data is the process of enumeration together with the proper recording of results. The success of an enquiry is based upon proper collection of data. For this analysis has used only the secondary data.

R.Subbulakshmi, Ph.D., Research Scholar

Department of Commerce, Manonmaniam Sundaranar University, Tirunelveli

Dr.V.Duraisingh, Assistant Professor,

Department of Economics, St.John's College, Palayamkottai.

Results and Discussion

Agricultural Exports

Indian agriculture during the past five decades has passed through various phases and stages of growth and development. Indian agriculture has a distinct position in the world agricultural production and it is the second largest producer of rice, wheat, fruits and vegetables and the largest producer of milk. The details of agricultural commodity export are given in Table 1.

Table: 1 - Agricultural Commodity Exports in India

Year	Total Agro-Exports (in Crores)	Total Exports (in US \$ million)	Year	Total Agro-Exports (in Crores)	Total Exports (in US \$ million)
1990-91	311500	18145.2	2000-01	407368	44560.3
1991-92	304301	17865.4	2001-02	433756	43826.7
1992-93	325777	18537.2	2002-03	398560	52719.4
1993-94	336136	22238.3	2003-04	441958	63842.6
1994-95	352069	26330.5	2004-05	441124	85206.0
1995-96	348626	31794.9	2005-06	468953	105152.0
1996-97	384886	33469.7	2006-07	--	128888.0
1997-98	373446	35006.4	2007-08	--	166162.0
1998-99	400030	33218.7	2008-09	--	189001.0
1999-00	409660	36822.4	2009-10	--	182235.0

Source: Economic Survey 2006-07, Misra S.K., and Puri V.K., Indian Economy, Himalaya Publishing House, 2010, p.465.

Note: Figure in bracket represent percentage to total exports, *Provisional

It is evident from Table 1 that there has been remarkable instability in the exports of food grains during 1990-91 to 2005-06. The share of agricultural exports in total exports was 3,11,500 cores in 1990-91 and it was increased to 4,68,953 crores in 2005-06. The annual average growth rate is 2.89 per cent. In the period of 1990-91, the total export was US \$ 18,145.2 million and the same is US \$ 1,82,235 in 2009-10. It is easily observed that the share of Indian agro-exports every year after globalization has been increasing with fluctuations.

Regression Analysis

The major determining factors affecting the agricultural commodities export in India are analysed through regression analysis. The main factor FDI will be considered. The estimated values are presented in Table2

Table: 2 – Estimated Values of ANOVA - Total Food Grains Production and FDI
Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.913	.834	.822	21153.49212

a Predictors: (Constant), FDI

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	3.14E+10	1	3.139E+10	70.158	.000
Residual	6.26E+09	14	447470228.8		
Total	3.77E+10	15			

a Predictors: (Constant), FDI

b Dependent Variable: Agricultural Commodities Exports

Coefficients

	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
(Constant)	329453.24	8355.194		39.431	.000
FDI	4.113	.491	.913	8.376	.000

a. Dependent Variable: Agricultural Commodities Exports

After estimating the regression, it has been found that the predictor variable FDI and the independent variable agricultural commodities export is significant with a high R^2 value of 0.834 and also the significant 'F' value of 70.158. The 't' value is found significant at 5 per cent level and the 't' is value (8.376) is positively related.

However the economic analysis of FDI and agricultural commodities export shows that the FDI will be encouraging the agricultural commodities export. Thus it is suggested that FDI has to be effectively used to increase agricultural production and exports.

Findings

The following are the main findings based on the analyses and interpretation.

- ❖ The share of agricultural exports in the period of 1990-91 was Rs.3,11,500 crores and the same is Rs.4,68,953 crores in 2005-06.
- ❖ In the estimation of various trend models, quadratic trend model estimated India's agricultural commodities and it will decrease to Rs.4,26,676.10 crores in the year 2015. Therefore necessary policy measures have to be initiated by the government especially to export of agricultural commodities.

- ❖ The economic analysis of FDI and agricultural commodities export shows that the FDI will be encouraging the agricultural commodities export. Thus it is suggested that FDI has to be effectively used to increase agricultural production and exports.

Suggestions

On the basis of the findings, the following suggestions are made.

- Government should make efforts to reduce cost of transport for agricultural export commodities.
- This study also suggested that suitable agricultural production policy is framed and other promotional measures may be undertaken.
- India's policy should be governed by national interests only and its economic reform policies should include the goals of a just society, abolition of illiteracy and freedom from hunger and unemployment.

Conclusion

It is clear that the globalization policies adopted by the Government of India played a dominant role in the agrarian sector that is now being played out. It is a brand of liberalization and globalization is per say bad, or inherently inimical to an economy. India has taken a bold and daring decision to globalize its economy. The resolve has found consistency in the last three budgets of the Government of India. We have changed our direction but movement towards free market is very slow and that has to be accelerated. It should not be forgotten that globalization of our economy is a compulsion under prevailing political and economic circumstances. The globalization of our economy is a compulsion under prevailing circumstances. The process of globalization should be gradual and be linked with the objectives of the country. It should be helpful in solving the economic constraints of the economy.

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THE PROFILE AND ECONOMIC ASPECTS OF ERODE DISTRICT

Erode District is a western district of the state of Tamil Nadu, India, with Erode as its headquarters. Until the year 1996, Erode district was called as Periyar District. Erode District was a part of Coimbatore District until September 17, 1979. Mathematician Ramanujan and social reformer Periyar were from here. Erode district had a population of 22,59,608 as of 2011. It is 46.25% urbanised as per Census 2001. The district has a literacy rate of 72.96% and is on the rise. The population is dominated by the Kongu Vellalar community.

Important Rivers

- BHAVANI RIVER
- KAVERI RIVER
- NOYYAL RIVER
- AMARAVATI RIVER

Hills

- Chennimalai
- Perumalmalai
- Kanagamalai, Elumathur
- Arachalur malai
- Thalavumalai
- Lakkapuram Hills

Important Tourist Centres

- Bhavanisagar Dam, Bhavanisagar
- Kodivery Anai, Thukkanaikkanpalayam
- Bhavani Kooduthurai, Bhavani
- Periyar Memorial House, Erode
- Erode Museum, Erode
- Birds sanctuary, Vellode
- Cavuey padakuthurai, Kodumudi

R.Vidhya, Research Scholar, & **Dr. N.Chithra**, Associate Professor,
Department of Economics, Khadir Mohideen College, Adirampattinam.

Important Pilgrim Centres

- Bhavani sangameswarar Temple, Bhavani
- Bhannariamman Temple, Bhannari
- Erode Mariamman Temple, Erode
- Chennimalai Murugan Temple, Chennimalai
- Magudeswarar Temple, Kodumudi
- Velayuthaswami Temple and Sri Ponkaliaswami Temple, Sivagiri
- Vijayapuriamman Temple, Vijayamangalam
- Pariyur amman Temple, Gobichettipalayam
- pachai malai murugan temple, Gobichettipalayam
- Jain Temple, Vijayamangalam

Administration

Erode District is separated into 2 revenue divisions namely Erode and Gobichettipalayam. Erode District consists of 5 Taluks namely Bhavani, Erode, Gobichettipalayam, Perundurai and Sathyamangalam. Erode is fifth largest City Municipal corporation in Tamil Nadu. Erode District consists of 6 Municipalities.

Economy

Fabrics, like rugs, made in Erode are famous in India. Erode District is an important market centre for Turmeric, a spice commonly used in curries. Turmeric is also used as a fabric dye. The turmeric is collected from Erode District and from adjoining districts of Tamil Nadu and Karnataka, including Mysore. Other specialities include *Uthukuli* butter and *Kangayam* bulls.

Gobichettipalayam is well known for its white silk, plantain and coconut production. The country's first automated silk reeling unit is in Gobichettipalayam.

Erode is well known for handloom, powerloom textile products and readymade garments and hence called the *powerloom city of India*. Products such as cottonsarees, bed spreads, carpets, lungies, printed fabrics, towels, dhotis are marketed here. In mid-2005, Bhavani Jamakkalam (Bhavani Bedsheets) was registered as a Geographical Indication by the Government of India. Now-days more and more spinning mills which produce yarn for the power loom are setup in and around the town of Erode. Chennimalai is also famous for textiles.

Turmeric powder, used extensively in Indian cuisine, finds the Asia's largest & important market centre in Erode District.

Punjai Puliamatti has the second largest market (weekly market) in Tamil Nadu and it is one of the leading Tobacco producer in Tamil Nadu. It is under a vast area with all varieties of goods to purchase. It is open on all THURSDAYS. All varieties of vegetables, spices, cosmetics, meat are sold here. Even selling and buying of cows, goats and hens are also done. This could be one of the reasons why trading is an important activity here. [edit]

Agriculture

Agriculture is the most important income source of this district. Paddy, Plantain, Groundnut, Cotton, Turmeric, Coconut and Sugarcane are some of the agricultural products. With 43% share, the district is the top turmeric producer in Tamil Nadu.[1]. Erode is also known as "The Turmeric City".

Demographics

According to the 2011 census Erode district has a population of 2,259,608,^[4] roughly equal to the nation of Latvia^[5] or the US state of New Mexico.^[6] This gives it a ranking of 200th in India (out of a total of 640).^[4] The district has a population density of 397 inhabitants per square kilometre (1,030 / sq mi).^[4] Its population growth rate over the decade 2001-2011 was 12.05 %.^[4] Erode has a sex ratio of 992 females for every 1000 males,^[4] and a literacy rate of 72.96 %.^[4]

Communication

The district is also served by an extensive Postal, Telegraph and Telephone networks. It is connected to the rest of the state by subscriber trunk dialing system (STD). The telephone network within the city is also expanding rapidly.

- Postal Divisions : 2 (Erode, Gobichettipalayam)
- Head Post offices : 3 (Erode, Bhavani and Gobichettipalayam)
- Other Post offices : 319 (including extra departmental sub-post offices and telegraph offices)
- Post and Telegraph offices : 144
- Post offices with phone facilities : 144

The district has a vast coverage by mobile phone operators. Since most of its people live in rural areas it is far more economical for the people as well as the mobile operators to build the infrastructure for mobile phone communications.

STATUS AND DEMAND FOR BDS SERVICES IN TIRUPPUR DISTRICT

Cluster Stakeholders Knitting Units:

Knitting units are using both indigenous and imported machines for fabrication. Fabrics for exports are made on high speed imported machines, while domestic garment manufacturers prefer to use indigenous machines, because of its cost advantage. 43% of the units having imported knitting machines are small and are having less than 5 machines. 33% of them have 6- 10 machines. 18 % of them have 11- 20 machines. Firms having more than 20 machines are mere 7%. These units mostly undertake job work for exporters. In the case of knitting units doing job work for the domestic manufacturers, 59% are having machines between 11- 25. 20% of the units have machines in the range of 26-50, only 14% of the firms have less than 10 machines. Firms having more than 50 machines constitute only 5%. Installed capacity of all of these units not fully utilised. Nearly 30% of the machines are lying idle due to lack of orders on account of recession in the industry and excess capacity.

Dyeing and Processing Units:

There are nearly 700 dyeing and processing units in the cluster. They are under pressure from environmental protection agencies to implement the systems the level of effluents discharged from the units. Therefore, nearly 45% of them have switched over from the conventional winch type dyeing machines to soft flow dyeing machines, which requires less water- liquor ratio. The remaining 55% of the units are small and are using conventional winch type machines, due to limitation in their investment capability. In the recent past all of these processing units have invested nearly Rs.800 crores to install 20 common and 140 individual effluent treatment plants, using RO technology to comply with the 'Zero Discharge' norm prescribed by the Tamil Nadu Pollution Control Board authorities. Continuous pressure from the pollution control authorities has forced the processing units to invest in effluent treatment plants, rather than making investment for upgrading the technology, even though the 'soft flow' dyeing machines are made locally at an affordable cost. Most of the owners of these small units are from the agrarian family with little educational background, or were erstwhile employees of some processing units with only hands-on experience. Processing houses established by leading exporters are modern and in large numbers.

Printing

500 fabric printing units have come up in the cluster. Nearly 50% of them have not become members of the printer's association. 50% of such printing units have only one or two manual printing tables. Nearly 25% of the units are graduating from manual table to the adoption of latest printing technologies. The remaining 25% of the units are continuously investing to adopt new technologies to meet the buyer's specifications. Most of the high- end printing units specialize in job work for the exporters. Exporters prefer to outsource the printing service since the investments in such high end technologies are high and they may not have continuous orders to fully utilize their installed capacity. However, many exporters have in -house chest printing machines which need smaller investment and order frequency is also more. They have an association of their own for the promotion of the business of their members. There is no institution in the cluster to provide formal education and training relating to printing.

R. Rajeswari, Research Scholar,
Department of Economics, Khadir Mohideen College, Adirampattinam.

Embroidery Units

Due to the increase in demand for embroidery work for most of the ladies' and children styles, the number of embroidery units has grown up to 250 units within a short span. 50% of these units are small having one or two embroidery machines only. The remaining 50% of the firms have nearly 15 machines, on an average. Proliferation of units in a short time has resulted in negative competition and excess production capacity.

Direct Exporters

Direct exporters are the ones who receive orders from the buyers or from their agents and execute orders in their own name. Once they receive the order, they get the order executed in their own factory or through the firms with whom they have established relationship for performing a particular process of work like knitting, dyeing, processing, printing, embroidery etc. Often, problems arise in terms of quality and delivery, causing delay in shipment and more quantum of rejection. It is estimated that nearly 30% shipments are delayed and sent by 'air consignments', causing heavy loss for the exporters. There is no confidence among the exporters that all of their production would pass through 'final' check before shipment. Therefore, they make excess production (around 20%) to offer them for inspection, if the level of rejection is more on the goods offered for inspection. (Since exporters can not make shipments, if the goods cleared for shipment after final inspection are less than 90% of the ordered goods).

This is the main area where exporters are loosing their profit, apart from the irritation on the relationship between the buyers and exporters. Absence of 'system' in the organisation for proper control and co ordination, non availability of information for the entrepreneurs to take right decision at right time are the main causes for such situation. These are the areas where scope for BDS is required and are going to be focused during the project period. The word 'organisational efficiency' is used to cover all such areas instead of elaborating them individually in the later part of the report. That is why more capital intensive firms do not rely heavily on job workers and indirect exporters. Firms having in-house production are being considered to have an advantage over others in terms of price, delivery and quality.

Merchant Exporters

Merchant exporters are those who procure the order from the buyers or their agents, but do not have any of the production facilities as mentioned earlier. They execute orders by outsourcing the production from the manufacturers and making the packing in-house. Sometimes, completely packed shipments are also sub- contracted. Billing is made in their own name. Usually, merchant exporters own finishing and packing facilities only. Normally such merchant exporters are the people who have good contacts abroad and have their liaison offices at New Delhi or Mumbai, where the activities relating to procurement of orders and follow up for execution from the manufacturers are done. During the initial phase of exports from the cluster, many firms were supplying to merchant exporters at Mumbai.

Chemical and Dyes Suppliers

All national and international dyestuff manufacturers have their presence at Tirupur. There are nearly 250 chemical and dyes suppliers in the cluster. Many of them work with narrow profit margins, and intensively compete with each other to capture the market based on their price, compromising on quality. Companies like BASF, Pedilite and Britacel, conduct awareness programmes on issues related to new chemicals, new technology, etc. for the benefit of the dyeing and processing firms. They also undertake activities to improve the production process and to impart knowledge about new technologies, procedures and production processes.

THE DEMOGRAPHIC AND CLIMATIC CONDITION OF NILGIRIS DISTRICT IN THE ECONOMIC ASPECTS

The **Nilgiris District** is in the Indian state of Tamil Nadu. **Nilgiri** or **Blue Mountains** when translated into English) is also the name given to a range of mountains spread across the states of Tamilnadu as well as Karnataka and Kerala. The Nilgiri Hills are part of a larger mountain chain known as the Western Ghats. The highest point is the mountain of Doddabetta, with a height of 2,623 m. The district is mainly contained within this mountain range. The district headquarters is Udhagamandalam, popularly known as Ooty. It was ranked first in a comprehensive Economic Environment index ranking of districts in Tamil Nadu not including Chennai prepared by Institute for Financial Management and Research in August 2009. As of 2011 it is the second least populous district of Tamil Nadu (out of 32), after Perambalur.

Geography and climate

The district has an area of 2,452.50 km².^[4] The district is basically a hilly region, situated at an elevation of 2000 to 2,600 meters above MSL. Almost the entire district lies in the Western ghats. Its latitudinal and longitudinal dimensions being 130 KM (Latitude : 10 - 38 WP 11-49N) by 185 KM (Longitude : 76.0 E to 77.15 E). The Nilgiris district is bounded by Mysore district of Karnataka and Wayanad district of Kerala in the North, Malappuram and Palakkad districts of Kerala in the West, Coimbatore district of Tamil Nadu in the South and Erode district of Tamil Nadu and Chamarajanagar district of Karnataka in the East. In Nilgiris district the topography is rolling and steep. About 60% of the cultivable land falls under the slopes ranging from 16 to 35%.

The altitude of the Nilgiris results in a much cooler and wetter climate than the surrounding plains, so the area is popular as a retreat from the summer heat. During summer the temperature remains to the maximum of 25°C and reaches a minimum of 10°C. During winter the temperature reaches a maximum of 20°C and a minimum of 0°C.^[4] The rolling hills of the Downs look very similar to the Downs in Southern England, and were used for similar activities such as hunting.

A Tea Picker In The Nilgiris

According to the 2011 census Nilgiris district has a population of 735,071, roughly equal to the nation of Guyana or the US state of Alaska. This gives it a ranking of 495th in India (out of a total of 640). The district has a population density of 288 inhabitants per square kilometre (750 / sq mi). Its population growth rate over the decade 2001-2011 was -3.55 %. The Nilgiris has a sex ratio of 1041 females for every 1000 males, and a literacy rate of 85.65 %.

R. Gopalasundar, Assistant Professor,
Department of Economics, Adaikkalamatha College, Vallam.

There are several tribes living in the Nilgiris, whose origins are uncertain. The best known of these are the Toda and Kota people, whose culture is based upon cattle, and whose red, black and white embroidered shawls, and silver jewelry is much sought after.

The district is also home to the Paniya tribes and the Badaga people. As per the 2001 Census, Hindus formed the majority of the population (78.60%), followed by Christians (11.45%), Muslims (9.55%) and others (0.4%).

Ecoregions

A view of the Nilgiri hills

Two ecoregions cover portions of the Nilgiris. The South Western Ghats moist deciduous forests lie between 250 and 1000 meters elevation. These forests extend south along the Western Ghats range to the southern tip of India. These forests are dominated by a diverse assemblage of trees, many of whom are deciduous during the winter and spring dry season. These forests are home to the largest herd of Asian Elephants in India, who range from the Nilgiris across to the Eastern Ghats. The Nilgiris and the South Western Ghats is also one of the most important tiger habitats left in India.

The South Western Ghats montane rain forests ecoregion covers the portion of the range above 1000 meters elevation. These evergreen rain forests are among the most diverse on the planet. Above 1500 meters elevation, the evergreen forests begin to give way to stunted forests, called *sholas*, which are interspersed with open grassland. These grasslands are the home to the endangered Nilgiri Tahr, which resembles a stocky goat with curved horns. The Nilgiri Tahrs are found only in the montane grasslands of the South Western Ghats, and number only about 2000 individuals.

ECONOMY OF COIMBATORE

The **economy of Coimbatore** emphasizes engineering and textiles. Coimbatore is called the “Manchester of South India” due to its extensive textile industry, fed by the surrounding cotton fields. The district also houses the country’s largest amount of hosiery and poultry industries. The city has two special economic zones (SEZ), the Coimbatore Hi-Tech Infrastructure (CHIL) SEZ and the Coimbatore TIDEL park, and at least five more SEZs are in the pipeline. As of 2005, when Tirupur was a part of Coimbatore district, Coimbatore was the highest revenue earning district in Tamil Nadu. In 2010, Coimbatore ranked 15th in the list of most competitive (by business environment) Indian cities.

Coimbatore has trade associations like CODISSIA, COINDIA, SITRA and COJEWEL representing industries in the city. Coimbatore also has a 160,000 square feet (15,000 m²) trade fair ground, built in 1999. It was named COINTEC due to its hosting of INTEC (Small Industries Exhibition). The Trade Fair complex, one of the country’s largest, was built in six months, and is owned by CODISSIA (Coimbatore District Small Industries Association)[4]. It is also the country’s largest pillar-free hall, according to the Limca Book of Records.

Textiles

Coimbatore houses a large number of small and medium textile mills. It also has central textile research institutes like the Central Institute for Cotton Research (CICR)- Southern Regional station and the Sardar Vallabhai Patel International School of Textiles and Management. The South Indian Textiles Research Association (SITRA) is also based in Coimbatore. The city also houses two of the Centers Of Excellences (COE) for technical textiles proposed by Government of India, namely Meditech, a medical textile research centre based at SITRA, and InduTech based in PSG College of Engineering and Technology. The neighbouring town of Tirupur is home to some of Asia’s largest garment manufacturing companies, exporting hosiery clothes worth more than ₹ 50,000 million.

Information technology and BPO

The city is the second largest software producer in Tamil Nadu, next only to Chennai. IT and BPO industry in the city has grown greatly with the launch of TIDEL park and other planned IT parks in and around the city. It is ranked at 17th among the global outsourcing cities. Companies like Tata Consultancy Services, Cognizant Technology Solutions, IBM, Robert Bosch GmbH, Tata Elxsi, Dell, Aditi Technologies, CSS Corp and KGISL having a presence in the city. Software exports stood at 710.66 Crores (7.1 billion) for the financial year 2009-10 up 90% from the previous year.

A. Ahilandeshwari Assistant Professor,

Department of Economics, Sengamalathayar Educational Trust Women’s College, Mannargudi.

Manufacturing

Coimbatore has a large and a diversified manufacturing sector facilitated by the presence of research institutes like Tamil Nadu Agricultural University, SITRA and large number of engineering colleges producing about 50,000 engineers. Some of the prominent industries in Coimbatore include L&T, BOSCH, PSG, Sakthi group, Lakshmi Machine Works (LMW), Premier Instruments & Control Limited (PRICOL), Premier Evolvics, Janatics, LGB, Revathi Equipment Ltd, ELGI Equipments, Craftsman Automation Pvt Ltd, Shanthi Gears, Roots Industries.

Wind Energy major Suzlon has set up a foundry & machine shop in Coimbatore. Along with it Hansen Transmission, a Belgian Company which manufactures gearboxes for windmills is setting up a plant here with an investment of 940 cr.

Auto components

Textool offered a prototype of Sten Guns to the Indian Government after independence. They developed the first in-house designed car in the 1960s, which never saw the light of day due to the license raj. They made several prototypes until the 1990s. They successfully manufactured India's first indigenously developed diesel engines in 1972 for cars and their own CNC lathes in 1982. Today their spin-off company, Jayem Automotives, offers R & D services to Mahindra, Tata Motors and Hindustan Motors. Maruti Udyog and Tata Motors source up to 30% of their automotive components from Coimbatore. Some of the auto component makers in Coimbatore include Robert Bosch GmbH, PRICOL and Roots Industries.

Wet grinders

Coimbatore has more than 700 wet grinder manufacturers with a monthly output As of March 2005 of 75,000 units. The term "Coimbatore Wet Grinder" was given a Geographical indication for wet grinders manufactured in Coimbatore and Erode in 2006. Coimbatore is also home to a common facility for the manufacturers of wet grinders.

Pump Manufacturing

Coimbatore is also called as the pump city of Asia. The City houses large number of small scale engineering companies. The motor and pump industry supplies over 40% of India's requirements. The Major Pump manufacturers Aquasub engineering, Mahendra Pumps, Suguna pumps, Sharp Industries, Deccan Pumps, CRI Pumps, Texmo Industries, Flowserve, Kirloskar Brothers & KSB Pumps have manufacturing base in the city.

Jewellery and gems manufacturing

Coimbatore is one of the major gold jewellery manufacturing hubs in India, renowned for making cast jewellery and machine made jewellery. The city is home to about 3000 jewellery manufacturing companies and to over 40,000 goldsmiths. The jewellery manufacturers have an active association called Coimbatore Jewellery Manufacturers' Association, and have also jointly established Coimbatore Gem and Jewellery Industries Private Limited (Cojewel), which is a common facility with niche goldsmith machinery to be used by the members of the association.

Several jewellery retail chains like Kirtilal's are based in Coimbatore or have their manufacturing base in Coimbatore.

Owing to the presence of a large number of jewellery manufacturers and the strong engineering base, the city is home to a number of companies manufacturing jewellery making machinery. The city is also a major diamond cutting centre in South India. For example Kirtilal's Jewellers alone have 5 diamond cutting and polishing centres in Coimbatore.

Food Processing

Coimbatore has some of the oldest flour mills in India. The large scale flour mills, which cater to all the southern states, have a combined grinding capacity of more than 50,000 MT per month. The city houses many famous high capacity flour mills like India Roller Flour Mills (which is closed now) and Coimbatore Roller Flour Mills. These flour mills have been around for decades and were in the outskirts of the city at one time. Now they are in the middle of the city owing to increasing urbanization.

Real Estate and Hospitality

In the recent years, the city has seen growth in the hospitality industry. Five star hotels like Taj Surya and Le Meridien, four star hotels like Aloft and several three star hotels like Park Plaza, The Residency, CAG Pride and Mangala International have presence in the city.

INDUSTRIAL GROWTH IN TIRUPPUR DISTRICT - AND ECONOMIC ANALYSIS

Netaji Apparel Park

The phenomenal apparel manufacturing growth of Tiruppur has to be ably supported by a world class Apparel Park where the production facilities and other infrastructure are comparable to the best available as in highly developed countries.

In 2002 the Ministry of Textiles (India), Government of India gave its approval for the creation of a world class Apparel Park to boost the exports of apparel. Mr. A. Sakthivel, President TEA seized the opportunity and envisaged a big project for the establishment of a unique Apparel Park. The result of which is Netaji Apparel Park.

From the Project planning to the execution and the final completion of NAP the excellence of application is visible thorough at NAP is situated on NH 47 between Avinashi and Perumanallur. When this idea was floated to the exporters there was an enthusiastic response from them and with the initial contribution of ₹ 15.25 lakhs from each of them which was fixed for a 2 acre plot in the NAP. The necessary formation of a corporate body to implement the project with Mr. Sakthivel as the Chairman and the Managing Director was effected to supervise the day to day administration of the project at various stages.

220 acres of land was acquired at Ettiveerampalayam with 50% concession from Government on stamp duty in June 2003. There are 46 plots of 1.8 acres each and 8 plots at 3.6 each with excellent roads at 60 feet breadth for easy transportation of containers in the area along with a excellent infrastructure facilities like water supply, drainage sewerage, training centre display hall, labour welfare facilities production facilities of international standards in addition to a captive power plant.

The New Tiruppur Area Development Corporation Limited (NTADCL) is the nodal agency and NAP is the implementation agency with the Managing Director (NTADCL), Ministry of Textiles, Government of India were appointed to the Board as Directors of NAP with the approval of the respective Governments.

The foundation stone was laid by Shri. Syed Shahnawaz Hussain, the then Minister of Textiles (India), Government of India on 4 July 2003. The Board of Directors of NAP constituted the Infrastructure Development and Building Committee to float tenders for infrastructure development works, Captive Power Plant and factory buildings NAP appointed consultants for Project Management, Civil and Electrical Engineering. The IDBC formulated infrastructure development, Captive Power Plant and factory buildings.

The Apparel Park has the design of production facilities as in the European Union courtiers, USA with the basic objective of creating a world class knitwear manufacturing facility. The work was completed in January 2005 and inaugurated by Shri. P.Chidambaram, Hon'ble Finance Minister, Government of India. The total cost infrastructure facilities, the Captive Power Plant and the factory buildings worked out to 92 crores.

The Park has 53 companies manufacturing knitwear for exports. Each unit will be a model to answer the requirements of international standards in all aspects. In addition to investment of 92 crores (920 million rupees) on infrastructure and factory buildings about 300 crores (3 billion rupees) is being invested on machinery.

The NAP presently provides employment to 15,000 people and generates export revenue of Rs. 1,500 crore from the apparels produced in it.

K. Ashokrani, Principal, Sri Kumaran Ashram Teacher Training Institute, Thamarankottai.

International brands

It is called the Knit Capital of India as it caters to famous brands retailers from all over the world. Nearly every international knitwear brand in the world has a strong production share from Tirupur. It has a wide range of factories which export all types of Knits fabrics and supply garments for Kids, Ladies, Men's garments - innerwear exclusive. The city is known for its hosiery exports and provides employment for about 600,000 people.

Some of the world's largest retailers including C&A, Switcher SA, Walmart, Primark, Oviessse, Switcher, Polo Ralph Lauren, Diesel, ARMY, Tommy Hilfiger, M&S, FILA, Respect, H&M, HTHP, Whale, Reebok import many textiles items and clothing from Tirupur city. A large market for export reject pieces also exists centred in the Khaderpet locality close to the railway station. Another Large market for export surplus Fabrics exists in S.V.Colony, Doomlight, Lakshmi Nagar localities.

Infrastructure facilities required

Even though the city is very prosperous, the infrastructure is very minimal. The city grew very quickly due to the high demand for manufacturing for the popular clothing brands mostly in the United States and Europe. But the modern machinery used and the availability of skilled labour enabled this city to prosper and be competitive internationally.

The lack of infrastructure facilities comparatively for the foreign exchange which the city brings is a big negative point to be noticed. The Tirupur Exporters and Manufacturers Association (TEAMA) and other associations are taking actions directly to get some sort of facilities done (like the third water scheme and NAP).

The association formed by the Exporters of Tirupur (TEA) called TEAMA is one of the most successful association in India trying hard and been successful in helping the trade in Tirupur.

Landmarks

- The Town Hall, The New Railway over-bridge, Tirupur Kumaran Memorial statue near the railway station, Corporation Memorial pillar (with Globe on its top) are some of the other landmarks in the Tirupur city.
- The great leaders "AnnaDurai" & "Periyar" statues at the opposite of the railway station.

A STUDY ON THE PULSES CULTIVATION IN ERODE DISTRICT

Introduction

The world pulses commonly known as peas, beans or lentils is today a household word. These are found to contain low fat, low sodium, high fibre, no cholesterol and a good source of protein and minerals. These have emerged as the most important crop group which has been cultivated by human beings since the time immortal. These have become very important in our daily diet. At least one of these pulses (dals) – gram, mung, masur is found in the menu of most of the Indian families every day. Production of pulses is restricted to Asian countries to a large extent and particularly in the Indian sub continent. Apart from India some of the other countries who produce pulses comprise Myanmar, Thailand, Singapore and Canada.

India over the years continues to be the largest producer and consumer of pulses in the world. Amongst various pulses, urad continues to be the largest consumed pulses. The major pulses crops grown in India include gram, mung beans, urad, pigeon peas, dry peas and lentils. India grows a variety of pulse crops under a wide range of agro-climate conditions and is recognized globally as a major player in pulses contributing around 25 per cent of the global production.

The Government of India has set up a plethora of bodies to look after development and marketing of pulses. Some of the major ones include : Indian Institute of Pulses Research (Kanpur) which over the years has been acting as a national centre for basic and applied research on pulse crops such as chickpea, pigeonpea, mung bean, urad bean, lentil, etc. To boost production of pulses, it has developed a host of high yielding varieties in respect of these crops. Indian Agriculture Research Institute, New Delhi has developed a large number of improved varieties of pulses. NAFED, set up under the ministry of agriculture, Government of India, is another government agency engaged in promoting direct export/import and procurement of pulses in the country. Its International Trade Division is involved in constant research and exploration work for this purpose. Regular efforts are made by the Division to identify new markets and new commodities.

Scope of the Study

Though India is largest producer of pulses, it is also important of certain pulses of domestic consumption. At present the prices of pulses have gone up sharply, which may affect the consumption pattern of consumers in India. Therefore studies like this would throw light on area production and yield of major pulses, which would help scientist and policy makers to increase the production level and area under cultivation.

Methodology

The present study based on secondary data for a period of 17 years. Data related to area, production and productivity of major pulses was collected from published sources like statistical hand book of Tamilnadu – various issues, season and crop report of Tamil Nadu – various issues and Tamil Nadu Economic Appraisal – various issues.

Objective

- To examine area, production and productivity of major pulses in Erode District.

Result and Discussion

In this study area, production and yield of major pulses cultivated in Erode district in terms of commodity and year wise was examined for a period of seventeen years ie, from 1992-93 to 2008-09. The major crops taken for the study are Bengal Gram, Red Gram, Black Gram, Green Gram and Horse Gram.

S.Madheswaran, Ph.D Research Scholar, & Dr.A. Saravana Durai, Assistant Professor,
Department of Economics, Periyar University, Salem.

**Table 1 : Total Area Under Major Pulses Crops in Erode District During
1992-93 to 2008-09.**

							(Hectares)
S. No.	Year	Bengal Gram	Red Gram	Black Gram	Green Gram	Horse Gram	Total Pulses
1	1992-93	9	1690	2457	6772	8161	29309
2	1993-94	39	1853	2027	6824	8171	29284
3	1994-95	52	1605	2087	5014	8791	28650
4	1995-96	62	1836	1866	3520	6222	24326
5	1996-97	27	1783	1847	5239	6721	28335
6	1997-98	0	1657	1927	4513	7150	27058
7	1998-99	12	1548	1427	3770	6639	25021
8	1999-00	11	1867	3203	5694	8064	31498
9	2000-01	34	1796	3136	5147	7941	29369
10	2001-02	41	1539	2250	4328	7267	26072
11	2002-03	353	488	1962	4460	7830	26211
12	2003-04	300	953	2195	5379	8515	29765
13	2004-05	8	1428	1962	5644	8442	30582
14	2005-06	8	1217	1736	4535	7331	19233
15	2006-07	21	850	1815	3969	7625	18171
16	2007-08	21	860	1266	2568	6825	14810
17	2008-09	15	1169	3011	2255	6215	17924

Source : i) Statistical Hand Book of Tamil Nadu – Various Issues
ii) Season and Crop Report – Various Issues

Area under major pulses like Bengal gram, Red gram, Black gram, Green gram and Horse gram in Erode District was examined in the above Table 1. It is evident from the table that the area under total pulses was 29309 hectares during 1992-93 and it was observed to be declined to 17924 hectares during 2008-2009. The area under various pulses crops witnessed some fluctuations in the intervening years. Among the major crops area under Horse gram was more in Erode District followed by Green Gram, Black Gram, Red Gram and Bengal Gram. The area under cultivation of all the major crops witnessed a decline during the period of reference. In Fig.1 the graphical representation of total area under pulses crops indicate that it has declined from 1992-93 to 2008-2009.

Figure 1 : Total Area Under Major Pulses Crops in Erode District During 1992-93 to 2008-09.

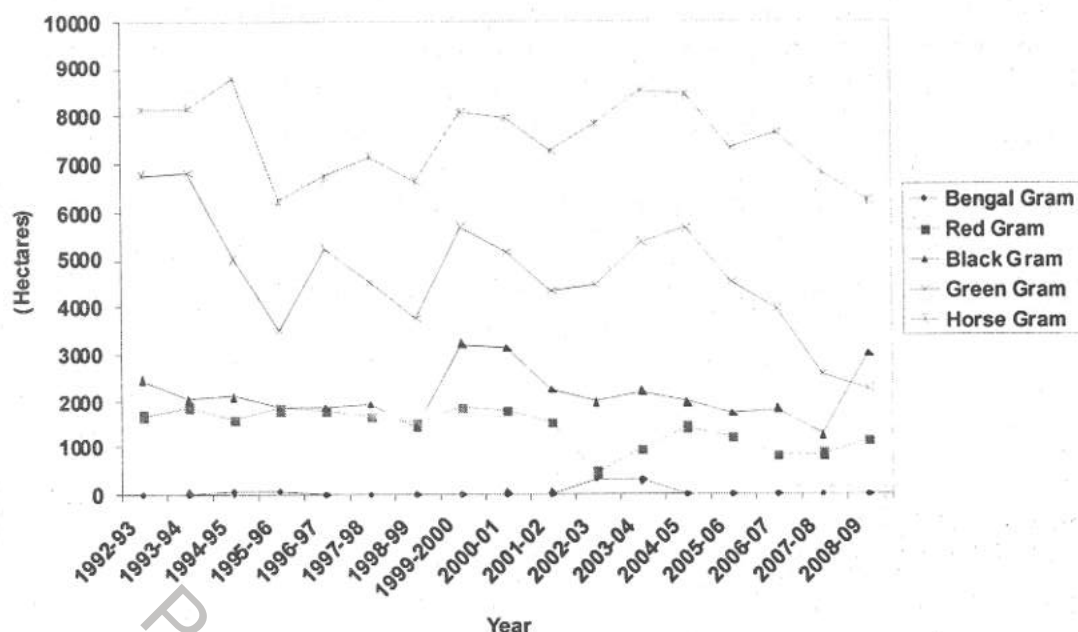


Table 2 : Total Production Under Major Pulses Crops in Erode District During 1992-93 to 2008-2009.

S. No.	Year	Bengal Gram	Red Gram	Black Gram	Green Gram	Horse Gram	Total Pulses
1	1992-93	10	1010	1280	2980	4810	12290
2	1993-94	30	840	850	1890	2990	8220
3	1994-95	40	1320	1090	1770	2300	8900
4	1995-96	40	1350	740	130	540	5120
5	1996-97	20	1710	680	1380	1000	7510
6	1997-98	0	840	900	1200	2100	7570
7	1998-99	10	1000	740	1790	2470	8500
8	1999-00	10	1250	1250	2960	3760	11940
9	2000-01	22	1280	2150	2320	2600	10793
10	2001-02	31	1000	1240	1830	2610	8991
11	2002-03	277	266	586	1899	1510	6919
12	2003-04	236	445	548	2693	2008	8590
13	2004-05	6	953	521	2484	2141	8909
14	2005-06	6	1596	894	2584	2520	8543
15	2006-07	16	625	1342	2130	3403	8349
16	2007-08	16	1292	887	1217	2278	6390
17	2008-09	8	2055	862	1608	1560	6800

Source :i) Statistical Hand Book of Tamil Nadu -VariousIssues
ii) Season and Crop Report – Various Issues

Table 2 examines production of major pulses crops in Erode District during 1992-93 to 2008-2009. The total production of pulses in Erode District was 12290 tonnes during 1992-1993 and it was observed to be 6800 tonnes in 2008-2009. This was decline in the production during the period of reference. During the year 1995-1996 the production was very minimum to 5120. It is evident that only during 1992-93, 1999-2000, 2000-01 and 2001-02 the production was more than twelve thousand tones production in the table also indicate declined in the production of pulses except Red Gram ie., it was 1010 tonnes during 1992-93 and it was increased to 2055 tonnes in 2008-2009. The graphical representation of pulses production in Erode District is presented in Fig 2. The line diagram also indicate a decline in the production of pulses.

Figure 2 : Total Production Under Major Pulses Crops in Erode District During 1992-93 to 2008-2009.

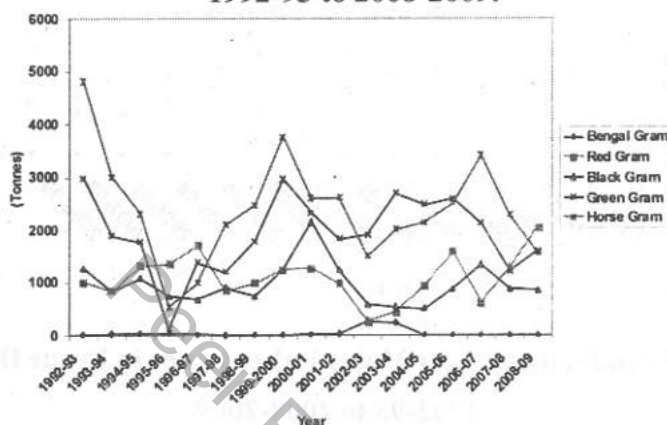


Table 3 : Average Yield of Major Pulses Crops in Erode District During 1992-93 to 2008-09.

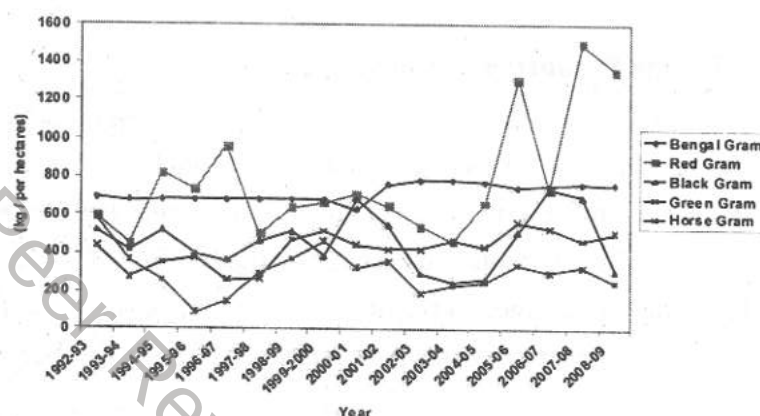
(kg / per hectares)

S. No.	Year	Bengal Gram	Red Gram	Black Gram	Green Gram	Horse Gram	Total Pulses
1	1992-93	692	598	520	440	589	419
2	1993-94	680	453	419	277	366	301
3	1994-95	684	822	523	353	262	311
4	1995-96	684	735	399	380	87	210
5	1996-97	685	959	366	263	149	265
6	1997-98	685	505	467	266	294	280
7	1998-99	684	644	518	475	372	340
8	1999-00	684	667	389	520	466	379
9	2000-01	633	712	686	450	327	367
10	2001-02	765	651	549	423	359	345
11	2002-03	785	545	298	426	193	264
12	2003-04	785	467	250	469	236	289
13	2004-05	776	667	266	440	254	291
14	2005-06	749	1311	515	570	344	444
15	2006-07	761	735	739	537	304	459
16	2007-08	766	1502	701	474	334	431
17	2008-09	762	1358	315	513	251	379

**Source : i) Statistical Hand Book of Tamil Nadu – Various Issues
ii) Season and Crop Report – Various Issues**

The average yield of major pulses crops in Erode District during 1992-93 to 2008-2009 was explained in the Table 3. The average yield of major pulses crops in Erode District was observed to be 419 kg/hectare during 1992-1993 and it was 379 kg/hectare during 2008-09. The yield was observed to be maximum during the year 2006-2007 is 459 kg / per hectare. Among the major pulses crops the yield of Bengal gram was high compared to other crops. During 1992-1993 the yield of Bengal Gram was 692 kg / per hectare and it was increased to 762 kg / per hectare. The yield was maximum during 2002-2003 and 2003-2004 ie., 785 kg / per hectare. The graphical representation of average yield of total pulses was presented in Fig 3.

Figure 3 : Average Yield of Major Pulses Crops in Erode District During 1992-93 to 2008-09.



Conclusion

Area under and production of pulses cultivation in Erode District during the period of reference observed to declined even the crop wise area, production and yield of various pulses during the period of reference in the study indicate that there was up and down in the intervening years of reference. The decline in the area under pulses cultivation can be attributed to various reasons like climate change, shift in agricultural practice, urbanization, soil degradation, non-availability of natural manures etc.

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CROPPING PATTERN CHANGE AND FOODGRAINS PRODUCTION IN COIMBATORE DISTRICT

Introduction

Cropping pattern, that is, the proportion of area allocated for different crops in a land holding, is an outcome of complex physical, economic and technological factors. The cropping pattern of any region depends upon the physical characteristics such as soil, climate, weather and rainfall. Apart from that, it is also determined by economic factors, i.e., irrigation facilities, credit facilities, fertilizer, mechanization, productivity and profitability.

Area under Foodgrains and Production in Coimbatore District

Except maize, area under all kinds of foodgrains i.e., rice, jowar, bajra, ragi and pulses have reduced in the Coimbatore district in the past three decades (1981-2008). To avoid the fluctuation, average value has been calculated for area, production and yield for ten years. The area under foodgrains has consciously decreased from 235.6 th (thousand hectares) in the 1980s to 165.0 th in the 1990s and 141 th to 2000s (Table 1). At the same time, on the other hand, yield per hectare of foodgrains also has decreased from 939.7 kg per hectare to 853.8 kg per hectare and 820.1 kg per hectare at the district level in the same period. Hence, the total production of foodgrains also has decreased drastically as from 220,1 tt (thousand tonnes) in the 1980s to 140.8 tt in the 1990s and 113.8 tt in the 2000s. Beside the foodgrains, marginal change has taken place in the yield of rice i.e., it has increased from 3211.0 kg per hectare in the 1980s to 3458.0 kg per hectare in the 1990s and it has decreased to 3394.8 kg per hectare in the 2000s. But, the area under rice has decreased sharply from 29.7 th in the 1980s to 18.1 th in the 1990s and 7.8 th in the 2000s. Hence, the production of rice has affected severely. It has come down from 91.6 tt in the 1980s to 62.4 tt in the 1990s and 26.7 tt in the 2000s. The production of jowar, bajra and ragi has also decreased due to the area allocation for these crops have decreased in the entire study period. Further, yield of jowar and ragi has declined from the 1980s to 1990s and 2000s. Yield of bajra has declined from 1980s to 1990s and increased in the 2000s. In the case of maize, from the 1980s there is a positive trend in terms of area, production, and yield per hectare. The production of maize has increased from 14.3 tt in the 1980s to 17.5 tt in the 1990s and 48.4 tt in the 2000s due to the continuous increasing of area allocation for maize from 12.4 th in the 1980s to 15.5 th in the 1990s and 20.4 th in the 2000s and yield per hectare from 1153 kg to 1128 kg and 2326.

A. Bharatharathna, Ph.D. Research Scholar,
Department of Economics, Bharathidasan University, Tiruchirappalli

Table.1: Area Allocation for Foodgrains and Production in Coimbatore District

Crops	1980s			1990s			2000s		
	Area	Production	Yield	Area	Production	Yield	Area	Production	Yield
Foodgrains (A + B)	235.6	220.1	939	165.0	140.8	853	141.0	113.8	820
Cereals (A)	181.9	203.4	1123	124.9	128.0	1024	110.9	102.8	943
1. Rice	29.7	91.6	3211	18.1	62.4	3458	7.8	26.7	3394
2. Jower	124.0	81.5	657	88.7	44.8	502	82.1	32.8	403
3. Bajra	4.4	6.9	1604	0.9	1.1	1418	0.4	0.7	1674
4. Ragi	2.4	5.3	2214	0.5	1.0	1854	0.1	0.3	1810
5. Maize	12.4	14.3	1153	15.5	17.5	1128	20.4	48.4	2326
Pulses (B)	44.3	15.7	379	37.2	11.7	349	26.5	10.0	415

Source: CMIE. *Note: Area in thousand hectares, Production in thousand tonnes*

The terms of percentage changes in the area, production and yield of foodgrains would be useful to understand the cropping pattern change and the trend of production of foodgrains. The average value of the area, production and yield rate of the 1980s has been used as base to find out the cropping pattern change and the trend of the foodgrains production in the Coimbatore district. Table 2 shows that there is a negative trend of foodgrains in the area allocation, production and yield. Entirely, the area allocation for foodgrains has decreased 30 per cent of cropped area in the 1990s and fatherly, it decreased 40 per cent of area. Hence, the production of foodgrains has declined 36 per cent and 48 per cent in the same period. The rate of declining of production of foodgrains is faster than the rate of decreasing the area allocation of foodgrains due to the declining the yield of foodgrains i.e., 9 per cent in the 1990s and 12 per cent in the 2000s. Beside the foodgrains, the production of rice is declined 32 per cent in the 1990s and 71 per cent in the 2000s owing of 39 per cent of declining of area allocation to rice in the 1990s and 73 per cent in the 2000s. The rate of declining of production of rice is slower than the rate of decreasing the area under rice due to the increasing the yield of rice. In the case of pulses, the yield rate has increased 10 per cent in the yield rate. But, unfortunately, the area under pulses has decreased 40 per cent in 2000s from 1980s. The maize is exceptional from the other foodgrains crops. The area, production, and yield of maize have increased in the entire period of study. The area has increased 25 per cent in the 1990s from the 1980s and 62 per cent in the 2000s. Production of maize has increased 22 per cent in the 1990s and 28 per cent in the 2000.

Table 2: Percentage Change of Area under Foodgrains in Coimbatore District

Crops	1980s			1990s			2000s		
	Area	Production	Yield	Area	Production	Yield	Area	Production	Yield
Foodgrains (A + B)	100	100	100	-30	-36	-9	-40	-48	-12
Cereals (A)	100	100	100	-31	-37	-9	-38	-49	-16
1. Rice	100	100	100	-39	-32	7	-73	-71	6
2. Jowar	100	100	100	-28	-45	-24	-34	-59	-39
3. Bajra	100	100	100	-79	-84	-11	-91	-90	4
4. Ragi	100	100	100	-79	-81	-16	-96	-94	-5
5. Maize	100	100	100	25	22	2	62	28	102
Pulses (B)	100	100	100	-16	-25	-8	-40	-36	10

Conclusion

The concept, the large scale production leads to increase the yield is proved in this study. Entirely, the cropping pattern in the Coimbatore district is not in favour of foodgrains production. In the case of jowar, bajra, ragi, the area, production and yield has been decreasing continuously. Even though the yield of rice has marginally increased, area and production of rice has decreased. Maize is the exceptional case from the all other crops. It gets positive trend in terms of area, production, and yield. The reason might be the significant of agriculture has declined due to other sectors (industrial sectors and service sectors). Another, the labour migration might affect the agriculture in the Coimbatore district.

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A STUDY ON STRESS MANAGEMENT AMONG MEDICAL COLLEGE STUDENTS IN COIMBATORE

Introduction

A student's life is subjected to different kinds of stressors. These students face social, emotional, physical and family problems which may affect their learning ability and academic performance. Some of them find it hard to cope with the stress and lag behind, while others see the pressure as challenge to work harder. Medical education is inherently stressful and demanding. Overwhelming burden of information leaves a minimal opportunity to relax and recreate and sometimes leads to serious sleep deprivation. This paper attempts to get a snapshot view of the management of stress among medical college students in Coimbatore.

Coimbatore City

It is located in the western part of Tamilnadu bordering Kerala. The city is a treasure trove for tourists looking for a good time. 'God's own country, Kerala is just 20 miles off the city and apart from that ooty is just a couple of hours drive. It is a hub of hospitals and labs based on medical research. Coimbatore also has a huge home grown industrial base ranging from textiles to machineries.

Scope Of The Study

The study was conducted among the under graduate medical students of all five years in a Government medical college at Coimbatore.

Objective

To assess the perception of stress amongst medical students and their coping strategies.

Rationale For The Selection Of The Topic

Medical students particularly perceive themselves more likely to become ill than others. Stress can lead to disruptions in both physical and mental health. Stress reduction and adopting a healthier life style have been major concerns of the students. Students revert to different coping strategies, harmful as well as constructive. This study not only explores the different perceptions of stress amongst the medical students' community but also looks into the coping strategies adopted to deal with the problem.

Methodology

Primary data was collected from 264 students out of 300 were filled questionnaire. The study sample was stratified according to sex, residence (day scholar / hostilities), and year of study and status of financial assistance from the college. After an in-depth literature review, a semi-structured questionnaire was designed as a tool for data collection. This was pilot tested with a sample of 20 students, modified and finally administered for final survey. Confidentiality and anonymity were ensured. Data were entered and analyzed.

Dr. Mrs. R. Vijayalakshmi, Associate Professor

R. Sakthidevi, M.Phil. Scholar, Department of Commerce,

Seethalakshmi Ramaswami College (Autonomous), Tiruchirapalli

Results

The response rate was 88% (264 out of 300 students), out of which 138(52.3%) were males and 126(47.7%) were females. Mean age of respondents was 21 years with a range of 17-25 years. There were 136 day scholars, while 128 were hostilities. Those on college's financial assistance were 41.3%.

A large majority of students perceive stress as mental tension, external pressure affecting work, psychological burden, helplessness, inability to cope, increased workload and high expectations. For some, it is a break in the normal routine, lack of concentration, hopelessness, reaction to unpleasant environment, loss of interest, inferiority complex, depression etc... Few express it as an excess of functioning of one's physical, mental or spiritual being leading to partial or complete exhaustion of that individual. 94.1% of males and 91.1% of females are stressful. Among the day scholars, 93.2% feel stressed while 92% of the hostilities are stressed in a way. Those on financial assistance 90.7% have felt stressed as compared to 93.8% of students who are not on financial assistance.

Females felt more fatigue, headaches and short-temper than males. Day scholars are more fatigued (60%) than hostilities (40%). Those on financial assistance reported more frequent headache (63%) as compared to non-assisted students (37%). The residence does not show any remarkable difference in citation of symptoms of stress.

TABLE NO: 1
SYMPTOMS OF STRESS

SYMPTOMS	% OF STUDENTS
Low moods	82
Inability to concentrate	71
Short temper	66
Change in sleeping pattern	61
Loneliness	58
Fatigue	55
Difficulty in making decisions	50
Difficulty in communicating	49

Source: Primary Data

The most common reasons are quoted in table 2. Financial problems and travelling between campus and home are other reasons quoted. Students who did not know the reason for their stress comprise 6.8%. For 41.4% of the hostilities, homesickness was a reason for the stress (I year students).

TABLE NO: 2

Reasons	Male	Females	Mean
Exams	71	84	77.5
Other Academics	59	67	63
Relationship Problems	22	31	26.5
Family Problems	21	31	26.0
Homesickness	22	26	24.0

Source: Primary Data

Various coping strategies practiced by the medical students are listed in Table 3 and 4. Offering prayers, meditation, visiting relative houses, changing eating habits, watching movies and online chatting were also mentioned. Amongst the total sample respondents 76% were satisfied with their coping strategies. Males were more content (78%) with their coping mechanisms as compared to females (73%) Day-scholars were more satisfied with their coping mechanisms (78%) as compared to the hostilities (73%).

ERODE DISTRICT – AN ECONOMIC OVERVIEW

The economy of any area depends on its development in the fields of agriculture, trade, industry, services etc., Erode district is one of the important districts in Tamilnadu. It has an important role in the economic development of the state. Erode district is having a notable development in various fields viz., agriculture, textile products, trade, food products, leather products, animal husbandry, fisheries, etc. The present paper is an attempt to give a lucid overview of the important economic profile of Erode district.

Etymology

Modern historians contend that Erode has its origin in Tamil **Eru Odai** ("two streams") This claim is based on the existence of two water courses, Perumpallam in Surampatti and Kalingarayan Canal in Brahmana Periya Agraharam and Kasipalayam. The district was established in the year 1979 as Periyar District and was renamed as Erode District in the year 1997. It formed part of ancient Kongu country known as 'Kongu Nadu' history of which dates back to the Sangam era.

Erode- Location

Erode is situated at the center of the South Indian Peninsula, about 400 kilometers (249 mi) southwest from the state capital Chennai and on the banks of the rivers Cauvery and Bhavani, between 11° 19.5" and 11° 81.05" North latitude and 77° 42.5" and 77° 44.5" East longitude. The district is bounded mostly by Karnataka state, to the east lays Namakkal and Karur districts, the districts Dindigal in the south, Coimbatore and Nilgiris in the west as its boundaries.

Agriculture In Erode District

The district is advanced in agriculture. Over sixty percent of the people of Erode district depend on agriculture. The Tamilnadu Agricultural University and the Agricultural Research Institute in Coimbatore helps a lot to Erode district farmers to keep abreast of the developments in agricultural practices. The rivers Cauvery and Bhavani provide a major source of irrigation to agriculture in Erode district. Due to this, Erode district is remembered as a green district by many people.

Erode as Manjal Maanagaram (Turmeric city)

Erode is a very important market centre for Turmeric. Cultivation of turmeric extends over 31,498 hectares. It is an important spice which is normally used in curries and also used as a fabric dye. The turmeric is received in major part from Erode, and in minor from other parts of Tamil Nadu, and adjoining districts like Mysore, Chamarajanagar in Karnataka State. The district stands first in turmeric production & marketing. The cultivation of turmeric extends over forty one thousand hectares during the year 2010. Hence, it has also been nicknamed as *Manjal Maanagaram* (Turmeric city).

Other Important Crops Cultivated In Erode District

Paddy is an important food crop cultivated in Erode district. Paddy is grown over eighty six thousand nine hundred hectares. Sugarcane is another important crop which is cultivated in more than thirty thousand hectares in Erode district. Cholan is cultivated over eleven thousand two hundred hectares in the district. Pulses are not much in cultivation. Only 31,498 hectares are used for raising pulses in the district.

R. Nagarajan, Assistant Professor, Department of Commerce,
Gobi Arts & Science College, Gobichettipalayam.

The 1st and 2nd year students (80%) Showed eagerness to talk to somebody but in the 4th and final year only 67% showed the desire. Talking to a peer would be the approach for a majority (46.2%), where males have greater tendency to do so (70%) as compared to females (57%).

TABLE NO: 3
COPING STRATEGIES

Coping strategies	Males %	Females %	Mean
Spending time with friends	66.7	64.3	65.5
Sleep	58.0	68.3	63.15
Music, dance etc...	60.9	55.6	58.25
Sports, yoga	55.8	36.5	46.15
Isolation	47.8	38.1	42.95
study	29.7	45.2	37.45

Source: Primary Data

TABLE NO: 4
COPING STRATEGIES (DAY-SCHOLARS AND HOSTELLITES)

Coping Strategy	Day Scholars (%)	Hostilities (%)
Spend time with friends	66.9	64.8
Isolation	36.0	50.0
Sports	50.7	42.2
Smoking Alcohol	4.4	8.6

Source: Primary Data

Suggestions

- Sports, yoga, music and arts would be made a part of the optional curriculum for them.
- Peer education and counseling would be an ideal solution.
- The teaching faculty can also be helpful being, more interactive and convivial.
- Stress management and time management must be taught along with first and second year curricula.
- Health education programmes, mentorship can be used as important strategies.

Conclusion

Medical students are one important segment of our young population. It is heartening to know that health problems of the young population are underlined and addressed to some extent in the government's policy for youth. There is a definite need for regular surveys to be undertaken to monitor the levels of health among youth, especially the students, whose well-being guarantees the future.

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A total of ninety five thousand hectares are under oil-seeds cultivation. Ground-nut is the most popular oil seed cultivated in Erode district. Erode district is also one of the largest coconut oil producers in south-India. Maize, onion, vegetables are also cultivated in Erode district. The main source of irrigation in the district is the canals and wells. The net area irrigated in the district totals to 2, 09,432 hectares.

Erode As Javuli Nagaram (Textile City)

The district is growing well in the textile industry with the establishment of many textile mills in different parts of the district. Chennimalai in Erode is noted for its handloom products which include cotton sarees, bed-spreads, towels etc. Chennimalai, Erode, Gobichettipalayam are the important areas in which cotton ginning is done on a large scale. The district is also having a number of factories engaged in fabric printing. A separate Industrial centre is situated in Perudurai known as SIPCOT developed by the Small Industries Development Corporation of Tamilnadu in the year 2000.

Rice mills also exist in a good numbers in several parts of Erode district. The industries such as engineering works, automobiles, power looms, Dhal mill, Vanaspathy manufacturing, wax and screen printing, Power loom, sizing, wrapping and printing press are also functioning in Erode district.

Export and Import Commodities of Erode district

The major items of export from Erode district are handloom, raw-cotton, rice, milk products, sugar, edible oils etc. Dyes Fabric and Chemicals are the major import items.

Natural Resources In Erode District

Raw Granite, Lime Stones, Rough Stones and Sand are the important natural resources found in the district.

Conclusion

The present paper aimed at giving an economic overview of Erode District of Tamilnadu. From the paper it is obvious that Erode district is developing well in agriculture, trade & industry. As it is a rural based economy, the Government has to give much concentration on its economic development. According to 2011 Census of India, 74 per cent of Indians live in 6,38,365 different villages in India. It is worth mentioning that Erode's Gross Domestic Product (GDP) growth for year 2008 stood at 15.5 per cent was the top in the State and ahead of the State's [GDP] growth by 4 per cent.

As **Mahatma Gandhiji** stated "*The soul of India lives in its villages*", it is the duty of the people as well as the Government to give due attention on the economic development of the villages and the village based districts. It will results in the overall development of the nation.

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EFFICACY OF MICRO IRRIGATION SYSTEM ON AGRICULTURE PRODUCTION – A CASE STUDY IN ERODE DISTRICT

Introduction

India is facing a looming water crisis that has implications not only for its 1.2 billion people, but for the entire globe. India's demand for water is growing even as it stretches its supplies. Water infrastructure is crumbling preventing the government from being able to supply drinking water to its citizens. Pollution is ramped due to unfettered economic growth, poor waste management laws and practices. Although many analysts believe that demand will outstrip supply by 2020, there is still hope for India. Water scarcity in India is predominantly a manmade problem; therefore if India makes significant changes in the way it thinks about water and manages its resources soon, it could ward off, or at least mollify, The Impending Crisis.

Methodology

A two stage stratified random sampling technique was used for the purpose of the study. Kodumudi block (micro irrigators) and Modakurichi block (non micro irrigators) were purposively selected. Primary data were collected personal interview method from the sample farmers. Interview schedules were used to collect details related to the study from the sample farmers. A pilot study was conducted to identify the gaps in the interview schedule. The survey was conducted between July 2010 and December 2010. In the second stage, a complete enumeration of the size of holding in each sample block was made. The holding were then stratified into 3 size groups i.e., small (0-3 hectares), medium (3.1-6 hectares) and large (6.1 and above hectares). 50 farm households from each block were taken as sample for the purpose of the study. Appropriate mathematical and statistical methods were employed for the study.

Results And Discussion

Impact of Irrigated And Cropped Area

In sample farmers worked very less amount of irrigation hours for all crops under micro irrigation. The table 1 explained for instance in small farmers group 40 per cent irrigate 6-8 hours per day only 20 per cent irrigate 4-6 hours. In case of medium farmer group 48 per cent 6-8 hours and only 12 per cent irrigate 4-6 hours per day. 34-42 per cent of the large farmers irrigate 8-10 and 6-8 hours per day. In the irrigated area 70 per cent of small farmer irrigate 0-2 hectare and in medium farmer irrigate 2-4 hectare per day's irrigation area.

Dr.C.Parvathi, Assistance Professor & **R.Pradeepa**, M.Phil. Research Scholar,
Department of Economics, Avinashilingam Institute for Home Science and Higher Education for
women, Coimbatore.

TABLE 1
DETAILS OF IRRIGATION HOURS & AREA IN MICRO IRRIGATION SYSTEM

Particulars	Micro Irrigators			
	SF	MF	LF	All
Per day irrigation (in hours)				
4 - 6	2 (20.00)	3 (12.00)	0 (0.00)	5 (10.00)
6-8	4 (40.00)	12 (48.00)	5 (3.33)	21 (42.00)
8 - 10	3 (30.00)	8 (32.00)	6 (40.00)	17 (34.00)
10 - 12	1 (10.00)	2 (8.00)	4 (26.67)	7 (14.00)
All	10 (100)	25 (100)	15 (100)	50 (100)
Per day irrigation area (in hectare)				
0 - 2	7 (70.00)	2 (8.00)	0 (0.00)	9 (18.00)
2 - 4	3 (30.00)	18 (72.00)	9 (60.00)	80 (60.00)
4 - 6	0 (0.00)	5 (20.00)	6 (40.00)	11 (22.00)
All	10 (100)	25 (100)	15 (100)	50 (100)

Source: Field survey, (2010) (figures in bracket represent percentage of column total)

SF – Small Farmers, MF – Medium Farmers, LF – Large Farmers

Impact of Farm Inputs

Both the micro and non- micro irrigators of the large farmers using 57.14 per cent of the bullock labour for preparatory cultivation and the 60 per cent of the micro irrigator medium farmers using bullock labour for harvesting and 57.14 per cent of non-micro irrigators of large farmers using bullock labour for preparatory cultivation and 50 per cent of the medium farmers and small farmers using bullock labour for inter cultivation and harvesting purposes. In the micro irrigator farmers 34.62 per cent medium farmers are using machine labour for preparatory cultivation and all the selected farm households of 41.51 per cent of the farmers using machine labour for harvesting purposes. In case of non-micro irrigators farmers groups 42.24 per cent of the selected farmers using machine for harvesting.

The values are given in table 2

TABLE 2

DETAILS OF VARIOUS INPUT USAGE IN THE SELECTED FARM HOUSEHOLDS

Particulars	Micro Irrigators				Non- Micro Irrigators			
	SF	MF	LF	All	SF	MF	LF	All
Bullock Labour (in pair days)								
Preparatory cultivation	2 (50.00)	1 (20.00)	4 (57.14)	7 (43.75)	2 (33.33)	2 (33.33)	4 (57.14)	8 (42.11)
Inter cultivation	1 (25.00)	1 (20.00)	2 (28.57)	4 (25.00)	1 (16.67)	3 (50.00)	1 (14.29)	5 (26.32)
Harvesting	1 (25.00)	3 (60.00)	1 (14.29)	5 (31.25)	3 (50.00)	1 (16.67)	2 (28.57)	6 (31.58)
All	4 (100)	5 (100)	7 (100)	16 (100)	6 (100)	6 (100)	7 (100)	19 (100)
Machine labour (in hours)								
Preparatory cultivation	10 (31.25)	18 (34.62)	23 (30.67)	51 (32.08)	12 (34.29)	17 (33.33)	24 (32.00)	53 (32.92)
Inter cultivation	9 (28.13)	13 (25.00)	20 (26.67)	42 (26.42)	8 (22.86)	14 (27.45)	18 (24.00)	40 (24.84)
Harvesting	13 (40.63)	21 (40.38)	32 (42.67)	66 (41.51)	15 (42.86)	20 (39.22)	33 (39.22)	68 (42.24)
All	32 (100)	52 (100)	75 (100)	159 (100)	35 (100)	51 (100)	75 (100)	161 (100)
Human labour (man days)								
Preparatory cultivation	32 (13.33)	54 (16.98)	87 (21.17)	173 (17.85)	34 (13.55)	53 (15.82)	89 (21.60)	176 (17.64)
Plants and planting	147 (61.25)	182 (57.23)	208 (50.61)	537 (55.42)	150 (59.76)	193 (57.61)	205 (49.76)	548 (54.91)
Fertilizers pesticides	4 (1.67)	7 (2.20)	9 (2.19)	20 (2.06)	6 (2.39)	10 (2.99)	12 (2.91)	28 (2.81)
Inter cultivation	9 (3.75)	12 (3.77)	15 (3.65)	36 (3.72)	10 (3.98)	15 (4.48)	13 (3.16)	38 (3.81)
Harvesting	48 (20.00)	63 (19.81)	92 (22.38)	203 (20.95)	51 (20.32)	64 (19.10)	93 (22.57)	208 (20.84)
All	240 (100)	318 (100)	411 (100)	969 (100)	251 (100)	335 (100)	412 (100)	998 (100)

Source: Field survey, (2010) (figures in bracket represent percentage of column total)

SF – Small Farmers, MF – Medium Farmers, LF – Large Farmers

Human labour used by large farmers of micro irrigators was nearly 21.17 per cent for preparatory cultivation and for plants and planting 57.23 to 59.76 per cent are used by micro and non-micro irrigators. For inter cultivation on an average 4 per cent of human labour used by micro irrigators and 3-4 per cent in non- micro irrigators.

TABLE 3

**THE ANALYSIS OF RERESSION MODEL BETWEEN THE INPUT USED AND
OUTPUT PRODUCED IN THE IRRIGATED FARM**

Particulars	Micro Irrigators			Non- Micro Irrigators		
	SF	MF	LF	SF	MF	LF
T	22.722	19.773	56.153	26.020	22.009	29.395
't' constant	1.917	2.235	3.735	1.087	1.795	2.404
R ²	0.996	0.995	0.999	0.997	0.996	0.998
R ² change	0.996	0.995	0.999	0.997	0.996	0.998
B	0.998	0.997	1.000	0.999	0.998	0.999

Source : Based on field survey

Table value: 1.96 at (5% level of significance)

The calculated value for small and medium farmers of non-micro irrigator was 1.087 and 1.795 which was less than the table value $t_{0.05}$ 1.96, hence we accept H_0 . So, there was a significant difference between input used and output produced in the non-micro irrigated farm. This was due to the high input used and less output from the farm. The calculated value for large farmers of non-micro irrigator was 2.404 which were greater than the table value $t_{0.05}$ 1.96, hence we reject H_0 . So, there was a significant difference between the inputs used and output produced in the non-micro irrigated farm.

Impact Of Consumption Pattern

Before adopting micro irrigation the monthly food expenditure was on an average of ₹ 3,667 amounts and non-food expenditure was ₹ 2,386 amounts. After adopting micro irrigation system food expenditure amount was increased ₹ 500 and it was now ₹ 3,624 and non-food expenditure it was increased by ₹ 700 and now they spent ₹ 3,167. Before adoption ₹ 191 and after it was ₹ 383 in food expenditure and in non-food expenditure they mostly start spending for children's education it was ₹ 1,168 from ₹ 976. The total expenditure of food and non-food items was ₹ 5,553 before adoption and after it increased by ₹ 6,791 respectively.

The Suggestions

1. Availability of cheap and effective weedicides
2. Supply of electricity regularly
3. Subsidization of diesel price for reducing the cost of tractor services
4. Provision of loan with low interest from financial agency
5. Subsidies should be made available easily and timely to the non-Micro irrigated farmers
6. The spare parts such as micro tubes, Micro pits etc should be made readily available on reasonable rates to both the type of farmers and
7. Extension workers and company officers' should arrange demonstration regarding maintenance of Micro irrigation system

Conclusion

The finding of the study implies that the farmers who adopt micro irrigation method for irrigation have realised increase their crop production, their incomes, and their household food security. Ironically, a technology typically associated with wealthy farmers, micro irrigation, may hold the key to alleviating a significant share of rural hunger and poverty. Micro irrigation had proved to be success in terms of water saving and increased yield in a wide range of horticulture, commercial and vegetable crops. The proper periodic care and maintenance of the micro system was important for its efficient operation. India had the largest irrigation network in the world; its irrigation efficiency had not been more than 40 per cent. Micro irrigation system had the greatest potential for the efficient use of water and fertilizers. Bring more area under drip irrigation system will largely depend upon efficient use of water. The study also concluded that the micro irrigation had most significant role to achieve not only higher productivity and water use efficiency but also to develop rural livelihood security.

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AREA, PRODUCTION AND PRODUCTIVITY OF COTTON IN COIMBATORE DISTRICT

Introduction

Agriculture in most developing economies is the core sector providing a livelihood to a significant proportion of the population, especially in rural areas. Since this sector faces the larger brunt of under employment, unemployment and poverty, a growing agriculture and allied sector is expected to contribute vastly to overall growth and poverty alleviation. Increasing the productive capacity of agriculture through higher productivity has been important goal in developing countries. (Subhalakshmi, 2006).

Cotton is one of the important ancient commercial crops of India. India is the third largest producer of cotton after the US and China in terms of land usage. Cotton seed oil has become a significant contributor to national edible oil pool. Cotton cultivation provides livelihood to several million farmers and several million people in trade, processing and textile industry besides in hybrid seed production. Cotton crop occupies nearly 5 percent of the gross cropped area which is one of the highest among the various cash crops.

The study of growth and instability of agriculture is important concept in estimating the future production, yield and area. With the help of these estimates, it is possible to take policy decisions to meet the future demands of the country. The increasing population creates a demand for agricultural commodities. To meet the future demand of agricultural production, it is essential to study the growth and performance of major commercial crops.

In view of the above discussion the present investigation was therefore undertaken in

- (a) Estimating the annual trend rates and extent of instability of cotton production.
- (b) Finding out the contribution of area and productivity in cotton production and
- (c) Examining the factors influencing the production of cotton.

Methodology

The area of study is restricted to Coimbatore district in Tamil Nadu, since Coimbatore district is the main contributor of cotton production in Tamil Nadu. Since the present study is based on time series data from 1991-92 to 2007-08, required data were collected from Season and Crop Reports of Tamil Nadu maintained by district statistical office. The following statistical tools were used to analyse the data.

(i) Exponential Growth function

The exponential growth rate of area, production and productivity were completed by fitting the exponential function of the

$$Y = AB^t$$

$$\text{Log } y = \text{log } A + t \text{ log } B$$

$$\text{Exponential growth rate} = \text{antilog } (B-1)$$

$$\text{growth Percentage} = \text{Antilog of } (B-1) \times 100$$

(ii) Instability Index

In order to study the instability in area production and productivity of cotton in Coimbatore district, the Coppock's instability index, coefficient of variation were estimated

Mrs. M. Mononmani, Associate Professor, Department of Economics,
Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore.

a. i

The algebraic form of it is

$$Vlog = \frac{\sum \log \frac{x_{t+1}}{x_t} - M}{N}^2$$

The stability index (I.I) = $\text{Antilog} \sqrt{Vlog - 1} \times 100$

- X_t = area, production/productivity of a crop in year (t)
 N = Number of years minus one
 M = The arithmetic mean of the difference between log of x_t and x_{t-1} , x_{t+1} and x_{t+2} etc.
 $vlog$ = the logarithmic variance of the series

(b) Coefficient of Variation

The relationship between standard deviation and arithmetic mean expressed in terms of percentage was found through coefficient of variation. It takes the form symbolically

$$Vlog = \frac{\frac{1}{N} \sum_{t=1}^n \left[\frac{x_i}{\bar{x}} - 1 \right]^2}{\bar{x}}^{\frac{1}{2}}$$

Where N refers to the total number of observations and x_i refers to the variables such as area, production and productivity of the crop and $\bar{x}$ is the mean of the distribution of the variables under study. If the coefficient of variation is less, it indicates that the data is more stable, more uniform, more consistent or more homogenous and vice-versa.

(c) Simple Decomposition Model

To measure the contribution of area and yield and its interaction towards increasing production of cotton in Coimbatore district, the following method was used

$$P = A_o (Y_n - Y_o) + Y_o (A_n - A_o) + \Delta A \Delta Y$$

Where

- P = Change in the production of cotton crop
 A_o = Area of cotton crop in the base year
 A_n = Area of cotton crop in the current year
 Y_o = Yield of cotton crop in the base year
 Y_n = Yield of cotton crop in the current year
 ΔA = Change in the area of cotton crop ($A_n - A_o$)
 ΔY = Change in the yield of cotton crop ($Y_n - Y_o$)

Where the first term in the equation is productivity contribution of cotton crop, second term is area contribution of cotton crop, third is interaction effect of both area and yield of cotton crop.

Result and discussion

A. Growth rates of area, production and productivity of cotton

Exponential growth rates of area, production and productivity of cotton were estimated for Coimbatore district for the reference period which is shown in table-1

Table- I
GROWTH RATES OF AREA, PRODUCTION AND PRODUCTIVITY OF COTTON IN COIMBATORE DISTRICT

District	Variables	Constant coefficient	Growth rate	R ²	' t' value	S. E
		(a)	(b)			
Coimbatore	Area	-0.094	-19.30	0.7142	-4.999	0.224
	Production	-0.113	-23.00	0.6231	-4.006	0.334
	Productivity	-0.021	-4.81	0.1649	-1.040	0.334

Foot Note: Calculations are based on data compiled from Season and Crop Reports of Tamil Nadu

*Significant at 1% level

The table above shows that all the variables such as area, production and productivity have registered a negative growth rate to the extent of 19.30 percent, 23 percent and 4.81 percent respectively over the years. The coefficient of determination R^2 showed that 71.42 percent, 62.31 percent and 16.49 percent of the variation in the above mentioned variables respectively were due to the influence of time factor and the remaining 28.58 percent, 37.67 percent and 83.51 percent of changes were incidental. From this, it is very clear that time factor had marginal influence over productivity changes.

B. Instability of area, production and productivity of cotton

In this study, an attempt is made to compute the magnitude of changes that have taken place in area, production and productivity by computing variability indicators such as co-efficient of variation (C.V) and Instability Index (I.I). The results are given in table- 2.

TABLE-2
INSTABILITY OF AREA, PRODUCTION AND PRODUCTIVITY OF COTTON IN COIMBATORE DISTRICT

variables	M	S.D.	C.V.	I.I
Area	82.18	27.41	33.35	48.77
Production	69.95	27.46	39.25	54.12
Productivity	83.28	15.27	18.34	43.33

Foot Note: Calculation are based on data compiled from season and Crop Report of Tamil Nadu

M = Mean
S.D = Standard Deviation
C.V. = Coefficient of variation
I.I = Instability index

From the variability indices calculated, it is understood that the magnitude or extent of variation (C.V.) was more for the production aspect of cotton. In other words increase in mean level of production (69.95 percent) was achieved with 39.25 as magnitude of variability.

The average area under cotton cultivation was 82.18 percent with 33.35 percent as its magnitude of variability. With regard to productivity performance, the average yield of cotton was 83.28 percent with the extent of variation as 18.34. The inconsistency was therefore more in area and production.

The instability indices of area, production and productivity of cotton did not show much difference. It was 48.77 percent, 54.12 percent and 43.33 percent respectively in the above mentioned variables.

Conclusion

In order to improve the cultivation of cotton crop in Coimbatore district the following suggestions are made to bring about remarkable change in term of area, production and productivity.

1. Provision of technical guidance and quicker certification system.
2. Ensuring quality pesticides by increasing the number of agro service center in the district to meet the increased demands of farmers.
3. Research and development efforts need to be made on improving the technology and make it more cost effective.
4. Imparting training to the farmers in aspects such as water management, layout selection, use of better inputs such as high yielding variety seeds, plant protection and irrigation.
5. More incentives should be given to increase the export of cotton fabrics by exploiting the potential in raising cotton production through improvement in yield in the district.

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AWARENESS AND EFFECTIVENESS ABOUT HIV/AIDS AMONG ADOLESCENT GIRLS IN TRIBAL VILLAGES OF NILGIRIS DISTRICT, SOUTH INDIA.

Introduction

According to UNAIDS/WHO, India has the largest number of HIV infected persons in the world. It was estimated that there were 3.31 million HIV infected persons in the adult population (15-49 years age group) in India, in the year 2001. If we take care of 20% variability of unaccounted numbers of men having sex with men, intravenous drug users and other age groups it will yield an estimate of 5.1 million HIV infected persons by the end of 2003. It has been observed that most of the individuals in community do not have correct and complete information about HIV/AIDS and its prevention. India is now in the grip of so-called type 4 pattern of AIDS epidemic which shifts from high risk group to the bridge population (clients of sex workers, STD patients) and then to general population, as a whole. According to HIV sentinel surveillance 2003, males account for 73.5% of AIDS cases and females 26.5%, the ratio being 3:1. It reveals that HIV infection has percolated in the general population.

Adolescents comprise 20 per cent of the global population, 85 per cent of whom live in the developing countries. Furthermore the adolescent population developing countries is expanding, with the number of urban youth growing to a projected 600 per cent between 1970 and 2025. Twenty one per cent (210 million) of India's population is in the age group of 10-19 years. Adolescence is a period of deep emotional changes. These changes unsettle a number of adolescents leading to an adolescent becoming unduly self conscious or somewhat imbalanced in responses which occasionally can last throughout life. Adolescence is also the period of experimentation which exposes the youth to health risks through drugs, alcohol, tobacco use, irresponsible sexual behavior and so on.

Specific Objective

1. To find out how HIV/AIDS infected individuals' awareness and react of adolescent girls in tribal villages of Nilgiris district with their own diagnosis.

Statement of Research Problem

During their development from boyhood to male adolescent, males are often expected to prove their masculinity to their peers to elders. The behavioral expression of masculinity is not determined by biology, it is largely acquired through socialization leading to the internalization of a set pattern of male attitudes and values. Adolescent girls learn their society's interpretation of masculinity from their parents, peers, the mass media and by observing the behavior of adults. The developmental processes of the childhood and adolescent years, combined with the traditional requirements with masculinity define the sexual script for many young girls. Several studies conducted on Indian adolescents have found that many adolescents particularly girls are sexually active and are likely to indulge in unsafe sexual activities making them vulnerable to STDs including HIV infection. According to estimate by UNAIDS, by the end of 1999, there were already 33.6 million people worldwide with HIV infection altogether more than four million children under the age of 15 years and more than 10 million young people (15-24 years) have been infected with HIV since the epidemic began. As per the official figures, the National adult prevalence of HIV/AIDS in India is approximately 0.36 per cent, amounting to between 2 and 3.1 million people or an average of 2.5 million people. This clearly indicated that the figure has all most come down to 50 per cent of the 2004 figure to 5.14 million. Unfortunately the needs of adolescents have not been addressed by the health system. Recently the reproductive child health programme has included all males and adolescent

R.Sundararaj, Ph. D, Research Scholar, Department of Economics, Periyar University Salem.

females as target groups. Hence efforts were taken to study the awareness of STD, HIV and AIDS among the adolescent girls in tribal villages of Nilgiris district in Tamil Nadu, South India.

Selection of Sample

An empirical study was conducted in the tribal villages of Nilgiris district, Tamil Nadu, South India during July 2011; 150 adolescent's girls were selected by adopting random sampling method. The objectives of the study are to study the sexual behavior among the adolescent girls and also reentry the awareness about STD, HIV and for the study.

Tools of Data Collections

For the preparation of the tool the work passed through the following phases:

1. Consulting, adolescent girl's counselors who are awareness in this field.
2. Referring the available literature on HIV/AIDS.

Interview schedule with 150 numbers of questions consisting of open ended and closed ended questions was used for collecting data from the respondents. This has helped to get first hand information through face-to-face interaction.

Sources of Data Collection

AIDS a pretested preformed was used for conducting individual interviews to document pattern of sexual behaviors and awareness about STD, HIV and AIDS. A descriptive study design was planned. Before commencing the study, a brief explanation of the purpose of the study was given by the investigators to the adolescent girls individually. Participation in the study was entirely voluntary. Each participant has maintained privacy in responding to the interviewers. The interview was conducted in Tamil language (Vernacular language in Tamil Nadu). The adolescents aged between 15-24 years were selected. The investigators visited the villages twice to connect the adolescent girls who were not available during the first visit.

Results and Discussions

Awareness about STD, HIV / AIDS

Table 1
Awareness about STD, HIV / AIDS

Diseases	Response	Number (%)
STD's	Yes	95(63)
	No	55(37)
HIV / AIDS	Yes	139(92.6)
	No	11(7.4)

As shown in the Table 1, out of 150 sample adolescent girls, 95(63%) are aware of sexually transmitted diseases (STDs) and the rest 55(37%) are not aware of the diseases. In respect of the awareness about HIV/AIDS, 139(92.4%) respondents have knowledge and the remaining 11(7.4%) have no knowledge. These findings indicated that without any intervention like health education or special awareness programme knowledge about AIDS and its major routes of transmission among the adolescent girls is quite high. This may be attributed exposure of mass media.

Table 2
Sources of information about HIV / AIDS

Sources	Number (%)	Rank
Television	97 (64.6)	1
Newspapers	79(52.3)	2
Radio	66 (44.0)	3
Pamphlets	63(43.0)	4
Friends and Relatives	64 (42.6)	5
Teachers and Doctors	60(40.0)	6

It could be seen from the Table2 that Sources of information about HIV / AIDS. Television is the main Sources of information about HIV / AIDS, followed by Newspapers. The third rank assigned by the sample adolescent girls to Radio. Pamphlets are the fourth Friends and Relatives are placed fifth rank. Least rank Sources of information about HIV / AIDS is Teachers and Doctors. Verma in his reproductive health issues on girls mentions that films' and Television as media channels through which girls were enlightened about reproduction. Moreover she mentions street becoming libraries knowledge of sex and sometimes even laboratories.

Table 3
Awareness about prevention of HIV / AIDS

Avoiding CSW/ MSP	52	1
Using Condoms	95	2
Avoiding of Blood Transfusion HIV patients and infected needles	92	3
Master bastion	73	4
Homosexual	44	5

Table 3 highlights the Awareness about prevention of HIV / AIDS. Avoiding Commercial Sex Workers (CSW) and masterful and sex partners the main measures prevent HIV / AIDS followed by the use of Condoms. Avoiding of Blood Transfusion HIV patients and infected needles placed third rank fourth rank assigned to avoid Master bastion. Least rank given by sample adolescent girls in order prevent are avoid Homosexual.

Conclusion

The findings of the present study indicate the urgent need for educational interventions. Correct scientific information should be disseminated to adolescent girls in tribal villages of the country both formal informal settings so that they do not pick up sexual myths misconception from their peers and elders. Other may not have been very freak in replying to queries. since Awareness is the only key to the prevention of HIV / AIDS, there is urgent need increase the Awareness about HIV / AIDS specially among low socio economic, illiterate people of the community using all methods of mass media and intensive information, education communication (IEC) activates by use of local flock media.

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FUTURE TRENDS OF IRRIGATION DEVELOPMENT IN COIMBATORE DISTRICT, TAMIL NADU.

Introduction

Water plays a vital role in agricultural and allied activities. In Indian economy agriculture is predominant. It's comprising nearly 70 per cent of peoples are engaged and 40 per cent of their national income earned. Instead of the country growing population had increased in manifold, the growth of water resources had remain stagnant for the last many years and without increase in water supply higher Gross Domestic Product could not be achieved. It is important for us to recharge our water bodies.

Several economists identified water availability of irrigation brings positive changes in the agricultural production as well as productivity. In Coimbatore districts progress depends on agriculture and agro based industries like textile industries, sugar industries, paper mills and oil industries are required of raw materials of cotton, sugarcane, bamboo and coconut respectively. These agricultural production is depends on various sources of irrigation. In which source of irrigation lead the role in Coimbatore district.

Section I briefly introduces the necessities of water in Coimbatore district. Section II explains the strategic framework undertaking of government of India to initiate in increase the irrigation facilities. Section III to enhance the subject matter of relevant reviews. Section IV to analyses the objective and need to have a re-look of various sources of irrigation. Section V is conclusion.

Objectives

- To estimate the sources of irrigation in Tamil Nadu 2000 - 2010.
- To compare the district wise percentage of net area irrigated to net area sown in Coimbatore and other districts of Tamil Nadu (2009 - 10).
- To compare the various sources of irrigation in Coimbatore and other districts of Tamil Nadu (2009 - 10).

Sakurai and Palanisami (2001) study compare the efficiency of rice production between tank and well irrigation in order to explore an appropriate management for water. This study indicates that the combined use of tank and well water is more profitable as compared to farmers who use well water only or tank water only; so that neither tank or well will dominate the supply of water. Both will coexist in an evolutionary stable equilibrium.

Asian continent have a most population in the world. It had 60 per cent of the world people and followed by Africa with 12 per cent of the world people. These two continents face a problem of growing population to meet out their food and water. Irrigation is stagnant across the Asian continent. Instead of Africa have sufficient irrigation potential.

The world population is growing an 80 million people per year, implied increase freshwater demand of about 64 million cubic meters per year. An estimated 90 per cent of the 3 billion people who are expect to be added to the population by 2050 will be in developing countries, several regions where the current population do not have sustainable access to potable drinking water and adequate sanitation.

The system of irrigation may be classified in to five types such as Canals, tanks, tub wells, ordinary wells and other sources. In table 1 envisages that surface irrigation like Canals and Tanks are contribute nearly 50 per cent as compared to tub wells and ordinary wells sources of irrigation in 2000 - 01. The net area irrigated under canals and tanks has declined from 28.86 per cent and 20.37 per cent 2000 - 01 to

P. Arunachalam, Assistant Professor,
Department of Economics, Madurai Kamaraj University College, Palani

26.11 per cent and 17.56 per cent in 2009 – 10 respectively, while there has been big growth in ground water development like tube wells and ordinary wells. As a result, ground water irrigation predominant in agriculture; more than 55 per cent total net irrigated area of the State comes under this type during 2009 – 10. The total net area irrigated under others sources of irrigation declined from 0.55 per cent to 0.31 per cent during the analysis period.

**Table 1 Districts – wise percentage of Distribution of Area Irrigated by Various Sources
2009 – 10.**

Sl. No.	Districts	Canals Percentage to the total net area Irrigated by the Canals in the State	Tanks Percentage to the total net area Irrigated by the Tanks in the State	Tube wells & other wells Percentage to the total net area Irrigated by the T. & Other wells in the State	Open wells Percentage to the total net area Irrigated by the Open wells in the State	Other Sources Percentage to the total net area Irrigated by the Other Sources in the State
1	Kancheepuram	0.03	13.60	1.86	2.53	0
2	Thiruvallur	0.13	2.61	15.48	1.13	0.21
3	Cuddalore	6.22	1.14	20.51	0.77	7.52
4	Villupuram	0.24	10.89	10.67	11.48	0
5	Vellore	0	0.69	3.66	5.95	0
6	Thiruvannamalai	0.08	3.85	0.44	10.09	0
7	Salem	0.26	0.03	3.21	7.71	0
8	Namakkal	0.64	0.02	2.28	4.55	47.26
9	Dharmapuri	0.04	0.53	0.64	4.86	0
10	Krishnagiri	0.13	1.35	3.24	2.57	0
11	Coimbatore	2.89	0	7.31	5.51	12.45
12	Thiruppur	5.42	0.29	4.68	5.03	0
13	Erode	9.49	0.01	5.44	3.53	12.67
14	Tiruchirappalli	5.39	0.80	1.78	4.04	0
15	Karur	1.97	0	1.55	3.09	0
16	Perambalur	0	0.49	1.13	1.78	0
17	Ariyalur	1.21	0.70	4.77	0.43	0
18	Pudukkottai	0.80	14.92	7.99	0.54	0
19	Tanjore	17.77	0.05	11.06	0.08	0
20	Tiruvarur	19.89	0	0	0	0
21	Nagappattinam	16.34	0	0	0.10	10.30

Source: Season and Crop Report of Tamil Nadu for the Agriculture year 2009 – 10 Fasli 1406, Department of Economics and Statistics, Chennai, p.108

Table 1 shows district-wise percentage of net area irrigated to net area sown in 2009 – 10. In the 2000 – 01 the ratio of net irrigated area sown is low as compared to 2009 – 10. It indicated variation of in terms of extent of irrigation among the districts of the state. In Thiruvavur district lead in 96.45 per cent in extend of sown area irrigated. Whereas in lowest percentage is accounted by the Nilgiris District in 0.52 per cent. Instead of more than that of state averages is found in Coimbatore as followed by thirteen districts. It indicates that Coimbatore was large producers in agriculture products in Tamil Nadu.

In South India tank irrigation play vital role in agriculture production. Tamil Nadu is one of Southern States; it's had a long history of tank irrigation. There is considerable variation in terms of irrigated under tanks, number of tanks and their size of tanks. Pudukkottai district accounts for 14.92 per cent of net area irrigated under tank irrigation followed by Kancheepuram district secured in 13.6 per cent and Sivagangai district constitute of 12.81 per cent. Many studies on tank irrigation found that the area under tank irrigation has been declining except few years since 2000 – 01. Instead of Coimbatore district tank irrigation is absent. It indicates dependency of tank irrigation is zero. Therefore found that the irrigation facilities of Coimbatore had a secured irrigation.

The open wells are highly situated in Villupuram account of 11.48 per cent, followed by Thiruvannamalai district had 10.09 per cent and Dindigul district magnitude of 8.03 per cent. The net area irrigated under other sources of irrigation which lead in Namakkal district constitute of 47.26 per cent followed by Erode district 12.67 per cent and Coimbatore district received in 12.45 per cent during the analysis period. Several studies quoted in large farmers only have for wells irrigation. Because of those formers are ready to spend their money in built in wells as well as bump sets. Instead of small farmers can not able to invest that much amount. Wells irrigation creates burning problems of exploitation of ground water level in private ownership.

Conclusion

Irrigation plays a role in prerequisite for augmenting growth of agriculture production. It has to provided that intensity of cultivation and improved land productivity is depends on among the different sources of irrigation. In well irrigation had a definite sources of irrigation and other sources and all depends on monsoon. In Coimbatore districts had a high secure irrigation facility in well. It found that extracting of ground water in future generation entirely affected. Because of tank storage is absent; ground water recharge sources are affected. Try to keep utilize the ground water and without affects of future generation to attain sustainable development in this region.

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THE TURMERIC CULTIVATION AND ITS ECONOMIC BENEFITS OF THE ERODE DISTRICT

Introduction

Turmeric is one of the most admired and well accepted spices of India. It is also popular for its medicinal values, utilized as part of home remedy. Turmeric is literally added almost in every dish prepared and cooked in India. Further, it is also regarded by the Hindus as something 'sacred' for use in ceremonial and religious functions. The spice turmeric or 'Haldi' consists of the dried, boiled, cleaned and polished rhizomes (the underground swollen stem of the plant) of the whole turmeric plant. The plant's most sensed ingredient is curcumin and it owns an earthy, bitter, peppery flavour, accompanied by a 'mustardy' smell. Turmeric has always been utilized in its ground and mashed format. India is the largest producer, consumer and exporter of turmeric in the world. Indian turmeric is considered to be the best in the world market because of its high curcumin content. India accounts for about 80 per cent of world turmeric production and 60 per cent of world exports.

Turmeric is an annual spice crop. It is also called as "Indian saffron". It is valued for the combination of flavour and yellow colouring power while it was formerly employed also as a yellow dyestuff for textiles. It is an essential ingredient of many curry recipes and it is in this application usage is greatest on a global basis. Almost all Indian vegetable and meat dishes use turmeric either as separate spice or in the spice mixture. It possesses anti-inflammatory actions, anticancer properties, antioxidant properties, anti-viral, anti-microbial, anti-parasitic activity and lowers cholesterol levels in kidney and liver tissue. The powder is legendarily acknowledged to maintain its colouring properties indefinitely, although its quintessential flavour will ebb with time. As such, one is mostly recommended to buy with moderation and after much thinking. As also acknowledged from historical times, uses of turmeric in India also have charted the domains of good looks and beautification amongst the fair sex.

Cultivation Practices

Turmeric (*Curcuma longa*) (Family: Zingiberaceae) is used as condiment, dye, drug and cosmetic in addition to its use in religious ceremonies. India is a leading producer and exporter of turmeric in the world. Andhra Pradesh, Tamil Nadu, Orissa, Karnataka, West Bengal, Gujarat, Meghalaya, Maharashtra, Assam are some of the important states cultivates turmeric, of which, Andhra Pradesh alone occupies 35.0% of area and 47.0% of production.

Preparation of land

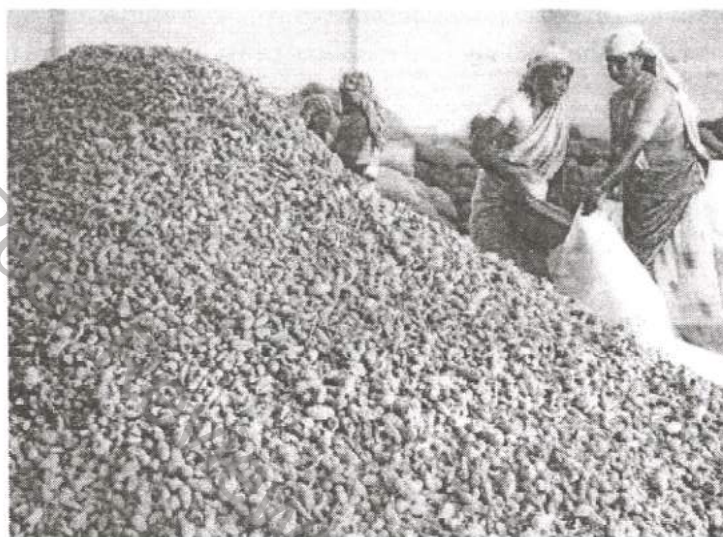
The land is prepared with the receipt of early monsoon showers. The soil is brought to a fine tilth by giving about four deep ploughing. Hydrated lime @ 500 kg/ha has to be applied for laterite soils and thoroughly ploughed. Immediately with the receipt of pre-monsoon showers, beds of 1.0 m width, 15 cm height and of convenient length are prepared with spacing of 50 cm between beds. Planting is also done by forming ridges and furrows.

S. Ramakrishnan, Assistant Professor

Department of Economics, Kodaikanal Christian College, Kodaikanal.

Seed material & Harvesting

Whole or split mother and finger rhizomes are used for planting and well developed healthy and disease free rhizomes are to be selected. Small pits are made with a hand hoe on the beds with a spacing of 25 cm x 30 cm. Pits are filled with well decomposed cattle manure or compost, seed rhizomes are placed over it then covered with soil. The optimum spacing in furrows and ridges is 45-60 cm between the rows and 25 cm between the plants. A seed rate of 2,500 kg of rhizomes is required for planting one hectare of turmeric. Depending upon the variety, the crop becomes ready for harvest in 7-9 months after planting during January-March. Early varieties mature in 7-8 months, medium varieties in 8-9 months and late varieties after 9 months. The land is ploughed and the rhizomes are gathered by hand picking or the clumps are carefully lifted with a spade. The harvested rhizomes are cleared of mud and other extraneous matter adhering to them.



- File Photo: M. Govarthan **Women engaged in cleaning turmeric.**

Processing (Curing & Drying)

Fresh turmeric is cured for obtaining dry turmeric. The fingers are separated from mother rhizomes. Mother rhizomes are usually kept as seed material. Curing involves boiling of fresh rhizomes in water and drying in the sun. In the traditional method of curing, the cleaned rhizomes are boiled in water just enough to immerse them. Boiling is stopped when froth comes out and white fumes appear giving out a typical odour. The boiling should last for 45-60 minutes when the rhizomes turn soft. The stage at which boiling is stopped largely influences the colour and aroma of the final product. Over cooking spoils the colour of the final product while under-cooking renders the dried product brittle.

The cooked fingers are dried in the sun by spreading them in 5-7 cm thick layers on bamboo mats or drying floor. A thinner layer is not desirable, as the colour of the dried product may be adversely affected. During night time, the rhizomes should be heaped or covered with material which provides aeration. It may take 10-15 days for the rhizomes to become completely dry. Artificial drying, using cross-flow hot air at a maximum temperature of 60 degree centigrade also gives a satisfactory product. In the case of sliced turmeric, artificial drying has clear advantages in giving a brighter coloured product than sun drying which tends to undergo surface bleaching. The yield of the dry product varies from 10-30% depending upon the variety and the location where the crop is grown.

Polishing & Colouring

Dried turmeric has a poor appearance and a rough dull outer surface with scales and root bits. The appearance is improved by smoothening and polishing the outer surface by manual or mechanical rubbing. Manual polishing consists of rubbing the dried turmeric fingers on a hard surface. The improved method is by using a hand operated barrel or drum mounted on a central axis, the sides of which are made of expanded metal mesh. When the drum filled with turmeric is rotated, polishing is effected by abrasion of the surface against the mesh as well as by mutual rubbing against each other as they roll inside the drum. Turmeric is also polished in power operated drums. The yield of polished turmeric from the raw material varies from 15-25%. The colour of the processed turmeric influences the price of the produce. For an attractive product, turmeric powder (mixed with little water) may be sprinkled during the last phase of polishing.

Suggestions & Conclusion

The basic fact of Indian agriculture is that more than three fourths of Indian farmers cultivate two hectares or less, with only one third of their land receiving irrigation and they are mostly risk averse at such margin of subsistence.

The Turmeric growers suffering with problems on various aspects like monsoon failures, lacks of technology, storage problem, problems with private vendors and intermediaries. Generally the Turmeric growers are cultivating varieties of Turmeric depending on the soil conditions. Due to poor literacy, they are very weak in marketing their products. The majority of Turmeric growers depend only on intermediaries to sell out their products.

Efforts are needed from all concerned institutions for introducing incentives and loan repayment scheme for farmers, reducing interest on all agricultural loans, covering the national agricultural insurance scheme, increasing the scope and coverage of price stabilisation fund, and strengthening the agricultural extension support by the government

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FOOD SECURITY IN KONGU REGION – AN OVERVIEW

The euphoria of green revolution and related measures started fading with time and there has been a progressive decline in public investment in agriculture during 1960 and 2009. There have been challenges and gaps in tackling the problem of poverty and hunger across the states in the country. Although India has been able to eradicate famine or has reduced the risks of famine like situation through its public distribution system (PDS) network the food sufficiency, quality and nutritive value of food grains have now emerged as a considerable challenges along with the related issues of poverty and nutrition. The debates are also on above the possible adverse impact of climate change over the years on the agriculture sector towards sustaining the agro produce. In this context, the planners, policy makers and researchers have been exploring ways and means to ensure food security to the study areas of the people.

The problem of food security cannot be viewed only in terms of procurement and distribution of food. It should also be seen in the context of production of food grains, livelihood of people and overall management of food economy. Agricultural development during the green revolutionary period was largely supply driven, backed by policy support sincere efforts of agricultural scientists and the hard working farmers who positively responded to the new technology. By contrast agricultural development in the last two decades to a greater extent has been driven by demand side factors.

Now a large number of households especially living in rural areas and urban slums, are not able to get adequate quantity of food and thus suffer from chronic poverty and hunger. They face both supply and demand side constraints in getting access to food which could be removed through enhancing food production and productivity removing the bottlenecks is the distribution and management of food grains, generating more employment opportunities to the poor people and improving their livelihood through policy interventions.

AREA PRODUCTION AND YIELD OF PRINCIPAL CROPS

Years	Area (Lakhs hectare)	Production (Lakh Tonnes)	Yield (kg / hectare)
2002-03	65.13	121.8	15987
2003-04	66.59	115.77	15886
2004-05	81.07	112.11	18324

Area of principal crop has increased from 65.13 to 81.07 lakhs hectare during the period. In spite of this, there is showing the inverse declining trend in production which is accounting to 121.81 lakh tonnes to 112.11 lakh tonnes. But the yield of food grains has fluctuated due to input and other factors. Because the farmers were motivated to go in for short duration varieties which is remunerative alternative crop for food grains. Improvement in the productivity of crops played major role in enhancing the production during the year.

R.Uma Maheswari, Ph.D Research Scholar,
Department of Economics, Sri Vasavi College, Erode

DISTRIBUTION OF RAIN FALL IN KONGU REGION (2003-04)

District	June-Sept		Oct-Dec		Jan-Feb		Mar-May	
	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual
CBE	192.9	90.1	327.0	305.4	26.1	16.7	148.4	202.0
Erode	213.1	136.1	323.5	347.2	20.7	1.8	154.1	326.7
The Nilgiris	1060.0	577.0	367.7	471.3	30.8	49.2	237.2	427.9
State	331.5	336.5	464.6	403.1	37.4	11.6	128.4	283.4

Source: Directorate of Economics and Statistics, Chennai

The tables reveals that the distribution of rainfall in Kongu Region in the year 2003-04 which is the most important factor to determine the food security to the people. The overall performance of rainfall is showed the below level of state level rainfall. While we compare the level of rainfall between Kongu Region and Tamil Nadu state, the rainfall has raised than the Kongu Region. During the rain fall season Oct-Dec The Nilgiris got more rainfall than the state and other two districts got low level accounted as 305.4 in Coimbatore 347.2 in Erode. Whereas other period, the rainfall is getting low level during the period.

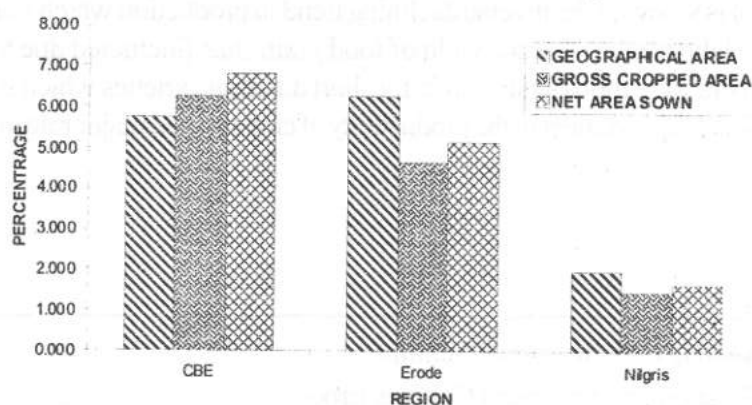
LAND UTILIZATION BY KONGU REGION (2003-04)

Region	Geographical Area		Gross Cropped Area		Net Area Sown	
	Hectares	Percentage	Hectares	Percentage	Hectares	Percentage
CBE	747079	5.731	331932	6.244	318988	6.803
Erode	816191	6.261	247161	4.649	242665	5.175
Nilgiris	254485	1.952	78408	1.475	78274	1.669
State	13036645		5316027		4689156	

Source: Directorate of Economics and Statistics, Chennai.

The above table shows that the land utilization by Kongu Region in the year 2003-04 on the basis of land and population the districts has utilized the land for the cultivation to meet their food security. Accordingly, the region has accounted as per their geographical area. Among the districts, Coimbatore has utilized more than that of other districts. But which is accounted less than the state level. It may be due to the land has declined towards the commercial purpose and urbanization.

LAND UTILIZATION BY KONGU REGION (2003-04)

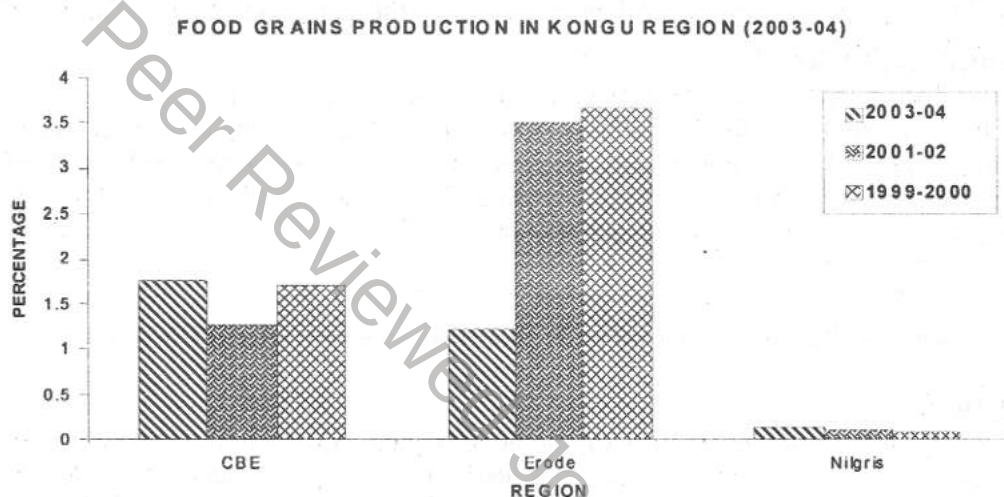


FOOD GRAINS PRODUCTION IN KONGU REGION (2003-04)

Region	2003-04		2001-02		1999-2000	
	Hectares	Percentage	Hectares	Percentage	Hectares	Percentage
CBE	75699	1.756	97017	1.262	149710	1.693
Erode	52456	1.217	268811	3.496	324170	3.666
Nilgris	5679	0.132	8525	0.111	8020	0.091
State	4312023		7688861		8842400	

Source: Directorate of Economics and Statistics, Chennai.

The above table express the food grains production in Kongu Region in the year 2003-04. It is stated that the current year food production has statistically declined in all districts because of the land utilization has decreased due to commercial activities and urbanization. It is clearly stated that the food grains will be shorted to the people for forthcoming years. Therefore, the state and regional administrations should be concentrated on food production and monitor its food security to the people.



Sum-up

The current food stock position is uncomfortable, we need to ensure that the position will not be continued in the next year. In the coming season, we have to procure food production to meet the targets for each region, districts and states. Therefore the centre and state governments must involve themselves and motivate the regional cultivation in this important endeavor. And the need is for us to act promptly, collectively and effectively.

A STUDY ON THE PROBLEMS OF GOODS TRANSPORT OPERATORS IN COIMBATORE DISTRICT

Introduction:

Transport economics studies the **allocation of resources** used to move passengers and freight from place to place. A **transport mode** is a method of moving passengers or freight. The main transport modes are road, rail, sea, air and pipelines.

Transportation development is closely connected with scientific and technological progress. During the past two hundred years important and rapid changes have taken place; in the eighteenth century canal and road were constructed; in nineteenth century railways and steamship appeared; and in present century motor transport and air transport have been developed.

Lorry transport:

Lorry transporters provide third party logistics (3PL) services, transportation management, device programming, demand planning, logistics network management and reverse logistics solutions along with logistics assessment. Their services are connected network and logistics capabilities to provide end-to-end services to customers. Further, these logistics centers ensure products are delivered to customers at the right time to the right place and maintain the inflation in control. Also Customers can enjoy seamless order processing, fast and efficient shipment and flexible inventory management and maintain situation all over the country. The business growth will be possible only through good transport facility.

Lorry transport agencies:

There are alternatives available to consumers when they prefer to use lorry transport. In this context, it becomes important for the business group to know the changing preference of consumers. It is all the more important when more number of persons/firms are waiting to enter the market. In such a situation, the reaction of lorry transport agencies to a few interventions like, increase in the price of diesel has been elicited to make an analysis on selected issues.

Objective:

- To understand the impact of diesel price hike on the business selected lorry agencies.

Research Design:

The study was conducted in the Coimbatore city. This is known for the textile mills and large business houses. As the business growth is accompanied by a good transport facility. So, that the Coimbatore region has been as the study area.

As the population is unknown and a convenience sampling method was adopted to select the sample. From the lorry owners association, Coimbatore the number of lorry agencies was 421 out of them 90 agencies was selected to collect the data.

Questionnaire was the instrument used for collecting the information and data from the respondents. The data were analyzed by using percentage and chi-square test.

Results:

Around 31 respondents (34.4%) were in the age group of 25-30 years. Between 31 and 50, there were 34 respondents (37.7%). Ten were above 50 and the remaining 15 (16.6%) were younger below 25 years

Majority of them (48%) found having their agency for more than six years; another 20 respondents (22.2%) had an experience of 4 to 6 years, followed by 2 to 4 years by 15 and less than two years by 12 (13.3%). Out of 90, for 50 respondents it is first time to start their lorry operators. The rest 40 get it from their family.

K. Karthikeyan, Department of Economics, PSG College of Arts & Science, Coimbatore.

Table 1

CLASSIFICATION OF RESPONDENTS ON THE BASIS OF CAPITAL INVESTED

Capital Invested	Number of Respondents	Percentage
Rs.30,00,000 to Rs.50,00,000	8	8.89
Rs.50,00,000 to Rs.75,00,000	20	22.22
Above Rs.75,00,000	62	68.89
Total	90	100

Table - 2

CLASSIFICATION OF RESPONDENTS ON THE BASIS OF SOURCE OF FUND FOR THEIR BUSINESS

Fund	Number of Respondents	Percentage
Own Fund	1	1.11
Borrowed Fund	0	0.00
Both	89	98.89
Total	90	100

Conclusion:

It was found that the selected lorry agencies were facing many problems due to increase in the price of diesel and road tax. The new entrants in this business should study about borrowed funds and interest, competition, continuous price hike, the time of allowing lorries inside the city and hike of insurance premium amount. Keeping in view of the deficiencies of transport operators, the government should take necessary steps to maintain economic stability in this area.

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SOCIO-ECONOMIC STATUS OF WOMEN LIVING IN SLUM AREAS OF COIMBATORE

Coimbatore is one of the most industrialised cities in the state of Tamilnadu. Popularly known as "The Textile Capital of South India" or "The Manchester of the South", the city is situated on the banks of the river Noyyal. Located in the shadow of the Western Ghats, Coimbatore enjoys a very pleasant climate the year round, aided by the fresh breeze that flows in through the 25 kilo meter long Palakkad gap. The rich black soil of the region has contributed to Coimbatore's flourishing agriculture industry and, it is in fact that the successful growth of cotton that served as a foundation for the establishment of its famous textile industry. The first textile mills came up as far back as 1888 but there are now over a hundred mills. The result has been a strong economy and a reputation as one of the greatest industrial cities in South India. Coimbatore is the Headquarters of the District and the third largest city in Tamil Nadu. Coimbatore is also known for the manufacture of motor pump sets and varied engineering goods. The city is also known for its handloom products. There are a number of technical institutions as well. This place is also known as Kovai.

According to 2005 Census Report, the Coimbatore has a population of 10,24,209 out of which 5,25,824 are male and 4,98,385 are female. Out of the slum population of 1,25,433 male are 62,993 and female are 62,440. The paradox of economic growth in the urban area is the growing urban poor. In spite of Coimbatore's role in the economy of the region, urban population and especially the urban poor faces serious problem.

In this background it is proposed to conduct a study on the socio-economic status of slum women with the following objectives.

Objectives

- To understand their problems in slums.
- To give suggestions to overcome their problems.

Methodology

The study is mainly based on the primary data. The sample for the study consisted of 731 women from four different slum areas of Coimbatore. Women respondents were selected randomly and data was collected with the help of an interview schedule. Percentage analysis was applied for the data collected from the respondents.

Results and Discussions

Data was analyzed for age, educational status, community, marital status, number of children, family size, type of family, type of house, nature of housing, work, occupation, monthly income of the respondents, family income, type of assets, monthly expenditure of the family, saving and debt. The results are discussed below.

Age composition

The highest number of respondents belong to the age group of below 20 years and 41-60 years ranging to 26 per cent each, 24 per cent of the women respondents are in the age group ranging between 21-40 years, 23 per cent are in the age group of 61 years and above.

Ms.A. Thiruvankateswari, Ph.D. Research Scholar, & **Dr. M. Nagesh Kumari**, Assistant Professor, Department of Economics, PSGR Krishnammal College for Women, Coimbatore.

Education composition:

Majority (70 per cent) of the respondents are illiterates. Only 10 per cent of the respondents are with the primary level education, 8 per cent of the respondents are with the secondary level education, 2 per cent are with Higher Secondary. And only one per cent of the respondents completed post graduation.

Community Composition:

Majority (55 per cent) of the respondents belong to Scheduled community/Scheduled Tribal community, followed by Backward community with 28 per cent, 16 per cent belong to Most backward community whereas only one per cent of the respondents are from Forward community.

Marital Composition

Majority of the respondents are married, 15 per cent are widows, 1 per cent are divorced and 1 per cent are separated. Out of the selected respondents only six per cent are unmarried.

Family composition

Majority (94 per cent) of the respondents have children but very few are educated. Comparatively many live in nuclear families(77 per cent). Majority (88 per cent) of the respondents belong to the family with a size of up to 4 members, and for 10 per cent of the respondents the family size ranging between 5-8 members. And for only 2 per cent the family size ranging between 8-10 members.

Work and occupational composition:

Majority (63 per cent) of the respondents are working. Though 26 per cent are servant maids, 20 per cent are goldsmiths, 16 per cent are labours, 5 per cent are coolies and 2 per cent are Municipality workers, 31 per cent are self-employed with petty shops, tailoring, basket making, washing clothes for lodges, hospitals, vegetables and flower sales.

Income composition

For 55 per cent of the respondents have a monthly income range of rupees less than 2500, 43 per cent of respondents have a monthly income range of rupees 2501-5000 and only for 2 per cent of the respondents the monthly income range is above rupees 5001. For 54 per cent of the respondents the family income per month is less than rupees 5000, where as for 43 per cent the income range between rupees 5001- 10000 and only for 2 per cent of the respondents the family income range between rupees 10001 - 20000.

Housing

The selected respondents are living in katcha and semi-pucca houses. Katcha refers to mud, straw, card board, plastic and other traditional construction materials. Semi-pucca is a local term for a house with material such as bricks and concrete. Majority of the respondents are residing in semi- pucca houses, followed by thatched houses. Only 3 per cent of the selected respondents are residing in the katcha houses. The type of dwelling is an indicator of the economic status of the individual and can help to gauge the economic situation of the respondents. Out of total respondents 83 per cent are living in their own houses (in some cases poramboku land) and only 17 per cent of the respondents are living in rented houses.

Assets

Majority of the respondents have fixed assets like land and house, movable assets like jewels, cattle, and two and three wheelers and 7 per cent have no assets.

Monthly Expenditure and saving

For majority of the respondents monthly expenditure range between rupees 2001 to 4000, but for 4 per cent the monthly expenditure is less than 2000. And for only 3 per cent of the respondents the monthly expenditure range between rupees 4000 to 6000 and greater than rupees 6001. Majority did not have saving. Out of 159 respondents 25 per cent have a saving amount of less than rupees 5000, 21 per cent possess saving between rupees 10,001 to 15000, 19 per cent possess each towards the saving between rupees 5001 to 10,000, and greater than rupees 20,001. Regarding the source of saving more than 50 per cent of the respondents are having their saving with friends and relatives. Only 25 per cent saving in nationalized banks.

Debt

Only 27 per cent have debt burden. Out of 194 respondents 37 per cent have debt of rupees 10,001 to 50,000, 33 per cent have the debt of less than rupees 10,000, 16 per cent a debt range between rupees 50001 to 1,00,000. But for 14 per cent of the respondents the debt range rupees 1,00,001 and above. For majority of the respondents the debt burden is due to medical expenditure. Only for 6 per cent the debt is due to educational expenditure. For majority private banks are the main source of borrowing, followed by friends and relatives.

Problems of the respondents

Poor living conditions with high density of population, garbage dumping, open drainage, lack of basic necessities like bath rooms, toilet, drinking water facilities are the main problems for the slum people in the selected areas.

Suggestions and conclusion

The quality of slum areas and the population should be concerned by the local body governments and non-governmental organizations, educational institutions with the help of National Service Scheme volunteers and Women and Child Care units. It is concluded that the ground root treatment will definitely bring light in the life of slum people.

CROPPING PATTERN UNDER DIFFERENT SOURCES OF IRRIGATION IN BHAVANI BLOCK, ERODE DISTRICT

Introduction

Water is a key factor in increasing agricultural production. About 78 percent of India's water resources are used for agriculture out of this only 50 percent is actually used by plants and the remaining water resources are wasted either as deep percolation or as evaporation. Irrigation is the basis for the cultivation of crops and thus forms the backbone of the agricultural sector. When irrigation is assured and consistent it will help enormously in the cultivation of food crops especially paddy, cereals and pulses, apart from sugar cane and others. On the other hand, when dry farming dominates the agricultural sector in the region, then the proportion of area under the crops like groundnut, mango and others will not require consistent irrigation.

Several studies have documented the vital roles played by irrigation and the Green Revolution in transforming traditional agriculture in Asia, and particularly, in India. Irrigation investments along with high-yielding varieties and other improved inputs have contributed to faster growth in agricultural productivity. In India estimate a total factor productivity growth of 2.21 percent, 3.1 percent and 1.58 percent per year (1970-94) for irrigated (>25 percent of cropped area irrigated), and high and low potential rainfed districts (<25 percent of cropped area irrigated) respectively. Coupled with favorable input-output pricing and marketing policy, and investment in infrastructure, this has contributed significantly to accelerating the transition from deficiency to national surplus in the major food staples, rice and wheat. Increased productivity has also been associated with reduction in levels of rural poverty during this period (Hazell and Fan, 2001).

Statement Of The Problem

Cropping pattern in an economy is an important factor that determines the quantum of output, marketed surplus, price level, etc. changes in cropping pattern takes place due to various reasons, like natural factors, technological factors, institutional factors, political factors and also economical factors. In an economy, where more than 60 per cent of the total population is depending on agriculture for their livelihood, it is imperative that there is no any undue changes take place in that sector as that could serious impinges their lives. But, in the recent past, cropping pattern has been changing at both macro and micro levels in India. Thus, it becomes inevitable to analyze the cropping pattern changes in the agricultural sector.

Objective

1. To study the cropping pattern under different sources of irrigation in the study area

Methodology

This study was based on the primary data only. The primary data have been collected through well structured interviewing schedule from Urachikottai village in Bhavani taluk of Erode district. The study randomly covered 60 respondents. Erode district predominantly agrarian in nature, is emerging gradually but steadily as an Industrially Promising District. All the sample farmers own pump sets and care has been taken to include all types of farmers, according to their size of land holdings, community and also educational level. The collected data was analyzed by using descriptive and inferential statistics.

Dr. D. Janagam, Assistant Professor & **A. Saravana Kumar**, Ph.D., Research Scholar,
Department of Economics, Periyar University, Salem.

Results And Discussion

Table -1 Farm Size and Depth of Well

Farm Size (in acre)	Upto 75	76-200	201-300	Above 300	Total
Upto 4.0	15 (78.9%)	3 (15.8)	1 (5.3%)	-	19 (100%)
4.1-5.0	10 (55.6%)	-	4 (22.2%)	4 (22.2%)	18 (100%)
5.1-7.5	4 (57.1%)	-	2 (28.6%)	1 (14.3%)	7 (100%)
7.6-10.0	1(11.1%)	-	6 (66.7%)	2 (22.250)	9(100%)
Above 10	4 (57.1%)	1 (14.3%)	1 (14.3%)	1 (14.3%)	7(100%)

Source: Primary data

Table 1 reveals that during the survey, it is found that depth of wells of farming households ranges from below 75 feet to above 300 feet. Of the depth of wells upto 75 feet, about three-fourth belong to farming households which are having less than 5 acres of land. Of the depth of wells of above 300 feet, 37.8 percent belong to farming households who are having more than 7.5 acres of land and 14.3 percent have between 5.1 and 7.5 acres of land. Wells having depth between 76 feet and 200 feet, three-fourths owned by sample farming households having less than 4 acres of land. It indicates that due to the shortage of water to irrigate crops and drying up of wells, the households put dug and bore wells and tube wells or increase the depth.

Table-2 Farm Size and Capacity of Pump Sets

Farm Size (in acre)	Less than 3	3	3.5	5-10	Above 10	Total
Upto 4.0	1 (5.3%)	4 (21.1%)	12 (63.2%)	2 (10.5%)	-	19 (100%)
4.1-5.0	-	1 (5.6%)	10 (55.6%)	7 (38.9%)	-	18 (100%)
5.1-7.5	-	-	2 (28.6%)	5 (71.4%)	-	7 (100%)
7.6-10.0	-	-	3 (33.3%)	5 (55.6%)	1 (11.1%)	9 (100%)
Above 10	-	-	2 (28.6%)	4 (57.1%)	1 (14.3%)	7 (100%)

Source: Primary data

Table 2 observed that out of the above 10HP pump sets, 50 percent belong to sample farming households which own more than 10 acres of land and another 50 percent belong to the farm size of 7.6 to 10 acres of land. Of the 5 to 10 HP pump sets, about three-fifths belong to the category farmers who are having more than 5 acres of land. Farm size of having upto 4 acres of land account for 51.5 percent and between 4.1 acres and 5 acres of land form 36.4 percent of 3HP electrical pump sets using farmers. It is clear that the high energized electric pump sets like 5 to 10 HP and above 10 HP pump sets are operated by medium and large farmers.

Table-3 Farm Size and Cropping Pattern

Crop	Up to 3.0	3.1-4.5	4.6-7.5	Above- 7.6
Paddy	13 (72.2%)	13 (86.6%)	23 (85.1%)	11 (100%)
Sugarcane	2 (11.1%)	-	4 (14.8%)	-
Groundnut	3(16.6%)	2 (13.3%)	-	-
Total	18(100%)	15 (100%)	27 (100%)	11(100%)

Source: Primary data

It is observed that of the 18 percent sample farming household who are having upto 3 acres of land cultivate paddy, sugarcane and groundnut, of the households having 3.1 to 4.5 acres of land 15 households cultivate paddy and groundnut, 27 percent of the households cultivate paddy and sugarcane in 4.6 to 7.5 acres of land, 11 percent of households cultivate paddy in above 7.6 acres.

Table -4 Testing the Difference between Farm Size and Pump Set Capacity
Hypothesis: Farm size influences the extent of irrigation.

Variable	Mean	N	t-vale	p-value
Farm Size	6.1750	60	7.529***	0.000
Capacity of Pump Sets	5.241	60		

The calculate t-value is highly significant at 1 per cent level and thus the null hypothesis is rejected. Thus, it can be stated that there is a significant difference between farm size and capacity of pump sets among the sample farming households. Moreover, the calculation also indicated that the two variables are positively correlated, which implies that higher the size of farm holding, larger the capacity of pump sets used. Hence it can be concluded that the farmers who own larger size of land holdings, possess higher capacity pump sets and thus, cornering more benefits from power subsidy.

Conclusion

Nowadays, the agriculture crop patterns more change due to dominance of real estate business, shortage of irrigation water and climate change. So, the central and state government must be provided the irrigation water facilities to agriculture actives. The real estate business activities may be reduced the agriculture performance very well future. The conclusion of the study more the number of pump sets positively higher is the income level of the farming households. This proves the point that the farmers who possess more number of pump sets make use of the power subsidy more and with the help of that earning more compared to the other farmers. Hence, power subsidy clearly influences the income levels of the sample farming households.

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MIGRANT STREET HAWKERS OF COIMBATORE CITY – AN EMPIRICAL ANALYSIS

India's rapid economic growth in recent times is marked by people moving from one place to another in search of better opportunities. Data from the 2001 Census shows that 307 million people have moved away from their place of birth, 259 million moved within their state and 42 million have moved from their home state to another. Over 20 million have moved from rural to urban areas. Migrants from rural areas are usually illiterate or semi-literate and work in the informal sector in cities, providing key services that make life better for most of the city inhabitants (Seeta. K Prabu, 2009). It appears the development of informal sector in the city enhances the intensity of migration of unskilled workers to the urban areas. They make a serious effort to diversify their livelihoods through a variety of informal sector job opportunities available in the urban areas (Bhattacharya, 1998). In fact, the rural migrant labourer enters a situation of unlimited supply of labour from the rural areas to the expanding demand of labour in the urban informal market (Indrani Gupta and Arup Mitra, 2002). The surplus low skilled individuals, who do not find desirable employment profile with decent wage in the rural areas, get absorbed in the informal sector in the urban areas, donning the role of casual worker. The present study is an attempt to explore the various dimensions of migration and its impact among the migrants in the informal sector. The main objectives of the current study are:

- To study the general characteristics of the migrant street hawkers in Coimbatore city.
- To analyse the levels of job satisfaction among the street hawker migrants.
- To find out the impact of migration among the street hawker migrants in Coimbatore.

Methodology

The current study was carried out in Coimbatore city by selecting 95 migrants who are street-hawkers. The reasons for choosing the migrant street-hawkers are (1) street hawkers are part and parcel of urban India. Thousands and thousands of poor people earn their daily bread by hawking. It is a very useful self-employment which can be started with a very small amount of money. He is a petty trader, who works very hard to earn his living. The things he hawks are mostly cheaper. (2) The street hawkers used to be from the same region because of familiarity of regional language. In spite of it, if the street hawkers are from places other than Coimbatore it would give an idea on the forces which pull/push them to the place of destination, viz, Coimbatore. Further an analysis of this nature will also enable to test the theories on migration and to frame suitable policy decisions. The study was carried out in the month of January 2011. The collected data were analysed using suitable quantitative techniques and the findings are presented in the following sections.

Results and Discussions

General Characteristics

In the current study inter-district migration constituted 44 percent and the remaining 56 percent inter-state. It reveals that Coimbatore city is a place to be migrated not only by the people from Tamil Nadu but also by the people from other states. Among the inter-state migrants 42 percent are from Orissa and 31 percent from Uttar Pradesh. These inter-state street hawkers are engaged in selling garments and accessories (49 %), toys and decorative items (34 %) and bags and others (17 %).

Dr. P. Ambiga Devi, Professor, & K.P. Radhika, Research Scholar,
Department of Economics, Avinashilingam Institute for Home Science and Higher Education for Women,
Coimbatore

The profile of the selected street hawkers reveals that Coimbatore attracts young migrants to enhance their standard of living. This is evident from the fact that about 81 percent of the street hawkers are in the age group of 14 to 30 years and 19 percent lie in the age group of 31 to 50 years.

Street hawking is an informal activity which requires neither skill nor education. In the current study only seven percent are illiterate, completely ignorant of reading and writing. About 19 percent have only elementary level education and 72 percent have completed high school education and 2 percent higher education. This shows the fact that irrespective of their literacy level migrants are easily absorbed in street hawking activities, which is a characteristic feature of an informal sector.

The analysis proved the Todaro's theory of wage differentials as the cause for migration. When the selected sample respondents were asked to assign ranks for the various reasons which pushed them from their place of origin to Coimbatore to earn their livelihood, the maximum score assigned is for wage differentials (score = 73) followed by social causes (score = 60), psychological factors (score = 48), political factors (score = 37) and natural calamities (score = 30)

Job Satisfaction

The migrants were asked to record their opinion on the level of job satisfaction as 'fully satisfied', 'satisfied' and 'not at all satisfied'. If they are 'fully satisfied' 'score 1' was assigned, for 'partially satisfied' 'score 2' and for 'not at all satisfied' 'score 3' were assigned. The various factors which determine the job satisfaction were listed and the assigned average scores are shown in the following table 1. From the scores obtained job satisfaction index was calculated.

Table 1
Level of Job Satisfaction

Parameter	Weight	Average weight	Score	Weighted score
Wage	7	1.4	1.48	2.072
Job security	6	1.2	1.99	2.388
Job timing	4	0.8	1.91	1.528
Nature of job	5	1	2	2.00
Leave facilities	3	0.6	2.33	1.398
Total	25	5		9.386

calculated from primary data

From the scores assigned in column 4 it could be seen that the street hawkers are not satisfied with the income they earn, the score being 1.48. They are satisfied with other factors related to their jobs. Weights were assigned to the parameters based on the priority. From the weights, average weights were calculated, which was then multiplied with the scores assigned for each parameter. From the total weighted scores, job satisfaction index was calculated as

$$\text{Job Satisfaction Index} = 9.386 * 100/5 * 3 = 62.56\%.$$

Though wage differential was the important reason for migration, yet the migrants were not fully satisfied with their jobs, job satisfaction index being less than 70 percent.

Impact of migration

The economic impact of migration on the street hawkers reveals a significant difference in their income, expenditure, savings, debt and asset holdings. The data on these economic variables before and after migration along with the calculated 't' values are shown in the following table 2.

Table 2
Impact of Migration

Variable	Before migration (`)	After migration (`)	Calculated 't' value
Monthly income	1357	4344	28.67*
Per capita expenditure	688.30	1925	17.19*
Savings	250.33	701.89	1.358
Debt	4936.84	1821.05	2.075*
Assets holding	24621	31104	5.162*

Source: Primary data; * statistically significant at 5% level

The table clearly shows an increase in the income, expenditure, savings and asset holdings of the street hawkers after migration. Excepting for savings, the increase in the other three variables are statistically significant. The debt of the street hawkers has also significantly declined after migration.

An attempt was further made to find out the inequality in the total income, assets and per capita expenditure of the migrants. Gini Co-efficient of inequality as developed by Angus Deaton (1977) was used.

$$G = \frac{N+1}{N-1} - \frac{2}{N(N+1)U} \sum_{i=1}^n P_i X_i$$

U is the income /value of assets / per capita expenditure of the migrants; P is the rank of i^{th} migrant, with X_i income / assets / per capita expenditure such that $X_i \geq X_{i+1}$ and the highest receives the rank 1 and the lowest the rank n. The calculated Gini Co-efficient of inequalities for the distribution of income / assets / per capita expenditure of the migrants both before and after migration are given in the following table 3.

Table 3
Gini Coefficient of Inequality

Variable →	Income	Per capita expenditure	Assets
Before migration	0.30	0.23	0.77
After migration	0.22	0.19	0.69

Source: Calculations based on Primary data

From the calculated Gini coefficients, it could be inferred that migration had resulted in reducing the inequalities in the income, expenditure and asset holdings of the street hawkers.

Conclusion

The following conclusions emerge from the current study on migration of street hawkers.

- Migration occurs at a younger age.
- Among street hawkers, inter-state migration is predominant.
- Migration has exerted positive economic impact on the migrants, with declining inequalities in income, expenditure and assets.
- Though migration occurs, because of wage differentials, proving Todaro's theory, yet the level of job satisfaction among the migrants is less than 70 percent.

To conclude, as street hawkers are migrants from other districts and states, suitable street vendor policies have to be framed by the Government to regulate their activities. Though some state governments initiated the provision of ID cards to the migrant street hawkers, yet it has not come into practice owing to administrative problems

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THE SUSTAINABLE LIVELIHOOD APPROACH TO POVERTY STUDIES

Introduction

In development studies there are three modes of thinking in the study of poverty. Employment thinking, Production thinking and Poverty-line thinking (Chambers and Conway 1991). In Production Thinking problems are defined variously as hunger, under nutrition, malnutrition and famine. There are problems of entitlements, of being able to command food supplies than of production or supply. In Employment thinking, the problems of the poor are seen as lack of new 'workplaces'. The idea is full employment, in which everyone has a job. But this doesn't explain rural reality, in which people seek to put together a living through multifarious activities. In Poverty-line thinking deprivation is defined in terms of the poverty line, which is measured in terms of incomes or consumption. The aim is to enable more people to rise above the line, and fewer to sink below it. But poverty and wellbeing, as poor rural people perceive them, have many dimensions which do not correspond with this measure.

These three modes of analysis have defects. They consider production, employment and cash income as indicators of wellbeing and all three are also amenable to measurement along single scales-amount produced, numbers employed in jobs, and earnings or wages in a weekly or monthly pay packet. These have narrow conceptual bases. These concepts and measures, generated in urban conditions, do not fit the complex and diverse realities of most rural life. They account for the failure of much conventional analysis to pick up or show the plural priorities of the rural poor and their many varied strategies to obtain a living.

Sustainable Livelihoods

Capabilities, equity, and sustainability combine in the concept of sustainable livelihoods. Livelihood is a means of gaining a living. Capabilities are both an end and a means; it provides conditions for livelihoods to be sustained for future generations. Equity is both an end and a means and includes adequate and decent livelihood for all.

Hence the concept of Sustainable Livelihood (SL) is an attempt to go beyond the conventional definitions and approaches to poverty eradication. These had been found to be too narrow because they focused only on certain aspects of poverty, such as low income, or did not consider other vital aspects of poverty such as vulnerability and social exclusion. It is now recognized that more attention must be paid to the various factors and processes which either constrain or enhance poor people's ability to make a living in an economically, ecologically, and socially sustainable manner.

The SL concept offers a more coherent and integrated approach to poverty. The sustainable livelihoods idea was first introduced by the Brundtland Commission on Environment and Development, and the 1992 United Nations Conference on Environment and Development expanded the concept, advocating for the achievement of sustainable livelihoods as a broad goal for poverty eradication.

In 1992 Robert Chambers and Gordon Conway proposed the following composite definition of a sustainable rural livelihood, which is applied mostly accepted

'A livelihood comprises the capabilities, assets (stores, resources, claims and access) and activities required for a means of living: a livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities

Dr. B. Geetha Bai, Principal Ayyan Thiruvalluvar College of Arts and Science.
Coimbatore

for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the short and long term'

Of the various components of a livelihood, the most complex is the portfolio of assets out of which people construct their living, which includes both tangible assets and resources, and intangible assets such as claims and access.

Any definition of livelihood sustainability, has to include the ability to avoid, or more usually to withstand and recover from, such stresses and shocks.

More recently the Institute for Development Studies (IDS) and the British Department for International Development (DFID) have been putting into operation the SL concept and approach. Leading proponent Ian Scoones of IDS proposed a modified definition of SL:

'A livelihood comprises the capabilities, assets and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, while not undermining the natural resource base.'

The SL Approach

There are three insights into poverty which underpin this new approach. The first is the realization that while economic growth may be essential for poverty reduction, there is not an automatic relationship between the two since it all depends on the capabilities of the poor to take advantage of expanding economic opportunities.

Secondly, there is the realization that poverty — as understood by the poor themselves — is not just a question of low income, but also includes other dimensions such as bad health, illiteracy, lack of social services, etc., as well as a state of vulnerability and feelings of powerlessness in general.

Finally, it is now recognized that the poor themselves often know their situation and needs best and must therefore be involved in the design of policies and project intended to better their lot.

Conclusion

In many ways the SL approach is similar to the old Integrated Rural Development approach. This approach to poverty is a holistic one which takes into account the innumerable factors that go into the making of poverty and to identify those issues where an intervention could be crucially important for effective poverty reduction at the local or policy level. By enhancing their capabilities, equity considerations and by improving sustainability by reducing shocks vulnerability and providing safety nets the livelihood of the poor can become positive.

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GROUNDNUT ADOPTION PATHWAY AND DRIVERS OF IMPROVED GROUNDNUT VARIETIES ADOPTION IN ERODE

Settings

In Tamil Nadu groundnut, sesame, sunflower and castor are the major oil seeds in which groundnut alone occupied 81 per cent of the area and 91 per cent of the production. Currently, groundnut has grown in an area of 4.89 lakh ha with a production of 9.74 lakhs tones (lt) during 2008-09 with a productivity of 1957 kg of dry pod per ha. Even though it is predominantly grown as rainfed crop (70 per cent) in the state, productivity wise it is top in list along with Gujarat as compared to the national average of 1364 kg/ha. Tamil Nadu is one of the major producers of groundnut covering 9.65 and 11.7 per cent of country's groundnut area and production, respectively. However, the groundnut productivity remained heavily constrained by pest, disease and frequent droughts collectively response for the low productivity. The state produces about 53 per cent of groundnut production from rainfed area (3.4 lha) in 2007-08. Erode, Thiruvannamalai, Namakkal, Villupuram and Vellore are the major rainfed groundnut dominated districts which constituted 64% of state rainfed groundnut area. In this context, in order to reverting the declining productivity trend in groundnut is essential to meet the ever increasing oilseed demand to reduce the soaring import payments on edible oils and oilseeds. The present paper has been attempts to identify the drivers of farmers preferred traits in groundnut through introduction of new improved groundnut cultivars (IGC) using farmers' participatory variety selection (FPVS) approach in Erode. The research paper is organized as follows: Section II presents the description of the study area, Section III outlines the methodology, the importance and process of FPVS and their outcomes are presented in section IVth. The drivers of the adoption are discussed in Section V and finally in Section VI conclusion and options for scaling up and development of successful seed supply system are summarized.

Characteristics of study Region

Groundnut is a major oilseeds crop in Tamil Nadu, considering the commercial importance, groundnut productivity needs to be enhanced particularly in the rainfed areas, with the improved groundnut genotypes/varieties (IGV) selection through FPVS in Erode which represent the western zones of the Tamil Nadu. The characteristics features of western zone are presented in Table 1. It could be seen from the table, Erode district having the lowest annual rainfall of 711 mm largely (66%) received in southwest and north east monsoons which is lesser than the state average. The literacy was 65 per cent. Erode contribute 4.51 per cent state net domestic products, 5.7 and 5.3 per cent of state gross cropped area and net cropped area. Groundnut was cultivated in 41 thousand ha covers 6.73 per cent of state groundnut area producing 6.65 per cent of state production (10.07 lt). groundnut has been largely cultivated as rainfed crop (62%) mainly in kharif season (86 per cent). Considering the importance of groundnut cultivation in Erode, intervention by introduction of new cultivars through FPVS method was used to increase the groundnut production and productivity.

Methodology

Considering the commercial importance of groundnut in the state, particularly from the selected district, ICRISAT & TNAU jointly targeted the rainfed groundnut area by introducing new groundnut genotypes and improved varieties through Farmers' Participatory Variety Selection (FPVS) method to identifying the best suited cultivars for the location and increase the rainfed groundnut production in enhancing the poor farmers income and employment. This method will facilitate the integration of farmer

Dr.K.R.Karunakaran, Tamil Nadu Rice Research Institute,
Tamil Nadu Agricultural University, Aduthurai

assessment of technology option into the development, testing and scale up of the technology adoption considering the needs of the other market players like traders, processors who are in the supply chain (Ndjeunga, et al. 2006).

Period of study

The study covers 2007-08 to 2010-11 and the survey was carried out in two spells to collect data for all three years (2008, 2009 and 2010). All the FPVS farmers were first contacted during the crop period preferably during maturity to harvest and another visit during the field days to get the post crop trait preferences entries in the FPVS.

Sampling Procedure

Spanish bunch groundnut varieties are dominating in Erode district. Field trials were laid out in three continuous rainy seasons during 2008, 2009 and 2010. A multi-stage sampling technique was used in the study. In each district, 2-4 development blocks were selected in the first stage. In the second stage, a cluster of 9 villages were selected randomly and in the third stage, 10 or 11 farmers were randomly selected in each village for introduction of new varieties in 2008. Mother Baby trial method of field design was used. In Erode 2 kg of 8 Spanish bunch type cultivars were supplied along with TMV7 as a local check variety, besides supplying the crucial inputs such as fertilizers and chemicals during 2008 rainy season.

Performance of FPVS in Tamil Nadu

In partnership with ICRISAT, FPVS research was carried out by the Tamil Nadu Agricultural University in selecting locally adapted varieties that are resistant to pest and disease, tolerance to abiotic stress, especially drought and enhancing productivity level. In reality, many groundnut farmers in Tamil Nadu have back reliable information and knowledge about the new technologies and cannot make the adoption choice. The baseline survey results revealed that groundnut farmers in Tamil Nadu still using more than two decades old varieties largely due to lack of information on new varieties (52%). A farmer lacking information about the available options misuse the opportunity to evaluate the relative performances of the alternative technologies under local conditions. Under these conditions, the farmers' participatory varieties selection methodology is best tool for introducing the alternative seed technology to assess the suitability of the crop considering the biotic and abiotic constraints.

Farmers Participatory variety Selection (FPVS) process in Erode and Thiruvannamalai

During 2008 rainy season, FPVS trials were conducted in nine villages, spread in three blocks. Eight Spanish bunch groundnut genotypes along with TMV 7 as check were evaluated in 27 mother and 80 baby trails. The average dry pod yield of 758, 703 and 661 kg/ha were recorded in VG0104, R2001-02, TVG0004 with 31, 22 and 15 per cent higher productivity over the check variety with lesser coefficient of variation (Table 2). The low productivity in all the IGV and local checks in 2008 rainy season in Erode was due to deficit rainfall received (10-15 per cent lesser than actual) during north east monsoon which hit the pod maturity. However, based on the productivity and preferred crop traits, from IGV introduced in 2008, genotypes VG0104, R2001-02 and TVG0004 were selected for 2009 rainy season in Erode along with the ICGV00351 which performed well at Thiruvannamalai during 2008 trails.

Preferred traits in Genotype selection process in 2008 FPVS in Erode and Thiruvannamalai

The best Spanish bunch IGV was identified based on the preferred traits opinion collected from the 107 FPVS farmers and 12 traders with the help of ten points score technique. The growth traits (crop vigor, biomass, leaf colour, pest and disease resistance/tolerance, drought resistance, earliness to maturity, and expected pod and haulm yield) were evaluated by farmers. The post harvest crop growth economic traits (storage quality, quality of fodder, kernel colour and size, expected on farm price, besides considering

the marketability, storage and processing preferences) were evaluated by both farmers and traders. The trait preference analysis concluded, that the new groundnut genotype ICGV00351 was preferred followed by TVG0004, R2001-02 and TMVGn13 (released by TNAU, 2006). The quantity and quality of the fodder is the main drivers in selection of crop and preference of genotype. Hence, considering the marketability and fodder quality VG0104 having highest score of 8 (Table 3) which is on par with ICGV0351 also selected for 2009 rainy season FPVS in Erode along with R2001-02, TVG0004 with TMVGn13 as local check.

In 2009 rainy season, 27+60 mother and baby trials were conducted along with TMVGn13 as local check. The ICGV00351 recorded 36 per cent higher yield over TMVGn13 (894 kg/ha) check in Erode (Table 2). In Erode, ICGV00351 was selected over R2001-02 for 2010 FPVS trials on the basis of farmers and traders preferred growth and post growth traits and highest productivity over the local check TMVGn13.

Table 1. FPVS trials Yield performance of Spanish bunch genotypes in Erode

2008 rainy season (n=26+80=106), 9 villages					2009 rainy season (n=27+60=87), 9 villages				2010 rainy season (n=103) 8 villages			
Genotypes	n	Yield	CV	% inc	n	Yield	CV	% inc	n	Yield	CV	% inc
ICGV 00351					57	1220	35	36	103	2197	25	30
VG0104	50	758	20	31	57	1034	34	16				
R2001-03	47	724	70	26								
R2001-02	46	703	19	22	57	1184	36	32				
ICGV91114	47	690	53	20								
TVG 0004	50	661	21	15	57	1039	36	16				
TMVGn13	45	642	20	11	87	894	33	0				
VRIGn6	45	639	18	11								
CHINTHAMANI	46	599	20	4								
TMV7	107	577	20	0								
VR12									103	1684	30	0

Note: Yield kg of dry pod/ha; - Coefficient of variation (CV) (%); %inc=% of yield increase over check

Table 2. Preferred traits in Spanish bunch genotypes

(Mean score (10 points))

Genotypes	Drought Resistant	Overall Growth attribute	Fodder Quality	Post harvest Overall	Marketability	Overall ranks
ICGV00351	9	8	8	8	8	9
TVG0004	5	8	7	8	8	8
R2001-02	5	7	7	7	7	8
TMVGn13	5	7	7	7	8	8
VG0104	8	9	8	8	8	7
R2001-03	5	7	7	7	7	7
ICGV91114	7	7	7	7	7	7
VRIGn6	4	7	6	7	8	7
CHINTHAMANI	5	6	7	7	6	7
TMV7	4	6	6	7	6	7

During 2010 rainy season, head to head comparison of ICGV00351 with VRI2 check varieties were conducted with 103 famers in eight villages in Erode. The result proved ICGV00351 recorded 30 per cent higher yield (2197 kg/ha) over check VIR2 in Erode (Table 2). The selected ICGV00351 Spanish bunch groundnut genotype by ICRISAT is maturing in 105-110 days. In addition to the positive performance from the above FPVS trails, the state MLT conducted in 2009 rainy season recorded a mean pod yield of 2453 kg/ha compared to 2118 kg/ha by VRI Gn6 check. It is currently under Adaptive Research Trails (ART) and based on the result it will be considered for release as state variety in 2011.

Adoption factors

The understanding of socio economic and farms resource endowment of the groundnut farmers in the selected districts was important in identifying the drivers of new variety adoption. The farmers' and farm characteristics of the study area are presented in Table 8. It could be inferred from the table that male farmers constitute 85.9 per cent of the groundnut growers in Tamil Nadu. The age of the farmer was another important factor. Majority of farmers were young (age < 40 years) to Erode (39.7%). The membership in producer and marketing associations create more access to the scarce resources and technology. The illiteracy was more in Erode (26%). Among them, literate up to secondary level was 35.4, the highest level of literacy with 4.7 % of farmers having graduation.

Table 3 Farm Orientation

Details	Erode
Gender: Male farmers (%)	85.9
Age % of farmers >40 years	60.3
% of farmers <40 years	39.7
Participation in Assoc./Orgn.	44.4
Literacy: Illiterates (%)	25.9
Primary (1-5 yrs)	34.0
Secondary (6-12)	35.4
Graduate > 12 th	4.7
Farm size: Marginal	17.8
Small	78.8
Large	3.4
Length of Growing period (<90days)	51.9

Source: PVS farmers survey, 2009

A farmer's decision to adopt or reject new technologies is influenced by the combined effect of a number of factors related to farmer's objectives and constraints such as: farmer's socioeconomic circumstances (age, formal education, income, consumption preference, etc); farmers resource endowments as measured by size of family labour, farm size and oxen ownership, and institutional support systems available to farmers (credit, extension and availability of inputs) [CIMMYT, 11 1993]. The order of importance given by the farmers in selection of a variety are high yield, disease resistance, pest resistance, early maturity, uniform/even maturity, kernel colour, drought tolerance, size of the grain and plant height (ICRISAT 2003).

The group membership has a positive odd ratio for all (10% significant for TVG004) IGV introduced. This indicated the member in association had significant role in sharing information and access to facilitate the new seeds. The further away a farmer is located from agricultural marketing centers, the less likely he/she will adopt new technologies or the more likely the local varieties will reign. Similarly, distance to the markets is negatively correlated with variety adoption which was inferred from the odd ratio of less than unity. This due to high transaction costs in accessing improved seeds or selling the surplus produce may substantially reduce the incentive to adopt new varieties. Less market distance, more

operational land, more association with local body, less age and more education were identified as major drivers for higher productivity in groundnut (Table 5). These findings corroborate the finding from earlier studies that find a positive relationship between access to information and adoption of improved agricultural inputs (Nkamleu and Adesina 2000, Asfaw and Admassie 2004, Shiferaw B 2010). Hence, ICGV00351 was selected for up scaling in Spanish bunch varieties among nine IGV introduced through FPVS in Erode and Thiruvannamalai.

Table 4 Changes in the drivers of adoption

Drivers	ICGV00351 Additional yield over local check (%)			Total
	>40	20-40	<20	
Farmers' age	39.25	45.6	44.57	44.54
Education in years	3.56	3.04	4.57	3.22
Members in association (No.)	1.87	1.74	1.71	1.76
Distance of local market (km)	9.63	10.99	12.14	10.85
Distance of main market (km)	28.25	30	33.14	29.94
Total operational land (ha)	4.61	4.27	4.29	4.33
Cattle population/farm	1.81	0.32	0	0.53
Goat population /farm	4.94	5.6	6	5.52
Sheep population /farm	0.13	0.05	0	0.06

Concluding remarks and policy implications

- The FPVS was targeted to identify the suitable variety for the region to enhance the groundnut average productivity of particular region. If the region gets advance sufficient rainfall, farmer select ICGV000351 for advancing groundnut sowing by one or two weeks.
- The availability of quality seed on new varieties is major constraints in scale up of the technology. Hence, Small size farmers be grouped in to commodity groups or associations and linked with seed industry for better bargaining power for supply of seed produced besides meeting the local quality seed demand to adopt new variety. Backward linkage of farmers associations with seed and input suppliers will be established for bulk purchases.
- Appropriate model of contract farming or its variants to save transaction and marketing cost be tested to increase the adoption of improved new cultivars in groundnut genotypes selection in Tamil Nadu. The distance to local market, marketability and expected price were the most important factors among the drivers of adoption, necessary steps may be taken to improve the efficiency of the regulated market operation in the local and nearest market centre.
- The FPVS methodology helps in identification of a new variety in short time of 2-3 years, and another one entry is in the variety release proposal.

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CHANGING CROPPING PATTERN IN COIMBATORE DISTRICT

Introduction

The most appropriate cropping pattern is to be obtained by the outcome of trials and adjustment depending on physical, sociological and economic factors. The physical factors like climatic conditions, irrigation potential, drainage systems, the social factors such as food habits, customs and manners and the consumption pattern decide the cropping pattern. Some common factors which determine the cropping pattern are allocation of scarce land resources, tenurial systems, marketing facilities, and demand and supply conditions.

Some biological factors are crop rotation practices, incidence of pests and diseases and others. The government policies like land reforms procurement, price support programmes, export and import policies, taxation and subsidies, provision for credit facilities, acreage control of crops and others. The personal factors includes likes and dislikes, knowledge, experience, availability and cost of inputs like capital, labour, irrigation, use of hired labour, price of the products and size of the farm family influence the peasant to determine the cropping pattern.

Economics Of Cropping Pattern:

In devising a cropping pattern best suited to a farmer, there are three economic approaches. They are

- a) Maximum yield approach
- b) Maximum net income approach
- c) Plan targets approach involves crop wise distribution of targets and splitting up the area.

The maximum net income approach is more practical from the individual farmer's point of view. The other two assume national consideration because when the area which is suitable for maize crop put for intensive cultivations of maize, the yield will be satisfactory. But the farmer may not be able to get competitive return or unable to market the entire produce.

Similarly in the third approach, only in totalitarian Governments, it is easy to impose the approach and is impossible to execute such plans, besides achieving targets in a democratic state, since they are divided into block – wise, Village – wise and cultivator – wise. Hence the maximum net income approach is acceptable to the farmer.

Cropping pattern in Coimbatore

The catchments areas of the major river systems lie in one or other adjoining states. The surface irrigation potential of the state was fully exploited. A large majority of 38000 tanks are small in size, serving and anaicut less than 40 hectares. The potential to be tapped is of lower dependability, difficult accessibility and costly for execution.

The failure of monsoons, the problems of maintenance of age – old surface flow structures, encroachments in the catchments and foreshore areas and the unresolved river water disputes affect the area irrigated by canals. Dependence on well irrigation had grown in recent times. Due to proper water conservation and utilization techniques adopted, the state can irrigate at least 48 percent of its gross cropped area.

The cropping pattern of Coimbatore was dominated by food grains but was changing during the last two decades. The total food grains area had come down from 48.85 lakh hectares to 38.84 lakh hectares during 2001 – 2007 and 36.50 lakh hectares during 2010 – 2011.

K.Chandirasekaran, PhD Research Scholar,
Department of Economics, University of Madras, Chennai

Cropping Pattern in Coimbatore

(Lakh hectares)

Crop	1980s	1990s	2000s	2010s
Plantain	20.89	25.70	26.41	21.73
Coconut	22.26	20.20	18.46	14.50
Pulses	4.44	4.21	5.67	6.17
Sugarcane	0.52	0.99	1.47	1.92
Cotton	3.82	3.52	2.89	2.29
Vegetable	7.53	9.36	10.03	9.11
Others	7.33	8.02	9.46	11.05
Total Cropped area	66.79	72.00	74.56	66.77

Source: Tamil Nadu: An Economic Appraisal.**Note:** Figures in brackets represents percentage of total cropped area.

The area cropped increased from 66.79 lakh hectares during 1990 to 72.00 lakh hectares during 2000 and 74.56 lakh hectares during 2010 area. It becomes lower during eighties due to delayed opening of the major reservation of coconut second place in coimbatore district. With were growing in number and use of well water for irrigation, sugarcane had advanced from 0.52 lakh hectares in the eighties to 1.92 lakh hectares in the two thousand tens. Vegetables accounted for 50 to 55 percent of total area under non – food crops. The figure – 1 reveals the exact trend of the cropping pattern in coimbatore.

Production of Selected Crops

(Lakh Tonnes)

Crop	1990	2000	2010
Plantain	27.51	38.12	51.52
Coconut	14.96	15.59	16.05
Turmeric	1.03	1.09	1.76
Sugarcane	3.33	8.66	14.63
Cotton	3.04	3.52	3.98
Vegetables	8.33	9.48	10.47

Source: Tamil Nadu: An economic appraisal (1991 – 92)**Note:** Lakh bales of 170 kgs lint each # nuts – in – shell

The table –2 reveals that plantain records appreciable output in the nineties as it increased from 27.51 lakh tonnes to 38.12 lakh tonnes during 2000 and increase during the past decades, between 1990 – 2000 as shown in figure – 2. The figure – 2 shows the production of selected crops. The analysis of cropping pattern being followed in Coimbatore is dealt with, in the following chapter.

Conclusion:

Cropping pattern is the central element of Agriculture. Cropping pattern is influenced by many factors. Since the Indian agriculture is gamble with the monsoon. Rainfall and irrigation become the major factors determining the cropping pattern. The cropping system in any area is determined by the cumulative results of the previous year and decisions by individuals, communities or Governments and their agencies.

The Indian agriculture economy is divided into five agricultural regions namely rice region, wheat region, millet – sorghum region, temperate region for vegetables and tree – fruits, and plantations crops in hilly region. (ICAR – 1997).

It is observed that in devising cropping pattern best suited to a farmer, there are three approaches namely maximum yield approach, maximum net income approach and plan target approach. Of the three approaches, the maximum net income approach is acceptable to the farmer.

The change in the cropping pattern in turn is determined by certain conditions. They are, soil fertility, availability of water, inputs, soil conservation methods, land use plans, provisions for the needed capital. The details of crops season and their duration are also discussed.

The preponderance of food grains crops, trend towards commercial crops, sharp increases of area under certain crops, preponderant but slow growing crops and the emerging imbalance in the cropping pattern are the main features of the cropping pattern. It is observed at the district, the food grains is the predominant crop when compared to non – food crops. The ratio between the two, works out to 2: 1. These food crops show slow increase in area spared for the cultivation of plantations and vegetables.

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HEALTH INSURANCE FOR DIABETIC PATIENTS IN COIMBATORE CITY

Introduction :

There are a number of types of risk associated with health. There is the risk to one's health and life associated with illness or disease. There is the additional risk that if one under takes treatment, it may or may not cure or alleviate symptoms of disease. There are also the cost associated with the treatment s of illness and disease. A person can take action to reduce the risk of illness such as getting vaccines, avoiding unhealthy environments, and leading a healthy life style. (Johnson – Lans 2006). People buy insurance because they are risk averse. Buying insurance allows a person to pay a certain known amount in order to transfer the risk of a much larger expenditure (in the case of adverse event) to an insurer, known as third party payer. Firms sell insurance because they are paid to assume a risk that can be managed by spreading it over a large pool of the insured. Insurance market exists where consumers are willing to pay enough to transfer risk to induce insurance

Statement of the problem and Need for the Study

The study attempts to examine the details about the awareness and enrolment of health insurance among diabetic patients in an urban city, of Tamilnadu, i.e., Coimbatore. The nature of the problem and the required variables naturally call for a micro-level empirical investigation, especially with diabetic subjects as units of analysis. Therefore, it was decided to conduct this study in an urban setting of Tamil Nadu state, India. The researcher found Coimbatore city as the most suitable location, because around 2.8 lakh people have diabetes in Coimbatore district and 3.2 lakh people have pre- diabetes. (Mohan 2011).

Population Profile and Sampling :

The sample diabetic patients were drawn from various hospitals, clinics and general practitioners in urban Coimbatore in Tamil Nadu State. In order to select representative diabetic population receiving treatment in Coimbatore city, it was felt an empirical enquiry would be apt. The present study relates to the health insurance awareness and enrolment of health insurance among diabetic patients in Urban Coimbatore. It was decided to collect the necessary information from approximately 1200 patients. However, while collecting data from these patients, about 123 patients could not be contacted because of the reasons like, not willing to provide information, left to meet the doctor in the middle of the interview and not given information later, and not agreed to give full details. Thus, a total of 1077 patients were selected for the final study.

Miss.N.Padmasundari, Ph.D Research Scholar,
Department of Economics, Bharathiar University, Coimbatore.

Collection of Data:

For collecting the data, the respondents were contacted individually and given a brief description about the nature and purpose of the study. For the convenience of the respondents the statement were translated into vernacular language so that the respondents could respond with ease. The respondents for this study are diabetic patients. Data required for the study were collected through interview schedule which was administered among the diabetic patients in Coimbatore. The data could able to contact and collect information from twelve hospitals for which permission was given to carry out the study.

Enrolment of the Health Insurance Schemes

Since the past two decades, there has been a phenomenal surge in acceleration of healthcare costs. This has compelled individuals to have a look on their actual monthly expenditures, spending patterns and simultaneously allocate a proportion of their income towards personal healthcare. This has resulted in individuals availing healthcare insurance coverage not only for themselves but also for their family members including their dependants. In short, healthcare insurance provides a cushion against medical emergencies. The concept of insurance is closely concerned with security. Insurance acts as a shield against risks and unforeseen circumstances. In general, by and large, Indians are traditionally risk-averse rather than risk lovers by nature. The health insurance in the country presently covers only one per cent of the population. The share of health insurance in health financing accounts for a mere 1.2 per cent of the total expenditure on health. The purpose of this chapter was to know the enrolment status of the sample respondents about health insurance schemes which is depicted in Table 1

Table 1
Enrolment of the Health Insurance Schemes

Enroled	Patients	Percentage
Yes	253	23.5
No	824	76.5
Total	1077	100.0

Source: Primary Data

Health insurance is a risk pooling mechanism to protect the people from unexpected health hazards and to reduce out-of-pocket expenditure. From the sample respondents, 23.5 per cent enroled in health insurance schemes of the Government, Private and ESI (Employee State Insurance Schemes). A majority of 76.5 per cent do not enrol themselves in any health insurances schemes.

1.9 Logistic Regression Results on Awareness of Health Insurance Determinants of Awareness about Health Insurance

For identifying the principle factors that are affecting the awareness of health insurance, the logistic regression analysis is carried out and the results are presented in table 1.2

Table -2

Explanatory Variables	Beta	Exp (B)	Level of Sig.
Age	-0.012	0.988	0.251
Gender (Ref: Males)	--	1.000	--
Females	-0.976	0.377	0.01
Marital Status (Ref: Un./Wi./Di)	--	1.000	--
Married	1.849	6.352	0.001
Caste (Ref: Scheduled Castes / Tribes)	--	1.000	--
Most Backward Castes	5.252	190.885	0.001
Backward Castes	4.397	81.236	0.001
Forward Castes	3.751	42.585	0.001
Nativity Status (Ref: Rural)	--	1.000	--
Urban	-0.577	0.561	0.01
Type of Family (Ref: Nuclear Family)	--	1.000	--
Joint Family	2.136	8.378	0.001
Educational Status (Ref: Illiterate)	--	1.000	--
Elementary School	1.169	3.220	0.01
Middle School	1.777	5.912	0.001
Secondary School	0.945	2.574	0.05
Higher Secondary School	3.795	44.493	0.001
College and above	2.569	13.052	0.001
Personal Income (in `) (Ref: No Income)	--	1.000	--
= 10,000	1.008	2.741	0.05
10,001 +	0.454	1.575	0.344
Family Income (in `) (Ref: = 10,000)	--	1.000	--
10,001 - 20,000	2.829	16.937	0.001
20,001 +	2.290	9.871	0.001
-2 log likelihood		571.162	
Chi-square (df)		483.002(17)	
Significance Level		0.001	
N		1077	
Cox & Snell R Square		36.1	
Nagelkerke R Square		57.1	

Among the sample respondents, it is visibly noticed that majority of the explanatory variables under considerations have shown statistically significant net effects on the respondents' awareness about the health insurance schemes. Controlling for all the variables used in the model, the odds of awareness regarding health insurance schemes are 191 times (strikingly) higher (OR = 190.885; $p < 0.001$) among those who belong to most backward castes as against the scheduled castes / tribes. It is also further important to note that such odds are also much higher in the case of backward castes as well as forward castes—Odds Ratios are 81 and 42, respectively, which are also found to be statistically highly significant ($p < 0.001$ in each case). Next to this, educational status of respondents has exhibited a consistent and significant net effect on their awareness of health insurance. For instance, one can see that the odds of having awareness by the respondents are 3.2 times ($p < 0.01$) higher among those who studied upto

primary school as against their illiterate counterparts, which have increased to a level 5.9 times more in the case of those who have completed middle school education ($p < 0.001$), 2.6 times higher among those educated upto secondary school ($p < 0.05$), 44 times higher among those who have completed higher secondary school ($p < 0.001$) and 13 times among those who have completed degree /diploma level of education ($p < 0.001$).

Respondents' family income also appears to be positively and significantly showed independent effect on their awareness about health insurance. From the table one can see that the likelihood of having awareness about health insurance among respondents is significantly ($p < 0.001$ in each case) higher among those who belong to comparatively moderate ('10,001 to '20,000) and higher ('20,001+) levels of their family income than those who belong to relatively lower family income category. Further, in addition to other variables included in the model, another income variable, i.e., respondents' personal income also exhibited a positive independent effect on their awareness about health insurance. But the results turn out statistically significant at a moderate level only ($p < 0.05$) that too only in the case of those who earn "10,000 or less per month than those who did not earn any income.

It is interesting to note that respondents who are currently married have higher probability of having awareness about the health insurance ($OR = 6.352$) than those who are unmarried/widowed/divorced and these results too turn out to be highly significant ($p < 0.001$). One of the pertinent finding noticed in this model is that respondents belonging to joint families are more aware about health insurance ($OR = 8.378$) than their counterparts from nuclear family and these findings are statistically highly significant ($p < 0.001$). Another striking finding observed here is that respondents who are born and brought up in the urban areas have significantly lower odds of awareness about health insurance ($OR = 0.561$; $p < 0.01$) than those from rural areas before they migrate to the city where the survey is conducted. As expected, female respondents have less (by 0.38 odds ratio) awareness of health insurance than their male counterparts and these results also turn out as highly significant ($p < 0.01$). Finally, as expected, age *per se* has exhibited independent effect on awareness about health insurance, in positive direction, but the results lack statistical significance. Thus, most of the findings from the model are in the expected direction and that too, in a significant manner and thereby, supported the hypotheses in these regard.

Conclusion:

Now in India, the Private Insurance Companies are providing Health Insurance Coverage to the diabetic people. Generally, during a medical examination if a person is found to have Diabetes then the premium for the Health Insurance Policy will be enhanced so as to cover the risk involved in the policy distribution. Following this procedure, the Public Sector Insurance Companies are providing Health Insurance Coverage to diabetic people with 50 per cent enhancement in the premium rates. The Logistic analysis was carried out and shows that the odds of respondents awareness about health insurance are increasing with an increase in the social status, educational status and family income. Conversely such odds are lower among females and those who born and brought up in urban areas as compared to the counterparts.

It is clear from the analysis that besides excess healthcare expenditure, diabetes also imposes large economic burdens in the form of loss in productivity and result in deficit economic growth. The largest economic burden, therefore, is the monetary value associated with disability and loss of life as a result of the disease itself and its related complications. Therefore, a diabetic person need to avail the services of a Health Insurance Policy to combat any such ailments in future that may occur due to diabetes. The Diabetic Health Insurance policy can successfully reduce the following expenses involved in case of Hospitalization: treatment related expenses in a Hospital, Doctor consultancy charges, expenses related with stay in Hospital, food expenses during Hospitalization, Nursing and medicine, to cite a few.

INDUSTRIAL POLLUTION IN KOVAI REGION

Introduction:

The urban areas of India are nowadays growing in to bigger agglomerations with ever increasing pollution due to haphazard and uncontrolled developmental activities. This increasing pollution can be attributed to a score of factors like lack of environmental planning, economic issues, social policies and a lot others. There are a lot of examples of such polluted places in India, and Coimbatore comes into prominence, thanks to its foundries.

Industrial Pollution in Kovai Region:

Coimbatore, one of India's leading industrial centers with excellent potential for industrial growth, is spread about 105.6sq.km and has a population of 1.1 million highly diverse people. Coimbatore is the second biggest city in Tamil Nadu after Chennai, and is blessed with a wonderful climate, sweet siruvani water and high number of educational institutions.

The presence of industrial activities on a large scale, in and around Coimbatore, tends to have a strong impact on the environmental quality of the city, particularly the vital component of air. Though vehicular emissions, construction-related activities, and garbage burning form sources of air pollution, the industrial emissions from small-scale industries mainly the foundries assume higher environmental significance.

The concentration of foundries with in the city and the lack of state of the art facilities tends to take its toll on the city's environment and thereby make Coimbatore a severely air polluted place. Apart from the proficient and high scale foundries, there are about 250 small and medium scale industries in Coimbatore, which are severe threats for environmental pollution.

The small and medium sized foundries are located every 2 kms in the industrial radius Coimbatore, especially in the industrial areas of Avarampalayam, Ganapathy, and Peelamedu. The emergence of these small-scale industries coupled with the educational development of these areas made these areas a great growth for residential developers.

Once residences started coming on these industrial areas, the industries were asked to relocate by the TNPCB (Tamil Nadu Pollution Control Board), and even after relocation, some industries are asked to re relocate themselves in the interest of serving excessive population. This is a clear lack of discipline amongst people, and lack of cohesion for attainment of common growth.

TNCPB in Pollution Control Kovai:

After finding that relocation won't work out, the TNCPB (Tamil Nadu Pollution Control Board) ordered the industries to install emission control devices. Earlier the electrostatic precipitators were suggested

P.Bala Krishnan, PG Student

Department of Economics, The American College, Madurai

and after considering the economic status of these small-scale foundries, wet collection devices like the cyclone scrubbers were suggested. The cost of these devices would range of 40,000 and 50,000Rs, and these were found hard to bear for these industries. We should be reminded that these industries are set up under the initial cost of 75,000 rupees, and hardly making profits, thanks to the lag of industrial activity after bomb blasts and huge competition. They are now trying to get time and push another design of scrubber that costs only 25,000. However the only aim of these time lags is to avoid actions, as these foundries are never inclined to set up these industries.

After low profile activities for the past half a dozen years, the foundries suddenly saw a great business opportunity when the European countries concentrated on importing foundry products from India. The European market in itself is a telling story. The European foundries were ordered to close since they couldn't cope up with the Environmental Standards(given that their emissions are 50% less toxic than ours), and the Europeans moved on to Howrah and Coimbatore for their foundry products.

The business starved foundry owners were too concerned not to miss the offer, and started competing with each other for production. And at this stage, any investment in pollution control devices would be a mis-investment for them.

While the TNPCB is fighting for the community and the small-scale foundries for themselves, no one has cared for the 3000 odd workers who work in these foundries. Their health conditions are entirely harmful. Health effects affect almost 95% of these workers(simpletons and uneducated persons). And nobody has thought of providing them with safety equipments. Yours truly couldn't find a 15 minute emission breathable, just imagine the plight of the persons who inhale them for 6 hours a day. A nearby doctor says that these people suffering continuous emissions are prone to death in 8-15years. For the past three or four years, this problem is getting aggravated by NGOs, but the TNPCB and these foundries are yet to come to solution, and never seem to come to one in the near future.

Conclusion

The study of a solution to this problem lead to two significant points that are however not related to environmental areas. First one being the lack of discipline in our people, and the other is to put economy the top priority even prior to safety in life When will india place environmental more prior to economy. I beg the concerned people to look after this issue immediately, with a lot of discipline. An Indian life is worth the same value as the English life.

PERFORMANCE OF THE PRIMARY CO-OPERATIVE AGRICULTURAL AND RURAL DEVELOPMENT BANKS IN COIMBATORE DISTRICT, TAMILNADU - AN INTER BANK COMPARATIVE ANALYSIS

Introduction And Statement Of The Problem

The agricultural sector of India is prime significant in view of overall economic progress. The prosperity of this sector constitutes as 'core' and ensures a sound and healthy economic development. In brief, the agricultural sector is the most important sector in creating renewal of wealth. It is worth-while to recall the words of Gunnar Myrdal (1968) who has rightly said "It is in the agricultural sector that the battle for long term economic development of South-Asia will be won or lost".

Among the several inputs of farm sector, the one input that can make the farmers to use the other inputs is the capital, namely, credit. In other words, credit is the *since-qua-non* for economic development. Many surveys were conducted by the academic experts and they found the positive role of credit on the generation of employment opportunities and agricultural production. A few studies among them are; Nicholson (1895), Belshaw (1931), Schumpeter (1934), Vyas (1968), Rao (1975), and Mishra (1985).

Objectives Of The Study

The paper of the study aimed at the following objectives.

1. To analyze the performance of the co-operative agricultural and rural development banks in terms of select key indicators;
2. To study the comparative performance of the banks with in the district;
3. To find out the operational problems (if any) faced by the banks and;
4. To suggest remedial measures based on the findings for improved performance of the banks.

Methodology

To achieve the above objectives the data from primary co-operative agricultural and rural development bank were needed. Six banks were selected randomly for the study.

Selection Of Co-operative Banks

The venue for the present study has been conducted in Coimbatore district, Tamil Nadu 13 primary agricultural and rural development banks are operating in different locations of this district. All these banks are the oldest co-operative long-term credit institutions and 6 banks are randomly selected for this study.

Data Collection

For collection of data, a pretested comprehensive interview schedule has been prepared and utilized. The interview schedule is consisted of questions relating to all aspects of banking performance.

Reference Period

Data regarding bank's operations are confined to a period of one decade (from 1996-97 to 2005-06). However the study has been carried out between July 2007 and March 2008.

Tools For Analysis

The plan of performance analysis of banks includes adoption of traditional tools like ratios, percentages and growth rate. Simplistic ranking method has been applied for analyzing the comparative performance of banks.

Dr. P. Veerachamy, Assistant Professor,

Department of Economics, Annamalai University, Annamalai Nagar

S. Kanakaraj Assistant Technical Officer, Bharathiar University, Coimbatore

Analysis And Discussions

The profile of the banks under review is presented in forms of (a) Location (b) Year of establishment (c) Age (as on March 2007) and this serves as a background for a detailed performance analysis of banks.

Loan Issued

Loaning programme is an indicator of the better functioning of the co-operative banks. The co-operative banks should increase their loaning business year by year. There is a growing demand for long term credit in farm sector and this is due to (a) gaining currency in mechanization of agriculture which yields more economy and efficiency in operations and (b) escalation of cost of inputs.

The table 1 reveals that the primary co-operative agricultural and rural development banks in the Coimbatore district had deployed loans of Rs.1410.23 lakhs in 1996-97 which decreased to Rs.1047 lakhs in 2001-02 and further the loan distributed was reached a peak level of Rs. 1411.63 lakhs in 2003-04 indicating 1.35 fold increase within a period of 4 years, further down worked trend seen in Rs. 1051.85 lakhs in 2005-06. This indicates minimum the efforts taken by the banks in meeting the credit requirements of farmers. This is mainly attributed to the growth in the working capital structure of these banks between the years 1997 and 2006.

Table 1
LOAN ISSUED
(Amt. Rs. in lakhs)

Sl. No	Name of the Banks	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06
1	Tirupur	356.05	373.86 (4.76)	174.91 (-13.74)	168.25 (-3.95)	231.42 (27.29)	262.59 (11.87)	372.75 (29.55)	302.05 (-23.24)	212.55 (-42.29)	210.87 (-0.79)
2	Udumalpet	271.45	300.86 (9.77)	211.81 (-42.04)	206.58 (-2.53)	139.45 (-48.13)	136.18 (-2.40)	239.84 (43.22)	205.08 (-16.94)	189.29 (-8.34)	115.00 (64.6)
3	Pollachi (North)	198.11	146.92 (-34.84)	115.44 (-27.26)	104.21 (10.77)	116.22 (7.22)	143.71 (19.12)	144.45 (0.51)	197.80 (26.97)	124.76 (-58.54)	119.89 (-4.06)
4	Periyanaicken palayam	391.63	347.23 (-12.78)	174.63 (-98.83)	138.18 (-26.37)	182.24 (24.17)	188.01 (3.06)	317.91 (40.86)	363.68 (12.58)	288.02 (-26.26)	331.20 (13.03)
5	Thondamuthur	132.81	148.53 (10.58)	153.46 (3.21)	157.37 (2.48)	227.48 (30.82)	236.25 (3.71)	282.02 (16.22)	229.89 (-22.67)	144.44 (0.00)	162.78 (11.26)
6	Anaimalai	60.18	76.35 (21.17)	90.55 (15.68)	117.23 (22.75)	151.10 (22.41)	142.54 (-6.00)	160.06 (10.94)	112.73 (-41.98)	126.15 (10.63)	112.11 (-12.52)
	District total	1410.23	1393.75	920.80	891.82	1047.91	1109.28	1117.03	1411.63	1085.21	1051.85

Source : Computed

The bank-wise, Tirupur and Periyanaickanpalayam are placed in the highest performance position in some years. Long period of existence and extensive coverage of membership by these banks are responsible for this top position of these banks in respect of this indicator. But, the banks operating in Thondamuthur, Udumalpet, Pollachi and Anaimalai region are placed in the lowest performance in respect of this indicator. Though, the Thondamuthur bank has been in existence for more than 4 years; it could not widen its credit deployment due to hills area where the scope for extensive and intensive agricultural operations are limited.

Loan Outstanding

The efficiency of the rural credit institution is measured by their outstanding which means the loan amount to be collected in installments from the incremental income of the project owner to which finance provided by the lending institution. The outstanding of the banks (bank and year-wise) is presented in the table 2

Table 2
LOAN OUTSTANDING
(Amt. Rs. in lakhs)

Sl. No	Name of the Banks	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06
1	Tirupur	843.62	1013.02 (16.72)	1006.85 (-0.61)	1018.15 (1.10)	1127.85 (9.72)	1253.77 (10.04)	1294.85 (3.17)	1013.48 (27.76)	856.79 (-18.28)	685.66 (-24.95)
2	Udumalpet	568.29	507.33 (-12.01)	680.90 (25.49)	761.70 (10.60)	779.13 (2.23)	769.97 (-1.18)	791.91 (2.77)	595.64 (-32.95)	529.36 (-12.52)	331.95 (-59.46)
3	Pollachi (North)	516.44	468.90 (-10.13)	460.53 (-1.81)	488.58 (5.77)	520.36 (6.10)	581.41 (10.50)	623.70 (6.78)	638.02 (2.24)	600.12 (-6.31)	525.07 (-14.29)
4	Periyanaicken palayam	609.08	674.68 (9.72)	628.02 (7.42)	628.03 (0.0)	658.32 (4.60)	678.65 (3.0)	733.15 (7.43)	678.67 (-8.02)	569.36 (-19.19)	460.99 (-23.50)
5	Thondamuthur	300.31	328.72 (8.64)	365.27 (10.00)	435.32 (16.09)	536.63 (18.87)	589.94 (9.03)	664.25 (11.18)	668.60 (0.65)	590.12 (-13.29)	507.94 (-16.17)
6	Anaimalai	341.97	356.43 (4.05)	364.75 (2.28)	410.78 (11.20)	413.07 (16.68)	556.70 (11.42)	649.59 (14.29)	650.51 (0.14)	559.53 (-0.16)	441.08 (-26.85)
	District total	3179.71	3349.08	3506.32	3742.56	4115.36	4430.44	4737.45	4244.92	3705.28	2852.69

Source : Computed

The table 4.1.4 indicates that an increasing trend in respect of loan outstanding of co-operative banks during the last one decade and the amount of loan outstanding has increased by Rs.1557.74 lakhs during the 7 years of period under report. The average amount of loan outstanding (per bank) has also escalated to Rs.789.58 lakhs in 2002-03 from Rs.529.95 lakhs in 1997. The rest of the three years (2003-04 to 2005-06) has declined from 707.49 to 492.12 lakhs because of restricted lending policy followed by the banks.

The working results of the bank in terms of profit earned are an important indicator which reflects the financial performance of the bank. The number of banks earned profit or incurred loss, profit and loss amount, the highest and the lowest performance in respect of this indicator.

Table 3
Number Of Banks With Profit /Loss

S. No.	Year	No. of Banks Earning Profit	No. of Banks incurring Loss	Total No. of Banks
1.	1996-97	3(50.00)	3(50.00)	6(100.00)
2.	1997-98	6(100.00)	-	6(100.00)
3.	1998-99	4(66.67)	2(33.33)	6(100.00)
4.	1999-00	5(83.34)	1(16.66)	6(100.00)
5.	2000-01	4(66.67)	2(33.33)	6(100.00)
6.	2001-02	4(66.67)	2(33.33)	6(100.00)
7.	2002-03	3(50.00)	3(50.00)	6(100.00)
8.	2003-04	3(50.00)	3(50.00)	6(100.00)
9.	2004-05	2(33.33)	4(66.67)	6(100.00)
10.	2005-06	2(33.33)	4(66.67)	6(100.00)

Source : Computed

The financial performance of the banks under review is not found satisfactory. The banks (6) showed profit only one year 1997-98. There is a decline in the number of banks earning profit and during the study period only one out of 6 banks showed profit and the others are in red.

The amount of profit earned by the banks has been ranging between Rs.4.57 lakhs in 1997-98 and Rs.29.31 lakhs in 2005-06 and the banks have incurred loss to the tune of Rs. 186.16 lakhs at the end of the study period.

Findings, Suggestions And Conclusions

It is found that the banks under study has been facing with operational problems and they are

1. Delay in sanctioning the loan
2. Healthy and time consuming loan procedure
3. Inability to raise funds from own sources
4. Greater dependency on apex level institution
5. Problems in collection / Recovery of dues from members
6. Inadequate staff
7. Policy constraints and political interference
8. Escalating cost of operation and expenditure
9. Declining trend in profit etc.

The following are the suggestions made on the basis of the present exercise in improving the performance and operational efficiency of the primary co-operative agricultural and rural development banks.

1. The officials of the banks and the extension officers attached to the Panchayat Union have to take vigorous efforts through membership education programme to bring more people under their fold as members.
2. Identification of location specific, suitable and viable credit project is to be done periodically by the field supervisors of the bank with the help of lead bank officers of this district.
3. The Government of Tamil Nadu should take efforts for the introduction of deposit mobilisation scheme of innovative types in long term co-operative banks.
4. Innovative as well as diversified credit programmes are the needs of the hour.
5. Timely recovery with periodical supervision of the end use of loans with education of borrowers on proper utilisation, repayment of loan are the necessary steps to control the overdues which stand as a stumbling block to recycling of funds.
6. In view of these banks increased rise and diversification in operations, it is high time for the banks to adopt professional human resource management. Well trained staff makes banking operations healthy in future.
7. Introduction of computers in co-operative long term credit institutions is also the need of the hour. Computerisation in the banking operations leads to improving customer services, house keeping and productivity of staff.
8. Loan procedures of the bank are to be simplified so as to avoid the delay in the deployment of loans and
9. The banks are permitted to make investment of its surplus funds in various financial institutions so as to enable them to get a return on such investments

Conclusion

The study conclude that the co-operative banks need to best their attention on membership coverage, mobilizing more of funds from their own sources, timely recovery of dues, control over cost of operations, provision of timely and adequate amount of loan, diversification in their lending etc. For improving their performance in future and thereby promoting the growth and development of agricultural and rural sector of our economy.

ECONOMY OF ERODE DISTRICT

Introduction:

Economy of Erode district is depended on its trade and industry. However the district is also advanced in the field of agriculture. Close association and link with Coimbatore district which has the advantage of two premier agricultural Institutions like the Agricultural College and the Research Institute have helped the farmers of this district to keep abreast of developments in agricultural methods and practices and also improved strains of seeds. The publicity and developmental activities launched by the agricultural institutions in Coimbatore penetrated far and wide in the district of Erode. Irrigation facilities coupled with the awareness of improved methods of farming helped the agriculturists to forge ahead. Though the soil so good, utilization of improved methods of cultivation and improved strains of seeds have helped the agriculturists in the district to maximize their output.

Economy

Erode and its surrounding areas are having very good infrastructural base. Small Scale Industries are providing large-scale employment next to Agriculture in this area. It have played a very important role in the area's economy by providing large scale employment opportunities at fairly low capital cost, a wide industrial base, easy scattering of industries in rural areas and concentration of certain industrial groups at specific areas. Fabrics, like urgs, made in Erode are famous throughout India & are being exported

The ERODE City Stands First	Industries / Sectors / Areas * Turmeric production & Marketing * Agriculture * Beverages * Jute, Hemp & Mesta Textile Products
Second	* Cotton Textiles Manufacturing & Export * Leather Manufacturing * Food Products
Third	Basic Metal Products

Erode's Gross Domestic Product (GDP) growth for year 2008 stood at 15.5 per cent was the top in the State and ahead of the State's [GDP] growth by 4 per cent.

Agricultre

Though noted for trade and industry, the district is by no means backward in the filed of agriculture. Close association and link with Coimbatore district which has the advantage of two premier agricultural Institutions viz., the Agricultural College and the Research Institute have helped the ryots to keep abreast of developments in agricultural methods and practices and also improved strains of seeds. The publicity and developmental activities launched by the agricultural institutions in Coimbatore penetrated far and wide in Erode District. Added to this was the propaganda and demonstration organised by the Agricultural Department. Availability of irrigation facilities coupled with the awareness of improved methods of farming helped the agriculturists to forge ahead. Though the soil is not the best, utilisation of improved methods of cultivation and improved strains of seeds together have helped the agriculturists in the district to maximise

D.Ranjithkumar, M.Phil Research Scholar,
Department of Economics, Gobi Arts and Science College Gobichettipalayam,

their output. Paddy accounts for 86,939 hectares. Next to Paddy is Choram which is raised in more than 11240 hectares. Pulses are not much in cultivation in the district. Only 31498 hectares are used for raising pulses. Among condiments and spices, turmeric and chillies are significant. Cultivation of turmeric extends over 14533 hectares. Among the non-food crops, oil seeds constitute the major item. 55.23 % of the total area under non food crops is accounted for by oil seeds. A total of 95018 hectares is under oil-seeds cultivation and of these ground-nuts account for 55696 hectares while gingelly accounts for 24084 hectares. Ground-nut is the most popular oil-seed raised here. Among other non-food crops raised here, the most important items are cotton, sugarcane and tobacco, sugarcane is raised in 30903 hectares. Cotton is grown in few hectares while tobacco is raised in 4923 hectares in the district. In respect of all commercial crops also improved varieties have been adopted by the farmers and this has helped them to maintain high yields.

Textile

Textile is the major business in the city. Erode is well known for marketing of handloom, power-loom and ready-made garments and . Loomed products are marketed here in bulk. Erode produces about 47% of state's total textile needs. Erode occupies many textile markets, among which Gani Market in PS Park, is the biggest one. Merchants from all over India participate in this. The market opens on Monday evening and closes on Tuesday morning, and mean-whiles it takes a turn-over of about 5-6 Crores of Indian Rupees. Behind this, the other textile markets in the city are open for all days. Most of the people involved in textiles are migrants from U.P., Bihar, Rajasthan. There exist over 1000 such families in Erode. Power-Loom, Hand-Loom were major occupation in this area, producing a lot of textile goods.

Turmeric

Erode District is an important market centre for Turmeric, a spice commonly used in curries. Turmeric is also used as a fabric dye. This turmeric is collected from Erode District and from adjoining districts of Tamil Nadu and Karnataka, including Mysore. Erode is also known as "The Turmeric City". It accounts for about 15 per cent of the turmeric production in the country and the tuber's market in Erode is the second largest in the country, next only to Sangli in Maharashtra. Turmeric is cultivated in about 5,000 to 6,000 hectares in the district.

Small Scale industries in Erode District

Erode district is one among the industrialised district in Tamilnadu and it is fifth among the districts in Tamilnadu as far as Small Scale Industries concerned. There are 25,637 registered SSI units as on 31.3.2008 in the district. Cotton Textiles in this District dominate the district at present. It accounts for 20.2% of the registered SSI units in the district. Next comes to Hosiery & Readymade Garments industry, which is accounting for 18.7% followed by food products with 11.4%.

Small Scale Industries are providing large-scale employment next to Agriculture in this district. It have played a vital role in the districts economy by providing large scale employment opportunities at relatively low capital cost, a wide entrepreneurial base, easy dispersal of industries in rural areas and concentration of certain industrial groups at specific areas.

Export of Erode district

Erode is the second most important city in Tamil Nadu after Chennai and a major export hub with value of exports alone being put above Rs. 10,000 crores a year. It is the home for host of textile, hosiery, engineering and auto spare parts units and is trying to establish its foothold in the I.T. Sector. It is a most livable city on account of salubrious climates, well developed industrial infrastructure, cluster of educational. institutions and health care centre. The following Commodities are Being Exported from Erode

District. Knitted Garments , Spices Powder, Cotton and Synthetic Yarn , Grey woven fabrics, Turmeric Powder , Readymade Garments , Tamarind Paste , Activated Carbon , Cotton Fabrics , Sugar , Edible Oils, Granite Monuments , Cotton Bed Spreads , Made Ups.

Conclusion

Erode district is one of dominant role of tamilnadu state economy. It is provided more employment opportunities such as the Agriculture ,Textile ,Garments, small,medimum, Lage scale inudstries. Erode district is also known as the Turmeric city. It has produced largest amount of turmeric, India is one of the largest market. Erode Distict is most exported in Textiles,Garments and Agriculture goods etc, and it has earning the more foregin revenue.

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Peer Reviewed Journal

A QUALITY LOST RIVER OF NOYYAL

Introduction:

Noyyal River originates from the Vellingiri hills of the Coimbatore district, (Tamil Nadu, India). It passes through Tirupur and it is stored up in the Orathapalayam Dam to be used in agriculture and drinking purposes for the downstream villages in the Erode District. A large number of dyeing units are situated in the upstream in and around Tirupur. They discharge their chemical and toxic effluents in to the Noyyal River. As a result all the irrigation wells along the river and in the downstream villages have been polluted and the ecosystem has been adversely affected by the seepage and percolation of water stored in the Orathapalayam dam. Eventually it affects the agriculture, livestock rearing, and fisheries of the downstream farmers around the Orathapalayam dam.

Hence the farmers refuse to use its water for irrigation. In this attempt we have gone through the various studies conducted in the noyyal river basin and effects of this water pollution in the agricultural land, livestock rearing and fisheries in order to access the reason behind the fact that why this river is being called as a lost river.

Noyyal :

This River is a tributary of the Cauvery. It flows through Coimbatore, Erode and Karur districts. The Noyyal river basin covers a total area of 3510 km. The length of Noyyal River is about 170 km from west to east. The average width of the basin is 25km. The annual rainfall is varied for this basin. The Noyyal is a seasonal river, which has good flow during the North-East and South-West monsoons. Apart from the monsoon periods, there is only scanty flow for most part of the year. The river supplies water to several irrigation tanks located in and around Coimbatore town and downstream. Nearly 6,000 acres of cultivable land are irrigated using the river water.

Impact On Water Sources:

"The dumping of dye factory effluent with sludge increases the soil pH, organic carbon, phosphorous, potassium, calcium and sodium, consequently reducing the water holding capacity of soil. Moreover, the accumulation of polluted material slowly alters the soil biological cycle process related to nitrogen and phosphorous nutrition. The beneficial microbes are being hindered by the accumulation of textile wastewater and needs ameliorative measures"

Effects Of This Pollution In The Noyyal River Basin:

Degradation of the catchment:- Steep slopes and consequently soil erosion / surface run off, siltation and floods are common in the catchment area, which reduce the capacity of channels and the water bodies ultimately.

Siltation in the water bodies:- The water flow in the river / channel is decreased, which also add to the problem of flooding and there by the storage capacity of water holding structures are reduced due to siltation.

Encroachment:- Several tanks face the problem of encroachment in the wake of urbanization for construction / public utility purposes.

Dr.S.Ponnarasu, Assistant Professor & **M.Palanisamy**, PhD Research Scholar,
Department of Economics, Gobi Arts and Science College, Gobichettipalayam.

Industrial effluents:- The industrial wastes discharged into the Noyyal basin contaminate both surface and sub surface (ground) water. As a result, the drinking water becomes unsuited for human and animal use and often becomes scarce also. The quality deterioration of water affects crop growth and ultimately the productivity of agricultural land is reduced.

Urban wastes:- Domestic sewage and urban wastes are often dumped into the river directly. The health and sanitation is affected and the ground water is also contaminated.

Aquatic weeds:- water hyacinth, hydrilla, water fern, pond weed etc are the common aquatic weeds that pose difficulties in the field of water management and create rider problems like reduction of water flow, disturb fish culture, loss of water, impeded drainage, siltation etc.

Water logging:- leads to accumulation of salts in soils which impair the growth of crops and affect the yield and quality of produce.

Conclusion:

One can clearly understand why Noyyal river is being called as "A Quality Lost River of Noyyal" after going through the findings and test results obtained through various studies referred in this study. Knitwear Exports are growth, but quality of river lost. The pollution levels in this water are so high, that local farmers refused to use this water for irrigation or drinking purpose. Taking the issue to court has lead to closure of more no of polluting units in the industry. But as the rectification process is painfully slow, the river is still as lost as it gets. This paper concludes that water pollution in the basin can damage even human deoxyribonucleic acid (DNA) strands, we feel it is time to sit up and find out what is going on and to decide on the things needs to be done to prevent the river from further pollution and produce quality resource from Noyyal river.

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CLIMATE CHANGE AND MANAGEMENT OF WEATHER FOR SUSTAINABLE AGRICULTURE: A STUDY ON COIMBATORE DISTRICT, TAMIL NADU

Introduction

Climate change is the most important factor determining the regions for agriculture production. Food demand has been increasing rapidly with increase in population and a slight decline in the annual food production is a matter of great concern. It is estimated that by 2020, the world population will reach 7.5 billion and that much of this growth will occur in the developing world. Climate change witnessed recent years is not new. It has been, and continued to be principal sources of fluctuation in global food production particularly in the semi-arid tropical countries of the developing world in conjunctions with other physical political and socio economic factors, Climate change contributes to be vulnerable for economic loss, hunger, famine and dislocation, in the developing countries where adaption for improved technologies is too slow to counteract the adverse effects of varying environmental conditions, Climate fluctuation are the main factors that prevent the regular supply and availability of food, they key to food security. Hence, it is imperative that weather and climate change aspect should be well understood so as to formality more sustainable polices and strategies to promote food production and food security.

Objectives Of The Study

1. To study the nature and trend of climate condition in Coimbatore District.
2. To analyze the impact of climate change on important crops with special reference to Coimbatore District.

Weather Condition In Coimbatore District:

Coimbatore district has a tropical climate with extreme variation in the temperature. The mountains in the district influence the climate and reduce the heat. The entire district is pleasant during the months of January and February. The summer period of the district starts by March and it is hot till the end of May. The cold wind that blows through the Palghat gap reduces the temperature in the Taluks of Pollachi and Udumalpet. The South-West monsoon sets in during this period. The North-East monsoon brings more rain during October to December. The winter period of the district extends from December to February.

Climate Change:

Climate change is the long term regime of the atmospheric variables or the composite of the day to day values of the weather elements for a given place or area for a given period. The period of averaging may be several months, season, year or even centuries. Climate does not mean merely the mean and its deviations. It should bring also the rare events and non-periodic storms as well as the extreme values which results in floods, droughts, heat waves, cold waves, etc.

Sustainable Agriculture:

The technical advisory committee of consultative group of International Agricultural Research (CGIAR), 1988 started that Sustainable agriculture is the successful management for agriculture to satisfy the changing human needs, while maintaining or enhancing the quality of environment and conserving natural resources.

R.Saravanan, Ph.D., Research Scholar

Department of Economics, Gobi Arts & Science College, Gobichettipalayam

Influence Of Climate Change On Agriculture:

Climate change over the long term, in particularly global warming, could affect agriculture in a number of ways, the majority of which would threaten food security for the world's most vulnerable people. The overall predictability of weather and climate would decrease, making planning of farm operation more difficult.

- Climate variability might increase, putting additional stress on fragile systems.
- Climate extremes might become more frequent.
- Biological diversity would be reduced in some of the world's most fragile environments, such as mangroves and tropical forests.
- Climate and agro-ecological zones would shift, forcing farmers to adapt, as well as threatening natural flora and fauna.
- The current imbalance of food production between cool and temperate regions and tropical and subtropical regions could worsen.
- Pests and vector-borne diseases would spread into areas where they were previously unknown.

Global warming might also have some positive effects for farmers. Increases in carbon dioxide have a fertilizing effect for many crops, Increasing growth rates and water use efficiency. But expert's points out so many question marks that remain over this scenario outweigh the possible benefits. These beneficial impacts include-

Conclusion:

Agriculture is to be made economically vibrant and intellectually challenging. Food demand has been increasing rapidly with increase in population and a slight decline in the annual food production is a matter of great concern. The role of modern scientific agriculture starts at the point. Every village is to be developed as a knowledge centre. Climate change contributes to be vulnerable for economic loss, hunger, famine and dislocation, in the developing region where adaption for improved technologies is too slow to counteract the adverse effects of varying environmental conditions, Climate fluctuation are the main factors that prevent the regular supply and availability of food, they key to food security.

LAND USE PATTERN AND CROPPING PATTERN OF ERODE DISTRICT,

Introduction

Agriculture in India is the livelihood of the poor, which employs more than half of its people with the highest proportions in the poorest areas and benefits directly millions of poor households in the farms of better family and nutrition, more cash for children's education, extra income to reinvest in developing the farm enterprise and lower food prices for consumers. Agriculture contributes a high share of net domestic product by sectors in India. Farmers are growing numerous of crops in the field rather than single crop. The distributional pattern of crops in any region is an outcome of predominance of certain crop or combination of crops. This is an term of emergence of typical crop combination. Cropping pattern in the study region has undergone an evolutionary process.

The state of Tamil Nadu has launched a massive crop diversification programme to support double cropping, facilitate shift in cropping pattern towards cash crops and support development of non-farm allied services. The diversification of agriculture can help in accelerating agriculture growth, increasing income, generating employment opportunities, alleviating poverty and under nourishment, enhancing household food security, conserving natural resource base, and participating effectively in new trade regime.

Aims And Objectives

The present study is going to analyze the land use and cropping pattern of Erode district. The following objectives are as follows:

- (i) To analyze the land use pattern of Erode district.
- (ii) To study the sources of irrigation and analyze the cropping pattern related with physical elements.
- (iii) To analyze the changing pattern of cropping.

Methodology

The present study is based on secondary sources of information area under different crops and land use for the year 2009-2010 were collected from statistical department of Erode district.

Land Use Pattern Analysis (2000-2010)

Land, water, and soils are the basic resources of agriculture. The present study is focusing the availability of land under various uses. Erode is the predominantly of agriculture region. The most of the people are directly or indirectly related to the agricultural activities.

The total geographical area of Erode district is 822446 hectares. Barren and uncultivable land consists of 6270 hectares. The forest area covered about 227511 hectares. The land put to non-agriculture uses were up to 530004 hectares. The cultivable wasteland constitute to 1707 hectares. The permanent pastures and other grazing land is 101 hectares, and land under miscellaneous tree crops and crops not included in net area sown is 913 hectares. The current fallow comprises of 64311 hectares. The other fallow lands were up to 19057 hectares. The net area sown constituted to 199389 hectares. The area sown more than once was 25397 hectares. The gross cropped area was about 224786 hectares.

The land use has been changed during the years. The forest area is 27.66 per cent. The barren and cultivable land is 0.76 per cent. The land put to non-agricultural uses is 6.44 per cent.

R. Suganya, Ph.D Research Scholar,
Department of Economics, Gobi Arts and Science College, Gobichettipalayam.

Table No.1: Land Use (2000-2010)

Sl.No.	Land Use	Area in hectares		Area in Percentage	
		2000	2010	2000	2010
1.	Forest	228750	227511	18.75	27.66
2.	Barren and Uncultivable land	7246	6270	0.59	0.76
3.	Land put to non-agricultural uses	74910	53004	6.14	6.44
4.	Cultivable wastes	668	1707	0.05	0.21
5.	Permanent Pastures & other grazing land	192	101	0.02	0.01
6.	Land under Miscellaneous Tree crops	830	913	0.07	0.11
7.	Current Fallows	131500	64311	10.78	7.82
8.	Other Fallow Land	62843	19057	5.15	2.32
9.	Net Area Sown	309252	199389	25.35	24.24
10.	Area sown more than once	47255	25397	3.87	3.09
	Gross cropped area	356507	224786	29.22	27.33
	Total geographical area	1219953	822446	100.00	100.00

The cultivable waste land consists of 0.21 per cent. The permanent pastures & other grazing land covers about only 0.01 per cent. The land under miscellaneous tree crops is 0.11 per cent. The current fallows are about 7.82 per cent. The other fallow land is 2.32 per cent. The net area sown has reduced to 24.24 per cent. The area sown more than once is 3.09 per cent. The gross cropped area has also reduced to 27.33 per cent.

Cropping Pattern Analysis (2000-2010)

There are quite a large variety of crops with varying hectares under cultivation. The total cultivated area was 224786 hectares. Paddy cultivated for a significant area of 38113 hectares. Maize was cultivated under 8551 hectares. Pulses cultivated to 5134 hectares. Sugarcane (gur) was cultivated to about 34597 hectares. 19392 hectares were cultivated by groundnut. Gingelly was cultivated by 12922 hectares. Cotton (BT) was cultivated to 914 hectares. Groundnut was cultivated to 19392 hectares. Coconuts were cultivated in 10474 hectares. Banana constitute up to 10919 hectares. Green gram, red gram and black gram was cultivated to 696, 1023 and 928 hectares of land respectively. Turmeric was cultivated to 9854 hectares which is well known for this district.

Table No. 2 : Cropped Area (2000-2010)

S.No.	Crop	Area in Hectares		Percentage	
		2000	2010	2000	2010
1.	Paddy	64475	38113	34.08	32.11
2.	Maize	5283	8551	2.79	7.20
3.	Pulses	4587	5134	2.42	4.32
4.	Sugarcane	23853	34597	12.61	29.14
5.	Groundnut	61071	19392	32.28	16.34
6.	Gingerly	29914	12922	15.82	10.89
	Total	189183	118709	100.00	100.00

Erode turmeric is sent throughout the country. The district occupies the first position in area and second place in productivity next to Coimbatore District in the state under turmeric. The main areas are Modakuruchi, Gobi, T.N.Palayam, and Sathy blocks. Tobacco, onion chillies, flowers and the other important vegetables were grown here.

Changes In Land Use And Cropping Pattern (2000-2010)

The present land use pattern of Erode District is ten categories as follows. The forest area covers 18.75 per cent (228750 hectares) in the year 2000 and 27.66 per cent (22751 hectares) in the year 2010 which has been increased during the years. A barren and cultivable use has been increased to 0.76 per cent (6270 hectares) from 0.59 per cent (7246 hectares). Land put to non-agricultural uses has decreased to 74910 hectares (6.14 per cent) to 53004 hectares (6.44 per cent). Cultivable waste land has increased twice up to 1707 hectares (0.21 per cent) from 668 hectares (0.05 per cent). The permanent pastures and other grazing land has also been decreased to 192 hectares (0.02 per cent) to 101 hectares (0.01 per cent). The land under current fallows is about 131500 hectares (10.78 per cent) in the year 2000 which has been reduced to 64311 hectares (7.82 per cent). The land other fallow is 62843 hectares (5.15 per cent) has declined to 19057 hectares (2.32 per cent). The net area sown has been reduced to nearly half from 309252 hectares (25.35 per cent) to 199389 hectares (24.24 per cent). The area sown more than once is 47255 hectares (3.87 per cent) has lost to 25397 hectares (3.09 per cent). The gross cropped area is 356507 hectares (29.22 per cent) to 224786 hectares (27.33 per cent). Totally the geographical area has also been reduced to 822446 hectares from 1219953 hectares.

The crop cultivation is well practiced in Erode district. The cultivated paddy is about 64475 (34.08 per cent) hectares in 2000, but it has been decreased to 38113 hectares (32.11 per cent) in the year 2010. The crop maize has been cultivated to 8551 hectares (7.20 per cent) in 2000 and has increased to 5283 hectares (2.79 per cent) in 2010. The pulse 5134 hectare (2.42 per cent) has gone up to 5134 hectares (4.32 per cent). The percentage of sugarcane has increased to 23853 hectares (12.61 per cent) to 343597 hectares (29.14 per cent). There was a huge decline in groundnut cultivation from 61071 hectares (32.28 per cent) to 19392 hectares (16.34 per cent). The gingerly has been put to half of its production of 12922 hectares (10.89 per cent) from 29914 hectares (15.82 per cent).

Summary And Conclusion

Land and cropping pattern are inter related with factors like soil and water. The study shows that there is a wide gap between the years of crop cultivation. This is due to the fragmentation of the land and more over the cultivable lands are made as uncultivable lands for the construction of new buildings. Erode district is partly engaged by textiles which **discharge chemicals from the production causes local sanitation of the groundwater and excessive salinity of the runoff water which can no longer not used for irrigation**. The quality deterioration of water affects crop growth and ultimately the productivity of agricultural land is reduced. The farmers must be given due encouragement to stay in this field and cropping pattern changes must be influenced through market led extension.

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Peer Reviewed Journal

IMPACT OF FERTILIZER CONSUMPTION ON AGRICULTURAL PRODUCTION

(With special reference to Erode District of Tamil Nadu)

Introduction:

In India, Agricultural prosperity is one of the key factors for identifying the growth in economy. The development of agricultural sector is felt important in India which has to feed around 121 crores of people, at least three times a day. Agriculture in India is the means of livelihood of almost two thirds of the work force in the country. Production efficiency is dependent upon several factors of which fertilizer management plays a pivotal role in achieving targeted food production. For well-balanced and normal growth and prosperous development, plants need water, air, light, favorable drainage and plant nutrients. Some of the factors are under the control of man, but others are not so.

With air, light and physical support of control over temperature, man has little control. Water comes to the soil as rain and snow, and man may influence in various ways the supply of its availability for crops. In order to maintain soil fertility, and so to provide a sound basis for continued plant growth the nutrients must be replaced in the soil. Thus, unless the plant nutrient balanced in the soil is adequate for the optimum growth of crops, other factors conducive to increasing agricultural production, such as better seeds, water and improved land preparation can hardly be of any avail in bringing about the desired results. Increasing use of chemical fertilizers in agriculture make country self dependent in food production but it deteriorate environment and cause harmful impacts on living beings.

Importance of the study

Fertilizers are used almost by all the farmers. Chemical fertilizers have now come to be recognized in the countryside as one of the most important farm inputs. Although their use had started revolutionizing crop yields in western Europe and the United States even earlier than World War-I. The artificial fertilizers had passed the experimental stage around 1875. Two decades later the methods of producing them had been fully developed.

In the interest of rational objectives, there is great need to provide farmers with substantial incentives for using fertilizers. The farmer will not use fertilizers unless he clearly finds a positive relation between the costs of this input and the additional return attributable to the fertilizer. There is thus the need to subsidize the use of fertilizers till the production cost is decreased. Fertilizers also play a significant role in deciding the output and financial stability of the farmers. Consumption of fertilizers is one of the important areas where special study is to be made for the purpose of enhancing the agricultural productivity in the region. It is a key to securing the food security of a country.

Issues in the use of chemical fertilizers

The use of fertilizer is determined by the presence or absence of number of constraints. Such constraints may either reduce the profitability of the farmer by using more fertilizer, or prohibit him from obtaining, or make it unattractive for him to seek such potential profits. While the presence and impact of individual constraints are location specific, a number of constraints appear to be present in most developing countries. These include unavailability of fertilizers where and when needed; lack of knowledge, risk and uncertainty, lack of credit, land tenure and lack of the most appropriate complementary inputs.

A.Justin Thiraviam, Assistant Professor,
Department of Economics, St.Joseph's College, Tiruchrappalli
Dr.A.Jebamalai Raja, Department of Humanities (Economics)
National Institute of Technology, Tiruchirappalli

Indian agriculture has reached the stage of development and maturity much before some advanced countries in the world due to intense cultivation measures as given in historical books. However, food problems commenced in the 18th century and the magnitude of the problem intensified during the 20th century. But at present due to the pragmatic steps followed by the Government such as Green Revolution, the intensity of food problem has decreased. However, the problems faced by the farmers seem to be continuing due to various reasons. One of the major problems in the use of fertilizer to their crops at the optimum level of usage is yet to be identified. Outmoded farming techniques, fluctuations and inelasticity of crop output, more dependence on natural resources such as rain, temperature etc., also cause maximum fluctuations in the agricultural sector. Further India is a country having substantial diversities. Different regions exhibit entirely different characteristics so that not a single plan can be conceived for all agricultural regions of the nation. Productivity in agriculture depends on social, technological and economical factors. The consumption pattern of fertilizers also varies due to local and environmental factors. The social environmental of villages is a reason for changes in consumption pattern. Most of the Indian farmers are illiterates, superstitious, conservative and unresponsive to new agricultural techniques in relation to fertilizers.

TABLE-1

Fertilizer Consumption in Erode District

YEAR	Nitrogen (N)	Phosphates (P)	Potash (K)	(In Tones)
				NPK Total
2004-05	32917	3422	16419	52758
	62.39	6.49	31.12	100
2005-06	38602	3845	18218	60665
	63.64	6.33	30.03	100
2006-07	52774	6693	30251	89718
	58.83	7.46	33.71	100
2007-08	72505	3377	40988	116870
	62.04	2.89	35.07	100
2008-09	81641	5567	39675	126883
	(64.34)	(4.39)	(31.27)	(100)

Source: South India Statistics.com

From the above table it is clearly perceived that the fertilizer consumption in Erode District is an increasing growth trajectory the fertilizer consumption in Erode District has increased substantially. In the year 2004-05 the fertilizer consumption in Erode District was only 52758 tones and it has shot up to 126883 tones in 2008-09. The three major components of fertilizer viz., Nitrogen, Phosphates and Potash have been increasingly consumed by the farmers during the 2004-05 to 2008-09. From the above table it is inferred that the consumption of Nitrogen and Phosphates has been lower in the year 2007-08

but in the subsequent year 2008-09 the consumption has picked up impressively. The fall in the consumption of Potash is seen in the year 2006-07 and in the subsequent years 2007-08 and 2008-09 the consumption again peaked at higher levels. The unambiguous conclusion from the above is that the consumption of fertilizers in Erode District has been quite high and it has been increasing over the years. The reason for their upward trend can be attributed to the anxiety on the part of the farmers to improve the production of crops by using fertilizers intensively.

Conclusion:

Agriculture is the primary occupation of majority of the people in India. The productivity in agriculture depends on the social, technological and economic factors. These factors are significantly influenced by the yield of the farmers and their income generating activities. Fertilizer is the prime factor to change the yield and the income level of the farmers. Hence this study has brought to light the consumption pattern of fertilizer at Erode District. The plight of farmers can be minimized only if the government ensures the availability of required fertilizers, seeds and other input materials in time to the farmers.

Peer Reviewed Journal

THE IMPACT OF MGNREGS ON THE SOCIO-ECONOMIC STATUS OF RURAL IN ERODE DISTRICT

The implementation of national Rural employment Guarantee scheme can be considered as a partial approval of these demands (NREGS) Now the central government has decided to rename the scheme as Mahatma Gandhi National Employment Guarantee scheme. This is one of the notable development scheme implemented after independence. It is a historical scheme as it is implementing a right pronounced in the constitution. It has been viewed as the largest labour oriented project in the world now.

What is MGNREGS ?

Name of the scheme is MGNREGS

Mahatma Gandhi National Rural Employment Guarantee Scheme.

It aims at enhancing the livelihood means of the poor, by guaranteeing hundred days of wage employment is a financial year to a rural household whose adult members volunteer to do unskilled manual work this scheme can be availed by adult members of any rural household who are willing to do public work- related to unskilled manual work at minimum wage of Rs.100 per day. The central government outlay for scheme is 39,100 crores, in 2009-10.

The implementation of MGNREGS in Erode District

Erode is known as on the extreme north of Tamil Nadu. It is bounded mostly by Karnataka state and also River Palar covers pretty long distance. To the east lies Namakkal and Karur Districts. Dindigul District is its immediate neighbor to the south and on the west. It has Coimbatore and Nilgiri Districts as its boundaries. The Erode District is essentially a land-locked area having no-sea-cost of its own. Erode District situated at between 10.36" and 11.58" North Latitude and between 76.49" and 77.58" East Longitude.

Aims :-

- This scheme aims at providing physical oriented employment for atleast 100 days.
- To enhance the quality of life in the villages.
- To create a stable assets
- To improve the infra structure.

Conclusion :-

1. This scheme has been activated since 1.4.2007. In the initial level the training was given to the heads of Municipality, people welfare officer and panchayat writer. Secondly the forms, registers and application have were printed.
2. Public awareness was created through newspapers, T.V. Radio and notices. The identify cards were issued to the eligible candidates through the panchayat.
3. Every panchayat will receive 10 lakhs to 15 lakhs for the works creating channels and repair the ponds, and soon
4. Every Friday all the works must be measured and they have to prepare a wages would be issued before the committee appointed for issuing the wages.

Dr. R. Palanivelu, Associated Professor

R.Mullaivananathan, Ph.D Research Scholar

Department of Economics, A.V.V.M. Sri Pushpam College (Autonomous), Poondi

THE DEMOGRAPHIC PROFILE OF TIRUPPUR DISTRICT

Tiruppur pronounced as is a textile city located on the banks of Noyyal River. It is also called Dollar city. It is the administrative headquarters of the Tiruppur district. It forms a part of the ancient Kongu Nadu region of South India, where its people were the first to establish territorial state. Tiruppur is a textile hub and a vast generator of employment for unskilled temporary workers.

Tiruppur was constituted as Municipality during the year 1947. It was upgraded as Special Grade Municipality during 1983 and upgrades as Corporation from 2008. The total area of the Municipality is 27.19 km² with 52 wards. It is increased to 60 wards from the year 2011 local elections. Total population as per 2011 census is 444,543. The floating population of the town an average 150,000. Exports from Tiruppur, which provides employment to over six lakh people has crossed the Rs.12,000 crore mark last year in FOREX earnings exports and another ₹ 100 billion in Indian domestic market and making the city a 220 billion market.

Demographics

As of 2011 India census, Tiruppur had a population of 444,543. Males constitute 52% of the population and females 48%. Tiruppur has an average literacy rate of 82%, higher than the national average of 74.04%. The city's population is predominantly Hindu, along with sizeable Muslim and Christian populations. As the business grows well, people belonging to many other religions and castes have been staying in Tiruppur. Sikhs and Jains are also present in small numbers. The Gounder community forms the majority population in and around the city. There are many mosques, churches and temples inside Tiruppur.

Gounders belong to the Kshatriya Caste and followers of the (Dvaita) Saiva Siddhanta maargam of Hinduism. It is one of the oldest existing schools of thought in Shaivism. They are known for their bravery and pride towards their Caste and religion. Most of the Spinning Mill's, dyeing and garment manufacturing company owners belong to the Gounder caste.

The city also has many Keralites mainly from Palakkad (once part of Kongu Nadu) and North Indians like Jains and Marwaris, who are engaged in trade and commerce. Nowadays people even from the North-Eastern states of India, like Manipur and Nagaland have also moved in for jobs in Tiruppur.

Tiruppur also has large people working for textile and dyeing industrial units who hire people mostly from various southern districts of Tamilnadu, Tiruchirappalli, Dindigul, Madurai, Ramanathapuram, Tirunelveli and Nagercoil. They are usually unskilled labours but still get a decent pay compared to other places in South India. Large number of people also from other South Indian states like Kerala, Karnataka and Andhra Pradesh. Since there is always a demand for workers in Tiruppur, there is no unemployment problems. Nowadays there are also people coming from the Indian states of Orissa and Bihar to work in the garment processing factories in and around the Tiruppur city. Tiruppur is the seventh largest city in Tamil Nadu.

Climate

The climate in the town of Tiruppur is generally pleasant, and this is quite rare in the interior parts of Tamil Nadu. The climate in Tiruppur can be best described as salubrious, and temperatures hardly rise beyond a certain point. The main seasons in Tiruppur are the seasons of summer, winter and monsoon, as in the rest of the region.

R. Lakshmi, Research Scholar,

Department of Economics, Khadir Mohideen College, Adirampattinam.

The summer months in the town of Tirupur are the months of March, April and May. The weather during these three months is very hot and dry. The maximum temperature during the summer months will be around 35 °C (95 °F) and the minimum temperature will be around 29 °C (84 °F).

The monsoon months are the months of June, July and August. These months are mainly characterized by mild showers and a reduced temperature. The post monsoon or winter months are September, October, November, December and January. These months generally have a cool climate and temperatures rarely rise beyond a maximum of around 29 °C (84 °F). The minimum temperature during this season will be around 24 °C (75 °F).^[18]

Due to the presence of the mountain pass, major parts of the district benefit from the south-west monsoon in the months from June to August. After a warm, humid September, the regular monsoon starts from October lasting till early November. These monsoons are brought about by the retreating North-eastern monsoon. The average annual rainfall is around 700 mm (28 in) with the North East and the South West monsoons contributing to 47% and 28% respectively to the total rainfall.

The soil is predominantly black, which is suitable for cotton cultivation, but it also has some red loamy soil. Tirupur falls under the Class III/IV seismic zone, having experienced a 6.0 Richter scale earthquake in 1900.

Economy

Tirupur is the "knitwear capital" of India. It has spurred up the textile industry in India for the past three decades. Its economic boom boosts the morale of Indian industrialists. It contributes to a huge amount of foreign exchange in India. As of 2005, when Tirupur was a part of Coimbatore district, Coimbatore was the highest revenue earning district in Tamilnadu, but when tirupur grew more the city increased its status as a District, thus separating it from Coimbatore. The city being enriched as a knitwear capital of India, and exports Rs. 12,000crore. The numbers differ because the export numbers are 12,000 cr but another domestic segment which doesn't bring FOREX but huge business is another few thousand Cr in addition also international holdings by the Tirupur owned companies present.

EDUCATION SECTOR IN COIMBATORE DISTRICT

Introduction

Coimbatore, also known as **Kovai**, is the second largest city in the Indian State of Tamil Nadu. It is a major commercial centre in Tamil Nadu is Known as the "Manchester of South India". And now it has become an educational hub of Tamil Nadu with more educational institutions of excellence. As of 2010, Coimbatore District is home to 7 Universities, 54 Engineering College, 2 Medical colleges 35 Polytechnic colleges, and more than 70 Arts & Science colleges and large number of schools. The city has reputed state owned universities like Tamil Nadu Open University, Bharathiar University, Anna University Coimbatore, and Amrita University, Karunya University and Karpagam University. There are also plans to establish a world class university in the region and to convert the Government Arts College into a unitary type university. Presently there are three types of school in Coimbatore 1. Government run school 2. School funded by government but run by private trust. 3. School funded and administered by private trust. The Coimbatore Education District is the unit of administration for education in the city. In 2010, the number of students who wrote the SSLC and Higher Secondary examinations was both around 30000. This paper attempt to analyze level of literacy in Coimbatore region.

Objectives

1. To determine the importance of education.
2. To study about block wise education in Coimbatore district.
3. To analyze the educational and other infrastructural facilities in Coimbatore district.
4. To find out the disparities between male and female literacy.

Methodology

To achieve the above objective, secondary data regarding to block wise Literacy Rate, Educational and other infrastructural facilities of Coimbatore district were collected and analyzed. Secondary data were collected from State Statistical Dept, Coimbatore. The study used simple percentage method for analysis.

Table-1:Block Wise Literacy Rate (%) (As Per Statistical Hand Book Of 2007-2008)

S.No	Name Of The Block	Male	Female	Total	Disparities
1	Periyanaickenpalayam	55.6	44.4	1716585	11.2
2	Sarkarsamakulam	55.9	44.1	75377	11.8
3	Thondamuthur	56.1	43.9	95801	12.2
4	Madukkarai	55.3	44.7	180515	10.6
5	Karamadai	57.4	42.6	104616	14.8
6	Pollachi North	57.5	42.5	62636	15
7	Pollachi South	56.6	43.4	72527	13.2
8	Anaimalai	56.8	43.2	82267	13.6
9	Kinathukadavu	57.2	42.8	58730	14.4
10	Valparai	55.0	45.0	67735	10
11	Annur	58.4	41.6	58511	16.8
12	Sultanpet	58.7	41.3	39965	17.4
13	Sulur	57.1	42.9	128332	14.2
14	Coimbatore-Corporation	54.1	45.9	740899	8.2
15	Pollachi-Municipality	53.3	46.7	68199	6.6
16	Mettupalayam-Municipality	54.5	45.5	48609	9

(Source: State Statistical Dept, Coimbatore)

From the above table we can easily understand the Block wise literacy rate during the period of 2007. In Periyanaickenpalayam the percentage of Male Literacy Rate was 55.6 but Female literacy Rate was 44.40. The disparities between Male and Female was 11.2%. In Sarkarsamakulam, the percentage of Male was 55.9 and Female was 44.1%. The disparities between Male and Female was 11.8%. In Thondamuthur the male literacy rate was 56.1% and Female literacy rate was 43.9%. The disparities between these two was 12.2%. In Madukkarai the percentage of Male literacy was 55.3 and Female literacy was 44.7%. The disparities between these two was 10.6%. In Karamadai, the Male literacy rate was 57.4% and Female literacy rate was 42.6. The disparities between these two was 14.8%. In Pollachi out of 62.49% the male literacy rate was 70.59% and Female literacy was 54.25% The disparities between these two was 16.34%. In Anaimalai, the Male literacy rate was 56.8% and female literacy rate was 43.2%. The disparities between these two was 13.6%. In Kinathukadavu, the percentage of male literacy rate was 57.2 and female literacy was 42.8%. The disparities between these two was 14.4%. In Valparai, the male literacy rate was 55% and female literacy was 45%. The disparities between these two was 10%. In Annur the disparities between these was 16.8%. In Sultanpet and Sulur the disparities between male and female literacy rate was 17.4 and 14.2. In Coimbatore-corporation the disparities between male and female was 8.2% and in Mettupalayam -Municipality it was 9%. The disparities between male and female literacy in pollachi was 6.6% The disparities between male and female literacy rate was larger in Annur and smaller in Pollachi.

TABLE-2: EDUCATION AND OTHER INFRASTRUCURAL FACILITIES

S.NO	PARTICULARS	NUMBERS
01	EDUCATIONAL FACILITIES:	
A)	PRE-PRIMARY	418
B)	PRIMARY	1410
C)	MIDDLE	426
D)	HIGH	132
E)	HIGHER-SECONDARY	165
02	PROFESSINAL COLLEGES:	
A)	MEDICAL	2
B)	ENGINEERING	54
C)	AGRICULTURE	1
D)	VETENERY	1
E)	LAW COLLEGE	1
F)	UNIVERSITIES	7
G)	ARTS & SCIENCE COLLEGE	70
H)	TEACHER TRAINING INSTITUTE	16
I)	SCHOOL FOR SPECIAL EDUCATION	22
J)	FOREST COLLEGE	1
03	INSTITUTIONAL CREDIT FACILITY:	
A)	NUMBER OF BRANCHES OF CANARA BANK	32
B)	COMMERCIAL BANK	454

(Sources: Statistical Hand Book For 2007-2008)

The above table explains the education and other infrastructural facilities in Coimbatore region. The district has very good infrastructure in promoting quality education. Once it was Manchester of South India and now it has become an educational hub of Tamil Nadu with more educational Institutions of excellance. It is evident from the above table that the large number of world class educational institutions located in the district.

TABLE-3: COMPARISON OF LITERACY RATE BETWEEN 2001-2011

S.NO	DESCRIPTION	2001	2011
1	TOTAL POPULATION	2916620	3472578
2	MALE	1482228	1735362
3	FEMALE	1434392	1737216
4	AVERAGE LITERACY	78.50	84.31
5	MALE LITERACY	85.71	89.49
6	FEMALE LITERACY	71.06	79.16
7	TOTAL CHILD POPULATION(0-6 age)	297139	295584
8	MALE (0-6 age)	150580	151378
9	FEMALE (0-6 age)	145004	145761
10	LITERATES (0-6 age)	2056377	2678637
11	MALE LITERATES (0-6 age)	1140737	1418291
12	FEMALE LITERATES (0-6 age)	915640	1260346

(Sources: Census 2011)

The above table shows that the comparison of literacy rate between 2001 to 2011. In 2011, Coimbatore had population of 3472578 of which male and female were 1735362 and 1737216 respectively. There was change of 18.46% in the population compared to population as per 2001. In 2001; Coimbatore District recorded increase of 16.96% to its population compared to 1991.

Average literacy rate of Coimbatore in 2011 were 84.31 compared to 78.50 of 2001. If things are looked out gender wise, male and female literacy were 89.49 and 76.16 respectively. For 2001 same figures stood at 85.71 and 71.06 in Coimbatore District. Total literate in Coimbatore District were 2678637 of which male and female were 1418291 and 1260346 respectively. In 2001, Coimbatore District had 2056377 in its total region. The data regarding child under age of 0-6 age were also collected for all district. There were total 295584 children under age of 0-6 against 297139 of 2001 of total 295584 male and female were 150580 and 145004 respectively.

Coimbatore District population constituted 4.81 % of total Tamil Nadu population. In 2001, this figure for Coimbatore District was at 4.81 % of total Tamil Nadu population.

Conclusion

Education is a major tool for economic change that would lead to raising a person receiving education above the poverty level, and so reducing the high poverty percentage of the country. In our study an attempt has to be made to understand the importance of education and block wise literacy rate in Coimbatore region. To achieve the objective listed above the secondary data were collected from statistical department, Coimbatore. In this study reveals that the average literacy rate was increased from 78.50 to 84.31%. The percentage of increased literacy rate was 5.81. And at the same time the male literacy was increased from 85.71 to 89.49. The percentage of increased rate was 3.78. Female literacy was increased from 71.06 to 79.16. The percentage of increased literacy rate was 8.10. Coimbatore has very good infrastructure in promoting quality education. Once it was Manchester of South India and now it has become an educational hub of Tamil Nadu with more educational Institutions of excellence.

INDUSTRIAL POLLUTION IN KOVAI REGION

Introduction:

The urban areas of India are nowadays growing in to bigger agglomerations with ever increasing pollution due to haphazard and uncontrolled developmental activities. This increasing pollution can be attributed to a score of factors like lack of environmental planning, economic issues, social policies and a lot others. There are a lot of examples of such polluted places in India, and Coimbatore comes into prominence, thanks to its foundries.

Industrial Pollution in Kovai Region:

Coimbatore, one of India's leading industrial centers with excellent potential for industrial growth, is spread about 105.6sq.km and has a population of 1.1 million highly diverse people. Coimbatore is the second biggest city in Tamil Nadu after Chennai, and is blessed with a wonderful climate, sweet siruvani water and high number of educational institutions.

The presence of industrial activities on a large scale, in and around Coimbatore, tends to have a strong impact on the environmental quality of the city, particularly the vital component of air. Though vehicular emissions, construction-related activities, and garbage burning form sources of air pollution, the industrial emissions from small-scale industries mainly the foundries assume higher environmental significance.

The concentration of foundries within the city and the lack of state of the art facilities tends to take its toll on the city's environment and thereby make Coimbatore a severely air polluted place. Apart from the proficient and high scale foundries, there are about 250 small and medium scale industries in Coimbatore, which are severe threats for environmental pollution.

The small and medium sized foundries are located every 2 kms in the industrial radius Coimbatore, especially in the industrial areas of Avarampalayam, Ganapathy, and Peelamedu. The emergence of these small-scale industries coupled with the educational development of these areas made these areas a great growth for residential developers.

Once residences started coming on these industrial areas, the industries were asked to relocate by the TNPCB (Tamil Nadu Pollution Control Board), and even after relocation, some industries are asked to re relocate themselves in the interest of serving excessive population. This is a clear lack of discipline amongst people, and lack of cohesion for attainment of common growth.

TNCPB in Pollution Control Kovai:

After finding that relocation won't work out, the TNCPB (Tamil Nadu Pollution Control Board) ordered the industries to install emission control devices. Earlier the electrostatic precipitators were suggested and after considering the economic status of these small-scale foundries, wet collection devices like the

P.Bala Krishnan, PG Student

Department of Economics, The American College, Madurai

cyclone scrubbers were suggested. The cost of these devices would range of 40,000 and 50,000Rs, and these were found hard to bear for these industries.

We should be reminded that these industries are set up under the initial cost of 75,000 rupees, and hardly making profits, thanks to the lag of industrial activity after bomb blasts and huge competition. They are now trying to get time and push another design of scrubber that costs only 25,000. However the only aim of these time lags is to avoid actions, as these foundries are never inclined to set up these industries.

After low profile activities for the past half a dozen years, the foundries suddenly saw a great business opportunity when the European countries concentrated on importing foundry products from India. The European market in itself is a telling story. The European foundries were ordered to close since they couldn't cope up with the Environmental Standards(given that their emissions are 50% less toxic than ours), and the Europeans moved on to Howrah and Coimbatore for their foundry products.

The business starved foundry owners were too concerned not to miss the offer, and started competing with each other for production. And at this stage, any investment in pollution control devices would be a mis-investment for them.

While the TNPCB is fighting for the community and the small-scale foundries for themselves, no one has cared for the 3000 odd workers who work in these foundries. Their health conditions are entirely harmful. Health effects affect almost 95% of these workers(simpletons and uneducated persons).And nobody has thought of providing them with safety equipments. Yours truly couldn't find a 15 minute emission breathable, just imagine the plight of the persons who inhale them for 6 hours a day. A nearby doctor says that these people suffering continuous emissions are prone to death in 8-15years. For the past three or four years, this problem is getting aggravated by NGOs, but the TNPCB and these foundries are yet to come to solution, and never seem to come to one in the near future.

Conclusion

The study of a solution to this problem lead to two significant points that are however not related to environmental areas. First one being the lack of discipline in our people, and the other is to put economy the top priority even prior to safety in life When will india place environmental more prior to economy. I beg the concerned people to look after this issue immediately, with a lot of discipline. An Indian life is worth the same value as the English life.

AN ANALYSIS OF THE ECONOMY POSITION IN COIMBATORE REGION

The **economy of Coimbatore** emphasizes engineering and textiles. Coimbatore is called the "Manchester of South India" due to its extensive textile industry, fed by the surrounding cotton fields. The district also houses the country's largest amount of hosiery and poultry industries. The city has two special economic zones (SEZ), the Coimbatore Hi-Tech Infrastructure (CHIL) SEZ and the Coimbatore TIDEL park, and at least five more SEZs are in the pipeline.^{[3][4][5]} As of 2005, when Tirupur was a part of Coimbatore district, Coimbatore was the highest revenue earning district in Tamil Nadu.^[6] In 2010, Coimbatore ranked 15th in the list of most competitive (by business environment) Indian cities.

Coimbatore Trade Centre

Coimbatore has trade associations like CODISSIA, COINDIA, SITRA and COJEWEL representing industries in the city. Coimbatore also has a 160,000 square feet (15,000 m²) trade fair ground, built in 1999. It was named COINTEC due to its hosting of INTEC (Small Industries Exhibition)[3]. The Trade Fair complex, one of the country's largest, was built in six months, and is owned by CODISSIA (Coimbatore District Small Industries Association)[4]. It is also the country's largest pillar-free hall, according to the Limca Book of Records.

Textiles

Coimbatore houses a large number of small and medium textile mills. It also has central textile research institutes like the Central Institute for Cotton Research (CICR)- Southern Regional station and the Sardar Vallabhai Patel International School of Textiles and Management. The South Indian Textiles Research Association (SITRA) is also based in Coimbatore. The city also houses two of the Centers Of Excellences (COE) for technical textiles proposed by Government of India, namely Meditech, a medical textile research centre based at SITRA, and InduTech based in PSG College of Engineering and Technology. The neighbouring town of Tirupur is home to some of Asia's largest garment manufacturing companies, exporting hosiery clothes worth more than 50,000 million.

Information technology and BPO

The city is the second largest software producer in Tamil Nadu, next only to Chennai. IT and BPO industry in the city has grown greatly with the launch of TIDEL park and other planned IT parks in and around the city. It is ranked at 17th among the global outsourcing cities. Companies like Tata Consultancy Services, Cognizant Technology Solutions, IBM, Robert Bosch GmbH, Tata Elxsi, Dell, Aditi Technologies,

V.Prabakaran, Lecturer,

Department of Commerce & Management Bharathidasan University College, Perambalur

P.Rameshwari, Ph.D., Research Scholar,

Department of Commerce, Bharathidasan University College, Coimbatore.

CSS Corp and KGISL having a presence in the city. Software exports stood at 710.66 Crores (7.1 billion) for the financial year 2009-10 up 90% from the previous year.

Manufacturing

Coimbatore has a large and a diversified manufacturing sector facilitated by the presence of research institutes like Tamil Nadu Agricultural University, SITRA and large number of engineering colleges producing about 50,000 engineers. Some of the prominent industries in Coimbatore include L&T, BOSCH, PSG, Sakthi group, Lakshmi Machine Works (LMW), Premier Instruments & Control Limited (PRICOL), Premier Evolvics, Janatics, LGB, Revathi Equipment Ltd, ELGI Equipments, Craftsman Automation Pvt Ltd, Shanthi Gears, Roots Industries.

Wind Energy major Suzlon has set up a foundry & machine shop in Coimbatore. Along with it Hansen Transmission, a Belgian Company which manufactures gearboxes for windmills is setting up a plant here with an investment of 940 cr.

Wet grinders

Coimbatore has more than 700 wet grinder manufacturers with a monthly output As of March 2005^[update] of 75,000 units. The term "Coimbatore Wet Grinder" was given a Geographical indication for wet grinders manufactured in Coimbatore and Erode in 2006. Coimbatore is also home to a common facility for the manufacturers of wet grinders.

Pump manufacturing

Coimbatore is also called as the pump city of Asia. The City houses large number of small scale engineering companies. The motor and pump industry supplies over 40% of India's requirements. The Major Pump manufacturers Aquasub engineering, Mahendra Pumps, Suguna pumps, Sharp Industries, Deccan Pumps, CRI Pumps, Texmo Industries, Flowserve, Kirloskar Brothers & KSB Pumps have manufacturing base in the city.

Jewellery and gems manufacturing

Coimbatore is one of the major gold jewellery manufacturing hubs in India, renowned for making cast jewellery and machine made jewellery. The city is home to about 3000 jewellery manufacturing companies and to over 40,000 goldsmiths. The jewellery manufacturers have an active association called Coimbatore Jewellery Manufacturers' Association, and have also jointly established Coimbatore Gem and Jewellery Industries Private Limited (Cojewel), which is a common facility with niche goldsmith machinery to be used by the members of the association.

Several jewellery retail chains like Kirtilal's are based in Coimbatore or have their manufacturing base in Coimbatore.

Owing to the presence of a large number of jewellery manufacturers and the strong engineering base, the city is home to a number of companies manufacturing jewellery making machinery.¹ The city is

also a major diamond cutting centre in South India. For example Kirtilal's Jewellers alone have 5 diamond cutting and polishing centres in Coimbatore.

Real Estate and Hospitality

In the recent years, the city has seen growth in the hospitality industry. Five star hotels like Taj Surya and Le Meridien, four star hotels like Aloft and several three star hotels like Park Plaza, The Residency, CAG Pride and Mangala International have presence in the city.

Conclusion

With more than 25,000 small, medium and large industries, the city's primary industries are engineering and textiles. Coimbatore is called the "Manchester of South India" due to its extensive textile industry, fed by the surrounding cotton fields. The district also houses the country's largest amount of hosiery and poultry industries. The city has two special economic zones (SEZ), the Coimbatore Hi-Tech Infrastructure (CHIL) SEZ and the Coimbatore TIDEL park, and at least five more SEZs are in the pipeline. As of 2005, when Tirupur was a part of Coimbatore district, Coimbatore was the highest revenue earning district in Tamil Nadu. In 2010, Coimbatore was ranked 15th in the list of most competitive (by business environment) Indian cities.

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A STUDY ON FACTOR SUBSTITUTION IN KNITWEAR GARMENT INDUSTRY IN TRIPPUR

Introduction

Knitwear is a part of the textile industry that consists of fabrics, made – ups yarn, thread, fibre, woolen textiles, silk textiles and readymade garments. Knitwear industry in India is one of the best in the world. It is an extremely well organized sector. Knitwear manufactures, suppliers, stockiest and wholesalers are the gateway to an extremely exporters and Knitwear manufacturers both in the small scale and in the large scale. Knitwear accounts for about half of India's textile exports and close to 13 per cent of the country's aggregate exports. India's thrust into readymade garment production started in the early 80s in the wake of the liberalization. It received a big impetus the economic reforms in the early 90s during the last two decades. It has moved to the tenth position in the world's export of readymade garments. The structure of the knitwear industry is complex as much as it is diverse. It is highly fragmented and a large part of it is unorganized. The two markets, domestic and international, have their own issues. The industry has witnessed sluggish growth in the past decade, however the scenario has changed substantially due to globalization initiatives by WTO and subsequent phasing out of quotas by United States (US) and European Union (EU), the key export destination. Ample opportunities are there for Indian knitwear manufacturer to tap in international market.

Statement of the Problem

Cost reduction and effective cost control are the hall mark of efficiency. Proper input mix and factor substitution is the key to achieve optimization. Economic rationality underlines that cheaper factor would replace costlier input so that manufacturing cost is controlled. Labour is relatively a cheaper input vis-a vis capital in the Indian context and therefore rational entrepreneurs are expected to substitute capital by labour. But the empirical evidence point otherwise, is it true? If so why?

Objectives of the Study

1. To measure Elasticity of Factor Substitution in Tirupur knitwear garment industry.

Hypotheses Formulated

1. Since labour is cheaper vis-à-vis capital, economic ration ability warrants that capital is substituted by labour.
2. Elasticity of substitution is not expected to be zero because of the flexible technology.

Methodology

The present study covers the period from 2000 to 2011. The geographical area includes the Tirupur district in Tamil Nadu. The present study is based on the secondary data. The data computed from the knit garment industry's balance sheets. In order to study the various objectives and to make the inference compound growth rates and CES production function have been used in this study.

Dr.S.Ganesan, Assistant Professor, & **N.Kanagavalli**, M.Phil. Research Scholar,
Department of Economics, Bharathidasan University, Tiruchirappalli.

Modified CES Production Function

For giving up the assumption of constant returns to scale Brown and Decani introduced one more parameter 'm' which characterise any degree of returns to scale. This has the same general form but can exhibit any degree of returns to scale. This is as follows:

$$V = A [\tilde{a} k^{-\tilde{n}} + (1-\tilde{a}) L^{-\tilde{n}}]^{-\frac{m}{\tilde{n}}}$$

'm' will be greater, equal or less than 1 for increasing, constant and decreasing returns to scale respectively. In these formulation the neutral technological changes are represented by efficiency and scale parameters, 'A' and 'm' and non-neutral technical changes by capital intensity and substitution parameter 'ä' and 'ñ'.

All these CES production function are non-linear in the parameters and therefore difficult to estimate. The parameters of CES production function can be estimated either directly or indirectly by using marginal productivity conditions. However, Kmenta's estimation procedure is to use application of least squares to a linear approximation of the CES production function.

Kmenta's Approximation Procedure

In this study kmenta's approximation procedure has been used to estimate the CES production function, the formulations ate follows:

$$\text{Log } V = \text{Log } A - \frac{m}{\tilde{n}} \text{Log} [\tilde{a} K^{-\tilde{n}} + (1-\tilde{a}) L^{-\tilde{n}}]$$

By kmenta's approximation it can be written as

$$\text{Log } V = \text{Log } A + m \tilde{a} \log K + m(1-\tilde{a}) \log L - \frac{1}{2} \tilde{n} m \tilde{a} (1-\tilde{a}) (\log K - \log L)^2$$

$$\text{Log } V = \hat{a}_0 + \log \hat{a}_1 \log K + \hat{a}_2 \log L + \hat{a}_3 (\log K - \log L)^2$$

Base d on the above, labour and capital co-efficient, magnitude of technical change and substitution parameters were estimated both for cross section and time series data.

Results and Discussions

The co-efficient of determination (R^2) was found to be above 0.80 in all product groups which indicates that more than 80 percent of the variations in output could be explained by capital (K), labour (L) and $(\text{Log-log } L)^2$

Results of the kmenta's Approximation model

Results of the kmenta's Approximation model are presented in the Table-1. The squared value of the difference between capital and labour $(\log K - \log L)^2$ will influence the output both ways depending upon the dominant factor input. In this case, the coefficient of ($\hat{a}_3$) is positive in all textile mills except Nahar Spinning Mills implying the squared value of the log value difference between capital and labour has a positive influence on the output.

Table-1

Sl.No.	Name of the Mill	β_0	β_1	β_2	β_3	R^2	F*
1	Bannari Amman Spinning Mills	1.597 (-5.73)	0.006 (-0.25)	0.906 (3.32)	0.008 (-0.89)	0.93	29.20
2	KPR Mills	1.844 (28.57)	-0.017 (-3.87)	0.59 (13.69)	0.067 (2.10)	0.98	130.34
3	Lambodhra Textile	1.125 (2.29)	-0.213 (-0.31)	2.68 (1.34)	0.07 (0.27)	0.62	0.53
4	Nahar Spinning Mills	5.28 (1.95)	-1.72 (1.86)	2.81 (2.65)	-4.99 (1.91)	0.67	3.53

Figures in parentheses indicates 't' value

$\hat{\alpha}$ = Intercept

$\hat{\alpha}_1$ = Co-efficient Capital

$\hat{\alpha}_2$ = Co-efficient of labour

$\hat{\alpha}_3$ = Co-efficient of (LogK-LogL)²

R^2 = Co-efficient of determination

F* = Variance ratio

Regression results show that elasticity of labour ($\hat{\alpha}_2$) is statistically significant at 1 percent level in all textile mills considered in the steady and labour coefficient was found to be greater than the elasticity of capital ($\hat{\alpha}_1$) in all selected textile mills. Thus labour input has assumed the dominant rate in influencing the quantitative of output in the Tiruppur textile industry. Elasticity of capital ($\hat{\alpha}_1$) was significant in only Bannari Amman Spinning Mills impact it was negative in 3 textile mills implying intake of additional capital reduces the output.

CES Production Function Parameters

Efficiency parameter (A), scale parameter (m), distribution parameter ($\hat{\alpha}$), substitution parameter ($\hat{\rho}$) and elasticity of substitution ($\hat{\sigma}$) were estimated by using CES production function.

Table-2

Substitution Parameters based on the CES Production Function

Sl.No.	Name of the Mill	A	m	$\hat{\alpha}$	$\hat{\rho}$	$\hat{\sigma}$
1	Bannari Amman Spinning Mills	39.54	0.912	0.007	-2.684	-0.594
2	KPR Mills	69.82	0.573	0.030	7.655	0.1165
3	Lambodhra Textile	13.33	2.467	0.086	0.605	0.623
4	Nahar Spinning Mills	19.24	1.09	1.578	-2.251	-0.799

A = Efficiency parameter (indicates efficiency of the technology)

m = Scale parameter which denotes returns to scale

$\bar{a}$ = Distribution parameter

ρ = Substitution parameter

σ = Elasticity of substitution

Organizational Efficiency (A)

The following parameter 'A' was positive, greater than 1 and statistically significant in all selected textile mills. It may be noted that the significance level was so high in all textile mills indicating that both entrepreneurial and organizational efficiency were very high in Tiruppur small textile mills. It is evident that the organization as well as technology are efficient and positively contribute to output. Since all mills are privately owned organizations they are expected to be efficient. Further the technology used in the production process was also found to be efficient as evidenced by the numerical values of (A).

Returns to Scale (m)

The scale parameter (m) was greater than 1 in 2 textile mills indicating increasing returns to scale. In the remaining 2 textile mills, the value was less than 1, implying decreasing returns to scale and it was very low in the KPR mills. This textile mill should take effective steps immediately; otherwise it will find it difficult to survive in the industry.

Factor share ($\bar{a}$)

The distribution parameter ($\bar{a}$) indicates the ratio of capital co-efficient to 'm'. In other words, it indicates the capital share in the scale parameter. It is evident that 2 textile mills namely Nahar Spinning Mills and Lambodhra Textile the capital share was more than 80 percent, the highest being 1.578 in the Nahar Spinning Mills. The remaining 2 textile mills i.e., Bannari Amman Spinning Mills and KPR Mills indicate higher labour share.

Factor substitution (ρ)

The substitution parameter ' ρ ' was positive in 2 textile mills and negative in 2 textile mills. Both in the positive and negative values the range was high.

If the difference between $\log K$ and $\log L$ contributes positively to output, then β_1 will be positive and $-2\beta_2$ will be negative. Otherwise ' β_2 ' will be positive. Similarly if either β_1 or β_2 is negative then the product of ' $\beta_1 \beta_2$ ' will be negative. Of both are negative then the product will be positive which is not possible in economic theory.

If ' ρ ' is negative it may be due to either $-2\beta_2$ is negative or one of β_1/β_2 is negative. Regression results show that ' β_2 ' is negative in certain product groups and therefore negative values assumed by ' ρ ' is because of excess labour – force which is logarithmically higher than the capital input. The behavior of ' ρ ' also reinforces the conclusion already drawn in the previous chapter that even though K/L ratio is increasing, still the labour force is in excess. The numerical values of ' ρ ' suggest that capital augmentation has taken place during the period under review.

Elasticity of Substitution (σ)

The elasticity of substitution ' σ ' was found to be low in 2 textile mills namely Bannari Amman Spinning Mills and Nahar Spinning Mills. It means that labour abundant low wage would tend to hold comparative advantage even though they are relatively capital intensive.

If $\sigma < 1$ it implies that $\Delta(MP_L/MP_K) > \Delta(K/L)/(K/L)$ which is advantageous to that particular industry even if capital intensity is rising. In all 4 textile mills $\sigma < 1$ and hence the capital intensity would be advantageous and therefore all textile mills are advised to augment capital. In other words, we find excess labour force in these industries and hence they have to induct more capital so as to reap better returns from the labour force.

If $\sigma < 1$, it implies that $\Delta(MP_L/MP_K) < \Delta(K/L)/(K/L)$ and hence proportionate change in the marginal productivity ratios will be less than the proportionate change in the capital intensity will lead to higher cost of capital and therefore $\sigma < 1$ would rise the cost of capital and adversely affect the profitability.

Conclusion

The results show that labour intensity is higher in all the selected knitwear garment mills. Thus it is evident that substitution policies are uniform in the small knitwear garment mills in Trippur.

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A STUDY ON FINANCIAL STATUS OF GARMENT INDUSTRY IN TRIPPUR: A CASE ANALYSIS

Introduction

Indian Textile Industry is one of the leading textile industries in the world. Though it was predominantly unorganized industry even a few years back, but the scenario started changing after the economic liberalization of Indian economy in 1991. The opening up of economy gave the much-needed thrust to the Indian textile industry, which has now successfully become one of the largest in the world. Indian textile industry largely depends upon the textile manufacturing and export. It also plays a major role in the economy of the country. India earns about 27 percent of its total foreign exchange through textile exports. Further, the textile industry of India also contributes nearly 14 percent of the total industrial production of the country. It also contributes around 3 percent to the GDP of the country. Indian textile industry is also the largest in the country in terms of employment generation. It not only generates jobs in its own industry, but also opens up scopes for the other ancillary sectors. It currently generates employment to more than 35 million people.

Tamil Nadu is one of the most industrialized States, at present it is the fifth largest economy in India. Given the high current economic growth rate, Tamil Nadu is poised to emerge as the third largest economy before 2005 A.D. It is the administrative headquarters of the Tirupur district. Tirupur is a textile hub and a vast generator of employment for unskilled temporary workers.

Tirupur is the sixth largest city in Tamil Nadu. It city is known for its hosiery exports and provides employment for about 6 lakh people (about 6,00,000). Fifty six percent of India's total knitwear exports come from Tirupur. This has been recognized in the Export Import Policy, 2002-07 of Government of India which conferred the status of "Town of Export Excellence" to Tirupur.

Objective of the Study

- ❖ To analysis the financial rate of Alagar apparels in Tirupur District.

Methodology

The present study covers the period from 2006 to 2009 and it is based on both primary and secondary data. The primary data have been collected from the balance sheets of Alagar apparels in Tirupur District. The percentage method has been used for analysis.

R.Sudha Rani, M.Phil. Research Scholars,
Department of Economics, Bharathidasan University, Tiruchirappalli

Results and Discussion

Table-1
Capital & Current Account

(Rs. in '000)

Nature of Account	(2006)	(2007)	(2008)	(2009)
Capital A/C	500 (85.22)	500 (58.43)	500 (53.79)	500 (37.65)
Current A/C	86.77 (14.78)	355.72 (41.56)	429.37(46.20)	827.99 (62.35)
Total	586.77(100)	855.72 (100)	929.37 (100)	1327.99 (100)

The table1 presents the details about the capital & current account. The total amount of account was Rs 586.77 thousands in 2006. The capital accounts share (85.22 percent) was higher than current account (14.78 percent) in the initial period. It is noticed from the table that the capital account amount was constant during the study period. Whereas the current accounts share increased over the study period of time from Rs (86.77 Thousand (14.78 percent) to Rs 1327.99 thousand (62.35 percent). It is evident from the analysis that the company is efficiently using its resources.

Table-2
Particulars of Current Liabilities

(Rs. in '000)

Current liabilities	2006	2007	2008	2009
Sundry creditors	156.29	1228.57	858.92	997.12

Table-2 indicates the current liabilities particular of the Alager Apparels. The sundry creditor was maximum amount in the year 2007, and it was minimum amount in the year 2006. The fluctuating trend of its nature shows that the strength of the resources mobilization.

Table-3
Particulars of Fixed Assets

(Rs. in '000)

Fixed Assets	2006	2007	2008	2009
Plant & Machinery	302.38(70.6)	354.51(71.24)	342.46(72.67)	336.26(73.32)
Generator	13.50(3.12)	12.15(2.44)	10.93(2.32)	10.39(2.26)
Vaccum cleaner	5.85(1.35)	5.27(1.05)	4.74(1.00)	4.50(0.98)
Furniture & Fittings	17.89(4.15)	42.92(8.62)	38.63(8.19)	36.70(8.02)
Electrical fittings	22.27(5.16)	20.04(4.03)	18.04(3.83)	17.13(3.73)
Computer	32.94(7.63)	29.65(5.95)	26.68(5.66)	25.35(5.52)
Vehicle	36.72(8.50)	33.05(6.64)	29.74(6.31)	28.26(6.16)
Total	431.54	497.58	471.22	458.59

The particulars of fixed assets are shown in the Table-3. The maximum amount was used for plant & Machinery. About 70 percent of the total amount was utilized for plant & Machinery right from the establishment. The total amount used for furniture & Fittings occupied the second and Vehicle was third position during the study period.

Table-4
Particulars of Current Assets

(Rs. in '000)				
Current Assets	2006	2007	2008	2009
Deposits	4.50(1.08)	4.50(0.26)	4.50(0.32)	4.50(0.24)
Sundry Debtors	197.72(74.09)	446.08(26.20)	672.68(49.07)	295.71(15.73)
Cash in hand	9.74(0.57)	10.00(0.58)	9.69(0.71)	11.40(0.61)
Bank Account	3.96(3.65)	236.94(13.92)	8.59(0.63)	15.02(0.79)
Closing Stock	0.00(0)	954.87(56.09)	607.45(44.31)	1416.98(75.37)
Loans & Advances	50.93(19.08)	50.00(2.94)	67.84(4.95)	136.23(7.25)
Total	266.85	1702.39	1370.85	1879.84

The current asset was Rs 266.85 in 2006 and it has increased to Rs 1879.84 in 2009. When compare the current assets with current liabilities. The value of assets was higher than the current liabilities during the entire study period of study. It's evident from the analysis that the Alagar Apparels has the good financial performance.

Conclusion

Current assets have increased more in compare with current liabilities. And the fixed asset was also in a better position in the study period. Hence the financial performance of Alagar Apparels is in good level.

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SOCIO ECONOMIC AND ENVIRONMENTAL ASPECTS OF LOSS OF URBAN BIODIVERSITY: A CASE STUDY OF COIMBATORE CORPORATION

Introduction

United Nation has predicted that by 2025 about 80 percent people of developed Nations and 60 percent people of the whole world would live in cities.

Urban environment has the highest density of human species at the expense of all other species. Urban areas increase by about 1.5km² every day.

Hence, urban biodiversity will be the only kind of biodiversity to occupy a major part in the life of most humans. Urban biodiversity studies highly neglected traditional Ecology not fond of cities. Many think that there is no biodiversity in cities. Even if present, urban biodiversity is not considered as biodiversity at all by many. Many exclude it from the purview of biodiversity on the grounds that it is artificial..

Objectives

Main Objective

- To explore the Loss of Urban bio diversity an economic, Social, environmental and institutional approach in Coimbatore corporation.

Supplementary Objectives

1. To assess the socioeconomic aspects of loss of urban biodiversity.
2. To study the environmental dimension of loss of urban biodiversity.
3. To study the institutional aspects of loss of urban biodiversity to value the environment with the use of primary source of information.

Methodology

In Coimbatore Corporation there are 72 wards. Out 72 wards 4 wards was selected for the intensive field survey based on the intensity of loss of green coverage area. The four wards such as Neelikonampalayam, Koundampalayam are peripheral part of the city and New Sidhapudur, RS Puram are central part of the city. The multistage sampling method is being used. Specifically, systematic, stratified, purposive, proportionate random sampling techniques were used for selection of sample wards and the households.

R. Shaji, M.Phil Research Scholar,
Department of Economics, Bharathiar University, Coimbatore

Details of rain fall in Coimbatore from 1991 to 2005

The following table gives a detailed explanation of the rain fall in Coimbatore Corporation from 1991 to 2005. It is very clear that in last 15 years the level of rain in Coimbatore was not constant. It is fluctuating year to year. This is because of change in climate due to absence of trees. In 1991 the rain fall was 359.3 and in 2005 it is 830.6.

Rain fall (mm)

Year	rainfall
1991	359.3
1992	685.8
1993	520.9
1994	863.6
1995	561.8
1996	783.3
1997	882.7
1998	923.5
1999	621.0
2000	496.1
2001	702.3
2002	531.9
2003	649.5
2004	925.0
2005	830.6

Reason for cutting trees

Zone	Name of the Ward	Reasons for Cutting the Trees							Total
		Road	Building	Electrical	Wall	Concrete Floor	Problems to Neighbors	Others	
Central	New Sidhapudur	3 (14.3) [75]	12 (57.1) [57.1]	-	-	-	5 (23.8) [62.5]	1 (4.8) [50.0]	21 (100) [50.0]
	RS Puram	1 (4.8) [25.0]	9 (42.9) [42.9]	1 (4.8) [100]	5 (23.8) [100]	1 (4.8) [100]	3 (14.3) [37.5]	1 (4.8) [50.0]	21 (100) [50]
	Total	4 (9.5) [100]	21 (50.0) [100]	1 (2.4) [100]	5 (11.9) [100]	1 (2.4) [100]	8 (19.0) [100]	2 (4.8) [100]	42 (100) [100]
Peripheral	Neelikonam palayam	7 (19.4) [100]	10 (27.8) [47.6]	5 (13.9) [100]	4 (11.1) [57.1]	3 (8.3) [50.0]	3 (8.3) [42.9]	4 (11.1) [57.1]	36 (100) [60]
	Koundam palayam	-	11 (45.8) [52.4]	-	3 (12.5) [42.9]	3 (12.5) [50.0]	4 (16.7) [57.1]	3 (12.5) [42.9]	24 (100) [40]
	Total	7 (11.7) [100]	21 (35.0) [100]	5 (8.3) [100]	7 (11.7) [100]	6 (10.0) [100]	7 (11.7) [100]	7 (11.7) [100]	60 (100) [100]

Source: Primary Survey 2011 () the parenthesis indicates row wise percentages

[] the parenthesis indicates column wise percentages

The above table confirms us the information regarding to the reason for cutting the trees by the respondents. People cut down trees for the reason that the trees are blocking sunlight or a view. Trees may be dead or diseased and for safety's sake the trees may need to be removed. Some people just don't like the particular tree and wish to plant a type of tree that is to their liking. It could be that they are sick and tired of raking up the fall leaves and want something less labor intensive. Some people plant large plantations of trees for the purpose of harvest at a later date. Some people buy large properties and elect to sacrifice a portion for the building of their home, and maybe even their furnitur

Zone	Name of the Ward	Statistics	Years of Living	No. of trees in the house at that time of construction	No. of trees at present
Central	New Sidhpudur	Mean Sum % of T. S S. D	23.43 539 24.10 11.28	5.75 241 25.90 6.40	3.30 76 23.90 1.74
	RS Puram	Mean Sum % of T. S S. D	24.52 564 25.20 11.31	8.40 234 25.10 7.66	2.82 65 20.40 2.26
	Total	Mean Sum % of T. S S. D	23.97 1103 49.20 11.18	6.82 475 51 6.98	3.06 141 44.30 2.01
Peripheral	Neelikonampalayam	Mean Sum % of T. S S. D	14.17 567.00 25.30 9.64	10.47 230 24.70 3.97	2.67 107 33.60 1.50
	Kounda palayam	Mean Sum % of T. S S. D	21.14 571 25.50 14.11	10.17 227 24.40 8.70	2.59 70 22 2.17
	Total	Mean Sum % of T. S S. D	16.98 1138.00 50.80 12.05	10.32 457.00 49.00 6.39	2.64 177 55.70 1.78

Source: Primary Survey 2011

The above shown table gives us the detailed explanation of number of years of living in that place by the respondent, number of trees present in the house in past and at present. In central part the respondents are living 23.97 years in same place. In peripheral parts it is 16.98 years. The number of trees in the past in central part is 6.82. At present the number of trees is decreased to 3.06. In the case of peripheral part the trees at past is 10.32, at present the trees decreased to 2.64. People lived in central part have their own house. So they are ready to plant trees. They are also educated people and they were good aware about the environmental pollution and its solutions. So at present the people in central part are wish to planting trees but no space for planting trees. The green cover area is reduced in centre part followed by peripheral part of city.

Conclusion

Urban biodiversity is biological diversity of urban areas. It is heavily influenced by the built environment and the economic, social, and institutional dynamics of these densely populated areas. It is not easy to define the value of biodiversity and very often difficult to estimate it. The erosion of biodiversity is largely due to habitat loss caused by the expansion of various development projects such as residential and commercial building construction, road and agricultural irrigation tanks converted into as dumping yards. The urban biodiversity such as trees, green coverage area have considerably decline. The evidence shows that temperature, humidity and uneven rainfall were negatively associated with green cover area in Coimbatore Corporation. The exciting situation is continuing there will be natural disaster.

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A SPECIAL CASE OF TURMERIC PRODUCTION IN ERODE DISTRICT OF TAMILNADU

Introduction:

India is the 'Spice bowl' of the world. The history of Indian spices dates back to the beginning of human civilization. According to the Bureau of Indian Standards, 63 spices including turmeric are grown in India. India is the largest producer of turmeric, producing 100,000 tonnes of cured turmeric annually, of which 94 to 97 per cent is consumed at home. Remaining 3 to 6 per cent is exported to the United Arab Emirates (UAE), USA, Japan, Sri Lanka, the UK and Malaysia. India is able to earn foreign exchange for more than Rs.150-160 crores by way of exporting 50,000 tonnes of turmeric and turmeric products such as dry turmeric, fresh turmeric, turmeric powder, curcuminoids, dehydrated turmeric powder, oils and oleoresins.

India's major share of exports goes to the UAE accounting for 18 per cent, followed by the USA (11 per cent), Japan (nine per cent), Sri Lanka, the UK, Malaysia together accounting for 17 per cent. The total national output of turmeric which was at 5.43 lakhs tonnes from 1.34 lakhs hectares in 1996-97 had gone up to an estimated 7.6 lakhs tonnes from around 1.7 lakhs hectares in 2009. The highest ever exports were in 2006-07, when the country exported about 52,000 tonnes of turmeric after 44,627 tonnes in 2000-01. The average unit value in 2008-09 has shot up to Rs 46.18 a kg from Rs 31.09 a kg in 2007-08 due to short supply.

Turmeric is a major constituent of condiments and curry powders; it is very important to Indian cuisine. It is used in pickle as a preservative, and as a coloring matter in dairy products like butter, cheese, and in bakery products. In the West, it is commonly used to add color to mustards used for garnishing popular snacks. In India, it is considered a safe and economical color additive to Vanaspati (hydrogenated oil), being cheaper and harmless, and not interfering in the test for detecting adulteration of vanaspati with the ghee. Besides, it is being heat and storage stable and adds to shelf-life of vanaspati (Smith, Rep Turmeric Production Institution, G165, 1982, 8; Kapur et al, Indian Journal Technology, 1963, 1, 292).

Turmeric is mainly used in food industry and only around 10% to 15% is used in paint, oil extraction and pharmaceutical industries. Masala and pharmaceutical companies hiked their products price by more than 10% to offset the rise in raw material cost this year. Turmeric (*Curcuma longa*) is an important spice crop with many diversified uses. Processing of turmeric rhizomes freshly dug out of the earth is essential both for the development of an attractive color, characteristic aroma and good commercial value. Processing technology adopted in Duggirala area of Guntur district has been presented with a view to explore the possibilities for mechanizing and improving the processing techniques (Satyanarayana, V.V. and Sukumaran, C.R.; Andhra Agricultural Journal, 46(3&4), 229, 1999).

Area, Production and Productivity of Turmeric

In India, turmeric is grown in an area of 1, 75,300 hectares with an annual rhizome production of 7, and 94,400 tonnes (2007-08). The productivity has increased steadily to 4,052 kg/ha (1996-97) from 2868 kg/ha (1950-51) with a decline during two decades from 1960-61 to 1980-81. The highest productivity 4952 was recorded in 2005-06. (Source: Directorate of Economics and Statistics, New Delhi).

P.Matheswaran, M.Phil., Research Scholar,
Department of Economics, Gobi Arts and Science College, Gobichettipalayam

Turmeric Cultivation Begins In Erode District

In Erode district, the area increased from 6439 hectares in 1984-85 to 10,358 hectares in 1994-95. Similarly the areas in Salem and Dharmapuri districts have also increased considerably. Erode, Coimbatore and Salem is considered as the most efficient zone. In the districts of Chengalpattu, Dharmapuri, Nagapattinam, Dindigul, Sivagangai and Tirunelveli, the turmeric yield may be high but spread is low (Zone II, high yield and low spread). In Villupuram district, the relative spread is more but relative yield is less (Zone III, low yield and high spread). (Source: Department of Agriculture and Cooperation).

Erode will soon blush with the golden glow of turmeric, as farmers in most parts of the district have begun the cultivation of turmeric crop for the current session. While a few farmers had already started sowing seeds, many others are done preparing their land for the cultivation. The public works department would release the water from the Kalingarayan ayacut from June 19. Water would also be released in the Lower Bhavani Project shortly, enabling the farmers to take up cultivation activities. "The sowing will continue till the first week of August. But we expect the farmers in the district to complete the sowing by the end of July," horticulture officials here said. Erode is one of the largest turmeric producing districts in the country. The normal area under the turmeric crop in the district is around 6,000 hectares. But in the year 2010, farmers had covered more than 10,000 hectares under the turmeric crop, as the prices of the yellow spice registered a sharp increase.

The prices had crossed Rs. 17,000 a quintal last year, making many turmeric farmers in the district richer. The bullish market had encouraged the farmers to double the acreage under turmeric cultivation in the district in 2010. But the prices had come down during the fiscal and were around Rs. 8,000-8,500 a quintal currently. Even the current price of the yellow spice is remunerative for the farmers. There is an expectation among the farmers that the prices of turmeric will go up in the coming months. This will prompt them to take up the crop in more areas this year too, the acreage under turmeric to cross 10000 hectares this year too.

Turmeric Prices Soar in Erode District

The prices of turmeric, an essential ingredient in every Indian kitchen, soared to an all-time high of Rs. 17,500 a quintal in Erode markets a few months ago. The prices now hover around Rs. 10,000 and Rs. 12,000 a quintal. Expecting the prices to go up further, many farmers are planning to hold their stock till time opportune for sale of the commodity. To help the farmers store their produce safely, the Erode Regulated Marketing Committee has made arrangements in its godowns at Sathyamangalam, Avalpoondurai, Gobichettipalayam, Kavunthapadi, Sivagiri, Ezhumathur and Kodumudi (Source: <http://www.hindu.com/>).

The Erode turmeric market is the second largest turmeric market in the country next to Sangli in Maharashtra. Crops from Erode, Bhavani, Salem, Attur and even Chamrajnagar in Karnataka come to this market regularly. On an average, the region contributes around 15 to 20 lakhs bags (1 bag = 75 kgs) to country's annual requirement of 40 to 45 lakhs bags. But in 2009, only around 12 lakhs bags were produced in this region. is very high and it led farmers to move away from the auspicious crop. Around Rs 60,000 is required to cultivate turmeric in one acre of land, he added.

Suggestions

Farmers are generally average to extensive cultivation, because turmeric is an unpredictable spice, in bringing profit to farmers. While the cost of cultivation has been increasing steadily every year, there has not been corresponding increase in the selling price. The yield obtained by farmers (25 quintals/ha) is also far below from satisfactory yield. It is suggested that Government would have to play an increasing role in encouraging farmers by fixing remunerative price. Developmental agencies both Government and private should give training to the farmers on scientific cultivation at appropriate time and take up proper monitoring by visiting the fields at critical stages of crop growth. This will pave the way for enhancing the turmeric production at different zones especially in the efficient zones. Financial institutions and spice industry should also come forward to give loans to farmers at reasonable interest to meet periodic credit requirements.

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A CASE STUDY ON OCCUPATIONAL STATUS, EARNINGS CAPACITY AND EXPENDITURE CONDITION OF TEXTILE WORKERS IN COIMBATORE DISTRICT

Introduction

The textile industries are characterized by their labor intensive nature of commodity production. Availability of surplus labor is abundant in the developing countries. These countries have comparative advantage in the production of textile related products and hence are able to supply goods at a very low price. Coimbatore is the highest revenue earning district in Tamil Nadu. Coimbatore is called the **Manchester of South India** due to its extensive textile industry, fed by the surrounding cotton fields. The textile industry occupies a unique place in our country. India accounts for 14 percent of the total Industrial production, contributes to nearly 20 percent of the total exports. Being the largest foreign exchange earner, accounting for more than 5 per cent of GDP and providing direct employment to 38 million people, primarily the weaker sections, it is the second most important sector only after agriculture. India's share may look small but in monetary terms it is large. It is a major contribution to the country's economy. The industry is composed of handlooms, power looms and mills. The main objective of the textile policy 2000 is to provide cloth of acceptable quality at reasonable prices for the vast majority of the population of the country, to increasingly contribute to the provision of sustainable employment and the economic growth of the nation; and to compete with confidence for an increasing share of the global market.

Scope of the Study

Every study has its own scope and usage for the public (government), Private (Individual) or as a whole and this study is also no exception. It was found that government in general and private in particular would benefit by these studies. The main focus of this study is to create basic knowledge about occupation status, earning capacity and expenditure condition by income contribution of industrial workers in Coimbatore. Coimbatore has been selected for the study because it is one among the State's biggest cities in terms of business development, industrial and population growth. It is otherwise known as the Manchester of South India.

Objectives

This study had related to attain the objectives based on the occupation levels and earning capacity and expenditure of textile industrial workers as following are mentioned.

1. To analyze the socio-economic background of textile industrial workers.
2. To examine the occupational levels of the sample respondents in selected areas.
3. To explore the earnings and expenditure condition of the sample workers.

M. Vadivel, Ph.D. Research Scholar,
Department of Economics, Gobi Arts and Science College, Gobichettipalayam

Socio- Economic Characteristic of Textile Workers

In terms of the socio-economic back grounds of the textile industrial workers were explained. Out of 225 nearly 57.3 per cent of the workers belonged to Male Gender and 42.7 per cent Female category of textile workers. Age category of the textile industrial worker were showed that 63.1 per cent were worked above 15 to 29 years of age, but this only calculated to focus aspect of measurement not for sensitive. In the information about the Marital Status of workers depicted that 51.4 per cent of them married and Religion of the people were revealed that 92.5 per cent of them were Hindu when data collected in industry only rules were followed by concentration of employers and Social status of jobholders were divided 48.6 per cent were Most Backward Community in first list and Educational Qualification of selected workers depicted by up to Middle School workers were studied in percentage was 25.1. In total, Mother tongue of textile workers depicts that mostly 82.7 per cent Tamil belonged to other than Coimbatore or migrated workers in the total collected survey.

Occupational Status of Textile Workers

In textile industry, the study explained the various types of jobs there namely Spinning, Winding, Mixing, Drawing, Simplex, Guarding, Auto Cone, Blue Groom and Helpers and Others like Supervisor and Mechanical Workers. Lastly told the result mostly 51.4 per cent of textile workers were worked as Spinner. Same time another place had 29.8 per cent of the workers were worked as Winder. But study said next stage of another session which had 0.8 per cent and 0.4 per cent of workers were working as Mixer and Drawer respectively. Only 1.6 per cent of the workers were worked as Guarder in the textile industry. Merely 2.4 per cent of workers were worked as Simplex and only 0.8 per cent was as auto cone and lastly study mentioned the 2.7 per cent of workers were worked as Blue Groom. Under this study out of the textile working condition was calculated which was 10.2 per cent of respondents were worked as helpers who to assist for others in the textile industry in the studied areas of Coimbatore while collected data.

Earning capacity of Textile Workers in Coimbatore

Economist's Contribution to Earnings

Concept of Earnings is The excess of revenues are over outlays in a given period of the time (including depreciation and other non-cash expenses). Earnings mean revenues minus cost of sales, operating expenses and taxes over a given period of time. Earnings are the reason corporations exist and are often the single most important determinant of a stock's price. The main determinants of earnings, according to this approach are variables, such as, education and experience (Becker, and Chris wick, 1966, Miner, 1974). Therefore researchers such as Morgenstern (1973) and Behr man and Taubman (1976) extended the basic human capital model by adding variables like occupation, employment status, gender, father's education and occupation. Other researchers went further and developed recursive and simultaneous equation systems to take into consideration the inner linkages between education, occupation and earnings (Psacharopoulos, 1977a: Kasnakoglyu, 1978: Tachihabanaki, 1980, Varlier, 1982).

Empirical Model

To test and verify the answers to the above questions, equations were estimated using ordinary least squares. The semi-log form was chosen after a review of the recent literature on earnings functions. The empirical model used for the study is

$$\ln \text{EAR} = ? + \beta_1 A + \beta_2 M + \beta_3 K + e$$

Where, 'log Ear' is the natural logarithmic earnings function of the Textile workers.

In our case we can write the specification as

Human Capital Variables

'A' is a vector of such as age, [proxy for experience] age square, and Education.

Workers Background Variables

'M' is vector of background variables of individual workers such as Area where the worker was born, Caste, Religion, Migration, and Trade Union Membership.

Job Specific Variables

'K' is a vector of industry specific, job-related characteristics such as whether any Labour Law applies to present job. And ? and β 's are the parameter estimates.

Determinants of Earnings for Present Job

$$\ln \text{Ear} = ? + \beta_1 \text{AGE} + \beta_2 \text{EDU} + \beta_3 \text{MRST} + \beta_4 \text{MRST} + \beta_5 \text{REGION} + \beta_6 \text{SS} + \beta_{20} \text{MIG}$$

Explanation about the variables:

- EAR means Earnings of the Sample Respondents
- AGE means Age in Years of the Sample Respondents
- EDU means higher secondary education of the sample respondents
- MRTS means marital status of the respondents
- REL means the religion of the sample respondents
- SS means the social status of the respondents as class
- Rur means rural areas of the respondents
- MIG means migration of the sample respondents

Conclusion and Suggestion

In this study the researcher enumerates the nature of occupation in textile industry and the working condition, occupational status, working shift, monthly income and etc are mentioned. Textile industry is one of the highly polluted industry compare with other industries like chemical and engineering industries all over the world. By this study we could know about occupational category, earnings and expenditure capacity of textile workers to survive with limited wage. On the basis wage, workers might suffer of wage from low income level in the shift time of work in industry. Because government may allocate lot of beneficial increments and to create policy recommendations for those sector workers due to upliftment of their standard of living in the flourishing industry. In this study employer would make the increases the income as earning level must be higher in this industry. Private investment should be contributed in maximum capacity for develop the industry and to getting high salaries with lot of job opportunities in particular time.

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AN ANALYSIS OF EDUCATIONAL ATTAINMENT IN NILGIRIS DISTRICT WITH REFERENCE TO PANIYAN TRIBES

Introduction

The Nilgiri district consists of the great plateau of 35 miles long, 20 broad and 6,500 feet high on an average at the junction of the ranges of the Eastern and Western Ghats. It occupies westernmost parts of Tamil Nadu, which is bound on the west by Kerala, on the north by Karnataka and on the southeast by Coimbatore district. The Nilgiri region has undergone a drastic and quite irreversible modern transformation since the advent of the British. The Nilgiris district is divided into six taluks, Viz., Udhagamandalam, Gudalur, Coonoor, Kotagiri, Kundah and Pandalur. Udhagai is the head quarters for the district administration. According to 2001 census, the total population of the Nilgiris is 7.64 lakhs out of which the total scheduled tribe population is 28,373, constituting 4.32 percent of the total general population. The scheduled tribe population was not evenly distributed in six taluks. 32.08 percent live in Pandalur taluk, 24.10 percent live in Kotagiri taluk, 14.33 percent of them in Gudalur taluk, 13.16 percent in Kundah taluk, 9.27 percent in Udhagamandalam taluk and remaining 6.96 percent live in Coonoor taluk. There are six primitive tribal groups like Todas, Kotas, Kurumbas, Irulas, Paniyans and Kattunayackans.

Education is the most crucial investment in human development. In the view of George (2007), education is crucial to development as it provides the individual with adequate skills for participating in various economic activities. The importance of education is more pronounced for the tribals since they account for sizeable proportion of India's population-8.21 percent according to Census 2001. For the development of the tribal community, education is most important element. It is a powerful instrument to change the values and attitude of the people and to create in them the urge of the necessary motivation to achieve social mobility and social ascendaency. However, the educational status of tribal population is poor as indicated by the literacy rate of 41.5 percent as compared to All India average of 65.4 percent in 2001. Hence there is need for improving the literacy of tribals.

Traditionally the term 'Paniyan' is reported to have originated from word "Pani" which means work. The Paniyans are working as bonded labourers and workers in the fields. They speak 'Paniya basha' mixed with Malayalam and Tamil words. The Paniyans settlement is called 'Paddis' which represents a few houses or huts built in row in one corner of the farm.

In this context a research study on "An analysis of educational attainment in Nilgiris district with reference to Paniyan tribes" was formulated with the following

objectives

- To study the demographic and socio- economic profile of the selected Paniyan tribes;
- To analyse the enrolment of Paniyan children and
- To analyse the dropout of Paniyan children.

Dr.R.Annapoorani, Professor, & **K.Krithiga**, Research scholar, Department of Economics, Avinashilingam Institute for Home science and Higher Education for Women, Coimbatore.

Methodology

The study is related to the Pandalur taluk where Paniyans live. The required data are collected by administering the interview schedule to 100 Paniyans households in the selected villages-Cherangodu and Nelliyalam. The data were analysed by calculating percentage and chi-square.

Findings of the study

Stage wise enrolment of selected Paniyans in Nilgiris district:

The tribal students are enrolled at primary, secondary, higher secondary and college. Table II represents the stage wise enrolment of Paniya children.

Table I
Stage wise enrolment of selected Paniyans in Nilgiris District

S.NO	Stages	Boys	Girls	Total	Gender disparity
1.	Primary education	35 (97.22)	19(95)	54(96.43)	0.4113
2.	Secondary education	29 (87.88)	23(88.46)	52(88.14)	1.1371
3	Higher secondary education	17 (73.91)	8(61.54)	25(69.44)	0.4074
4	College	7 (50)	3(33.33)	10(43.48)	0.4030
	Total	89(83.96)	52(76.47)	141(81.03)	0.4465

Source: Field survey

Figures in parentheses indicate enrolment rate

Among the Paniyans, while 96.43 percent were enrolled at the primary level, only 69.44 percent were enrolled at the higher secondary level and 43.48 percent were enrolled in colleges. The estimated Sopher's disparity index was 0.4465. This implies that still the Paniyans consider girls as burden and do not send them to schools/colleges. The families are chambered by poverty and there had been inadequate access to local schools.

Reasons for dropout as stated by the respondents

The main reason identify for the dropout of Paniyan children were Non-availability of school, long distance to school/college, inadequate facilities, difficult language and script, early marriage, poverty and taking care of siblings.

Recommendations

Based on the findings of the study, the followings measures were recommended to improve the educational status of Paniyans in Nilgiris district.

- Motivating all the parents to send the children to school and not to work;
- Increasing number of schools for easy accessibility;
- Providing regular transport facilities and
- Creating awareness to the tribal families about the education facilities provided by Government.

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Peer Reviewed Journal

ECONOMIC ANALYSIS OF NEIGHBOURHOOD HOUSEHOLDS OF WINDFARM AREA

A Case Study of Mettubavi Village in Coimbatore District of Tamilnadu

Introduction

About Energy Crisis

There is a huge energy crisis across the world countries as most of them are dependent on the fossil fuels for their energy needs. Very few countries are self sufficient with their energy needs. The world energy demand is increasing day by day. The energy demand of India by 2012 is estimated to be around 200000 megawatt (mW), whereas the present installed capacity is 144565 mW. India's per capita power consumption as of today is 612 kWh (1kWh = 1 electricity unit). This per capita power consumption would likely go up in the present generation. Due to the gap between the energy demand and installed capacities, there is a big energy crisis. On an average 300 – 350 grid drops (power cuts) occurs in a year in a rural electrical grid in our country. The recent power cuts in Tamilnadu are also one of such example.

Need for Alternatives

The fossil fuels are diminishing day by day. Whereas the energy demand amongst the human population is increasing day by day. Due to this fact there is a need to look in to alternative energy sources. India is not an exception in this scenario. It has to gear up to this situation. As a fact, India focuses more in to alternative energy sources like wind, solar, bio-mass, mini-hydro, geo-thermal energy, tidal etc.,

Wind Energy Growth

As on mid 2008, India's installed capacities of various energy sources are as follows: Thermal - 92217 mW, Hydro - 36034 mW, Nuclear - 4120 mW, Renewables - 12195 mW. Among the renewables, wind energy's installed capacity is 8696 mW. The estimated wind energy potential of the country is 45000mW.

Wind energy was very popular since 900AD. Persians were the first to use wind energy for their domestic application like grinding grain, sailing ships and several other agricultural activities. Later Europeans, especially the Dutch and Danes started using wind in more efficient way. They gave more scientific thoughts in designing the wind mills. In 1891, the first electricity producing wind mill was invented. This gave a boom in the wind energy sector. World countries started thinking of wind for their electricity needs. Till 1970's there were no very significant growth in wind energy. During 1970's there was an interim oil crisis across the globe. This gave birth to a green energy decade in United States, due to which there were several installation of wind mill in California. Even now the world largest wind farm is in a California in a place called Kind Mountain.

During 1980's wind energy flourished in most of the European countries. Also the wind potential is high favorable in these countries to harvest wind energy. The technology of harvesting electricity through wind energy entered India during the end of 1980's. The first pilot project was launched in a place called in Mullakkadu in Thoothukudi District in Tamilnadu. This was carried out by then Department of Non-

Dr. A. Duraisamy, Associate Professor, Department of Economics, Madras Christian College, Chennai,
Dr. K. Babu, Assistant Professor, Department of Economics, Loyola College, Chennai

conventional Energy Sources, Government of India, along with Tamilnadu Electricity Board. After which several projects were undertaken by the state electricity boards in Gujarat and Tamilnadu. Later in the start of 1990's private investors came in to the field. Private investors are mainly from the textile industries, steel industries, cement industries and several financial institutions.

The concept of selling the electricity produced by these private investors to the electricity boards was introduced. Investors can produce power at any wind farm region and consume the equal amount of power at the place where they have their industry (for example, a textile spinning mill). This concept of trading is called as "Power Wheeling". This concept gave birth to an installed capacity of about 8696 mW in India.

Tamilnadu contributes more of about 4812 mW to India's installed wind power capacity. This is due to the facts that, there are very good potential sites and potential investors when compared to other states. Due to the landscape and geographical location, Tamilnadu enjoys the benefit of south west monsoon due to which the trade winds from arabian sea passes through the three main passes in the western ghats viz., palghat pass, shengotta pass and aralvaimozhi pass and enters Tamilnadu with high velocity benefiting coimbatore region, tuticorin region and nagercoil region.

Objective

The main objective of the present study is to assess the nature and extent to which the wind farm mills in Tamil Nadu affect the neighborhood household economy.

To assess the factors determines respondents Perception, Satisfaction and attitude toward Wind Farm in the study area.

Methodology

A sample of 80 respondents has been randomly selected from the village "Mettubavi" in Pollachi Taluk in Coimbatore district. This village comes in the region which is benefited by the Palghat pass. Among the 80 respondents, 62 were male respondent and 18 were female respondents.

Factorial Analysis

The following factors have been studied in the survey. The analysis has also been performed and the results are presented below.

Farmers Perception toward Wind Farm in the Study Area

The researcher made an attempt to analysis the respondents' perception towards wind farm in the study area. The 18 statements mentioned in the below have been given to 80 respondents and they were asked to indicate on a five point Likert-type of scale (1=strongly disagree 2=Disagree 3. No opinion 4=Agree 5=strongly agree). The opinion given by the respondents of different groups are used for factor analysis to identify the factors.

The Statement of Factor Analysis

1. Strongly disagree 2. Disagree 3. No Opinion 4. Agree 5. Strongly agree

Sl. No	Statements
1	Wind farm development changes the occupational pattern of the villagers
2	Wind farm adds beauty to our village
3	Wind farm development generates more employment opportunities for the villagers
4	Wind farm development leads to inward migration
5	Wind farming brought down our family expenditure
6	Wind farming increases our savings and wealth
7	Wind farming is a good source of continuous income
8	Wind farming is a tension free business
9	Wind farm development leads to other infrastructural developments like schools, roads, hospitals, et.
10	Wind farm transforms villages from tradition to modern
11	Wind farm development affects the local climate of our area
12	Wind farm development affects life of birds in our village
13	Wind farms creates disturbing noise pollution
14	Wind farm development affects life of cattle in our village
15	Shadow flicker from the operating wind turbines are disturbance
16	We feel danger about the operation (rotation of lengthy blades) of wind turbines
17	Wind farm development leads to outward migration
18	Wind farming is a high investment business

Factor Analysis Result

Factors	Variables/ Loading	% of Variance	Name of the Factor
1	S10=0.614, S14=0.826, S16=0.751, S18=0.849	20.573	Fear
2	S5=0.749, S6=0.714, S11=0.549	13.256	Savings
3	S9=0.865, S12=0.832	10.828	Infrastructure
4	S3=0.830, S13=0.763	10.244	Employment
5	S1=0.653, S4=0.927, S15=0.575	8.407	Development changes
6	S7=0.744, S17=0.824	7.674	Income
7	S8=0.896	6.462	Freedom
8	S2=0.862	5.990	Environment
Total variance extracted by Eight Factors		73.122	

The result is obtained by the principle component analysis. There are eight factors which has the Eigen values of more than one. These eight factors extracted together account for 73.122 percent of the total variance. From the rotated component matrix the researcher observed that the variables 10, 14, 16, and 18 have loadings of 0.614, 0.826, 0.751, and 0.849 respectively on factor one. This suggests the factor one is a combination of the above mentioned four original variables. Factor one can be named as 'Fear', about wind farm mills. Factor two is a combination of the variables 5, 6, and 11 with the loading of 0.749, 0.714, and 0.549 respectively. These factors can be named by the researcher as 'Savings'. The third factor is a linear combination of 9, and 12 with the loadings 0.865 and 0.832 respectively. These variables are mainly expressing the facility of infrastructure it and hence the factor can be named as 'infrastructure'. The fourth factor is a linear combination of the variables 3, and 13 with the loading 0.830 and 0.763 respectively. These variables are mainly expressing the opportunity about the employment.

Hence this factor is named as 'employment'. The fifth factor is a linear combination of the variables 1, 4, and 15 with the loadings 0.653, 0.927, and 0.575 respectively. These variables are mainly expressing the overall development about the village. Hence this factor named as 'Development'. The sixth factor is linear combination of the variables 7 and 17 with the loading 0.744 and 0.824 respectively. These variables are mainly expressing the family income. Hence this factor named as 'Income'. The seventh factor is linear combination of the variable 8 with the loading 0.896 respectively. This variable is mainly expressing private investor in wind mill. Hence this factor named as 'Freedom'. The last factor is a combination of the variables 2 with the loading 0.862 respectively. These variables are mainly expressing the village environment. Hence this factor may be named as 'Environment'.

Conclusion

It is very evident that the villagers have not sold their properties and lands for the development of the wind farms. They have sold it for other purpose of carrying out business, providing education to children and other purposes. Other important issue to be noticed is that these lands are barren non fertile lands. These lands are not perfect for agriculture. So the farmers find best option to sell it when there is a demand for the land. Hence selling of land for wind farm development will also provide them a good opportunity to get hold of money for their life, with which they could start some business / private small scale industry and earn their lively hood.

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AN ANALYSIS OF GENDER GAP IN LITERACY AND EDUCATION IN THE NILGIRIS DISTRICT, TAMIL NADU

Introduction

Human beings would be considered as a resource when they get education. Education has become one of the basic needs and as per the Indian Constitution it is one of the basic rights. Even though education is a basic right, a considerable proportion of Indian citizens are not able to access it, especially women. In the 21st century, gender gap in literacy is a big problem to India. The recent trend in literacy rates in India shows a significant improvement, overall as well as for women, yet the gender gap in literacy rate prevails by and large. According to the Census of India, in 1901 male and female literacy rates were 9.80 per cent and 0.60 per cent respectively. In 2011 there has been a great improvement in the literacy rates 82.14 per cent and 65.46 per cent for male and female respectively. These figures show that after 110 years, even though there are significant improvements in the literacy rates, gender equality in literacy rates could not be attained. This same scenario prevails in the state of Tamil Nadu. In 1901, 14.10 per cent and 1.00 per cent of male and female were literates respectively. In 2011 literacy rates have increased to 86.81 per cent for male and 73.86 per cent for female, but the gender inequality in literacy rates has not been eliminated. So, there is an urgent need to analyse the problem of gender gap in literacy and education. This paper aims to analyze the problem of gender gap in literacy and education in The Nilgiris District of Tamil Nadu where the female population (51 per cent) is greater than the male population (49 per cent) as per the 2011 Census. The Government of Tamil Nadu Sarva Shiksha Abhiyan (SSA) Report 2005-06 has been employed for the analysis.

Gender Gap in Children Population (age 06-14 years)

Gender equality in population is a fundamental feature to attain gender equality in society. Equal composition of girls and boys in total children population is important because it is the source of future effective human resource of the nation. In reality, there is a huge gender gap in children population (age 06 – 14 years). Table 1 provides the community wise girls population per thousand boys in Tamil Nadu and The Nilgiris. In both Tamil Nadu and The Nilgiris district the girls population is less or than the boys population in All Community (AC), Schedule Caste (SC) and Schedule Tribe (ST) categories. The girls population in The Nilgiris district is better than the State level in the category of AC and SC categories. The girls population in The Nilgiris district has been compared to all other districts of Tamil Nadu. It ranks 7th and 5th for AC and SC categories respectively.

In The Nilgiris district, the girls population per thousand boys is just 273. This level shows that there is a huge gender gap in children population (06-14 years) among Schedule Tribes (ST) in The Nilgiris district and it ranks 30th which is last rank in Tamil Nadu. So a, it is found that there is gender gap in children population in The Nilgiris district. The next part of this paper would analyse gender gap in enrolment of children in schools.

S. Jeyanthi, Ph.D., Research Scholar, & **N.Prasanna**, Assistant Professor,
Department of Economics, Bharathidasan University, Khajamalai Campus, Tiruchirappalli

Table: 1 Girls Population in the Age Group 06-14 years in 2005-06

(per thousand boys)

District/State	All Community	Rank	Schedule Caste	Rank	Schedule Tribe	Rank
Tamil Nadu	947	-----	950	-----	881	-----
The Nilgiris	956	7 th	969	5 th	273	30 th

Source: computed by author from SSA Tamil Nadu State Report 2005-06

Table: 2 Girls-Boys Ratio in Total Enrolment (Primary and Upper Primary) in the Age Group 06-14 in 2005-06

(per thousand boys)

District/State	All Community	Rank	Schedule Caste	Rank	Schedule Tribe	Rank
Tamil Nadu	930	-----	944	-----	890	-----
The Nilgiris	958	4 th	990	1 st	1053	5 th

Source: computed by author from SSA Tamil Nadu State Report 2005-06

Comparison of Girls-Boys Ratio in Primary and Upper Primary Enrolment

This part of the paper deals with a comparative analysis of girls' primary and upper primary enrolment in Tamil Nadu and The Nilgiris district. In Tamil Nadu, gender gap has increased in girls' enrolment from primary to upper primary enrolment in all three categories namely AC, SC and ST. This means that all the girls who enroll in primary school do not enroll in upper primary level. There are many factors responsible for the non-enrollment and high dropout rates of girls such as poverty, early marriage, social tradition and inadequate infrastructures like toilets, drinking water, transport and hostel facilities (Anita Modi 2010).

In The Nilgiris district, except AC category there is great improvement in girls' enrolment from primary to upper primary level. The AC category girls' enrolment has worsened from primary level to upper primary level. The Nilgiris district goes back from 3rd rank in primary girls' enrolment to 5th rank in girls' upper primary enrolment. In the SC category, there is great improvement in girls' upper primary enrolment. It has reached the 1st rank with 1001 girls per 1000 boys. In the ST category, more girls enroll in upper primary level than primary level. But, boys' enrolment is poor from primary to upper primary level. So, here gender gap exists against boys.

Table: 3 A Comparison of Girls-Boys Ratio in Primary and Upper Primary Enrolment in the age of 06-14 in 2005-06

(per thousand boys)

District/State	All Community		Schedule Caste		Schedule Tribe	
	Primary	Upper primary	Primary	Upper primary	Primary	Upper primary
Tamil Nadu	933	924	948	938	895	879
The Nilgiris	964	949	983	1001	1048	1064
Rank (for The Nilgiris)	3	5	2	1	1	6

Source: computed by author from SSA Tamil Nadu State Report 2005-06.

Suggestions

From the analysis and discussion it has been founded that gender gap in literacy prevails strongly in Tamil Nadu and The Nilgiris district. The state and central governments should work towards achieving gender equality in literacy. Awareness has to be created about women's education to the public. Especially, among the tribal communities, some urgent steps have to be taken to achieve gender equal enrollment. Educational infrastructure like number of schools, drinking water, toilet facilities and hostel facilities have to be increased and improved. Because these facilities may increase the enrolment of children in schools and eliminate the gender gap in literacy. Gender equality in education is an effective way to create a gender equal society. So, our policies should work towards meeting gender equality in education.

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PROBLEMS OF UNORGANIZED SECTOR WOMEN WORKERS IN TIRUPPUR DISTRICT, TAMIL NADU

Introduction

Tiruppur District in Tamil Nadu is one of the most successful and vibrant garment clusters in India. It is popularizing known as "Banian City" of the south India, which is located 60kms always from Coimbatore city. Tiruppur a small town in Tamil Nadu is the largest export center for knit wear production in India accounting for 20 per cent of direct export and 50 per cent of all export in re-exported sales to the big cities in India. (Neetha's) study shows that the mills in the early phase 1925-70 were employing only male workers. In the next phase between 1970-85 production to get more fragmented. Production facilities also moved to Tiruppur from Calcutta after a series of strikes. This period witnessed decline of local handloom. Industry leaving many women workers unemployed or under employed and they started to get involved in the production process as helpers to the male workers in cutting, arranging and folding jobs.

Form 1985 onwards with massive expansion of exports from Tiruppur there has been accelerated sub-contracting and in formulization of labour. There has been feminization of the workforce with women now constituting 60 per cent of the total workforce. The women between ages of 15 and 30 work for very poor wages with daily incomes just above of half the minimum wage in the area.

Activities like tailoring which in considered to be of a higher skill is still the preserve of men. Sub-contracting is very extensive and it goes to the home based work level or to very small production units. i.e., very tiny cottage enterprises. Thus the feminization of employment is to provide the cheapest possible production for international suppliers to ensure maximum profit.

Problem of women workers unorganized sector in Tiruppur District:

Introduction:

Tiruppur has playing a major role in the world of garments. The state Crime Records Bureau data show that the rate of suicide cases in Tiruppur has remained higher than the state average during the past three years. In 2007, a total of 526 cases were recorded in the 6 subdivisory. As against the state average of 373. In 2008, 555 cases were reported in these sub-division while the state average was 380.

Objective:

- To find out the general problem of unorganized women workers in Tiruppur District.

Methodology

To study the problem of women in unorganized sector, Tiruppur district was selected because the district is famous for garments, after Calcutta went for serious and continuous strikes in take seventies. Thirty women who working in Dhika Export Private Ltd. garment company was selected randomly. A interview schedule was framed which includes such as profile, of the respondents, Basic facilities in the work spot, leave availability, salary, higher officially domination. Sample percentage analysis was used in the study.

M.Nithya, Research Scholar & **Dr.P.Natarajamurthy**, Assistant Professor,
Centre for Youth Development and Studies, Bharathidasan University, Tiruchirappalli

Table: 1
Reasoning for coming to job

Experience	No. of Respondent	Family Problem	Lack of Education Skill	Need Finance to get married	Total
0-10	13	9	2	2	13
11-20	6	5	0	1	6
21-30	8	5	2	1	8
31-40	2	1	1	0	2
40- above	1	1	0	0	1
Total	30	21	5	4	30
Percentage		(70%)	(17%)	(13%)	(100%)

Source : Computed from Primary data

Note : Figures in Parenthesis represents percentage

From table 1 it is observed that seventy per cent of the respondents are coming to job because of finance problem. Now a days, due to high inflations, single salary are not enough to live a decent line. This forced the women to work in unorganized sector, where there is lone income and long hour of duties. Also, from the profile it is understand that out of 30 respondents, 26 respondents are married. The lack of Education knowledge and finance to get marry influences less.

Table 2: Salary beneficiaries

Experience	No. of Respondent	Satisfaction in Salary Received			Salary Issuing at Time			Possibility of Advance			Possibility of Incentive		
		Yes	No	Total	Yes	No	Total	Yes	No	Total	Yes	No	Total
0-10	13	13 (100)	0 (0)	13	13 (100)	0 (0)	13	10 (77)	3 (23)	13	11 (85)	2 (15)	13
11-20	6	5 (83)	1 (16.6)	6	5 (83)	1 (16.6)	6	6 (100)	0 (0)	6	6 (100)	0 (0)	6
21-30	8	7 (87.5)	1 (12.5)	8	7 (87.5)	1 (12.5)	8	6 (75)	2 (25)	8	6 (75)	2 (25)	8
31-40	2	2 (100)	0 (0)	2	2 (100)	0 (0)	2	1 (50)	1 (50)	2	1 (50)	1 (50)	2
Above 41	1	1 (100)	0 (0)	1	1 (100)	0 (0)	1	1 (100)	0 (0)	1	1 (100)	0 (0)	1
Total	30	28	2	30	28	2	30	24	6	30	25	5	30

Source : Computed from Primary data

Note : Figures in Parenthesis represents percentage

Table-2 exhibits that, the respondents satisfaction in salary received and salary issuing at time. Out of 30 respondents, only one respondents is not satisfied either by salary received or issuing time. But one thing is, they are not receiving the salary on last date of previous month. They are mostly getting on the first of the month consistently. But, twenty per cent of the respondents are not getting neither Advance not incentives.

Table 3 : Discrimination between Male and Female

Education	No. of Respondent	In work Spot			In Salary		
		Yes	No	Total	Yes	No	Total
illiterate	7	3 (43)	4 (57)	7	0 (0)	7 (100)	7
Elementary	7	1 (15)	6 (86)	7	0 (0)	7 (100)	7
Middle	8	2 (25)	6 (75)	8	1 (13)	7 (88)	8
High School	6	1 (17)	5 (83)	6	1 (17)	5 (83)	6
Higher Secondary	2	0 (0)	2 (100)	2	0 (0)	2 (100)	2
	0	7	23	30	2	28	30

Source: Computed from Primary data

Note: Figures in Parenthesis represents percentage

Table-3 explains the availability of basic facilities. Though the selected samples are from unorganized sector, the Respondents feels, there is safety in the work spot, it may be due to unity among the worker and also there is huge demand for laborers, the management is in compulsion to create safely for the workers. Only one respondent is not satisfied with leave facility.

Table 4: Family Income and literacy Level

Education	No. of Respondent	Family Total Income	Respondent Income	R.I/ F.T.I*100
illiterate	7	711600	331200	46
Elementary	7	736800	288000	40
Middle	8	1012800	415200	41
High School	6	659300	314400	47
Higher Secondary	2	516000	96000	18
	0			

Source : Computed from Primary data

Note : Figures in Parenthesis represents percentage

From table-4, it is observed that, literate respondents feel that there discrimination between male and female than illiterate respondents. Where as in the context of salary more than ninty per cent of the respondents feels there is discrimination.

Findings

In the selected 30 respondents from Dhika Export Private Ltd. Only six per cent of people are above 60 age, which shows that, the unorganized sectors are not willing in observing age people for job. Like wise there is no one from FC and ST in the selected sample. Only one from SC and MBC. It implies that, the unorganized sector is not giving much importance for minorities. The other major inference, from selected sample is, no women who qualified more than under graduate is in textile industries. In the selected 30 respondents, 23 are from other districts of Tamil Nadu and two from outside the state.

The respondents are satisfied in salary level and time of issuing where as not in advance and incentives.

There is no awareness about Sumangali Thitam among the respondents. They feel safety in the work spot but their strong feeling is they are not freating equally with male working and also they feel that there is wide discrimination in the context of salary. Though, they are not freated well and paying low compare to male, they are working because there income also playing vital role in the family.

Suggestions

Awareness about Sumangali System, government orders related to women have to give. The government has to take role in culminating the discrimination between male and female. It has to ensure that equal salary might be paid according to work load.

Conclusion:

In the unorganized sector, the poor and rural people are working, they are aware of schemes; they are not treated and paid well. If the are provided with good salary, and trained the productivity will increase, which will increase country's GDP. Hence, the government has give more attention to the people working unorganized sector whose population is very high.

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MGNREGP AND VULNERABLE SECTIONS: A STUDY OF THE NILGIRIS DISTRICT, TAMIL NADU

Introduction

Today poverty has become a major problem for all the Third World countries. Adam Smith had rightly said in 1776 "No society can surely be flourishing and happy, of miserable". Although poverty has been a common problem with most of the countries, the poverty in the Third World acquires alarmingly high proportions (Maulick 2009). 74 percent of the unemployed population hails from rural India. For the past three decades India has been implementing rural employment generation programmes. Poor employment opportunity is one of the key reasons for the endurance of rural and urban poverty in India. The causes of poverty have been traced to lack of adequate employment opportunities and limited access to markets for the poor. Employment generation is necessary to raise the purchasing power, and thereby create demand in the economy. A decline in the level of employment adversely affects the purchasing power and thereby the process of demand creation falters (Banarjee, Saha 2010).

In the Fifth Five Year Plan, the removal of unemployment and poverty alleviation was recognized as one of the principle objectives of economic planning in the country. The Government's flagship poverty alleviation programme is Mahatma Gandhi National Rural Employment Guarantee Programme. It is the first ever law internationally, that guarantees wage employment at an unprecedented scale. MGNREGP 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 primary objective of the Act is augmenting wage employment.

India has the largest concentration of tribal people anywhere in the world except Africa. As per rough estimates, the prominent tribal areas constitute about 15 percent of the total geographical area of the country. They constitute the matrix of India's poverty. There are approximately two hundred million tribal people in the entire globe, which constitute about 4 percent of the global population. According to 2011 census, the population of Scheduled tribes in the country was 84.32 million, consisting about 8.19 per cent of total Indian population. Most of the tribal people are living in poverty. There are even fewer opportunities for non agricultural wage work in these areas where the rural economy is predominantly agricultural. Poverty alleviation and employment generation programmes are focused on the economic empowerment of the population. These programmes, through employment generation, are expected to reduce poverty levels.

Objective:

1. To analyze the shares of socially disadvantaged SCs, STs, women and vulnerability sections.

Methodology:

The total population in Nilgiris was 735071, 360170 are males, 374901 are females in 2011 census. The Nilgiris District is basically a Horticulture District and the entire economy of the district depends upon the success and failure of Horticulture Crops like Potato, Cabbage, Carrot, Tea, Coffee, Spices and Fruits. The main cultivation is plantation Crops, viz., Tea and Coffee. Tourism is an important source of revenue for the Nilgiris. As of 2011 it is the second least populous district of Tamil Nadu. The Nilgiris has a sex ratio of 1041 females for every 1000 males, and a literacy rate of 85.65 %. It was ranked first in a

R. Kurinjimalar, Ph.D Research Scholar & UGC Project Fellow,
Department of Economics, Bharathidasan University, Tiruchirappalli.

comprehensive Economic Environment index ranking of districts in Tamil Nadu (excluding Chennai) prepared by Institute for Financial Management and Research in August 2009. This study covers four blocks of Nilgiris i.e., Udahamandalam, koonoor, Kotagiri, Kudalur. This study is based on secondary data.

Results and findings

- The maximum number of job card issued in Kothagiri block (49.33) especially for Scheduled Tribes in 2011-12.
- The Udahamandalam Scheduled Caste (32) people getting more job cards under the scheme.
- The cumulative person days of women was very high in Udahamandalam and Kudalor blocks.
- Only three specially challenged people getting employment through this scheme in Udahamandalam and Kudalor blocks.
- MGNREGP signifies the delayed response to the need to provide a safety net for such a vulnerable workforce.
- In adequate payment, delay in payment, lack of facilities at the worksite

Suggestions

- Qualitative studies in the forms of focus group discussions with the stakeholders, case studies and village studies can complement and enhance contextual understanding of the programme.
- Community participation through PRA is essential for the successful implementation of the scheme. Gram sabha must play an important role in the implementation of the scheme.
- Some states "the unemployment allowance was paid, but only to a few workers and after a long struggle.

Conclusion

The MGNREGP is an important step towards realization of the right to work. It is expected to enhance people's livelihood security on a sustained basis, by developing economic and social infrastructure in rural areas. One of the most distinguishing features of the MGNREGP is its approach towards empowering citizens to play an active role in the implementation of employment guarantee scheme, through Gram sabhas, social audit, participatory planning and other activities. In fact, the huge potential of the MGNREGP has already been evident particularly in the enthusiastic response of local people, landless and marginal farmers and women workers in particular, wherever information about the programme has been properly disseminated.

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SUGARCANE PRODUCTION IN ERODE DISTRICT

Introduction

“Sugarcane is one of the traditional and commercial crop in India. It is growing 80 Degree North latitude and 30 Degree North latitude covering a wide range of climatic and soil condition. Two distinct regions of cane cultivation are recognized; the tropical and subtropical. Sugar is processed form of sugarcane (*Saccharam Officinarum*), a plant that originated in New Guinea. Sugarcane is a perennial crop” 2. Sugarcane varieties growing in India cover a wide range of morphological and physiological characters.

“In India sugarcane cultivates about 8.6 million hectares with production of 282.06 million tons. About 55 million farmers are depending on sugarcane for their livelihood, and an equal number of landlords also depending on sugarcane cultivation”. (Indian Economic Survey Report on 2010-11).

“Sugarcane crop is grown in 309‘000 hectares in TamilNadu. The area under sugarcane cultivation is increasing over the years due to the increased demand in consumption of sugar and also increased demand by sugar mills. The climate, soil condition and irrigation also facilitates for the increased sugarcane cultivation in TamilNadu” (Tamil Nadu Economic Survey Report).

Erode is one among the Districts in TamilNadu where sugarcane is cultivated in 2,24,786 hectares. This works out of 309 (‘000) hectares of the total area under cultivation in TamilNadu. Abundance of labour force, availability of irrigation facilities, Government policies and sufficient loan facilities form bank etc., are also influence the farmers to produce sugarcane in the large scale.

Objective

To study the sugarcane productivity in Erode District.

Methodology:

Erode District was bifurcated from Coimbatore District. Villupuram District place top in sugarcane cultivation and production in Tamil Nadu i.e., 57‘000 hectares and 5787‘000 tons/hectare. The area, production is decreasing over the years in India but data says the productivity is increasing. Hence the researcher plans to study the sugarcane production in Erode District. The sources were collected from Tamil Nadu Economic Appraisal, Tamil Nadu Economic Survey Report 2010-11 and Agricultural Department Report in Erode District.

T.S.K.Dhanam, Research Scholar,

Centre for Youth Development and Studies, Bharathidasan University, Tiruchirappalli

Table: 1**Total area of Sugarcane Cultivation**

Year	India (‘000 heactares)	Tamil Nadu (‘000 hectares)	Erdoe District (‘000 hectares)
2006-07	5151	391 (7.59)	39.9 (10.22)
2007-08	5065	354 (6.94)	31.7 (11.15)
2008-09	4415	309 (6.99)	27.9 (11.07)
2009-10	4175	323 (7.85)	29.3 (11.00)
2010-11	4944	335 (6.93)	30.3 (11.02)

Source: TNEA, TNES Report and Erode Agricultural Department.

Note: Figures in parenthesis represents percentage.

Table-1 reveals the per cent age cultivated area of the sugarcane of Tamil Nadu in India and the per cent age of cultivated area of sugarcane of Erode District in Tamil Nadu from 2006-07 to 2010-11. The total area of sugarcane cultivation of Tamil Nadu in India ranges from 6.93 per cent to 7.85 per cent. Likewise, Erode District is cultivation more than 11 per cent of Tamil Nadu total area of sugarcane cultivation. The Erode District ranks second in Tamil Nadu. Because, the climatic condition semi arid dry sub humid is favorable for sugarcane.

Table: 2**Sugarcane Production in Erode District**

Year	India (Million Tons)	Tamil Nadu (‘000 tonns)	Erdoe District (‘000 tonns)
2006-07	3555	480 (11.3)	5935 (8.08)
2007-08	3481	380 (8.8)	3744 (10.14)
2008-09	2850	329 (11.4)	3277 (10.10)
2009-10	2923	342 (11.4)	3581 (9.55)
2010-11	3391	328 (11.0)	3664 (8.95)

Source: TNEA, TNES Report and Erode Agricultural Departm

Note: Figures in parenthesis represents percentage.

Table-2, explains the production of sugarcane in India, Tamil Nadu and Erode. The percentage of sugarcane production of Tamil Nadu in India ranges from 8.8 per cent to 11.4 per cent during the year 2006-07 to 2010-11. the production of sugarcane in Erode District in Tamil Nadu ranges from 8.08 per cent to 10.14 per cent during the year 2006-07 to 2010-11. the production of sugarcane in India, has decreased over the years, the production level of sugarcane in Tamil Nadu is stable. In Erode District, the production of sugarcane was decreased from 5935 ('000) tons in the year 2006-07 to 3664 ('000) tons in the year 2010-11.

Table: 3

Sugarcane Productivity

Year	India (‘000 heactares)	Tamil Nadu (‘000 hectares)	Erdoe District (‘000 hectares)
2006-07	69.0	115	126
2007-08	68.9	108	118
2008-09	64.6	106	116
2009-10	70.6	112	121
2010-11	68.6	109	120
Average	68.34	110	120.2

Source: TNEA, TNES Report and Erode Agricultural Department

The Sugarcane productivity is shown in the Table-3. the average productivity of Tamil Nadu (110) is greater than average productivity of India (68.34). The Erode District productivity (120.2) of sugarcane is better than India and Tamil Nadu. the productivity is higher in the year 2006-07 compared to other years- in Tamil Nadu and Erode. The average productivity during the year 2006-07 to 2010-11 is higher than the average productivity of India and Tamil Nadu, because the District is well supported by irrigation facilities.

Findings And Conclusion:

The total area of sugarcane cultivation is reduced, hence the production also decreased over the years. But the productivity remains the same because the price of sugarcane per ton is increasing over the years but not to the farmer's expectation and like price of turmeric. If the Government increases the price of sugarcane as the farmers expectation or atleast like other crops such as turmeric, the farmer's will get motivated. There are huge farmers and labourers are directly and indirectly depend on sugarcane production. Soothe government has to give special attention to sugarcane farmers.

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IMPACT OF PROSOPIS JULIFLORA ON CULTIVABLE LAND IN ERODE DISTRICT

Introduction:

Prosopis Juliflora (PJ) is an aggressive and invading species that has spread rapidly in almost all the parts of the India. In English mesquite and in Tamil it was called as Velikaruvai or Seemaikaruvai. Prosopis grows on all the soil types and it extends from areas with an annual rainfall of 50mm to 1500 mm. Particularly it grows well on rainfed area.

Prosopis Juliflora is playing a vital role in sustaining the livelihoods of the rural poor. It is major sources of fuel wood and also provides additional income for the rural families. The PJ has been given additional employment opportunities; Prosopis Juliflora which was introduced in India in 1877, in Rajasthan PJ was introduced in 1913. In Tamil Nadu it was first introduced in Ramanadu and Tirunelveli districts, in 1960s.

Objective

To find the impact of Prosopis Juliflora on cultivable lands in Kavundapadi Panchayat.

Methodology:

Kannadiputhur hamlet, Kavundapadi panchayat, Bhavani taluk in Erode district, was selected for the study. The Kavundapadi Panchayat is having 13 Revenue villages, the total cultivated area is 1934 ha. In this Panchayat land is divided into three types, Type A Rainfed Land [654 ha.] Type B Rainfed land [660 ha.] and Type C [620 ha.] Kavundapadi Panchayat total population is 44,155 people. In which male is 22,100 and female are 22,055.

Kavundapadi Panchayat is famous for Jagry products in Tamilnadu and also the cultivatable lands is high in Bhavani taluk in Erode district. Sugarcane is major cultivation in this Panchayat. PJ species also found larger amount in this village. The participatory Rural Appraisal method was used in collecting data, Social map and also resource map were prepared with the help of farmers. The secondary data was collected from panchayat office and VAO office.

Outcome of PRA – Discussions:

Kannadiputhur hamlet consist mostly small farmers, depend on monsoon. This hamlet have been occupied by Gounder, Vettugounder and Boyar. Cultivable lands and production are affected by PJ and also it is very expensive to demolish it. To demolish it they are spending Rs. 700 to Rs.1000 per hour at the same time labour charges per day coolie about 300 per men and 200 per woman as compare as machinery low than manual.

T. Senthilkumar & G. Priyadharshini, Research Scholar
Centre for Youth Development and Studies, Bharathidasan University, Tiruchirappalli

Without fertilizers and less water it grows automatically, in the bunds of the cultivable lands in canal and road sides, it will take more than week to recovery if, the thorn of the species injures the farmers and it also puncture the vehicles. Because of above said reasons, the agricultural productions are getting slowdown. The shadow of PJ affects the productivities of the crops. Farmers are thinking about the PJ is one of the exotic species of their cultivable lands. At the same time PJ has been one of the major demands for fuel for the rural poor. PJ is growing not only in canal bunds and road sides, it is also growing in dispute lands in this village. Through there is more than sufficient PJ is available in the village, the village peoples are not making charcoal out of it. But the charcoal is having very good demand in the village by the teashop owners and Drycleaners. The unfortunate is, the village is importing 60 bags charcoal per month from Madurai and Thoothukudi districts.

Suggestions.

All the farmers have to join the lands to remove the PJ taken cleaning about the PJ in cultivate level as PJ, which may reduce the cost. Also the people are selling the wood for Rs. 3 to 5 per kg where as they are getting the charcoal for Rs.20 to 25 per kg, the cost may be high in raining seasons. We need 3 kg of wood to produce 1 kg of Charcoal, even though it is highly profitable one. So, apart from the demerits of PJ, the PJ is very good alternative livelihoods for the people.

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ECONOMICS OF WATER POLLUTION IN TIRUPPUR TALUK COIMBATORE DISTRICT

The environmental parameters likely to be affected by industrial activities are related to many factors, i.e., physical social, economic agriculture and aesthetic economic system is part of a larger ecosystem and man in only one of the species of this system. Resources of the earthly environment are common to both systems. The man - nature and economics – ecology interrelatedness are established in Environmental Economics or “Environmics”. The present study is on the subject matter and scope of this new branch of Economics.

Today the problem of pollution is no more a regional or national problem. It is indeed a world problem. The Environment is continuously being fouled by several types of impurities solid, liquid, gaseous which are the bye-products of industrial growth and community living achieved by the industrious modern man. No one can escape pollution that has become part of everyday life in any country. Pollution can be defined as, the production of unwanted by product of human activity. The pollution has occurs whenever people do something even when they have merely exist. After all the polluted river is first and foremost a physical fact of life. While all pollution is physical, because it involves physical destruction of the environment, there cannot be any analysis of pollution without economic consideration.

Statement of the problem

Tiruppur is fast growing hosiery ‘industrial city’ in Coimbatore district of Tamil Nadu. It is located on the bank of the Noyyal River, a tributary of the Cauvery. At present 9000 knitting, processing, dyeing, Manufacturing etc., units which are functioning in Tiruppur provide employment for more than 4 lakh people and the direct export earning in 2006 was Rs. 11,000 crores. The bleaching and dying units are use large quantities of water, but most of the water used by these units is discharged as effluents containing a variety of dyes and chemicals. These units discharge nearly 90 m/d of the effluents on land or into the Noyyal river leading to contamination of the ground and surface water and soil in and around Tiruppur and downstream.

There has been an altering deterioration in the environmental quality and living conditions of the citizens. Due to rapid increase in population and industrialization in Tiruppur. The Tiruppur city has been polluted by disposal of sewage, sullage, hospital and chemical industrial effluents into the river Noyyal. Large and small industries like cotton, spinning and wearing mills, Transport equipments, chemical industries, Tanneries, Rice Mills, Dying factories. Manufacturing industries etc are polluting Noyyal river day by day.

Samples have been selected from the three villages Mannarai, Mudalipalayam and Andipalayam which are in the banks of the river Noyyal. This study is aimed at analyzing the incidence of water pollution in Tiruppur City.

Objectives

1. To estimate the cost of damage of human beings.
2. To identify the nature and extent of water pollution in Noyyal.
3. To suggest measures to abate pollution.

R.M.Meyyammai, Assistant professor. Economics Wing, DDE, Annamalai University, Chidambaram

Hypothesis

1. Incidence of water pollution is significant on the poor than on the rich.
2. There is no association between water-born disease occurrence and sex.
3. There is a correlation between the water-born disease expenditure and income and the household.

Methodology

The primary data have been collected with the help of household survey. The secondary data have been collected with the help of statistical office – Coimbatore, pollution control board and common effluent treatment plan – Mannarai Village, Tiruppur. A schedule was designed to evaluate the incidence of pollution on the human being of the Noyyal river bank. Care has been taken to collect data relating to the health activity patterns, cost of damage and life styles of the inhabitants in villages namely Mannarai, Andipalayam and Mudalipalayam located on the bank of the river Noyyal. 50 samples from each village.

Water pollution damages are to be measured directly in terms of economic costs of increased incidence of disease and premature death. It is against this background that a study of the incidence of water pollution in CBE district – Tiruppur Taluk is taken up. For purpose of study, three villages Mannarai, Mudalipalayam and Andipalayam located on the banks of the river Noyyal, which is the most populated area has been chosen.

Simple random sampling technique is used. The household have been selected according to type of houses Viz, Thatched huts, tiled house and Rcc – roofed houses. A scheduled and questionnaire designed for the purpose has been administered to collect data relating to socio-economic background such as size of the families, sexratio, age group, income group, distance of the houses and source of water.

The variables included in the analysis are divided into five categories relating to 1) distance of the households from the river bed 2) water quality 3) cost of medical expences 4) the earning and income 5) willingness to pay for pollution control.

These exposures estimates were matched to the individuals in the survey on the basis of the distance of the residence to the river. Water pollution damages are measured directly interms of economic costs of increased incidence of disease. This is to be estimated by calculating the cost of medicine and doctor's bill as well as the present value of the foregone earnings from days of work lost.

Classification of house and usage of Noyyal River Water

Table - 1

Types of house	Usage of water	Agriculture	Total	Percentage
Huts		7	7	25.92
Tiled-Roof		13	13	48.14
RCC-Roof		7	7	25.92
Total		27	27	100

Source: Primary Data

The table shows the difference types of houses and the usage of Noyyal River water in Tiruppur city. Most of the respondents i.e, 48.14 percent using the Noyyal water for agricultural purpose and they are in Tiled Roof house. The remaining 51.84% of the respondents living in Huts and Rcc-Roof house, they are also using Noyyal River water for Agriculture. Noyyal River is not capable for drinking, washing and bathing purpose of human beings. Very few of the respondents are using Noyyal river water for cattle washing, because the Noyyal River water is more polluted by dyeing and bleaching Units in Tiruppur city.

Table -2

Types of Disease and the Age group Respondents

Type Disease	Age group	0-5	5-15	15-25	25-50	50 & above	Total	%
Typhoid		-	2	2	13	5	22	6.60
Jaundice		1	5	4	7	3	20	6.00
Dysentery		10	11	10	14	2	47	14.11
Skin & eye disease		1	3	1	11	21	37	11.11
Infection fever		28	29	21	25	10	113	33.93
Malaria		3	7	7	8	3	28	8.40
Chick-un-kunia			3	4	27	32	66	19.81
Total		43	60	49	105	76	333	100

Source primary Data

The above table reveals the water born diseases and the age group of the respondents. The Infection fever affected 33.93% of the respondents and the age group between 5 and 15 are highly affected (29). Out of the total respondents 333, 105 of the respondents at the age group of 25 and 50 are affected by all diseases.

19.81% of respondents are affected by chick-un-kunia fever and 30 at them are affected at the age of group of 50 and above. The age groups between 0-5 are affected by dysentery (10). 37 of them are affected by skin and Exe diseases and 21 of them are affected at the age group of 50 and above. 8.40 per cent of by Malaria disease. Out of the total respondents 22 of them are affected by Typhoid and 20 of them are affected by Jaundice.

Table - 3

Medical Expenditure of the Respondents

Sources	No. of respondents	Percentage
Own Money	82	56.55
Medical claim	16	11.03
Money lenders	16	11.03
Friends & relative	31	21.37
Total	145	100

Source: Primary Data

The above table 8.9 reveals that the medical expenditure of the respondents. It explains the source of borrowing to meet the medical expenditure. The table reveals 56.55 percent of families in the three villages have resorted to borrowing to meet medical expenditure through their own money. 31 respondents borrowed the money from friends and relatives. It is easy to borrow and easy to repay. 22.06 percent of the respondents were borrowed money from medical claim and money lenders.

Findings and Suggestions

Pollution of water is probably an acute problem in developing nations many a times non-existent drainage system untreated human and house hold waste thrown in water is a signal invitation to disease and consequent economic costs which may be in the form of increasing money cost on medical treatment and loss of pay due to absenteeism from work Health cost incurred an account of water pollution is a burden on the poor people who are living in the bank of the river.

In India, the fast industrial and technological development with growth of population are responsible for the water pollution problems.

This research project is aimed at analyzing the incidence of water pollution in Tiruppur City. The Tiruppur has been polluted by disposal of few age, sullage hospital and industrial effluents into the river Noyyal. The different source as pollution as river Noyyal are Sewage, Sullage, Industrial waste, Hospital discharge, Bathing area, Dhobi washing, Cattle washing, Vehicle washing, Detection by human beings, Sewage over flows, Sewage through open drainage, Dumping solid wastes and Street run-off

Suggestions

Measures to abate pollution problem can be classified as short run and long-run, short run measures consists of Government direct central measures like tax assistance subsidies regulations by standards, and regulations by pollutions charges long-run solutions in those which directly and abate the pollution with a long – extent, there are like.

1. Disperse population and Economic activities to reduce the concentration of harmful residuals
2. Increase the capacity of water ways to assimilate waste residuals
3. Improve the treatment of residuals to reduce the amount of residuals
4. Reduce the birth rate to reduce the amount of residuals
5. Change production processes to reduce the amount of residuals
6. Shift the composition of consumption of lower residuals producing goods.

It may be hoped that with

1. Enlargement of the sewage pumping stations
2. Improvement of underground drainage facilities and
3. Recycling waste water

The problem of water pollution at Tiruppur can be regulated in the near future the waste water from the industries (effluent waste) should be treated for reuse. Similarly the waste water from households (sewage) should also be reclaimed and can be used for irrigation and for recharging the ground water. In USA and Israel and other Advanced countries, already the waste water (sewage & Effluent waters) are reclaimed and reused either for agriculture (irrigation) or for Industrial needs.

Conclusion

We can conclude this survey by noticing that in the political as well as in the academic work done in this deals with industrial pollution. Several methods have been applied in order to estimate pollution abatement function for different factors of the Indian Industry. Nevertheless, very few information is available on the cost of controlling other types of pollution such as domestic pollution and especially agricultural pollution.

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EFFECTS OF NOISE POLLUTION FROM HANDLOOM INDUSTRY TO RAG-RUG WEAVERS IN AYYALUR VILLAGE

Introduction

Handloom industry is an important traditional cottage industry in India. It provides ample scope for employment generation in the rural areas next to agriculture. Besides employment generation, this rural industry helps the rural artisans in generation sustainable income for their livelihood and thereby helping them in upliftment of their living standard.

Three forms of organization for production existed, artisans individual households, master-proprietor workshops, and state workshops, or karkhanas. In the first from, the family was the production unit. Women cleaned the cotton spun, twisted the threads, warped the cloth. In silk-weavers families, they sometimes wound the cocoons. The men dyed the threads and wove the cloth. As trade in cloth grew and production assumed a larger scale, specialization of tasks advanced to the extent that particular groups at artisans began to undertake distinct process in the chain at production. Spinning, winding at cocoons, rewinding, twisting of threads bleaching and dyeing became independent profession as did weaving.

Rag-rug

A Rag-Rug is a flat, hand-woven rug made through household production by women in nomadic tribes and rural areas in Asia, Central Europe, and Northern Africa. Depending on the country of origin, it may also be called kelem, khilim, gelim etc. Usually, the warp (the length of the rug) is made of waste cloth and the weft (the width of the rug) of wool or cottons.

Rag-rug (Or) Kelam

(kelam or Rag-rug (Kelim, kilim or khilm) rugs also called karamanie are hand-woven rugs, originally made mainly by nomad sot tents and-even though thinner than most carpets floor-covering. While the front may be distinguished from the reverse, the difference is so slight that both sides may be used. Today, in many countries kalem are to an increasing extent made by skilled village weavers.

Noise pollution in handloom industry

The contamination of air, water and soil with the substances, which have adverse effect on human beings, animals and plants, is called pollution of Air, Water and Soil makes them polluted, are called pollutants. Thus a pollution is defined as the addition to air, water and / or any material (or heat) that is usually not found there or that is in excess of normal account. And a pollutant is defined as a substance whose contamination with air, water and soil makes them polluted and adverse effect on living and non-living.

Every business activity is involved with some problems. The handloom industry is also not an exception to this. It is generally suffering with numerous problems. Some of them are personal, environmental and external.

Personal problems include health affected by weaving, lack at weaving skills, in adequate training, lack of education etc.

Environmental problems include noise pollution, Air pollution, etc

External problems include family background social attitude, government policies, and exploitation by middlemen, socio-economic constraints and stiff competition.

Handloom operation creates noise pollution. Noise Pollution is high in industrial and urban centres, where it is only occasional. The research intends to analyse the types of noise pollution experienced in handloom industry and assess the impact at noise pollution in the selected area.

Objective Of The Study

The Specific Objective of the Study is as follows.

- To describe the environmental problems particularly Noise pollution in Rag-Rug Production Units in Ayyalur Village.

Scope Of The Study

The Area of study would highlight the present condition of Rag-Rug producing units with reference to the units located in the Ayalur Village at Gopichettipalayam. As of 2001 India census GR India, Ayyalur had a population of 14,362. Males constitute 50% of the population and females 50%. Ayyalur has an average literacy rate of 53%, lower than the national average of 59.5%; with 60% of the males and 40% of females literate. 12% of the population is under 6 years of age.

Methodology

The validity of the study to a great extent depends upon the collection of the data and the method followed in the selection of statistical units, collection of data and method adopted for their analysis. Hence a clear understanding of the methods followed in the present study is considered important. Since the study deals with the state of Rag-Rug producing units in Gobichettipalayam Taluk primary data on fixed capital investment made, working capital invested, sales made, the price received for the product noise pollution etc, were obtained from the sample respondents by a prepared questionnaire. In total, 80 Rag-Rug producing units were selected at random from the list of 150 Rag-Rug producing units supplied by statistical department of Handloom in Gobichettipalayam.

Method Of Analysis

The simple tabular analysis has been followed in the present study, the average Analysis, has been widely adopted and was ever necessary, diagrammatic technical has been for illustration purpose.

TABLE-1

TYPE OF WEAVERS INVOLVED IN RAG-RUG PRODUCTION

TYPE OF WEAVERS	NO. OF RESPONDENTS	PERCENTAGE
Male	18	22.5
Female	62	77.5
TOTAL	80	100

Source: Primary Data

From Table -1 it is clear that at so sample respondent 22.5 percent of them are male and 77.5 percent of them belong to female. It is clear that majority of the weavers affected by noise pollution fall under the female Weavers.

TABLE-2
AGE OF RAG-RUG PRODUCERS (SUFFERING FROM NOISE POLLUTION)

AGE	CATEGORY	NO.OF WEAVERS	PERCENTAGE
Young Age		11	13.75
Middle Age		43	53.75
Old Age		26	32.50
Total		80	100

Source: Primary Data

This analysis indicates that the middle age weavers affected highly than the other age group weavers.

Suggestions

The following suggestions are recommended for an effective control on noise pollution

1. Hearing protection may be recommended for all workers who are consistently exposed to noise louder than 85 decibels in the frequency bands above 150 HZ.
2. There may be practices prevailing at presently in our social, cultural religious and political activities which contribute to noise pollution these practices and producers could be modified to minimize the noise.
3. Effectively shielding the noise at the source itself by using sound mufflers and silencers.
4. Isolating the handloom centres far away from the town or city.
5. Using noise preventing devices by the people like ear plug and sound mufflers.
6. Proper designing of doors and windows of a handloom cente4rs may help in reducing the noise to a much greater extent.
7. The Government should create awareness among the public about the noise pollution.

Conclusion

Modern life has given rise to noise pollution. It is potentially a serious signal and grave threat to the environmental health. It cannot be totally eliminate but it can be reduced to the maximum extent possible. The government should create awareness among public about noise abatement programmed through mass media. From this analysis it is clear that the Rag-Rug weavers are affected by noise pollution in different ways.

A STUDY ON WOMEN ENTREPRENEURIAL SKILLS WITH REFERENCE TO COONOR TALUK

Introduction

An entrepreneur should be one who bears, innovates or imitates and organizes the business. Whether he performs the various functions effectively is determined by the nature of quality control, cost reduction, improved labour relations, profit earning and the like. All this is possible if the entrepreneur is especially a talented person and he possesses self-confidence, assumes risk, willingness to accept change, ability to imitate alertness to new opportunities, marshal resources and possess technological knowledge. By increasing women participation in economic activity and by designing and implementing a well planned comprehensive programme for women professionals can improve confidence and a sense of self-belief which would lead them to perform better in the professional ambience. (Anil Kothari and Shehnaz Tobwala, 2009)

The hidden entrepreneurial potential of women has gradually been changing with the growing recognition of their role and economic status in the society. Women are increasingly becoming conscious of their rights and their work situation. Today, they are looking beyond traditional ventures and are exploring new avenues of economic participation. Among the reasons for women to run organized enterprises are their skill and knowledge, their talents and abilities in business and a compelling desire to do something positive. (Rafiya, 2008)

Need for the study

As per the ILO's report of 1980, about 10% of world's income and only 1% of world's assets are received by women though they represent 50% of the world's population and perform 2/3 of the total work in the world. In India it is still worse. In the world the ownership and management of business and industry have long been considered as the male prerogative. This situation is changing gradually. It is estimated that presently women entrepreneurs comprise about 10% of total entrepreneurs in India. Further this is growing as in recent times women have begun to participate in different economic activities including business and industry. Elite women in cities and urban areas are entering the modern fields of economic activities such as consultancy marketing, advertising, export garments, interior decoration handicrafts, dyeing and printing, food processing etc. In the United States, women own 25% of all business. In Canada one third of the small businesses are owned by women and in France it is one fifth. In the U.K. the numbers are growing year after year. (Rafiya, 2008)

Objectives

1. To identify the entrepreneurial skills of women entrepreneurs owned or promoted by women.
2. To sketch profile of women entrepreneurs in terms of type of business and their educational background.

C.Hemalatha, Assistant Professor

Department of Economics, Providence College for Women, Coonoor.

Methodology

The study is based on primary data with a sample of 20 women entrepreneurs. The study is in descriptive form. The data is analysed through percentages only.

Data source and classification

Table 1

S. No	Name	Business	Entrepreneurial Skills														Total	%
			1	2	3	4	5	6	7	8	9	10	11	12	13	14		
1.	Mrs. Gayathri	Tea powder	1	1	1	1	0	1	1	0	0	1	1	1	1	1	12	80
2.	Mrs. Poovathi	Vegetables	1	1	0	1	0	1	1	0	1	1	1	1	1	1	12	80
3.	Mrs. Narmada	Beautician	1	0	1	1	1	1	0	0	1	1	1	1	1	1	13	87
4.	Mrs. Arulmozhi	Electronics	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15	100
5.	Mrs. Susila	Provisions	1	1	1	1	1	1	1	0	1	1	1	1	1	1	14	93
6.	Mrs. Kanchana	Provisions	1	0	0	1	1	1	1	0	1	1	1	1	1	1	12	80
7.	Mrs. Lalitha	Beautician	0	1	1	1	1	1	1	0	0	0	0	0	1	0	7	47
8.	Mrs. Aruna	Tea powder	1	1	0	1	0	1	0	0	1	0	0	1	1	1	9	60
9.	Mrs. Lakshmi	Provision	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	13
10.	Mrs. Mariama	Vegetables	0	0	0	1	1	1	0	0	0	0	1	0	0	1	5	33
11.	Ms. Kousalya	Saree	1	0	0	0	1	1	1	0	1	1	1	0	1	1	10	67
12.	Ms. Shreeja	Provisions	0	0	0	1	1	0	0	0	1	1	1	1	0	1	6	40
13.	Ms. Jaya	Milk vendor	1	0	0	1	0	0	1	0	1	1	1	1	1	1	10	67
14.	Ms. Rani	Flower	1	1	0	1	1	1	0	0	0	0	1	1	0	1	8	53
15.	Mrs. Uma	Woollen	1	1	0	1	1	0	0	1	1	0	0	1	1	1	10	67
16.	Mrs. Deepa	Garments	1	1	0	1	1	1	1	1	0	1	0	1	1	1	10	67
17.	Mrs. Komal	Woollen	1	1	1	1	1	1	0	0	0	0	1	1	1	1	10	67
18.	Ms. Pechiama	Fruits	1	0	0	1	1	1	1	0	1	0	0	1	1	1	10	67
19.	Ms. Vijaya	Gifts	1	0	0	1	1	1	1	0	0	0	1	1	1	1	9	60
20.	Ms. Priya	Soft toys	1	1	1	1	1	1	1	0	0	0	0	0	1	1	9	60

Table 1 shows the names of 20 women entrepreneurs who have taken up different businesses according to their convenience and the skills they possess.

Table 2 - Categories with respect to Qualification

Category	Qualification	No. of women entrepreneurs	Percentage
A.	Post graduate	4	20
B.	Graduate	3	15
C.	House wife	11	55
D.	Beauty therapy	2	10
	Total	20	100

Table 2 shows that 55% of entrepreneurs are house wives without higher education, 20% of women entrepreneurs are post graduates, 15% of entrepreneurs are graduates and only 10% of entrepreneurs are qualified beauticians which is related to their business.

Table 3 - Categories with respect to type of Business

Categories	Business type	No. of women entrepreneurs	Percentage
A.	Garments	4	20
B.	Provisions	6	30
C.	Beauty parlour	2	10
D.	Vegetables & fruits	3	15
E.	Gifts & soft toys	2	10
F.	Electronics	1	5
G.	Flower	1	5
H.	Milk vendor	1	5
	Total	20	100

The above table shows that 30% of entrepreneurs are from provisions followed by garments with 20%, vegetables & fruits with 15%, beauty parlour and gifts & soft toys with 10%, and electronics, flower and milk vendor with 5%.

Table 4 - Most represented Entrepreneurial skills

code	Entrepreneurial skills	Percentage of entrepreneur possession
04	Clear objective	90
05	Sound knowledge	85
13	Ability to plan	85
14	Ability to motivate	85
01	Administrative ability	80
06	Public relations	80
12	Strong desire to achieve	75
07	Effective communication	60
15	Orientation to future	60
11	Ability to face uncertainty	60
09	Perseverance	60
02	Creativity	55
10	Ability to take risks	45
03	Innovation	35
08	Technical knowledge	10

Table 4 shows the percentage of skills entrepreneurs possess. The highest skill, entrepreneurs possess among the sample entrepreneurs is clear objective with 90%, followed by sound knowledge, ability to plan, ability to motivate with 85%, administrative ability, public relations with 80%, strong desire to achieve with 75% and effective communication, orientation to future, ability to face uncertainty, perseverance with 60%, creativity with 55%, ability to take risks with 45%, innovation with 35% and technical knowledge with 10%. On an average 100% were found only in electronics followed by garments, beauty parlour and milk vendor (67%), provisions (61%), vegetables, fruits, gifts and toys (60%) and flower with 53%.

Conclusion

The entrepreneurial skills on the part of women entrepreneurs vary from person to person irrespective of the same educational level and running of the same type of business. The study shows that among the sample entrepreneurs, only one person possesses all the listed entrepreneurial skills. This means that if proper training and development programmes are organized for women entrepreneurs, they will improve their skills. At the same time, the number of women entrepreneurs will also increase.

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AN ECONOMIC ANALYSIS OF SERICULTURE IN ERODE DISTRICT OF TAMILNADU

Intorduction

Sericulture is emerging as one among the significant cottage industries in India. This field which comes under agricultural sector is concerned with the art of rearing silkworms for the production of silk. These silkworms are used to collect cocoons which are used as the basic raw material for the production of silk. A lot of small scale industries flourishes in the rural areas of India who are into sericulture.

Besides self employment, sericulture industry offers a lot of job openings to graduates as well as postgraduates in private as well as government owned organizations. Women population of rural areas can also find a lot of employment options in this sector which adds to the growth of rural economy of our country.

Objectives Of The Study

1. To analyse the Benefit- Cost ratio of mulberry sericulture in Erode District of Tamil Nadu.
2. To identify the S.W.O.T analysis of the Silk Industry in the study area.

Hypothesis

1. The Sericulturist gets better yield and income per acre per year.

Methodology

This study was carried out in the major silk producing state in India, namely Erode District of Tamil Nadu was selected for data collection based on the area under mulberry and Silkworm Rearing. The Primary data on economic aspects viz., costs and return in cocoon production were collected and randomly selected from 300 farmers through personal interview method by using pre-test interview schedule.

Farmers having two year old established mulberry garden were considered for the study. The secondary data were collected from sericulture Department in Gobichettipalayam and Erode District.

Mr. K. Prakasam, Assistant Professor of Economics wing DDE

Dr. G. Ravi, Professor, Department of Economics, Annamalai University, Chidambaram

Result and Discussion
SILKWORM REARING ANNUAL EXPENSES

TABLE NO.1

Sl.No.	Particulars	Amount (Rs.)
1.	Cost of eggs for 20000 dfls @ Rs.5/dfls	5,000.00
2.	Spraying for mulberry (10 crops @ Rs.500/ crop)	5,000.00
3.	Labour charges	30,000.00
4.	Chemical fertilizers for 10 crops	5,000.00
5.	Weeding (10 times @ Rs.500/ weeding)	5,000.00
6.	Cost of pesticides and foliar nutrients	2,500.00
7.	Irrigation	2,500.00
8.	Transport charges to cocoon market	5,600.00
	Total	60,100.00

Source Compiled from primary data

Table No.1 has been depicted by silkworm rearing annual expenses in erode district. According to it labour charges is a major silkworm rearing expenses i.e., Rs.30,000.00. Next to it transport and fertilizer cost which is to the tune of Rs.5,600 and Rs.5,000 respectively.

NET INCOME OF THE SERICULTURE IN ERODE DISTRICT

TABLE NO. 2

Sl.No.	Particulars	Amount (Rs.)
1.	Cocoon harvested per annum @ 70 kg cocoon/100 dfls)	1400 kg
2.	Return (@ Rs.120 per / kg)	1,68,000.00
3.	Annual expenditure	60,100.00
	Net Profit	1,07,800.00

Source Compiled from primary data

The above Table No.2 has been analysed by net income of the sericulturist in Erode District. According to it net income arrived after deduction of annual expenses from the annual return. The annual net profit is to the tune of Rs.1,07,800. Hence the hypothesis has been proved by empirically.

SHARE OF PROFIT IN SILK INDUSTRY

INDUSTRIES	PROFIT SHARE (%)
Rearers	56.8
Reelers	6.8
Twisters	9.1
Weavers	10.7
Traders	16.6

PROFIT SHARE (%)



Problems / Policy Implications

Problems of the mulberry sericulture in the study area

1. The shortage of labourers it was difficult to carryout the sericultural operations as silkworm rearing is labour intensive enterprise.
2. During the summer there was shortage of irrigation water for mulberry garden which in turn reduced mulberry yield thus reducing the number of DFL reared.
3. Fluctuations in cocoon prices.
4. Absence of strict disease control measure.
5. Prevalence of old technologies
6. Poor grading system of cocoons

7. Manipulation by the intermediaries in the trade of raw silk.
8. Lack of efforts to increase area.
9. Decline in the area under mulberry and fluctuations in its production.
10. Failure to capture internal market due to poor quality.

Policy Implications

1. Extension agents should give more importance in Educating farmers about better protection measures and proper disinfection methods.
2. Farmers should be educated about optimal use of labour.
3. Introduce high yielding mulberry varieties.
4. Quality – based pricing should be given.
5. Provide assistance to producers to shift to bivoltine silk.
6. Adopt clusters of villages for better marketing conditions.
7. Impose anti-dumping duty.
8. Implement silk mark in a strict manners.
9. Develop pest management measures against various pests of mulberry and silkworm.
10. The farmers must be encouraged to adopt recommended practices and technology to the full extent.

Conclusion

In India, sericulture is not only a traditional but also a living culture. It is a farm-based, labour intensive and commercially attractive economic activity falling under the cottage and small scale sector. It particularly suits rural – based farmers, entrepreneurs and artisans as it rearing low investment, but with potential for relatively high returns. It provides income and employment to the rural poor. Especially farmers with small land holdings and the marginal analysed and weaker sections of the society. Several socio-economic studies have affirmed that the benefit-cost ratio in sericulture is the highest among comparable agricultural crops.

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HEALTH NUTRITIONAL STATUS OF PRE-SCHOOL CHILDREN – A CASE STUDY OF SOMANDURAI VILLAGE, POLLACHI TALUK

Introduction

Malnutrition continues to be a problem of considerable magnitude in most of the developing countries of the world. Children aged 0 to 3 years are nutritionally the most vulnerable. Malnourished children are known to be at an increased risk of death. The reason is that developing countries are limited with resource availability and infrastructural constraints that limits their economic growth. Nutritional deficiencies, poor environmental conditions and inadequate infrastructure hamper children's health and learning which is critical for the future supply of skilled labour and hence for economic development. There is a need to assign priorities for resource allocation among nutritional and health care of children.

Objectives:

- To assess the health and nutritional status of pre-school children in the study area.
- To analyze the factors determining health and nutritional status of pre-school children in the study area.

Methodology:

A sample of 60 pre-school children aged between 0 – 5 years was selected by purposive sampling method. The nutritional status of children was determined using height and weight as criteria. The cut off points for normal, mild, moderate and severe malnutrition are as follows:

Anthropometric Index	Nutritional Status
>-1SD	Normal
<-1SD to >-2SD	Mild
<-2SD to >-3SD	Moderate
<-3SD	Severe

SD – Standard Deviation

Dr.R.Radhika, Associate Professor, & **D. Suganya**, M.Phil., Research Scholar,
Department of Economics, Sri GVG Visalakshi College for Women, Udumalpet.

Formula for calculating 'Z' score (or) SD score is:

$$\text{Z Score (or SD Score)} = \frac{\text{Observed Value} - \text{Median Value of the reference population}}{\text{Standard Deviation Value of the reference population}}$$

Ordinary Least Square was used to study the determinants of nutritional status of children.

Analysis And Interpretation

Anthropometric Index	Nutritional Status	Number of Children	Percentage
Underweight(Weight/age)			
> - 1SD	Normal	42	70
< - 1SD to > - 2SD	Mild	9	15
< - 2SD to > - 3SD	Moderate	7	12
< - 3SD	Severe	2	3
Stunting (Height / age)			
> - 1SD	Normal	31	52
< - 1SD to > - 2SD	Mild	16	27
< - 2SD to > - 3SD	Moderate	8	13
< - 3SD	Severe	5	8
Wasting (Weight / height)			
> - 1SD	Normal	38	63
< - 1SD to > - 2SD	Mild	12	20
< - 2SD to > - 3SD	Moderate	6	10
< - 3SD	Severe	4	7

Children who fall more than two standard deviations below the reference median on any of the indices of anthropometry are considered to be undernourished. It has been observed that out of sample children 21 per cent are stunted, 17 per cent are wasted and 15 per cent are under weight

Factors Determining Health and Nutritional Status of Pre-School Children:

In this analysis, parental age at the time of giving birth, education, earnings, mothers age at the time of giving birth of the child, birth order of the child, birth interval maintained from one child to another, child age, monthly food and hospital expenditure of child have been identified as exogenous variables based on past empirical evidences.

Following function has been drawn with the assumption that these variables in the equations are determining health and nutritional status (NS) of pre-school children.

$$NS = f (CHI - AGE, BO, BI, FOOD - EXP, EXP-H, AGE-F, AGE-M, EDU-F, EARN-F, EDU-M, EARN-M)$$

TABLE-2

Factors Influencing Health and Nutritional Status of Pre-School Children:

Independent Variables	Weight for age at the time of interview co-efficient (t-values)	Height for age at the time of interview co-efficient (t-values)	Weight for height at the time of interview co-efficient (t-values)
Constant	1.436 (1.83)	17.241(1.82)	0.228 (3.79)**
Chi-age	-0.020 (3.42)**	-0.229 (3.24)**	-0.002 (4.51)**
BO	0.422(1.93)	3.728 (1.41)	0.002 (0.12)
BI	-0.009(1.21)	-0.103(1.09)	-0.001(0.84)
Food-Exp	-0.001(1.09)	-0.009(1.25)	0.001(0.33)
Exp-Hos	0.001(0.05)	0.003(0.20)	-0.0001(0.84)
Age-F	0.001(0.05)	0.157(0.05)	0.001(0.53)
Age-M	-0.026(0.83)	-0.439(1.15)	-0.002(0.94)
Edu-F	0.032(0.26)	0.004(0.05)	0.004(0.43)
Earn-F	0.0002(0.15)	0.0001(0.27)	0.0001(0.19)
Edu-M	0.001(0.01)	-0.085(0.05)	-0.016(1.57)
Earn-M	0.003(0.47)	0.001(0.82)	0.029(0.98)
R ²	0.42	0.39	0.45
F-Ratio	2.06	1.88	2.34
Degrees of Freedom	11	11	11
Total	60	60	60

Absolute value of 't' statistics in parenthesis

*Significant at 5 %; ** Significant at 1%

Table-2 provides an outcome of given regression equation. It can be summarized that birth order, hospital expenditure of child, age and educational level of father, parental earnings are positively influencing nutritional status of children, while child age, birth interval, food expenditure of child, age of mother and their educational level are negatively influencing weight/age, height/age, weight/height of pre-schoolers in the study area.

Conclusion:

Poor physical health and nutritional status of rural pre-school children may be due to the low literacy level of the rural parents, their lack of knowledge about good nutrition and poor socio-economic status. To tackle these problems, contact opportunities with children must be used for counselling, multiple communication channels need to be used to saturate the population with consistent messages on child care and feeding.

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ENTREPRENEURIAL SPIRIT IN THE COIMBATORE REGION A CASE STUDY (2011)

Introduction:

The entrepreneurial spirit is the most significant development in recent economic history. Increased entrepreneurial activity has been witnessed all over the world. In India too, there has been a significant change in the mindset of the society. Earlier, it used to be prevalent among some socio-ethnic groups. But a drastic change has taken place after 1991 when LPG policy came into existence. Globalization and economic integration play a very important role in the post reform period and many educated people are attracted towards emerging business opportunities.

Objectives of the Study:

1. To study the relationship between Motivation and Leadership Factors.
2. To study the relationship between Motivation Factor and Risk Factor.
3. To assess which factor - Motivation, Risk Bearing and Leadership is dominant.

Methodology:

A questionnaire based on motivation, risk bearing and leadership factors was set. Data was collected through personal and telephonic interview from the entrepreneurs who were running their own business units. The sample size was 50. They included spinning mills, motor industry, fabricators, cosmetic, brokerage business, jewellery, ready made garments and some were from masala powder makers. Secondary data also collected for few pamphlets, booklets and so on.

Table No. 1 Age – Wise Classification

Age	Frequency	Percentage
Upto 30 yrs	08	16.0
31 – 50 yrs	23	46.0
51 – 65 yrs	19	38.0

Source: Primary Data

From the above table number 1 and chart number 1, 16% of the entrepreneurs are within 30 years, 46% of the entrepreneurs are between the age group 31- 50 years and 38% are between 51-65 years. The figure shows the highest number of entrepreneurs is between the age group 31-50 years.

Dr.M.Gowhar Jhan, Associate Professor, & **G.Malathi** , Ph.D Research Scholar,
Department of Economics, Ethiraj College for Women, Chennai.

Table No.2 - Education

Education	Number	Percentage
Up to SSLC / +2	16	32.0
Under - Graduates	20	40.0
Post - Graduates	09	18.0
Professional Courses	05	10.0
Total	50	100.0

As per the table number-2 32% of the entrepreneurs belong to the Hr.Sec.School, 40% under-graduates, 18% post-graduates and 10% of the entrepreneurs have done professional courses.

Table No.3-Types of Organizations

Types of Organization	Number	Percent
Proprietorship	27	54.0
Partnership	23	46.0
Total	50	100.0

Source: Primary Data

Table number.3 shows that 54% of the entrepreneurs were proprietors of their concern and 46% belong to partnership.

Suggestions:

- The entry of female in the business sector is very less compared to male members. The government should come forward to encourage female members to enter into business sector.
- Maintaining a high level of entrepreneurship development programme across nations.
- Popularizing entrepreneurship as a cultural attitude.
- People should come forward to take risk so that entrepreneurs will flourish.

Conclusion:

One can conclude that the characteristics of entrepreneurship depends on "knowledge, vision, meticulous planning, desire, dynamism, hard work, gambler's instinct and may be to a certain degree of ruthlessness for achieving results as per the plan." Therefore, "a good entrepreneur is one who is capable of inspiring confidence in people and has the ability to motivate them to work with him in fulfilling the economic goals set by him."

INDUSTRIAL POLLUTION IN COIMBATORE DISTRICT

Introduction

Coimbatore is one among the industrially developed and commercially vibrant districts of Tamil Nadu. Coimbatore is a major industrial city in Tamil Nadu. There are about 450 foundries, 300 motor manufacturing units, 200 wet grinder manufacturing units, about 300 brick clines and 210 textiles dyeing and bleaching units in operation. The Tamilnadu pollution control board (TNPCB), established in 1982, functions with head office at Chennai. The board covers the entire state through its 31 district offices at the districts of Tamilnadu. All industries are classified as Red, Orange & Green, by the GOI, Ministry of Environment & Forests on the basis of their potential for causing pollution.

Objective:

1. To identify the types of pollution.
2. To determine the cause and effects of industrial pollution.
3. To find out remedial measures for industrial pollution.

Methodology:

To achieve the above objectives the secondary data regarding industrial chemical substance which create pollution and effects be collected and analysed.

Effects Of Industrial Pollution:

Pollutants given off by various industries and factories are often considered to be one of the prime factors contributing to air, water and soil pollution. According to the Environmental Protection Agency (EPA), it has been estimated that industrial pollution is responsible for almost 50 percent of the pollution present in the United States. There are various wide-ranging effects, as well as serious consequences, of industrial pollution on the ecological balance of the atmosphere.

Global Warming:

Global warming is one of the most common and serious consequences of industrial pollution. The emission of various greenhouse gases such as CO₂, methane (CH₄), among others from various industries, increases the overall temperature of the earth, resulting in global warming. Global warming has various serious hazards, both on the environment as well as on human health. It results in melting of glaciers & snow-capped mountains, causing an increase of the water levels in seas and rivers, thereby increasing the chances of flood. Apart from this, global warming also has numerous health risks on humans, such as increase of diseases such as malaria & dengue, cholera, Lyme disease and plague, among others.

A.C.Deepa, Ph.D Scholar, Department of Economics, Erode Arts and Science College, Erode.

Air Pollution:

Industrial pollution, as stated above, is one of the major causes of air pollution. With increase in number of industries and factories due to the industrial revolution; air pollution also has increased significantly. The emissions from various industries contain large amounts of gases such as carbon dioxide, sulphur and nitrogen, among others. These gases, when present in elevated levels in the atmosphere, often result in various environmental & health hazards such as acid rain, and various skin disorders in individuals.

Water Pollution:

Pollution emitted from the industries is also one of the major factors contributing towards water pollution. Dumping of various industrial waste products into water sources, and improper contamination of industrial wastes, often result in polluting the water. Such water pollution disturbs the balance of the ecosystem inside, resulting in the death of various animal and plant species present in the water.

Soil Pollution:

Soil pollution is defined as a phenomenon in which the soil loses its structure & fertility due to various natural and artificial reasons. Dumping of industrial wastes is one of the prime factors contributing towards soil pollution. Industrial wastes contain large amounts of various chemicals which get accumulated on the top layer of the soil, resulting in loss of fertility of the soil. Such loss of fertility ultimately results in changes in the ecological balances of the environment due to reduction in plant growth.

Other Common Effects:

Certain other common effects of industrial pollution include damaging buildings and structures, increasing the risk of various occupational hazards such as asbestosis, pneumoconiosis, among others.

Conclusion:

In this report, we have concluded the following steps that can help your firm identify and achieve pollution prevention opportunities. These steps can be used by almost any firm producing or using hazardous substances. Firms with an effective pollution prevention program already in place may be familiar with several of these steps. Companies without such a program are likely to find many opportunities as they build this system into their operations. The steps presented in this document are: 1. Understand pollution prevention. 2. Establish a pollution prevention policy. 3. Choose a leader and establish a pollution prevention team. 4. Identify processes and sources. 5. Group similar processes and sources. 6. Inventory use and non-product output (Part I of a Plan). 7. Target production processes and sources for further analysis. 8. Find and analyse pollution prevention options (Part II of a Plan). 9. Develop numerical goals. 10. Summarize your planned actions. 11. Track and report your progress. 12. Update your planning documents. This document approaches each step assuming that facilities are starting their pollution prevention program from scratch.

A STUDY ON THE TREND OF AGRICULTURAL GROWTH IN TAMIL NADU: A CASE OF COIMBATORE DISTRICT

In the recent past the agricultural sector faces number of problems like sustainability of agricultural resources and its uses, more use of chemical inputs, lack of fertilizers under macro and micro level, scarcity of agricultural laborers due to the recent rural development program, low food grain production and productivity, technological distress, farmer suicide, drought, declining the public investment, regional imbalance and food insecurity. In particular during 2009 the widespread drought brought down the agricultural growth rate to -0.2 per cent, as against the target of 4 per cent. According to FAO, over 225 million Indians remain chronically undernourished. This is new dimension of food security, which development policies are now called upon to address in the new millennium (Mujumdar, 2006). India's agricultural policy focuses on food self-sufficiency, remunerative prices for farmers, and maintenance of stable prices for consumers. These goals are met by a number of measures such as —minimum support prices, food subsidies for consumers, regulated markets, input subsidies for producers, and international trade policy.

The challenge facing the country is in achieving a higher production of food production over the next 2–3 decades (Daniel 2000). According to a study by Bhalla *et.al* (1999), baseline projection for total cereal demand in 2020 is 246 million tons for direct human consumption. The relevant question that arises is whether India would be able to increase the food grain production in the coming years with the net-cropped area remaining same?

In terms of area, India ranks seventh in the World and in terms of population, it ranks second. With a total geographical area of 328.8 million hectares and reporting area at 306.03 million hectares, in absolute size, India is really a big country. The net cropped area, which was 41.7 per cent of the reporting area in 1950-51, has increased to 46.1 per cent in 1999-2000. In addition to this out of a total share of 14.6 per cent of the Gross Domestic Product (GDP) in 2009-10 for agricultural and allied sector. In this connection the agricultural sector is expected to grow at 5.4 per cent as per the 2010-11 advance estimates.

Tamil Nadu has about 7 per cent of the Nation's population, occupies 4 per cent of the land area and has 3 per cent of the water resources of the Nation. The annual average rainfall of Tamil Nadu is only 930.70 mm as against the national average of 1200 mm. Albeit there is scarcity of water in Tamil Nadu, the land and other natural resources are fully utilized. The average land holding has come down to 0.83 hectares (2005-06 census) from 1.25 ha. during 1976-1977. The average land holding at national level is 1.33 ha. 91% of the total land holdings in Tamil Nadu belong to Small and Marginal farmers.

Over the past 15 years, increase in irrigated area has mainly taken place from groundwater source. Yields in areas irrigated by groundwater are often substantially higher than the yield from surface water sources. Research indicates that yields in groundwater irrigated areas are higher by one third to one half than in areas irrigated from surface sources, and as much as 70-80% of India's agricultural output may be

Dr.P.S. Sivakkumar, Assistant Professor of Economics,
Department of Commerce, M.G.R. College (Arts and Science), Hosur
R.Ravichandran, Assistant Professor,
Department of Economics, Government Arts College, Ariyalur.

groundwater dependent (Marcus 1996). The excessive use of nitrogenous fertilizer usage is sticking mainly in the irrigated area of the north zone. With declining ground water table over use of nitrogenous fertilizer may slow down the yield growth in future (Fresco 2003).

Of the total geographical area of 130 lakh hectares, around 48.92 lakh hectares is the net cultivated area. The net irrigated area is 28.64 lakh hectares and the balance area of 20.28 lakh hectares is rainfed. Of the 28.64 L.ha. of irrigated area, 7.57 lakh hectares (26.4 per cent) is covered by canal, 5.04 lakh hectares (17.6 per cent) by tank, 15.94 lakh hectares (55.7 per cent) by well and the balance 0.09 lakh hectares (0.3 per cent) by other sources. Against this backdrop the country will try to achieve the Second Green Revolution (SGR) as soon as possible. In this regard the major strategies to stimulate Second Green Revolution are as follows:

- Crop Specific Strategies and marketing (Production led to market led)
- Adoption of Precision farming and Micro-irrigation for efficient utilization of irrigation water
- Shift in the cropping pattern towards high value crops
- Augmenting timely supply of quality inputs to targeted farmers
- Adopting Extension with renewed vigour
- Capacity building on adoption of technologies

Objectives And Methodology

After reviewed above studies the researcher framed the broad objectives. These are discussed as follows: To study the trend of agricultural growth of Tamil Nadu and to explain the profile of agricultural sector of Coimbatore District. In this view the present study only covered secondary data only (i.e., 2006-09). The secondary information is collected from reputed journals, books and internet source. The major limitation of the study based on the macro analysis of Tamil Nadu State and Coimbatore District. The research paper contains Simple statistical tools like correlation and percentage. correlation results taken with the support of Statistical Package for Social Science (SPSS) 15th Version.

Analysis And Interpretation

The present chapter dealt with area, yield and production of agricultural sector in Tamil Nadu. In this view the following table clearly shows the above fact.

Table-1
Performance of Principal Crops of Tamil Nadu

Sl.No	Crop	2006-07			2007-08			2008-09		
		A	Y	P	A	Y	P	A	Y	P
1	Paddy	19.31	3423	66.11	17.89	2817	50.40	19.32	2682	51.83
2	Millets	6.98	1950	13.62	6.99	1941	13.57	7.24	2419	17.51
3	Pulses	5.36	541	2.90	6.09	303	1.85	5.36	312	1.67
4	Foodgrains	31.66	2610	82.63	30.97	2125	65.82	31.91	2225	71.02
5	Sugarcane	3.91	115@	451.68	3.54	108@	380.71	3.09	106@	327.99
6	Cotton	1.00	374*	2.21	1.00	343*	2.00	1.14	279*	1.88
7	Groundnut	5.08	1981	10.06	5.35	1957	10.48	4.90	1990	9.75

Note: A – Area in lakh hectares; Y- Yield in Kgs. per hectare; P – Production in lakh tones;

* - in terms of lint; @ - in terms of cane.

Source: 1. Season and Crop Reports, Department of Economics and statistics, Chennai

The above table clearly pointed out that the principal crops cultivated area slightly increased like paddy, foodgrains and other crops area declined during the study period. In the case of yield all of the crops are declined except millets and groundnut. In addition to this the production of the principal crops also declined except millets and groundnut. The major reason for the above such as lack of irrigation, drought, lack of credit facilities and flood.

Table – 1 (a)
Correlation

Variable	Correlation
Area	1.000**
Yield	0.955**
Production	0.999**

** Correlation is significant at the 0.01 level

The above table showed that the correlation result of the selected variables like area, yield and production of the major crops of Tamil Nadu. The year taken into the calculation is 2006-07 and 2008-09. The correlation result portrayed that all of the variables are highly significant under the study period. The following section explained that the profile of agricultural sector in coimbatore district.

Conclusion

Finally the agricultural sector faced various critical problems due to various reasons. Area, yield and production are highly significant during the study period in Tamil Nadu. With growth of population (i.e., 700 Crore), demand for land, health care, education and food have been increasing. In this connection need of the hour is greater concentration on increase the public investment, foodgrains production and productivity with HYV and effective involvement of corporate sector.

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STRATEGIES TO ECONOMIC DEVELOPMENT VIA TEXTILE INDUSTRY

Introduction

India, as a developing country, ventured into industrialization with its strong hold on cotton and jute industries. These two main components form the base of Textile Industry in any country. Our nation was rich in the raw materials and pages of history gives record of the growth and development of our country by tapping these rich, supply abundant raw materials, thanks to the favourable soil and climatic condition. In modern times, textiles are being produced from various materials like cotton, silk, wool, synthetics, rayon - all these materials called the conventional items; with the increasing demand for textiles all over the world, non-conventional items of production too got added up like jute, various hibiscus plants etc. Similarly various techniques of production also came into practice like the transition from the traditional hand-woven textiles to handlooms that are machine-oriented and the like. Textiles and their end products constitute the world's second largest industry - the first rank going to food products. At least 10 per cent of the world's productive resources is estimated to have been devoted to this segment of industrial activity, providing employment to millions and millions of people spread over various parts of the globe. The development of man-made fibres by the end of the 19th century is only a distinctive milestone in the saga of the textile industry.

Objectives of this study:

1. To analyze the impact of financial crisis that has led to the downfall of this industry.
2. To study the level of exports earnings and imports during recent times in textile industry.
3. To analyze the areas where this industry is lagging behind to face the challenge of the international market.
4. To identify areas where this industry can capitalize its production capacity and take advantageous position.

Methodology adopted:

With the introduction of origin, growth and the current status of Indian Textile Industry, this paper tries to have an analytical-cum-descriptive approach of the impact of the current crisis causing turbulence in this industry. A wider and deeper analyses contributed by the already existing inherent issues has also been probed into which had just added fuel to the fire of the already deteriorating industry. While highlighting the drawbacks, some government policies that could bring about an effective change has been torched upon in the course of the analyses.

Dr. S. Chinnammai, Assistant Professor, Department of Economics, University of Madras. Chennai.

R. KanakaSudha, Assistant Professor, Department of Economics, Stella Maris College, Chennai

Table 1 Top 10 countries of Textile Exports of India – 2009-2011

S.No.	Name of the country	Percentage share 2009-10	Percentage share 2010-11	Increase / decrease
1	United States of America	18.95	19.89	+
2	United Arab Emirates	8.57	7.79	-
3	United Kingdom	8.05	6.60	-
4	Germany	7.35	5.91	-
5	Bangladesh	1.99	3.80	+
6	France	3.85	3.00	-
7	Italy	3.07	2.84	-
8	Spain	3.24	2.83	-
9	China PRP	1.83	2.78	+
10	Turkey	1.86	2.46	+

Source: DGCI&S, Kolkata

Table 1 above reveals the top 10 export markets of India. (EU). The industry has significant dependence on exports with European Union (EU), accounting for 33% of the total T&C exports by value in 2007-08. US was the second largest export market for Indian T&C products with a share of 21% by value of total T&C exports in 2007-08. However, this trend has changed by 2010-11. U.S. accounts for the highest share followed by UAE and UK, the latter being part of EU. A fall in export rate in 6 major countries as seen from table 3 is a very discouraging factor. Other important export markets are UAE, China Bangladesh, and Japan. Table 4 below gives the comparative study of two developing giants of the world, India and China and their export market in this industry.

Table 2 Comparative Study of Export Market in T&C between India and China - 2008

S.No.	Country of Export	Export Market of India (%)	Export Market of China (%)
1	European Union	33	22
2	USA	21	13
3	South Korea	-	5
4	Japan	1	24
5	China	5	N.A
6	India	N.A	-
7	Hong Kong	-	16
8	UAE	6	-
9	Bangladesh	3	-
10	Other Countries	-	20

Source: Annual Reports, Ministry of Textiles, GOI and Jodie Keane et al. Investment and Growth Programme, Overseas Development Institute, 2008. N.A. – Not Applicable

The recent economic slowdown has significantly impacted the major export markets of Indian T&C industry i.e. EU 27, US and Japan thus, negatively impacting the Indian T&C industry. India is yet to regain its hold and position in many of the EU countries, table 2 below thus narrates the pathetic situation of the same. In many important countries, a negative shown can be witnessed, needless to say that India is losing its export earnings and thereby its contribution to national income and GDP considerably of late. Though it can be argued that India's garment exports grew by 9% year-on-year (y-o-y) basis in 2008, its exports declined by 4% (y-o-y) in 2009 as against a growth of 21% (y-o-y) in 2008. Decline in export demand has resulted in drop in production of T&C industry. The Index of Industrial Production (IIP) for Cotton textiles has declined by 3.7% (y-o-y) in 2008 and 12.1% (y-o-y) in 2009. Decline has also been observed in the IIP for Textile products including apparel (2.3% y-o-y in 2009). This has severely affected the financial performance of Indian T&C industry.

When speaking of being hit by the financial crisis, we generally talk of export decline, increase in imports, prices of textile products in question and the fall in foreign direct investment. A brief review of these factors would help to understand the full scenario being faced by textile and clothing industry of India.

**Table 3 Export Value and Percentage Share of different textile products
2008-09**

S.No.	Export Item	Export Value (INR billion)	Percentage share in total textiles exports
1	Cotton Textiles	218.08	22.64
2	Man-made textiles	150.88	15.67
3	Silk Textiles	31.06	3.23
4	Woolen Textiles	21.99	2.88
5	Ready-made garments	471.1	48.92
6	Handicrafts	49.39	5.13
7	Jute	13.75	1.43
8	Coir & coir products	6.80	0.71

Source: Foreign Trade Statistics of India, (Principal Commodities and countries), GOI

Imports: Total textiles imports of India for the financial year ending 2008 stood at the level of rupees 12,857 crores. 51% of this was on account of yarn and fabrics while the remaining 49% was on account of raw materials and semi raw materials. Imports increased by a little over 6% since 2005-06. During the period 2008-2009, imports of cotton including waste increased by 62% while exports dipped by more than 86%. However, imports of textiles as a percentage of total imports has been going down steadily and comprised 1.49% in 2006-07.

Barring the crisis, will the otherwise inherent issues in India's Textile Sector revalidate Ricardian Theory ?

Under the current financial crisis situation, it is a point to be perceived whether India could be cost effective textile producer and whether the policy makers will allow laggards to make the way for the fullest. With the wage war at the international level, if India does not possess the natural advantage of being cost effective at the international arena, textiles sector might revalidate Ricardo's theory since the efficiency of Ricardo's model hinges on competitiveness and survival of the fittest.

Integration within the sector: The immediate challenge facing Indian Textiles is the integration of various sectors. For more than two decades, power-loom, handloom, organized industry, knitted garments and woven garments have been competing with each other for fiscal measures and duty concessions. Though during the previous few budgets and more so in the current fiscal year, the Government had and now announcing various measures to play a level field in this regard, much stands to the fact that without proper integration and syntheses of these various sectors in this big industry, not much contribution can be expected since the war being faced by this textile industry will be both internal (among the different sectors) and external (to meet international standards).

The handloom Industry is the largest industry in terms of employment, but in monetary terms it may not be having such importance. 38 lakh handlooms giving employment to about 65 lakh families contribute only 13% of our Textile production. When considering the foreign exchange earnings, it has considerable clout over other sectors of the industry because; it amounts to between rupees 3000 crores to rupees 3500 crores per annum.

Since now the industrial world is worrying over the influence of the so called global financial crisis, it is worth to think about our handloom industry and how it fairs with the present crisis and what will be its effects during the coming days. The volume of Handloom Exports in monetary terms as published by Government of India up to 2007-08 (Tentative) and the eight year record may quoted as below:

Government Policies to combat slowdown : The following measures are said to be initiated by the Government to combat the impact of economic slowdown in textile industry.

The government is expected to provide fiscal reliefs including service tax exemption to the slowdown-hit textile sector. "As part of a short-term strategy (for the textile industry), the government will strive to rationalise fiscal structure, exempt service tax, reduce interest rates on pre and post-shipment credit and facilitate faster clearance of arrears."

The government is expected to impart momentum to the implementation of the technology upgradation fund scheme (TUFS), scheme for integrated textiles parks (SITP) and the technology mission on cotton (TMC) in the 11th Five-Year Plan period.

In the long run, improvement in the infrastructure, labour law reforms, and creation of a new business orientation by the industry in line with the global trends is likely to be initiated by the Government of India.

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ECONOMICS OF AGEING A CASE STUDY OF COIMBATORE

Ageing is a fact of life which does not take place all of a sudden. It is fixed and definite for all individuals in the normal course of a life time and death is the end result of old age. Any one who lives for a reasonably long time must definitely undergo the process of ageing. Human life is divided and understood at different points such as infancy, baby hood, child hood adolescence, adult hood and old age. With ageing there comes many changes morphological, physiological as well as psychological which affect the social and economic life of senior citizens.

Ageing is a problem with almost every family involving strains and stresses in taking care of them. It has become an important socio- psychological and economics problems in the communities. With longevity on the rise "the empty" years at the end have increased. With its attendant issues of diseases disabilities and psycho-Physical deterioration.

Ageing in every body's problem as every one is bound to age and experience the impact. But the severity of problems encountered by the aged women are more when compared with those of men. Ageing is associated with predictable changes in psychological and psychological well being, with a potential impact on diet and nutrient status of the elderly.

Objectives Of The Study

1. To identify the age compositions of elderly population in Tamil Nadu.
2. To find out the total elderly beneficiaries, old age pensioners and the dependency ratio of elderly population in Coimbatore district of Tamil Nadu.
3. To identify the economic status of old age people in urban areas of Coimbatore.
4. To focus on the problems of old age persons in the study area.
5. To identify the measures taken by the government to improve the economic condition of the aged people.

Hypotheses

1. There is an increasing trend in the percentage distribution of project elderly population.
2. There is a difference between total no of old age Pensioners and total elderly Beneficiaries.

Methodology

For the study both primary and secondary data will be collected. The primary data will be collected by finding the rural and urban Ares consisting more elderly population in Coimbatore district. In the current year Totally 240 sample size have been selected at random among different category of elderly population. Namely superannuated university teacher, superannuated civil servants, elderly lawyers and elderly doctors. The secondary data have been collected from the statistical hand book, 2004 department of economics and statistics Tamil Nadu for the analysis of age composition, old age person and elderly beneficiaries in overall districts of Tamil Nadu.

S.Pichaipillai, Assistant Professor & **Dr.T.S.Kalyani**, Professor,
Department of Economics, DDE, Annamalai University, Chidambaram

Table No - 1

PERCENTAGE DISTRIBUTION OF

PROJECTED ELDERLY POPULATION AS ON 1st MARCH 2001 - 2026 TAMIL NADU

Age Group	2001			2006			2011		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
60-64	3.1	3.1	3.2	3.3	3.2	3.4	3.7	3.7	3.8
65-69	2.4	2.3	2.4	2.6	2.5	2.7	2.8	2.7	2.9
70-74	1.8	1.8	1.8	1.8	1.8	1.9	2.1	2.0	2.2
75-79	1.1	1.1	1.1	1.3	1.2	1.3	1.4	1.3	1.5
80+	0.7	0.6	0.7	0.9	0.9	1.0	1.2	1.1	1.3
Total	9.1	8.9	9.2	9.9	9.6	10.3	11.2	10.8	11.7

Age Group	2001			2006			2011		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
60-64	4.3	4.2	4.3	4.8	4.7	4.9	5.3	5.1	5.6
65-69	3.2	3.2	3.3	3.8	3.7	3.8	4.3	4.2	4.4
70-74	2.3	2.2	2.5	2.7	2.6	2.8	3.2	3.1	3.3
75-79	1.6	1.5	1.7	1.8	1.7	2.0	2.2	2.0	2.3
80+	1.4	1.3	1.6	1.7	1.5	1.9	2.0	1.7	2.3
Total	12.8	12.4	13.4	14.8	14.2	15.4	17.0	16.1	17.9

Source : Census of India- 2001

The above table No 1 has been shown by percentage distribution of projected elderly total population and elderly population of males and females, in Tamil Nadu. According to it total projected elderly population trend slowly rising from 2001 to 2026 years among the age groups of 60+. While female elderly population % percentage rising rate is greater than the males elderly population for the same projected years. Hence the first hypothesis have been proved and accepted the null hypothesis by Empirically.

Table No. 2

TOTAL DEPENDENCY RATIO OF ELDERLY POPULATION IN TAMIL NADU

IN (000)

Districts / State	Dependency Ratio
Thiruvallur	527
Chennai	479
Kanchepuram	550
Vellore	613
Dharmapuri	645
Thiruvannamalai	625
Villupuram	629
Salem	558
Namakkal	522
Erode	506
The Nilgiris	491
Coimbatore	482
Dindigul	553
Karur	542
Trichirappalli	541
Perambalur	601
Ariyalur	610
Cuddalore	580
Nagapattinam	595
Tiruvarur	562
Thanjavur	557
Pudukottai	584
Sivagangai	590
Madurai	545
Theni	580
Virudunagar	567
Ramanathapuram	617
Tuticorin	596
Thirunelveli	587
Kanniyakumari	535
Tamil Nadu	559

Source Census of India 2001, Director of census operations, Tamil Nadu.

The above table no 2 has been explained by total dependency ratio of elderly Population in the districts of Tamil Nadu. Dependency ratio is high in first three Districts in Tamil Nadu namely (1) Dharmapuri, (645), (2) Villupuram (629), (3) Thiruvannmalai (625) likewise low dependency ratio in first three districts in Tamil nadu namely. (i) Nilgiris, (491) (ii) Coimbatore (482) (iii) Chennai (479).

Table No. 3

**ADEQUACY OF CURRENT INCOME OF AGE OLD PEOPLE IN
COIMBATORE DISTRICT**

Adequacy of Current Income	Superannuated University Teachers		Superannuated Civil Servants		Elderly Lawyers.		Elderly Doctors		Total	
	f	%	f	%	f	%	f	%	f	%
Adequate	07	17	-	-	53	44	10	26	70	29
More than adequate	-	-	-	-	12	10	28	74	40	17
Inadequate	06	14	05	12	19	16	-	-	30	12
Most Inadequate	29	69	35	88	36	30	-	-	100	42
Total	42	100	40	100	120	100	38	100	240	100

Source : Compiled from primary data

In this table on comparing the distribution of income groups of the respondents before and after superannuation and 60 years of age we find rise and fall in the levels of income groups before and after superannuation or 60 years of age. In this respect we find there is definite loss in the economic status to the superannuated university teachers and civil servants because of inadequate pension amount after superannuation, being the main source of income. Comparatively there is some rise in the economic status in respect of elderly lawyers and doctors.

This rise and fall in the economic status has also been the result of additional sources of income additional by the respondents after superannuation of 60 years of age. The superannuated university teaches and civil servants have manipulated many additional sources of income after superannuation hence they have made the economic loss of regular salary good to some extent.

Findings

1. Female elderly population % percentage rising greater than the males elderly population in Tamil Nadu.
2. Coimbatore districts is 7th order in rate of percentage of 60 years of male as well as Female.
3. Both male and female of elderly population percentage rate is 4.4 in Tamil Nadu.
4. Dependency ratio of aged People in Coimbatore districts is 482.
5. Elderly beneficiaries are in total no 15,945 that is 5445 of male and 10,500 of females in Coimbatore districts.

Peer Reviewed Journal

SPECIAL ECONOMIC ZONE IN COIMBATORE: A BLESSING OR CURSE

Special Economic Zone in Coimbatore

Encouraged by the success of the TIDEL Park at Chennai, the proactive Tamilnadu Govt and the main promoters of TIDEL have now decided to set up a similar facility at Coimbatore, another big industrial city in Tamilnadu. ELCOT is establishing a Special Economic Zone (SEZ) for Information Technology Industries at Coimbatore and TIDEL will be setting up its facilities at this SEZ. TIDEL and ELCOT have on September 8, 2006 signed a MoU.

The district has four sector specific (IT and IT-enabled services) SEZs notified as on 31 July 2007. Two SEZ proposals (in high technology engineering and electronic hardware) have formal approval, and one proposal (for textiles) has in-principle approval. Coimbatore, with the presence of large number of engineering and textile units, has inherent strengths. It has skilled labour and the vendor units. For those in tier-I cities, establishing facilities in a tier-II city will be viable in terms of land price too. "A tier-II city SEZ will be a great opportunity to these units.

Coimbatore It/ITES Sez

This IT SEZ established in 62 acres of land in Vilankurichi Village in Coimbatore North Taluk on 24th February 2007. The Government of India accorded SEZ status for the IT Park on 11th April 2007. The investment of ELCOT in this IT SEZ is Rs. 70 crores. Major IT Companies WIPRO- 10 acres, TCS- 5 acres and TIDEL Park Coimbatore Limited-10 acres have been allotted land. Creation of common infrastructure facilities work is under progress and 95% of work completed. WIPRO initially establishing their processing centre in 3.5 lakhs sq.ft. and 50% of the work has been completed. Tidel Park Coimbatore Ltd has started construction of 17 lakhs sq. ft. building. Hence 50,000 sq.ft. IT building is not constructed in this SEZ. The construction of IT Park will be completed by August 2010 and IT operations will be commenced in this IT Park by September 2010. The Common Infrastructure facilities work such as 100 ft. wide Bituminous approach road (100 mtrs length road work is pending) and 100 ft. wide Internal concrete roads, Compound wall (except Compound wall on Thaneerpandal Road side) Data cable duct, Power cable duct, installation of internal road lights will be completed at a cost of Rs. 19.00 Crores and about 90% of the work has been completed. Tender for the construction of customs office and Admin office, landscaping is under progress. The investment of ELCOT in this SEZ is Rs. 70 crores. In the next 5 years period this IT SEZ will provide direct employment for 30,000 employees and indirect employment 60,000 employees and the expected total investment in this IT SEZ will be around Rs.1,200 crores.

Advantages of Special Economic Zone

SEZ's are good from the point of view of growth and development. It increases income level of citizens, encourages competition and lowers labor costs.

Attracts FDI and exchange earnings

FDI spells long term capital that can help sustain solvency. Also FDI will ensure meaningful ownership, in times of adverse claims pay put, it is only through the FDI route that foreign stake holders will infuse capital to come over the adverse situation

Dr.S.Jayaselvai, Guest Lecturer, Government Law College, Coimbatore.

The state is well informed about the latest technology and also relevant information regarding the trade that goes on all over the world and how the domestic producers can penetrate into several markets. And private businesses can position them in the world market and boost the standard of living of citizens.

Create a lot of Employment opportunities

Due to SEZ higher employment rates have been reported in India. Because SEZ fuels economic growth and higher output, there is a dire need to employ people in order to maintain the production of various commodities. As a result, more people are able to get jobs and this consequently gives them the buying power thereby raising their living standards.

Economic development

SEZ in India brings with it economic development, more so because it is an export-driven country. This consequently increases the economic growth of India and in terms of trade this is quite beneficial. This further positively affects the country's gross national product.

Export Development

SEZs are also capable of contributing to **export development**, not only in terms of accelerating export growth, but export diversification as well. This is particularly important to poorer developing countries reliant on the export of primary products. In addition, zones can play an important role in attracting foreign direct investment, offsetting some aspects of an adverse investment climate by offering world class facilities and best practice policies.

Global Rival Competition

Special Economic Zones were announced by the Government of India in April 2000 as a part of the Export-Import policy of India. The government realized the need to enhance foreign investment, promote exports from the country and at the same time provide a level playing to the domestic enterprises, while ensuring manufacturers to be competitive globally.

A Boon for Indian Economy

In India, Special Economic Zones are being established in an attempt to deal with infrastructural deficiencies, procedural complexities, bureaucratic hassles and barriers raised by monetary, trade, fiscal, taxation, tariff and labour policies. Since country-wide development of the infrastructure is expensive and implementation of structural reforms would require time.

Disadvantages of Special Economic Zone

- **The main loss of SEZ is large scale acquisition of land** takes place which results in *displacement of farmers and alternate means of livelihood* are not available for them. This issue is a major problem; it is tough to relocate them to other jobs. It has to be seemed that *it could create socio-economic disparities* as the SEZ would accommodate the high and mighty the poor people will be pushed towards poverty and unemployment.
- **Second is lack of cultivable land**, if cultivable land should be short than growth of agriculture should be reduced. That's why the prices of food grains should be more up and inflation rate will be at top.
- New jobs are created and working conditions improve, but for whom...? It is for the educated masses and the literate people and not for the laborers. *Laborers suffer in the form of; forced overtime, exhausting work schedules; poverty pay, and unhealthy working conditions.* The majority of workers in the SEZ units are women who are exposed to the most humiliating sexual harassment s. Free trade creates a "race to the bottom", whereby developing countries lower their labor charges and environmental standards in an effort to attract foreign investment.

- Companies would like to simply relocate to SEZ to take advantage of the tax concession's being offered. This will bring about a significant revenue loss to the government. The companies that incorporate under SEZ enjoy a lot of tax holidays, this will result in a kind of 'disguised industry' just as 'disguised unemployment'.
- The Finance Ministry has estimated that SEZs could run up a *revenue loss* of Rs 1, 75,000 crore in direct taxes, custom and excise duties.
- *Land Grabbing at very low prices.*
- Huge downward impact on Tax: GDP ratio & the common man have to pay the price of it
- *No labour law is applicable* so labourers lost their social security measures.

Conclusion

The Impact of Special Economic Zones on Employment, Poverty and Human Development indicated, that Employment generation, both direct and indirect, has thus far been the most important channel, through which Special Economic Zones have impacted on human development and poverty reduction in India. However, the role of Special Economic Zones in human capital formation and as an engine for promoting new knowledge, technologies and innovations through technology transfers and technology creation appears to be relatively limited. With new generation Special Economic Zones emerging, the scope of human capital formation and technology upgrading effects will widen. It is therefore important for the government to play a pro active role in strengthening these effects.

Generation of little new activity as there may be relocation of industries to take advantage of tax concessions, Revenue loss, Large-scale land acquisition by the developers, may lead to displacement of farmers with meager compensation, Acquisition of prime agricultural land, having serious implications for food security, Misuse of land by the developers for real estate and Uneven growth aggravating regional inequalities. Since, developing Special Economic Zones involves massive displacement of farmers, it is essential that a systematic approach should be followed for ensuring balance of interests. Consequently, state governments have been advised that in land acquisition for Special Economic Zones, first priority should be for acquisition of waste and barren land and if necessary single crop agricultural land. If perforce a portion of double-cropped agricultural land has to be acquired to meet the minimum area requirements, especially for multi-product Special Economic Zone, the same should not exceed 10 % of the total land required for the Special Economic Zone

India's economic growth with reference to the creation of employment opportunities, growth in exports and imports and value addition for the common people is inevitable. The SEZs in Coimbatore sets the criteria for ensuring their success in achieving the objectives for which they are created and to avoid the phenomenon, which has come to be termed as 'developmental terrorism'. Issues of availability of infrastructure, quality of infrastructure, governance issues and labor laws are the most important factors responsible for unsatisfactory working of the SEZs in India especially in Coimbatore.

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- SEZ Scenario in India, November 2010, Mumbai

THE VEHICLE AND CREW PARAMETERS OF TAMIL NADU STATE TRANSPORT CORPORATION, COIMBATORE.

Provision for a continuous and an uninterrupted mobility of persons and materials is a basic necessity of the society. This transport service provides both place and time utilities and it plays a pivotal role in the overall development country. It is a well established truth that the economic development of a country is largely conditioned by the adequacy, efficiency, regularity, safety and punctuality of the transport services. Hence, the transport is reckoned as the conveyor belt of the economy. It links up villages, towns, cities and metropolises. Besides, it also integrates the economy, hooks-up centre's of production, raw-materials availability, sources of supply of parts and components, distribution points, farms and agricultural markets all over the country and also, in more than one way, sustains the growth of tourism. It also works as an unauthorized ambassador of a region. This way, it performs, while rendering the invaluable and the most essential transport service, many a number of other useful functions. Because of these multifarious and useful functions which transport performs, the growth accomplished by a country in the area of transport is used as one of the yardsticks in measuring the progress achieved by that country.

Statement of the Problems

Due to the poor financial performance and results accomplished, the corporations which raised high hopes for a bright future when they were established in the minds of the traveling public are now being criticized sharply by the same traveling public. What is strange is the fact even the state governments have started, after 1991 economic reforms, accusing the corporations virulently for the poor results and for the imperfections in their functions. Of course, it is a reality. But what is equally true is the fact that some of the policy decisions taken by the state governments (without realizing their implications on the financial and operational results) have also been affecting the commercial viability and financial feasibility of the corporations adversely and significantly. Unfortunately, this face of the problems has not received the much attention of either the general public or the governments or the academicians or the professional people.

Objectives

1. To study the various vehicle parameters in selected STUs of Tamil nadu with particular reference to TNSCT Coimbatore.
2. To analyze the various crew parameters in selected STUs of Tamil Nadu Vis-à-vis TNSCT Coimbatore undertaking.

Dr. C. Siva Murugan, Assistant Professor,
Department of Economics, Aditanar College of Arts and Science, Tiruchendur.
S.Shakespeareisreal, Assistant Professor
Department of Economics Education, RPN College of Education, Sivakasi-626 124.

Methodology

Scope

The study covers the period 1992-93 to 2008-09. The state transport undertakings selected for investigation is TNSSTC Limited in Coimbatore region. Since the TNSSTC Coimbatore Transport Corporation is one of the large state Transport undertakings its maintenance expenses would throw more light on these aspects of the STUs as a whole. The vehicles Maintenance norms were studied from the service manuals provided by the company.

Data Collection

The study is based on the data published in the Annual reports of the Coimbatore Transport Corporation.

Data Analysis

In order to examine the various objectives of the study appropriate mathematical and statistical tools such as percentage, ratios, compound growth rate, regression techniques have been used.

Utilization per Bus on Road

Productivity of bus is usually measured as the average effective kilometers operated by the bus on road in a day.

$$\text{The utilization /bus on road} = \frac{\text{Total effective Kms done}}{\text{Total buses on road}}$$

This is important performance index for any passenger transport organization.

No doubt when the STUs (State Transport Undertakings) are considered the bus utilization from 726.09km in 1992-93 to 419.70 in 2008-09 showing a decrease of 57.8 per cent. But the performance of these STUs varies from organization to organization. The time series data for each STUs gives useful indication on the progress of the STUs as the operating conditions remain more or less same.

The average utilization per bus on road per day obtained at different STUs could be broadly classified into three categories.

Category 1: utilization above 400 Kms.

Category 2: utilization from 350-400

Category 3: utilization below 400 Kms.

It is interesting to note many Tamil Nadu STUs viz: Cholan TCL (408), Jeeva TCL (429) comes under the first category i.e. utilization above 400 Kms.

Bus productivity in Coimbatore Transport Corporation

We have worked out the utilization per bus on road for TNSC Coimbatore and the results are presented in Table 1. It is evident from the table with regard to vehicle utilization the TNSC Coimbatore also comes under the category 1, i.e. utilization above 400 Kms. However it is discouraging to note that among the five corporations of Tamil Nadu TNSC Coimbatore stands at the lowest rank in respect of bus productivity as shown in table 2

TABLE 1
UTILIZATION PER BUS ON ROAD IN TNSC COIMBATORE
1992-93 to 2008-09

Year	Vehicle Utilization	Annual Growth Rate
1992-93	726.09	-
1993-94	898.75	23.78
1994-95	1071.40	19.21
1995-96	1080.80	0.88
1996-97	1069.10	-1.08
1997-98	1097.90	2.69
1998-99	1139.15	3.76
1999-00	1180.40	3.62
2000-01	1157.90	-1.91
2001-02	1115.50	-3.66
2002-03	821.10	-26.39
2003-04	613.35	-25.30
2004-05	405.60	-33.87
2005-06	403.40	-0.54
2006-07	408.90	1.36
2007-08	414.30	1.32
2008-09	419.70	1.30
CGR	-6.37	

Crew Parameters

Buses and crew form the two important resources which require careful planning to ensure traffic operational efficiency and at the same time overall productivity and profitability of a transport organization. The essence of traffic function is to operate bus services. To meet the need of passengers, the traffic department has two principal resources at its disposal viz: vehicle and crew. The effectiveness with which these resources are utilized needs to be reviewed constantly. In the previous chapter, we have undertaken a comparative study of vehicle parameters. Present chapter deals with crew parameters in some selected STUs of Coimbatore Vis-a Vis TNSSTC Coimbatore.

Cost of Manpower

The cost of manpower in STUs is of going up at the alarming rate. The cost per kilometer (CPK) on personnel for the STUs as a whole has gone up from 1626.78 in 1992-93 to 7722.81 in during 2008-09, and compound growth of 9.96 percent. The above rise in cost has been evinced when the bus staff ratio came up from 1626 to 7723. The present day wage policy linked to 'cost of living index' and spiraling rates of inflation have resulted in higher share of personal costs. In TNSSTC Coimbatore too, the situation is not different. The average wage rate has recorded a fivefold increase with in a very short span of 17 years as shown in the following table.4. Naturally the principle of economics forces us to review whether this much wage payments is justified and the present chapter is embarked upon with this objective.

Manpower Productivity in TNSSTC Coimbatore

An analysis of man power productivity in TNSSTC Coimbatore indicates an encouraging trend as shown in table 7. In the initial year of our analysis indicate that the manpower productivity was 103.43 Kms and it deceased to 66.1 Kms in 2008-09. it is evidence from the table it could be observed that the negative growth of 5.54 percent. Further, the annual growth rate of manpower productivity observed that there was declining trend noted 0.17 percent in 2008-09.

MAN POWER PRODUCTIVITY IN TNSC COIMBATORE

(1992-93 to 2008-09)

Year	Manpower productivity (Bus Kms per employee per day)	Annual growth rate
1992-93	103.43	-
1993-94	121.86	17.82
1994-95	140.28	15.12
1995-96	145.74	3.89
1996-97	143.08	-1.83
1997-98	150.9	5.47
1998-99	95.41	-36.77
1999-00	164.61	72.53
2000-01	154.35	-6.23
2001-02	144.09	-6.65
2002-03	110.73	-23.15
2003-04	50.52	-54.38
2004-05	58.82	16.43
2005-06	63.32	7.65
2006-07	65.88	4.04
2007-08	65.99	0.17
2008-09	66.1	0.17
Average	108.54	
CGR	-5.54	

The analysis in the previous pages generally revealed a better performance by TNSC Coimbatore Vis- a-Vis other STUs of Tamilnadu. However, in absolute terms these performance indices may not be that much encouraging considered in the context of TNSC Coimbatore operational monopoly. The management should take note of these observations and strive hard to achieve better results.

Summary and Conclusions

This study was primarily concerned with an examination of origin and development of state transport undertakings in India with reference to its parameter characteristics. Hence this study mainly concerned on vehicle and crew in selected STUs Vis-a- Vis Coimbatore transport corporation. The study was exploratory in nature and was conducted with particular reference to TNSC in Coimbatore and Nilgiris districts. The entire analysis was based on secondary data obtained from the annual reports of the respective company. Transport and relevant materials collected from the journal of management published by the association of state road transport undertakings, Pune. Throughout the study, the findings of this investigation were analyzed and inference drawn at appropriate places.

AN OVERVIEW OF EDUCATIONAL STATUS IN COIMBATORE REGION

Introduction

Schooling is compulsory for all Children, but the age range for which school attendance is required varies from state to state. Most children begin elementary education with kindergarten and finish secondary education with twelfth standard. The higher education pyramid is step, indicating lesser and lesser number of people reaching the higher education level.

Literacy Rate In India

Literacy in India grew very slowly until independence in 1947. An acceleration in the rate of literacy growth occurred in the 1991 – 2001 period. However, India continues to face stern challenges, despite growing investment in education 25% of its population is still illiterate; only 15% of Indian students reach high school and just 7% graduate as of 2008, India's post-secondary high schools offer only enough seats for 7% of India's college-age population 25% of teaching positions nationwide are vacant and 57% of college professors lack either a master's in Ph.d., degree.

In 2000 – 2001, there were 60,840 pre-primary and pre-basic schools and 664,041 primary and junior basic schools. Total enrollment at the primary level has increased from 19,200,000 in 1950 – 51 to 109,800,000 in 2001 – 2002. The number of high schools in 2000 – 2001 was higher than the number of primary schools at the time of independence.

The literacy rate of inter-state variations :

Dr. R.Rajendran, Associate Professor and Head & **V.Sujatha**, Ph.D., Research Scholar
Department of Economics, AVVM Sri Pushpam College, Poondi, Thanjavur.

TOP TEN STATES IN INDIA

State	Literacy rate % 2001 census	Literacy rate % 2011	Increases %
Kerala	90.86	93.9	3.29 %
Mizoram	88.80	91.6	3.06 %
Tripura	73.19	87.8	16.64 %
Goa	87.40	87.4	0.00 %
Himachal Pradesh	76.48	83.8	8.74 %
Maharashtra	76.88	82.9	7.26 %
Sikkim	68.81	82.2	16.29 %
Tamilnadu	73.45	80.3	8.53 %
Nagaland	60.47	80.1	24.51 %
Gujarat	69.14	79.3	12.81 %

Objectives Of The Study

To find out the level of academic achievement in Coimbatore Region.

SCHOOLS BY CATEGORY IN TAMILNADU 2010 – 2011

Sl. No.	Management	Primary only	Primary with Upper Primary	Primary with Upper Primary & High / Higher Sec. School	Upper Primary only	Upper Primary High & Higher Secondary School	KGBV
1.	Govt.	22877	8279	42	17	4568	54
2.	Private Aided	5071	1572	107	36	1645	-
3.	Private Unaided	6124	587	3344	15	406	-
4.	Others	154	53	2210	1	13	-
	TOTAL	34226	10491	3703	69	6632	54

The role of SSA is educational research, teacher education and training has enhanced and improved the quality of education over the past four years.

Coimbatore is the second largest city in Tamilnadu after Chennai. Coimbatore Corporation has 6 taluks, 12 blocks, 44 town panchayat and 7 Municipalities. The region has managing 82 schools,

Higher Secondary Schools	-	16
High Schools	-	10
Middle Schools	-	15
Elementary Schools	-	40
Special School for differently abled	-	1

12581 Boys, 16264 Girls are studying in this Corporation schools. 865 teachers and 104 Non-teaching staffs are working in these schools.

During this academic year 2010 – 2011 'Art of living' Yoga classes were conducted to students studying in std 9th and 11th in all High & Higher Secondary Schools and Soft Skill Development training was given to the students.

Conclusion

The performance of Coimbatore District with respect to Educational development in far satisfactory.

References

- 1 Coimbatore Human Development Report.
- 2 Indian states ranking by literacy rate
- 3 www.tamilnadugovt.com

A STUDY OF HEALTH STATUS IN KONGU REGION

Under the constitution, health is a state subject. The central govt. intervention to assist the state government is needed in the areas of control / eradication of major communicable and non-communicable diseases, broad policy formulation, medical and paramedical education along with regulatory measures, drug control and prevention of food adulteration, besides activities concerning the containment of population growth including child survival and safe motherhood (CSSM) and immunization programme. With the decline in death rate and increase in life expectancy, epidemiological transition is underway resulting in increase in non-communicable disease, which are to be controlled and monitor. For this the planning has drawn up for augmenting the emergency services in hospitals of various stages of implementation.

Health Status in Kongu Region

The region consist of three districts such as Erode, Coimbatore and The Nilgiris.

POPULATION GROWTH OF KONGU REGION

Details	Total		Male		Female		Decade Growth
	Nos	%	Nos	%	Nos	%	
Erode	2581500	4.137	1309278	4.170	1272222	4.103	10.94
CBE	4271856	6.845	2176031	6.930	2095825	6.760	20.40
Nilgiris	762141	1.221	378351	1.205	383790	1.238	7.69
Tamil Nadu	62405679		31400909		31004770		11.19

Source: Director of Public Health Chennai – 5.

The table shows the population growth of Kongu Region, in the case of growth rate it is recorded as 10.94 in Erode, 20.40 in Coimbatore, 7.69 is The Nilgiris. It is denoted more or less the Erode district is equal to the decaded growth of state of Tamil Nadu. On the other hand Coimbatore has increased as double time and The Nilgiris showed less than the state growth rate. The population growth has determined by its area and nature of the people those who are migrated from various places due to the good climatic conditions.

HEALTH STATUS IN KONGU REGION

Details	Density	Birth Rate	Death Rate	Infant Mortality		Total Infant Mortality
				Male	Female	
Erode	316	18.00	4.28	66.7	70.7	16.8
CBE	572	17.0	7.0	65	62	18.6
Nilgris	300	15.2	5.2	65	70	24.2
Tamil Nadu	478	18.5	7.7	46	43	44.0

Source: Census of India 2001

The above table explains the most important variables such as density of the population, Birth rate, Death rate, infant mortality and total infant mortality rate in the Kongu Region. The density of population is shown below in Erode and Nilgris district but Coimbatore has shown more density than the state density. And other factor birth, death and mortality rate as shown more the state level rate excluding Nilgris and Erode in Death rate. It is clearly pointed out that the health status is showing the good position in the Kongu Region than the state and centre.

Conclusion

Health policy has always been complex process. The situation is further complicated by fact that policy process have to straddle a treacherous fault line between target driven population control goals on the one hand and issues of individual reproductive rights and general well-being of the other. The recent discussions of health policy argue that over time, such policies and the programmes associated with them have grown less narrow in focus that they are today more inclusive and sensitive to the articulated and apparent needs of the people concerned than earlier were. The Indian states and regions anxiously insistent efforts to educate and push people to control family sizes are particularly interesting in the context of density, Birth, Death and Mortality rate when we compare with state and centre the regions has more involvement in the status of health. The Kongu Region has availed more facilities than that of state and centre in the terms of facilities.

ECONOMIC AND ENVIRONMENTAL CONSEQUENCES OF CLIMATIC CHANGES AS A FREE RIDER PROBLEM-FOODGRAINS PRODUCTION ERODE DISTRICT 1980-2009.

Introduction:

Nearly 18% of the GDP (Economic survey 2007-2008). However Indian agriculture continues to be fundamentally dependant in the weather parameter like rainfall and temperature, given that The prospect of global climate change has emerged as a major scientific and public policy issue. Scientific studies indicate that accumulated carbon dioxide (CO_2) emitted from the burning of fossil fuels, along with contributions from other human-induced greenhouse gas emissions, is leading to warmer surface temperatures. Possible current-century consequences of this temperature increase include increased frequency of extreme temperature events (such as heat waves), heightened storm intensity, altered precipitation patterns, sea-level rise, and reversal of ocean currents. These changes, in turn, can have significant effects on the functioning of ecosystems, the viability of wildlife, and the well-being of humans. India is a subtropical country and its climate could become warmer under condition of increased atmospheric carbon dioxide. The average temperature change in entire country is predicted to increase in the range of 2.33°C to 4.78°C with a doubling in CO_2 concentration (Intergovernmental Panel on Climate Change 1998). Another predicted climate change scenario for the Indian sub continent, by taking into account of the projected emissions of greenhouse gases and sulphate aerosols. It predicts an increase in annual mean maximum and minimum surface air temperatures of 0.7°C to 1.0°C over land in the year 2040 with respect to the base year 1980 (Garg et al., 1995). The main reason for the high sensitivity of India's agricultural is the variability in rainfall. About 80 percent of total rainfall over India occurs during three months from June to September as result of the south west monsoon (Ministry of Finance 2001). Agricultural activities are sensitive to climate and weather conditions. Farmers are either at the mercy of these natural factors or try to benefit from them, whereas temperature and precipitation effect can be both beneficial and detrimental. Most studies project decreased yields in non-irrigated wheat and rice and as loss in farm level net revenue between 9 percent and 25 percent for a temperature increase $2-3.5^\circ\text{C}$.

C. Periasamy, Ph.D Research Scholar, Department of Economics, Bharathiar University, Coimbatore

Scope of the study:

Due to climatic changes it has been observed from past studies that has been continuous decline in production and farm income and human health and livestock losses due to the effect climatic change. Developing countries may be more vulnerable, adoptions, and mitigation problems to climate change than developed countries because of the low capital intensive literacy, incomplete markets, the predominance of agricultural and other climatic sensitive sectors and their relatively warm baseline climatic. However, the empirical research on impact of climate change on agricultural in developing countries is limited. So this hypothesis have yet to be tested. The need of the information about the vulnerability adaptation and mitigation impact climatic change and use planning for sustainable food security strategies in developing countries consequently to be addressed. To also study the new economic policy and its consequences to the Indian environment and economy.

Research Problem:

Agriculture and allied sector constitute the single largest component of India's economy contribute 62% of the total cropped area is still dependent in monsoon rainfall (Ministry environment and forests 2002). Climate change could represent an additional stress on ecological social economic systems that are already facing tremendous pressure due to rapid population (Department of ocean development 2002).

Research Questions:

This research proposal is concentrates only on impacts of climate change in agricultural damages like production, gambling of monsoons rain fall and ground water. Impact such as the socio-economic, and environmental related issues involved are profound, as many of them still remain unresolved. Issues like, what is the loss of agricultural productivity due to climate change? What extent the negative externalities are imposed on agricultural productivity and its impact on economy. Crucial questions are extended opportunity cost loss through farming man-day loss human health and reduce livestock population due to climate change. Above set questions have to be addressed, through empirical research.

Objectives:

The overall objective of the study is to assess the economic and environmental consequences as well as impact climate changes and suggested suitable land use analysis planning the sustainable food grains production. To assess the vulnerability to climate change in different agro climate zones of Tamil Nadu particularly Erode district. To study nature and trend climate change India Tamil Nadu particularly study area of Erode district (western zone) to measure change the yield of food crops and commercial crops. To study the current of understanding of weather conditions and its impacts agricultural productivity.

Hypothesis:

Agriculture is more vulnerable to climate especially to increase in temperature and uneven distribution rain fall and number rainy days The impact climate change may affect the production food and commercial crops in India,tamil nadu and study area erode district

Methodology:

The multistage sampling methods viz., purposive, proportionate random sampling methods adapted to select the study village and the households. Problems are identified due to climate change in erode district with respect to loss productivity, employment, income, health and social damage cost are vary related to difference land holding. A micro level investigation on a case study basis will help understanding socio-economic and environmental constraints with a district. 300 sample households will be chosen. The important reason is that the erode district well known for nine important commercial as well as food crops. Information was gathered with the help of a structured questionnaire and also through participatory rural appraisal methods such as informal group discussions with the senior citizens of the farming community. In this backdrop, a hypothesis are set and tested. The secondary source of information from the 30 years of district hand book will be collected to analyze to understand the availability information of rainfall temperature, cropping pattern yield of different crops. The primary survey would address the issues relating to quantity, quality reduction, loss productivity, social damage cost in the concerned district.

Methods for Data Analysis:

Statistical tools such as analysis of variance, hypothesis testing and regression will be used considering the nature of the data. The thrust of the analysis is going to empirically assess the magnitude of the damage of society. Regression model will be used to establish causal relationship between damage cost and socio-economic and environmental variables. Further, appropriate statistical tools will be used to analyze the environmental dimensions of climate change such as depletion of ground water, loss of productivity, farming man-days loss, loss opportunity cost, degradation of ground water quality and land, rainfall and the health impacts thereof.

Variables Used:

Having identified the problem, the data on theoretical variables relating to impacts of climate change on society in general and particularly have been collected from the sample village on the basis of systematic, stratified and proportionate random sampling methods. The household survey covering variables such as

productivity loss, yield loss, cropping pattern, farming community man-days loss, rainfall, soil quality, health damage cost, and loss of opportunity cost, , drinking water quality, and livestock population will be conducted.

Water level study:

Monitoring of groundwater levels forms an important component of groundwater survey. The water level fluctuation reflects the change in groundwater storage. For this purpose, 139 wells spread over the entire Erode District are under observation during the first week of month. The study of water level fluctuation helps to assess the gravity of the situation in times of drought and also to take appropriate remedial measures.

Water quality:

Good quality with EC value less than 750 Micro mhos/cm. occur Thalavadi, North of Sathiyamangalam Town, Gopi Town, around Kunnathur, Kundadm and Moolanur area.

Suitable quality with EC value between 750 to 1500 mhos/cm. occurs in most part of the district except part of kangayam and Dharapuram Taluks. Marginal Quality with EC value between 1500 to 3000 Micro mhos/cm occur in part of Erode, Perundurai, Bhavani and Gopi Taluk area and in part of Uthukuli, Vellakoil, kangayam, Dharapuram, Kundadam and Moolanur Block areas.

High salinity with EC value greater than 3000 Micro mhos/cm. Occurs in major part area of kangayam Taluk, Anthiyur Block and also in Poolavadi and Alingium area of Dharapuram Taluk.

Watershed Study:

In order to know the inter-relationship among rain fall, runoff and infiltration, the small watersheds located in different soil types are under observation by setting up meteorological stations. There is one meteorological station located in Uthamapalaym village of Kangayam Taluk, where soil moisture accumulation etc., are collected. The data collected are helpful to establish various parameters which are useful to assess groundwater potential.

<i>Sphere</i>	<i>Common Examples of Degradation</i>
Atmosphere	Atmospheric changes, Greenhouse gases, Ozone hole etc.
Biosphere	Biotech changes of communities, populations, extinctions etc.
Hydrosphere	Chemical changes , particulate suspensions, nutrients increase (e.g. eutrophication)
Lithosphere	Quarrying, dam building, constructions, excavations, explosions, road infrastructure etc.
Pedosphere	Changes in physical, chemical and or biological components, erosion-depositions, etc.,

Environmental Region

Hill region

Eastern Ghats gaining well irrigated area

Middle west well irrigated area

LBP head ayacut area

LBP middle ayacut area

LBP Eastern tail ayacut area

LBP southern tail ayacut area

Thadapalli Arakkan kottai canal irrigated area

Mettur west canal irrigated area

Central well irrigated area

Kalingaran canal irrigated area

PAP canal irrigated area

Upper project irrigated area

Amaravathi irrigated area

Southern well irrigated area

The above table shows that rainfall over three decades gradually declining and in 1979-89 the district rainfall was 717mm whereas the actual rainfall was 751.82mm which is more than average. The net sown area for foodgrains area was 235817.40 hectares and foodgrains production was 276512 tons whereas The period of 1999-2009 there was decline but production was 248371.5 but in the period of 1989-1999 it was maximum 3211371 tons. After new industrial policy the use pattern changed, especially perudurai taluk foodgrains area particularly paddy cultivation reduces by one third. Manual labour, traditional seeds and organic manure replaced by hybrid seeds, machineries and inorganic fertilizers and pest.

Major Findings Of The Study

- The Rain fall and Temperature are the main deciding parameter for agricultural production especially food grains production and food security.
- The scientific technology can play a major role to the enhancing the agricultural production and productivity especially foodgrains production. Though it is useful to commercial crops then the food crops.
- The climate change can be checked by proper adaptation and technology.

Conclusion:

Being agriculturally and industrially progressive district, the impact of climatic change is there and it affects food grains production viz C3 crops and C4 crops like sugarcane and maize production is positive trends noticed. The farmers and the governments had taken various steps like adaptation and mitigation.

SWOT ANALYSIS OF SSIS IN COIMBATORE DISTRICT

Introduction

Small Scale Industries play a very vital role in the country's economy despite the phenomenal growth in the large-scale sector. In fact, the small-scale sector is playing a vital role in the growth of national economies the world over and is considered to be the engine of growth in most countries. Small Scale Industries (SSIs) generate production at low capital, utilizing indigenous raw materials and local skills, maintaining balanced regional growth and preventing the migration of labour from rural area to urban area. The growth of SSIs holds the key role to resolve the problems of poverty and unemployment. SSIs include the traditional and modern industries. The traditional SSIs include khadi and handloom, handicrafts, sericulture and coir manufacturing units etc.

The modern SSIs now produce more than 8000 products. It has emerged as a major supplier of mass consumption items such as leather products, steel metal goods, bicycles and their components, paints and varnishes and so on. Among the sophisticated items mention may be made of television sets, electronic control systems, various engineering products, particularly ancillary and large industries. The traditional SSIs are highly labour intensive while the modern SSIs use highly sophisticated machinery and equipment which provide more employment opportunity to skilled and qualified workers (Senthil Kumar and Vetrivel, 2011)

SWOT Analysis of Coimbatore SSIs

Coimbatore is one among the industrially developed and commercially vibrant districts of Tamil Nadu state. It has got high concentration of Small, Medium and Large Scale Industries. SWOT analysis is clearly expressed on the Coimbatore district's SSIs strengths, weaknesses, opportunities, and threats. Strengths and weaknesses are internal factors SSIs. Opportunities and threats are external factors of SSIs and its related activities. In this context, the present paper focuses on the SWOT analysis of SSIs in Coimbatore district.

Strengths of Coimbatore district SSIs

- ❖ With more than 25,000 small, medium and large industries, the city's primary industries are engineering and textiles.
- ❖ Coimbatore is called the "Manchester of South India" due to its extensive textile industry, fed by the surrounding cotton fields.
- ❖ The district also houses the country's largest amount of hosiery and poultry industries.
- ❖ The city has two special economic zones (SEZ), the Coimbatore Hi-Tech Infrastructure (CHIL) SEZ and the Coimbatore TIDEL Park, and at least five more SEZs are in the pipeline.
- ❖ As of 2005, when Tiruppur was a part of Coimbatore district, Coimbatore was the highest revenue earning district in Tamil Nadu.
- ❖ In 2010, Coimbatore ranked 15th in the list of most competitive (by business environment) Indian cities.
- ❖ An insignificant little town prone to droughts and earthquakes till the early years of the 20th century, Coimbatore experienced a textile boom in the 1920s and 1930s.
- ❖ The city is the second largest software producer in Tamil Nadu, next only to Chennai. IT and BPO industry in the city has grown greatly with the launch of TIDEL Park and other planned IT parks in and around the city.
- ❖ It is ranked at 17th among the global outsourcing cities. Companies like Tata Consultancy Services, Cognizant Technology Solutions, IBM, Robert Bosch GmbH, Tata Elxsi, Dell, Aditi Technologies, CSS Corp and KGISL having a presence in the city.
- ❖ Coimbatore is already the second largest hub in India for Cognizant Technology Solutions as it employs around 5000 people in its Coimbatore centre and is planning to double its capacity here. Software exports stood at Rs. 710.66 Crores (7.1 billion) for the financial year 2009-2010 up 90 per cent from the previous year.
- ❖ Coimbatore has a large and a diversified manufacturing sector facilitated by the presence of research institutes like Tamil Nadu Agricultural University, SITRA and large number of engineering colleges producing about 50,000 engineers.

Weakness of Coimbatore district SSIs

- ❖ No specialized banks for SSI Sector
- ❖ Unprofessional way of management.
- ❖ Weak marketing linkages – absence of organized marketing channels.
- ❖ Most of the raw materials except the stone are bought from outside states.
- ❖ The traders do price fixation.
- ❖ Non-availability of quality standard.

Opportunities of Coimbatore district SSIs

- ❖ Coimbatore is the second largest city in Tamil Nadu and is a major industrial hub of South India. There are not less than 40,000 large medium and small scale industries in Coimbatore. The city is famous for its many reputed educational institutions and hospitals. Thanks to availability of qualified manpower, land and other resources.
- ❖ Though, Robert Stanes had established Coimbatore's first textile mills as early as the late 19th century, it was during this period that Coimbatore emerged as a prominent industrial centre. Narayanaswamy Naidu's Dhandayuthapani Foundry, D. Balasundaram Naidu's Textool, the Lakshmi Mills Company, the Kalleeswara Mills and the Somasundra Mills are some of the important textile and machine units which emerged during the early 1900s.
- ❖ Coimbatore has trade associations like CODISSIA, COINDIA, SITRA and COJEWEL representing industries in the city. Coimbatore also has a 160,000 square feet (15,000 m²) trade fair ground, built in 1999.
- ❖ It was named COINTEC due to its hosting of INTEC (Small Industries Exhibition). The Trade Fair complex, one of the country's largest, was built in six months, and is owned by CODISSIA (Coimbatore District Small Industries Association). It is also the country's largest pillar-free hall, according to the Limca Book of Records.
- ❖ Coimbatore houses a large number of small and medium textile mills. It also has central textile research institutes like the Central Institute for Cotton Research (CICR) - Southern Regional station and the Sardar Vallabhai Patel International School of Textiles and Management.
- ❖ The South Indian Textiles Research Association (SITRA) is also based in Coimbatore. The city also houses two of the Centres of Excellences (CoE) for technical textiles proposed by Government of India, namely Meditech, a medical textile research centre based at SITRA, and InduTech based in PSG College of Engineering and Technology.

Threats of Coimbatore district SSIs

- ❖ Entry of a new technology in the product
- ❖ Supply of finished components to other cities for assembling and thereby creating competition to the cluster.
- ❖ Emergence of new clusters in other cities where local market is available.
- ❖ Practicing of informal business methods.
- ❖ Chance of a large-scale manufacturer entering the market.
- ❖ Unexpected threats coming from other countries owing to globalisation and active implementation of WTO agreements.

Conclusion

Small scale industrial sector is an important segment of Tamil Nadu state economy as well as in Coimbatore district. In this district, small scale industries are holding a lot of strengths, weaknesses, opportunities and threats in the external environments. The SSI sector has given mass employment opportunity in this district. However, the sector has containing lot of weaknesses and threats particularly the availability of poor infrastructural facilities and mass environmental pollution problems due to high degree of density of industries and changes the government policies over the period of time. Hence the government must take necessary actions for increase the infrastructural facilities and also remove the all weaknesses and threats of SSIs in Coimbatore district. If the government remove all the hurdles that are stated above then the Coimbatore economy will flourish lot.

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CSR IN TETILE INDUSTRIES OF TIRUPUR – ISSUES & SUGGESTIONS

Introduction

Corporate Social Responsibility (CSR) is a worldwide-accepted development on how companies can manage their business processes to produce an overall positive impact on society and environment. In other words, it is 'the concept that businesses should be actively concerned with the welfare of the society at large'. The realm of social responsibility extends beyond the legal responsibilities of an organization. It is voluntarily fulfilled by the organization and it can be broadly divided into two parts: human responsibility and environmental responsibility. CSR sees environmental and social trends as opportunities for growth and competitive advantage.

Companies who are able to react on a pro-active way on these factors are ensuring on the long term their 'license to operate' status from government, customers, NGO's and consumers and are less vulnerable for banns or bankruptcy. CSR is one of the management instruments for this and a large number of systems, schemes and standards have been developed worldwide to implement CSR in textile companies. Hence, Awareness about the social responsibility of business organizations is rapidly on the rise and firms are also accepting this concept. The textile industry is no exception. Textile producing and trading firms are also realizing their responsibility towards the society and the environment. This paper aims at analyzing the concept of social responsibility and the common ways in which textile firms try to fulfill it.

Need For Csr Issues In Tirupur

Textile companies lacking behind in the CSR process often have a reactive and short-term management perspective. A reactive response on daily business concerns and pressure can lead to violations to social and environmental performances, often caused by factors. The ultimate problems and issues arising out of these factors are listed below:

Contaminating water and land by dumping untreated toxic wastewater

Hundreds of textile bleaching and dyeing mills in the South Indian city of Tirupur have been ordered to shut down by the Madras High Court in response to public petitions. Farmers groups have alleged that textile units dumped untreated effluent in the Noyyal river which farmers rely on for irrigation. Government inspectors don't mind looking the other way as long as their palms are greased.

Albin D. Robert Lawrence, Assistant Professor,
Department of Commerce, SASTRA School of Management, Thanjavur.
A.Noorunnisha, Assistant Professor,
Department of Commerce, Holy Cross College, Tiruchirappalli

Textile Processing and Pollution Load

The environmental problems of textile manufacturing are related to the bleaching and dyeing (textile processing) segment of the industry. In Tiruppur during 1981, only 68 textile processing units were functioning. The number rapidly increased to 450 in 1991 and 866 in 1997. But because of the pressure from the Tamilnadu Pollution Control Board (TNPCCB) against the discharge of untreated effluents some units have closed and at present 702 textile processing units are functioning. These units together used around 85 million litre per day (mld) of water and discharge a similar quantity (83 mld) as effluents, which carry considerable volume of chemicals used at the wet processing stage.

Environmental Impacts of Textile Effluents

Available studies clearly prove the accumulation effect of pollution in this area. All ground water studies indicate that open wells and bore wells in and around Tiruppur exhibit high levels of TDS (ranging 3000mg/l to 11,000 mg/l) and Chloride (ranging 2000 mg/l to 5000 mg/l) due to industrial pollution and these values are much higher than the background level for this region. The available groundwater in this region is not suitable for domestic, industrial or irrigation use.

Damage Cost of Pollution

Due to pollution the agriculture, drinking water and fisheries in Tiruppur area and downstream villages of Noyyal river has been affected. The water is injurious ($EC > 3$ mmhos/cm) to agriculture in an area of 146.3 sq.km. and critical (EC 1.1 to 3 mmhos/cm) in 218.3 sq.km. Hence crop productivity has declined substantially affecting the welfare of farmers. The estimated overall damage cost in the agriculture sector is US \$ 50 million. In affected villages the Water Board has introduced special water supply schemes. Besides villagers are spending a lot of time and effort for fetching fresh water from distant places. The total damage cost in the drinking water sector is about US \$ 23.8 million.

The cost of water payable by a industry is about Rs. 2.50 per litre. Therefore, the demand placed by industry and households has forced the conversion of agricultural lands for commercial private market supply amounts to 50-60% of water used in Tiruppur. The buying price from wells ranges between Rs. 40 and 80 per tanker. The average price for a 12,000 litre capacity tanker is Rs. 240,300.

Status of Effluent Treatment

Realizing the seriousness of the textile effluent pollution, the Court gave an order against the functioning of polluting units without effluent treatment plants in 1997. After that the state pollution control agency put more pressure on all the units towards effluent treatment, 164 units were closed. Presently out of the 702 units, 278 are treating 38 mld of effluents through 8 Common Effluent Treatment Plants (CEPTs) and 424 are treating 45 mld of effluents through Individual Effluent Treatment Plants (IETPs).

Ground Water Pollution

Untreated textile effluents released from the industries on open land seeps into the aquifer and increase the concentration of EC, TDS, Na & Cl Contamination of ground water in India has been reported in various places because of large number of dyeing and printing units within the city of Mathura (U.P) and in Pali (Rajasthan). In Tamil Nadu ground water pollution is reported in Ambur, Ranipet, Pernampet, Vaniyambadi, Karur and Tiruppur.

Suggestions For Csr Initiatives By Textile Industries Of Tirupur

The suggestions of the authors include the following:

Ethical Restoration

1. Strict enforcement of law to the industries to meet the standards
2. Efficient cleaner technology should be introduced to meet the effluent standards
3. Industry should practice waste minimization, recycling, recovery and reuse of waste from the processed chemicals
4. Green marketing with eco-friendly products and with eco-labelling or eco-mark for their products
5. Exporting industries should get ISO 14000 certification
6. Abolish child labour
7. Ethical Committee to be formed locally

Following Sustainable Principles of Anastas and Zimmermann

Due to the large quantity of products manufactured, used, and disposed of, the textile and apparel industry has a big environmental impact in every phase of product life cycle. Anastas and Zimmermann developed 12 principles of green engineering to provide a framework for scientists and engineers to achieve sustainability when designing new materials, products, processes, and systems which are listed below:

Principle 1:

Designers need to strive to ensure that all material and energy inputs and outputs are as inherently nonhazardous as possible.

Principle 2:

It is better to prevent waste than to treat or clean up waste after it is formed.

Principle 3:

Separation and purification operations should be designed to minimize energy consumption and materials use.

Principle 4:

Products, processes, and systems should be designed to maximize mass, energy, space, and time efficiency.

Principle 5: Products, processes, and systems should be “output pulled” rather than “input pushed” through the use of energy and materials.

Principle 6: Embedded entropy and complexity must be viewed as an investment when making design choices that affect recycling, reuse, or beneficial disposition.

Principle 7: Targeted durability, not immortality, should be a design goal.

Principle 8:

Design for unnecessary capacity or capability solutions (e.g., “one size fits all”) should be considered a design flaw.

Principle 9:

Material diversity in multicomponent products should be minimized to promote disassembly and value retention.

Principle 10:

Design of products, processes, and systems must include integration and interconnectivity with available energy and materials flows.

Principle 11:

Products, processes, and systems should be designed for performance in a commercial “afterlife.”

Principle 12:

Material and energy inputs should be renewable rather than depleting.

Conclusions

To create better environment and protect the ecosystem from further degradation the developing countries need to apply their well designed policies from the start, cleaning up past mistakes. Developed countries once neglected textile industry, now favour the growth of textile industries. The ecological concerns and economic developments are not contradictory but complementary to each other with a single common goal of sustainable development without depleting the natural resources. Realizing the above facts, an integrated pollution management attempt from different actors who are related to Tiruppur knitwear business is needed. If they raise a strong demand for “pollution free” garments with “green label” and are also willing to pay more, definitely it may provide pressure to introduce clean technology by the industries. At this stage, proper technical guidelines and financial support is required for the industries from national and international research institutions and donor agencies. Similarly, sincere collaborative efforts from industrial associations, pollution enforcement agencies, NGOs, industrial consultants, etc. are also required. Only then, the deep-rooted knitwear industry in Tiruppur can achieve the objective of sustainable development.

DETERMINANTS OF HEALTH CARE SERVICES OF WOMEN CONSTRUCTION WORKERS

Good health is an important factor for the provision of regular supply of labour as it avoids the disruptions caused by sickness and the resulting absenteeism. Good health not only promotes high morale and labour productivity but also produces a positive environment of economic growth. Health has been declared as a fundamental human right. It is on this background a research study entitled on the health status and determinants of health care services of the women construction workers. The main objectives of the study is to study the health status and determinants of health care services of the women construction workers. To understand the health status and determinants of health care services of the women construction workers, primary data was collected using a pre-tested interview schedule. The study covered a sample of 525 migrated women construction workers from urban Coimbatore. Coimbatore city was selected purposively). The data from these sample women was collected during the period March 2009 to May 2009. . To identify the determinants of demand or health services "Logistic Model" has been used.

Factors Determining the Demand for Health Services

The impact is being estimated using a logit model: the form of the model can be given below:

PHCDD	=	I(AGRESS, EDUCN, EXPNC, NOFDEP, EMPT, PCADY, AGR/ NAGRI, NATOFINC, RUN)
PHCDD	=	Demand for health services (yes = 1, No = 0)
AGMESH	=	Age of the family members seeking health cares (in years)
EDUCN	=	Education of the Head of the Household (in years)
SEX	=	Sex of the family member seeking health care (male = 1, female = 0)
REL	=	Religion of the respondents (Hindu = 1, 0 other wise)
MARST	=	Marital Status of the member seeking health care (married =1, otherwise = 0)
EMPT	=	Employment Status (Employed = 1, Unemployed = 0)

K.Kaliammal, Assistant Professor,
Department of Economics, Sri GVG Visalakshi College for Women, Udumalpet.

NOMEM	=	Number of Members in the Family (in numbers)
NOFDEP	=	Number of dependents (in numbers)
PCADY	=	Per capita income of the family (in Rs. Per month)
NATOFINC	=	Nature of Income (permanent = 1, temporary = 0)
DIST	=	Distance from the Residence to the Health Institutions (in Kms.)

As it could be seen in Table 1 the R^2 value namely the explanatory power of the model is found to be very high with 0.97 indicating that as high as 97 per cent of the variation in the dependent variable, namely the demand for health services has been explained by the variation in the independent variables included in the model. This means that the included independent variables could influence the dependent variable to an extent of 97 per cent. Hence, the model can be considered as the best fit. The adjusted R^2 value shows that the included variable has suppressed the influence only by 2 per cent. The slope coefficients indicate that all the variable are significant at five per cent level implying that there is a significant influence of the socio economic and demographic factors considered on the demand for health services.

A variable wise analysis shows that in the case of age there is a positive and significant relationship. This means age is observed to be positively associated with the decision to seek health services. The level of education has a negative relationship indicating that at higher levels of education lower is the demand for health services. This may be due to the reason that the higher level of education provides the awareness on the maintaining a better health status.

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Table 1
Logistic Model on the Factors Determining Demand for Health Services

S. No.	Variable	Coefficient
1	Constant	-0.38682* (0.000098)
2	Age	0.001275128* (0.00004800)
3	Education	-0.077820282* (0.00843000)
4	Sex	-0.37481248* (0.05208410)
5	Religion	1.172854785* (0.05804230)
6	Marital Status	3.5544179* (0.60184200)
7	Nature of Employment	-0.37740024* (0.04672000)
8	No. of Members in the Family	1.331914441* (0.38421000)
9	No. of Dependents	-0.75694444* (0.07892100)
10	Per Capital Income	-0.0022056* (0.00084310)
11	Nature of Employment	2.405978098* (0.98657000)
12	Distance from the Residence	-0.39772727* (0.05362000)
	R ²	0.97
	Adjusted R ²	0.95
	F Value	382.67*
	Degrees of Freedom	513
	No. of Observations	525

* Indicates significant at 5 per cent level.

Source : Computed from Primary Data

There is a positive nexus between the number of members in the family and the demand for health services. This means, more is the number of members in the family, less is the health seeking behaviour of the household members of the sample respondents. The per capita income is negatively influencing the demand for health services. This may probably due to the reason that at higher level of income, the members of the family of the sample respondents may adopt precautionary measures than the curative measures. The negative slope value for sex indicates that the demand for health services is found to be more with females than males.

Religion positively influences the demand for health services. This means, the demand of health services is found from Hindus than from other caste people. The marital status positively influences the demand for health services. This means, the demand is found to be more in the case of married than single. The nature of employment negatively influences the demand for health services. This means, if the employment status is permanent, the demand is more and when it is temporary, the demand is less.

The model indicates that when the number of members with age is above 60, the demand is more. This means that there is a positive nexus between the member with age greater than 60 and the demand for the health services. The distance to the health institution negatively influences the demand for it. That is, more is distance to a health institution located nearby the residence; less is the demand for it.

Conclusion

Health is an important determinant of economic and social development because ill health creates a vicious circle by depleting human energy, leading to low productivity and earning capacity; deteriorating quality and quality of consumption and standard of living. Therefore, a nation ought to give adequate attention to the healthcare of its people.

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HUMAN RESOURCES WILL HAVE TREMENDOUS POSSIBILITIES FOR SURVIVAL AND PROGRESS THROUGH PROTECTION OF NATURAL RESOURCES: YET FUTURE LOOKS BLEAK

“The environment is a concept of wholeness, the nature, with living and non-living components interdependent among themselves. it is aptly defined as “the sum total of all conditions and influences that affect the development and life of organisms”. This comprehensive definition stresses totality and every living organism from the lowest to the highest, including human being, has its own environment. The word ‘Nature’ in the Holy Gita resonates the idea that it does not belong to any one but every one belongs to it, like a family does not belong to anyone but everyone belongs to the family. A holistic Shloka from Isha Upanishad says-”the whole universe together with its creatures belongs to thy Lord (Nature).”

The purpose of being born in this universe is to live and of living, to live more abundantly. As with other creatures, the human being can only live fully in harmony with the principles of his own being. Some of these principles which arise from his vary nature are general to human race, while some are specific to individual. Unlike other creatures, however, human beings do not live instinctively according to the principles of his being, but exercise a wide choice as to how and where one lives-so much so that he may attempt to live in defiance of the principles of his nature and condemn himself to decadence and death. Every moment of the day he is choosing, what he will do, and in his choosing, his life may be at stake. The power of choice is at once a challenge and an opportunity.

Biological resources constitute an indispensable part of nature and are of fundamental value for human health and welfare because both are biological creatures. Food, medicines and the raw materials used in industries-all originate from biological sources. It is the choice of human being as to how the human race will use judiciously these biological resources for its welfare, progress and survival. Human talent should be used to conserve these resources for future generation by optimizing present use. In USA over 40% of the medicines prescribed contain natural biological substance, 25% contain extracts from higher order plants, 13% contain extracts from microorganisms and 3% contain animal extracts. In USA alone, the annual consumption of extracts from higher order plants (which are products of nature) is valued at US\$ 3000 MILLION. Thus, biological resources remain not only of enormous economic value but also significant for Scientific and Technological research, maintaining life on this earth and cultural and social development. The unwise over exploitation of these natural resources will hinder sustainability of human progress. The human society has to come forward to ensure sustainability of human progress by using human talents in right direction to increase supply of such biological resources and human talents should not be used in the limited sphere of its current use to make the future bleak.

B.Ramachandran Asst. Regional Manager (Retd),
Central Bank of India, Madurai.

Natural Resources

Natural resources are often classified into renewable, flow and non-renewable resources.

Renewable Resources :

Renewable resources are those which can be used on renewal basis. These resources may be living and non living. Examples are forests, woodlands, crops, live stock, marine lives, water soil etc.,

Flow Resources :

The tides, wind, solar power can be classified as flow resources. They are renewable but they do not need regeneration.

Non Renewable Resources

Non renewable resources are those which cannot be replaced once they are used up. This includes coal, petroleum, minerals fossil-fuels etc.

Protection And Conservation Of Natural Resources

Three useful definitions of natural conservation strategies are :

- The management of human and natural resources that aims at to providing maximum benefits over a period of time. In farming, conservation entails matching cropping patterns and the productive potential and physical limitations of agricultural lands to ensure long-term sustainability of profitable production. Conservation practices focus on conserving soil, water, energy, and biological resources. Contour farming, no-till farming and integrated pest management are typical examples of conservation practices aimed at minimizing loss of biodiversity whilst maintaining crop production.
- Preserving and renewing natural resources that entail the use, protection and improvement of natural resources according to principles that will ensure their highest economic or social benefits.
- Protecting of an area, or particular element within an area, accepting the dynamic nature of the environment and therefore allowing change.

Protection of Air

The Air is a composition of gases which are as follows :

Name of Gas	Relative % by Volume
NITROGEN (N ₂)	78.09%
Oxygen (O ₂)	20.93%
Argon (A)	00.93%
Carbon (CO ₂)	00.03%
Misc.	00.02%
Total	100.00%

Air is an inexhaustible nature resource essential for the survival of all living organisms on earth. Scientific studies have indicated that a normal human being requires about 250-265 k.g. of air each day. Air is also an essential component to grow crops, plants and to support animal and marine lives. Air pollution by pumping in excessive carbon or other damaging gases endanger human, animal and plant lives. The living beings will breathe poison in air to shorten their lives on earth. According to Plant Scientist Sri Dulal CH. Paul, former Director of Botanical Survey of India, one tree is instrumental to maintain 750 lives. By destroying trees and forests recklessly, we stop supply of essential ingredients of life. More forestation will not only provide air for human life but also help in maintaining ecological balance and harmony.

Protection of Water

One of the most abundant compounds, water covers 75% of Earth's surface. The other name of water is Life. Life is believed to have originated in water as mediums for carrying out biological processes. The water of the oceans, seas, rivers, lakes swamps as well as underground water makes up the hydrosphere, a discontinuous water enclosure of the earth between the atmosphere and the solid earth's crust. Resources of river, lake and underground water are distributed unevenly through the continents. At present where rain/surface water is insufficient, ground water is used for irrigation. Over use of ground water in countries like USA., Australia, Libya, Israel have caused serious concern because of depletion of ground water resources. Population growth and rapid development of industries have increased the consumption of water as well as the pollution of water.

Water pollution is more wide-spread in under developed countries. Recently the countries have set up Pollution Board to check up water and air pollution. Water is mostly polluted by sewage, garbage and industrial toxic elements. All countries have to stop water pollution by appropriate laws and creating awareness that polluting water tantamounts to polluting life. Countries should address the issue of water

conservation by disciplining use of water and conserving rain water for future use. Talents should be directed to enhance this resource for future generation and creating awareness on pollution.

Protection of Land Resources

The use of land results in changes in structure and functioning of ecosystems and their ability to interact with atmosphere and water bodies (Vitousek, et al.1997 a) Land degradation has taken place due to soil erosion, unrestricted use of chemical fertilizers etc., The degraded land has reduced capacity to supply products of direct use such as food, seed, biomass, fibre, timber etc., Land degradation is required to be checked for following reasons:

- ◆ For producing more food, biomass and other similar goods.
- ◆ For proper biogeochemical cycles that regulate green house gas fluxes and determine earth's total energy balance.
- ◆ For preserving biodiversity.
- ◆ For maintaining sustainable growth and social structure.

In the past, forests were spread over half the world's land surface. A study by FAO in 2001 shows that land area enveloped by forests in Africa about 22%, Asia 18%, Europe 46%, North & Central America 26%, South America 51% and Oceania 23%. Forests are still being recklessly destroyed around the world for mining underground minerals which is polluting the biosphere. Reference to ecological concerns is also found in **Charka Samhita, Vimansthan, 3.2**. 'The destruction of forests is most dangerous for the nation and human beings. Vanaspati has a direct relation with the well-being of society. Due to the pollution of the natural environment and the destruction of forests, many diseases crop up to ruin the nation'.

Cases Provoking Thoughts

- ❖ The limestone industry in the Doon valley has caused severe damage to the environment – loss of topsoil, lowering of the water table, deposition of dust on plant surfaces, emission of gases from the kilns. Processing of limestone in the kilns leads to the emission of Co₂, CO and SO₂ gases. Plants show defoliation, chlorosis, necrosis, etc. The entire area of this valley which was part of scenic beauty once upon a time has turned into place of deadly polluted zone.

- ❖ The border of Andhra Pradesh and Karnataka in Bellary belt has been ceased by unscrupulous mining endangering lives of people there, land and forest resources and terribly disturbing ecological balance of the area.
- ❖ Seven hundred tribal families in Orissa were dislodged by leasing forest area to a Korean multinational for mining iron ore. Mining in forest will destroy several hundred acres of forest land. It will not only destroy precious forest resources and lives of several hundred people directly, it will have a deleterious impact on the ecological balance which we now prefer to ignore in this commercial world!
- ❖ The Bhopal gas tragedy took lives of several thousand people of the then generation and several thousand lives of future generation who born after the incident. It was a classic case of air pollution in the world.

suggestions

- 1) The steadily growing impact of anthropogenic activity on the environment calls for the consciously directed restructuring of the existing ecological system starting from local to global platform. It is only by way of such a deliberate pre calculated change that we can with a fair degree of certainty, avoid adverse effects on the natural environment.
- 2) Till today only economic value of natural resources is given priority for its decision to use. According to R.Costanza (The Value of the world's ecosystem services and Natural Capital: Nature : 1997) environmental managers today has to realize that all values and ecosystem services must be considered for environment management so that the future generations may have access to natural resources.
- 3) Environment has to be maintained as health friendly for all creations of nature, else the future of nature will bring more disaster than we are witnessing now.
- 4) Finally, to realize the objectives of conservation, it is necessary to involve every section of our society. Sustainable development has to percolate into our lifestyle. Minimizing pollution, avoiding wastage, and conserving non-renewable resources must become both personal and public goals. Getting this message across to the people requires mobilization of public opinion. It has to be reflected in our education to create consciousness in the coming generations.

End Note :

We have stretched the bio-capacity of Mother Earth to breaking point by our insatiable lifestyle/ demands. The need of the hour is to realise that in making sure that other species survive we will be ensuring the survival of our own. Whether we have obligations for future generations will depend on what we do for the present.

-It must govern our thoughts and regulate our lives. Kindly remember them always and then we cannot go wrong. This is not a sentimental ending, but I really feel that we must make up our minds to protect the natural resources-which will have its beneficial effect upon our lives, and upon our nature. If we fail to do so, we will be deprived of sustainability of all boon of natural wealth, bestowed by our Nature itself.

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COMMODITY MARKET IN INDIA: AN ARENA FOR MARKETING OF AGRICULTURAL PRODUCTS

Introduction

Agricultural markets in India have been regulated since 1928 with the inception of the "Royal Commission of Agriculture." India, a commodity based economy where two-third of the one billion population depends on agricultural commodities, surprisingly has an under developed commodity market. Farmer's direct exposure to price fluctuations, for instance, makes it too risky for many farmers to invest. Apart from increasing the stability of the market, various actors in the farm sector can better manage their activities in an environment of unstable prices through commodity exchanges. Trading through commodity exchange, though embedded with risk, may be designed to be profitable to farmers. Unlike the physical market, futures market trades in commodities which are largely used as risk management (hedging) mechanism on either physical commodity or open positions in commodity stock.

Theoretical Backdrop

Agriculture plays a major role in the calculation of national gross domestic product, international trade (export/import) and national food security and hence it has political and economic importance. Agriculture today represents one third of India's GDP-the highest proportion among the developed and developing world and will undoubtedly, continue to be the backbone of Indian economy for the years to come. Almost 70 per cent of India's population depends on agriculture. Indian agriculture has made good strides in the past few decades. It has shown remarkable resilience. India ranks first in global production of pulses, jute, tea and groundnut and second in wheat, rice, rapeseed and mustard and third in tobacco.

Commodity markets are markets where raw or primary products are exchanged. These raw commodities are traded on regulated commodity exchanges, in which they are bought and sold in standardized contracts.

The main function of commodity market is to aid in price discovery. If price is discovered efficiently, there should be no scope for speculative activity that causes increases in the prices of agricultural commodities, thereby causing inflation to increase. It can be argued that exchanges need to create and allow commodity spot marketing, introduce commodity options, and the Government to remove barriers on inter-state movement of commodities and improve the storage facilities.

need of commodity exchange

A commodities exchange is vital for an agriculture-based nation like India. Most people in our country are involved in the agriculture sector. Even though our productivity has increased over the years, the farmers are still very poor. One of the major reasons for this poverty is our disfunctional pricing system in the local farmer's market. A well-functioning commodities exchange will eliminate the problems with syndicates and middlemen. It will bring about coordination among the market participants through a regulated and centralised trading system.

Dr. L.J. Chaarlas, Head & Associate Professor, & **J. Lydia**, Research Scholar,
Department of Commerce, St. Joseph's College [Autonomous], Tiruchirappalli

Objectives Of Commodity Market

The following are the main objectives of commodity markets:

- 1 To prevent the exploitation of farmers by overcoming the handicaps in the marketing of their products.
- 2 To make the marketing system most effective and efficient so that, farmers may get better prices for their produce and to make the goods available to consumers at reasonable prices.
- 3 To provide hedging opportunity against price risk.
- 4 To provide price discovery mechanism.

Benefits Of Commodity Market To Farmers

The following are the benefits of commodity market to farmers:

1. **Protection from price fall**
The farmers have the benefit of protection in case prices fall below the cost of production.
2. **Direct Hedging facility**
The direct hedging facility on the futures market helps them improve their realisation, which they generally lose to middlemen.
3. **Market Regulation**
The proposed changes seek to empower the commodity derivatives market regulator, the Forward Markets Commission (FMC), with statutory autonomous status, introduction of options, power to penalise wrongdoers, etc
4. **Benefit of "Options"** The introduction of "options" would allow farmers to fix selling prices by selling their products in the futures market and to get the benefit of price protection in case the price falls below their cost of production.,
5. **Pan-India opportunities** Options would create pan-India opportunities. Whenever the government wants to help farmers it could pay the premium for the option to the exchanges directly on behalf of the farmers. There would be a complete trail of accounts available.
6. **Price signals from Futures market** Farmers and growers also benefit through the price signals emitted by the futures markets even though they may not directly participate in the futures market. The manufacturers are able to hedge their requirement of the raw materials and as also their finished products.

Users Of Commodity Market

- 1 **Manufacturers, Producers, dealers, and processors** use an exchange because it provides a fast, efficient, low cost marketing for commodities, worldwide price information; and a means to limit the risk of losing money due to price changes.
- 2 **Investor's** uses an exchange to take make an attempt to profit from price changes in commodities or to protect themselves from losses caused by fluctuations in the value of certain kinds of investments.
- 3 **Commodity exchange** like a stock exchange, does not buy or sell anything, it only provide a place for members to use in buying and selling.

- 4 **Trader** - a person who buy and sell a commodity. Different coloured jackets are worn by traders to indicate their functions (traders, runner, and employees).
- 5 **Brokers** are members in the marketplace who represent the trader and in exchange receive a commission for their services.
- 6 **Members** may also trade in their own money.

Commodity Exchanges - A Necessity To The Economy

1. **Centralization of market function** The purpose of commodity exchanges is to provide a centralized marketplace where commodity producers (commercials) can sell their commodities to those who wish to use them for manufacturing or consumption.
2. **Fixing price before harvest** The beauty of a commodity futures exchange is that someone like a corn farmer can lock in a price for his crops months before they are even harvested.
3. **Hedging opportunities** commodity exchanges, provide many more opportunities for producers and users to hedge their operations. Volatility in the commodity markets, which some blame on speculators, can create better pricing and hedging opportunities for the commercials.
4. **Price stability** the commodity exchanges actually serve a useful purpose to the economy by stabilising the prices of commodities

Drawbacks Of Having A Commodity Exchange

An unorganised commodities exchange will increase operational and liquidity risks in the market. A conflict of interest can reduce the effectiveness of this system. Also, we need to consider local cultures in designing the exchange.

Suggestions

To establish a well-functional commodities exchange, it is crucial to overhaul the whole agriculture market structure

Awareness about the commodity market and the commodities being traded should be created.

Conclusion

The declining share of India's agriculture in world trade may be attributed to the stagnant output, low yield rates, non-competitiveness in the world market and lack of knowledge on harvesting and post harvesting technology without commodity exchanges. India still depends on their traditional crops. The world is now in serious financial and economic crisis with non predictable price fluctuations. Investments in agriculture are the cornerstone of any sustainable solution to overcome these challenges.

WINDMILL POWER PROJECTS IN TAMIL NADU, WITH SPECIAL REFERENCE TO TIRUNELVELI DISTRICTS

Introduction

Wind power is the most used renewable source of power in India with an installed capacity of 1736 MW. Wind energy unit consist of a combination of rotating turbines driven round by the wind and a tower which holds the turbine up in the stream of air. The most common type is a two or three bladed turbine. Variability of wind limits the wind energy production apart from the malfunctioning of equipments is very in efficient at low wind speed and are prone to fail if operated in very high wind.

The major constraints in wind power generation include operation problems in matching supply and demand since wind power various seasonally. It is location specific too. The wind power can be developed only in regions with sufficient wind speed (18 k.m / hour as annul mean wind speed). In Tamil Nadu Tirunelveli Districts muppandal is a potential site for wind firm with a wind speed always at 35 km (for 6 months from the west and the rest 6 months from the east.

Objectives of the study

- To study the profile and wind energy.
- To study the potentialities of different location in Tirunelveli Installation of windmill power projects.
- To analaysis the financial viability of investment on windmill power projects in Tirunelveli.
- To compare the financial worthiness of different capacities of WEGs at different locations.
- To estimate the wind cost estimate the unit cost generation of electricity through wind energy.

Wind Resource

- Site selection for the wind measurements programme.
- Wind measurements at the identified sites (long term 1 to 3 years), analyze the data and submit the report.
- Wind Farm Planning.
- Assist in all its wind farming projects in (a) Site evaluation and (b) verifying generation estimates.
- Design and implement comprehensive resource assessment programmes

K. Anbazhagan, Ph.D. Research Scholar,

Department of Economics, Manonmaniam Sundaranar University, Tirunelveli

Tamil Nadu Electricity Board and Private Windmill

Power generation by windmills is gathering momentum in Tamil Nadu. The wind mills in Muppandal have own national acclaim for their enormous power generation potentials what is unique about the wind speed in Muppandal is that, it is the highest in the whole of Asia as for as. In this area both the Tamil Nadu Electricity Board and private concerns have installed windmills. The Tamil Nadu Electricity Board Owns 20 windmills and the remaining mills are owned by private parties.

Uses of wind energy

1. The energy of wind is used to propel the sail-based in revers and seas to transport men and materials from one place to another.
2. The energy of wind is used through wind mills to run pumps to draw water from the ground.

Limitation

- Wind towers and turbine blades are subject to damage from high winds and lighting. Rotating parts, which are located high off the ground can be difficult and expensive to repair.
- The noise made by rotating wind machine blades can be annoying to nearby neighbors.

Conclusion

The wind climate, the organization support, Government assistance, private participation are quite favorable for the development of wind power generation in Tamil nadu. The power evacuation system could not be augmented to match the addition to the capacity consequently; the generation from wind forms is being restricted. The time required to create the power evacuation system is much more than the time required to plan and install wind turbines. There is overcrowding of wind turbines in certain belts which is the main cause for overloading of the power evacuation system. The line loss will increase multifold, as the power has to be terminated to lead centers.

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ROLE OF NGO'S IN PROMOTING SUSTAINABLE COMMUNITY DEVELOPMENT

Introduction

Rural people are now entering the labour force in large number in many areas to ensure rural transformation due to this the image of the society is fast changing but it is difficult to define clearly the changing shape of the image. Therefore, the new industrial policy of our country has specially highlighted the need for conducting special entrepreneurship programme for rural people, which would be in the nature of product, process oriented courses meant for them to enable them to start small enterprises. Development of rural entrepreneurship requires strategies that are different from those applied in urban areas. A different orientation is required in rural sector and such an orientation should be based on an understanding of the dynamics of rural behavior. Perception of risk is a critical factor in villages at the time of taking any new activity. A rural entrepreneur is subjected to the three types of risks namely: technical risk of not knowing enough about the technical process, materials, etc., economic risks of market fluctuations and changes in relation to availability of raw materials and market for finished product etc., and environmental risks arising from environmental changes which require dealing with unfamiliar people, culture and system. The SHG (self helped groups) is based on the belief that individual can be developed the outlook can be changed and the ideas can be converted into action through an organized and systematic effort but in unorganized sectors.

There is a saying that "God helps those who help themselves" and Government banks and research institution also seem to help such people. SHGs consisting of cluster of individuals in villages come together to start some business activities at micro level in order to generate income for their livelihood. Generally SHGs have limited capital, consisting of self-employed individuals, lack of advanced skills or technology, and poor ability to corner the market and most often operate outside the limits of regulations and the formal market mechanism.

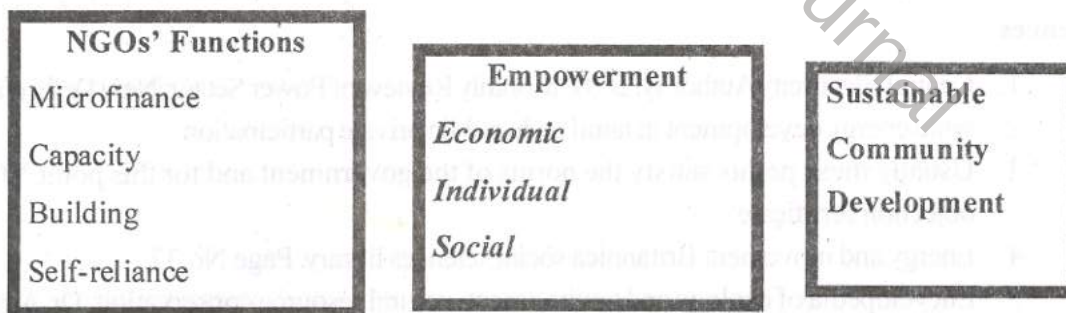


Figure 1: Theoretical framework of the functions of NGOs in promoting sustainable community development.

S.Mari Magesh, II MA Economics,
Department of Economics St.John's College, Tirunelveli.

Data And Methodology

The overall research design for the study adopted is descriptive type in which the coverage of SHG blocks for each panchayat and role of NGOs serving for SC/ST, the formation of SHG and the saving and the loan performance of the SHGs is analysed and interpreted based on the empirical data. The source of data is secondary in nature.

Table 1. Number of Panchayats in 2008-2011.

2008 - 2011		
Name of blocks	NO.Of.panchayats	percentage
Udhagai	18	36
Coonoor	11	22
Kotagari	12	24
Gudalur	09	18
Grand total	50	100

Table 2. Number Of Habitations

2008 - 2011		
Name of blocks	NO.Of.panchayats	percentage
Udhagai	438	31.53
Coonoor	281	20.23
Kotagari	331	23.83
Gudalur	339	24.41
Grand total	1389	100.00

Table 3. Number of SC/ST Habitation

2008 - 2011		
Name of blocks	NO.Of.panchayats	percentage
Udhagai	108	27.27
Coonoor	103	26.01
Kotagari	74	18.69
Gudalur	111	28.03
Grand total	396	
100s		

Table 4. Number of Panchayats allotted to NGOS

2008 - 2011			
Name of blocks	NO.Of.panchayats	No. of allotted To NGOS	%
Udhagai	18	17	34.70
Coonoor	11	11	22.45
Kotagari	12	12	24.49
Gudalur	09	09	18.37
Grand total	50	49	100

Results Analysis And Discussion

The data analysis done during the study period 2008 to 2011 is presented in tables. The highest percentage of panchayats was in Udhagai block by 36% and the lowest percentage in Gudalur by 18% (Table 1). Number of habitations (Table 2) was highest in Udhagai 31.53 and least percentage of about 20.23 in Coonoor. The Highest number of SC/ST habitation was in Gudalur of about 28.03% and the lowest was in Kotagiri of about 18.69% (Table 3). The simple percentage analysis shows that the highest number of Panchayats allotted to NGOs is in Udhagai of about 34.70% and the lowest number in Gudalur of about 18.37% (Table 4)

Suggestions

Socio-economics empowerment of minority community, scheduled caste and scheduled tribe women and protect them against exploitation by making them to join the SHGs movement and district specific employment generation plan and micro enterprise development plan generation plan suitable to SHG women should be prepared which should ensure additional employment opportunities to 10,000 SHG women in each district. Marketing is a key area for the increase of economic development opportunities and income to SHG women. The role of panchayat level federation and block level federation will be strengthened by providing corpus fund and involving them in imparting capacity building training and EDP training to the SHGs members and monitoring the SHGs. SHGs meet the smaller consumptions and emerging needs of its members of its members from own savings. This has created the SHGs in rural areas to bring awareness among women both in social and economic aspects. Hence as the success rate is high at many places in India the SHGs are the real pathfinders in the life of rural Indian women. Supplement the SHG income, the authorities conceded have to take necessary steps to give loan facilities to start beneficial activities in rural areas. Only small segment of the SHGs were eligible to give loan facilities since most of them were not in a position to enhance their business activities.

Conclusion

The number of panchayats in Udhagai was the highest but the number of SC/ST was high in Gudalur and the number of panchayats allotted to NGOs was the highest in Udhagai. Majority of SC/ST habitation were covered in Udhagai and the remaining places very few were covered. The highest percentage of SC/ST SHGs existed in Gudalur and least in Kotagiri. Less percentage of women were covered in SHG from the total female population. The amount of growth rate is in the increasing trend for all SHGs and the trend is found to decrease in the last year in Udahgai and Coonoor. The total women SHGs in all the places had increasing growth rate and trend. The members of SHGs remain same as before for all the

places during the year 2004 to 2005 and then increased. The saving performance of Udahagai and Kotagiri were good. For Coonoor and Gudalur it seems to be fluctuating and the rotation of saving was moderate in all the four places. The disbursed credit to SHG was good in all places except in Gudalur. The loan size of places in Nigiris district was almost the same everywhere and the loan amount disbursed was proportionally more in Gudalur, which led to an upliftment in the standard of living.

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FARM SIZE, PRODUCTIVITY OF PADDY AND BANANA CULTIVATION

Agriculture is a large sector of the economic activity and a crucial role to play in the country's economic development by providing food and raw material, employment to a very large proportion of population, capital for its own development and surpluses for national economic development. The agriculture sector contributes a significant part of share to the national of India. It is the largest and the most important industry in India. More than 50 percent of the people in India depend on agriculture either directly or indirectly for their living.

The economic history of many developed countries of the world like the United Kingdom, the United States of America, Germany, Egypt, Japan, etc., demonstrates that agricultural development helped and smoothened the process of industrial development. Sixty four years have gone by since India got independence. The Green Revolution has led to enhanced food production. Still we lag behind in food production. We are the 11th largest economy in the world and our people's buying capacity ranks fourth. Major contributions to the Gross Income of India come from the service sector (55%), Industrial sector (29%) and Agricultural Sector (16%).

Farm Size and Productivity

The Indian Agriculture is at the cross roads. While demand for commodities is increasing, the input prices have increased steeply and there is need to increase productivity. The relationship between farm size and productivity has been intensely debated in India. A large number studies during the 1960's provided convincing evidence that crop productivity per unit of land declined with an increase in farm size, which provided strong support for land reform, land ceiling and various policies to support smallholders on ground of efficiency and growth. Subsequently various analysis started exploring reasons or factors higher productivity of smallholders and some of them even questioned the inverse relationship between farm size and productivity.

Statement of the problem

This study analyses the farm size and productivity two blocks like Tiruchendur and Srivaikundam blocks at Thoothukudi District, Tamil Nadu. The policy makers, planners, administrators and economists are of strong view that the relationship between farm size and productivity has assumed an added significance in many aspects particularly land reforms. A series of studies based on farm management surveys in various states of India, claimed to find an inverse relationship between farm size and productivity. They state that the larger the farm size the lower yield permits of land.

A positive relationship has been established between farm size and productivity after the green revolution. However, the theoretical literature does not yield an unambiguous prediction on the direction of change (surveys by Bhalla and Roy 1988, Singh 2000, A.K.Sen 1962, C.H.Hanumantha Rao 1966).

Dr.S.Mookiah, Associate Professor cum Deputy Director,
Centre for Study of Social Exclusion & Inclusive Policy

C.Narayanan, Ph.D Scholar in Economics, Manonmaniam Sundaranar University, Tirunelveli

Given this ambiguity, the impact of green revolution on farm size and productivity relationship is ultimately becomes an empirical question.

Research Questions Raised

Thus it is evident that the various studies listed above derived contradictory results and the inferences drawn were inconclusive. Hence there is a need to examine the issue again.

- 1) Is there any relationship between the farm size and productivity of specific crops i.e., Paddy, Banana in the study area.

Objective of the study

This study has been undertaken with references to the following objectives.

- 1) To study the farm size and productivity relationship in Paddy and Banana cultivation.
- 2) To compare the productivity of Paddy and Banana in the study area.

Hypotheses

This study is based on the some important hypotheses. They are,

- 1) There is a negative relationship between farm size and productivity in paddy cultivation
- 2) There is a positive relationship between farm size and productivity in banana cultivation

Methodology

The primary data and secondary data have been made use of in this research work. The primary data were collected by using scheduled questionnaire to collect information from the farmers. The secondary data has been collected from the Agricultural offices in Tiruchendur block and Srivaikundam block in Thoothukudi District. Both the blocks are famous for paddy and banana cultivation. The respondents are selected on the basis of random sampling technique 100 cultivators are selected randomly. Farmers who have cultivated Paddy and Banana crop during the year 2010-2011 residing at Tiruchendur block and Srivaikundam block in Thoothukudi District are taken up for study.

Analysis of the study

Agriculture cultivation the chemical fertilizer and pesticides is important factor to determine the agriculture productivity. The use of chemical fertilizer increases the production and the use of pesticides it reduces the disease in agriculture production.

The study shows that 60 percent of the respondents in Tiruchendur block and 68 percent of the respondents in Srivaikundam block are using chemical fertilizer and pesticides in paddy cultivation and 40 percent of the respondents in Tiruchendur block and 32 percent of the respondent in srivaikundam block are using chemical fertilizer and pesticides in banana production. Due to the use of chemical fertilizers yields more production in the study areas.

Size of farm play major role in productivity, it analyzed below.

TABLE 1

Size of Farm Size

Farm Size	Tiruchendur	Srivaikundam	Total
Small	24 (48%)	22 (44%)	46
Medium	18 (36%)	16 (32%)	34
Large	8 (16%)	12 (24%)	20
Total	50	50	100

Source: Survey data

Note: Figures in brackets indicates parentheses

The study shows that 48 percent of the respondents in Tiruchendur block and 44 percent of the respondents in Srivaikundam block farmers are having small size farm and 36 percent of the respondents in Tiruchendur block and 32 percent of the respondents in Srivaikundam block are having medium size farm and 16 percent of the respondents in Tiruchendur block and 24 percent of the respondents in Srivaikundam block are having large size farm. It expresses the relationship between farm size and productivity. When the size of farm increases the productivity is decreasing. The relationship between the Srivaikundam and Tiruchendur blocks major crops cultivation are analysed. The present study shows that majority 68 percent of the respondents in Srivaikundam block and 60 percent of the respondents in Tiruchendur block cultivate paddy crop. On the other hand, 32 percent of the respondents in Srivaikundam block and 40 percent of the respondents in Tiruchendur block are cultivating banana crop. In the both block's soils are suitable for Paddy and Banana cultivation.

The output depends upon the use of seeds. The two blocks like Tiruchendur and Srivaikundam using the seeds are analyzed below

It shows that 60 percent of respondents in Tiruchendur block and 68 percent of the respondents in Srivaikundam block are used high yielding variety seeds in paddy cultivation and 40 percent of the respondent in Tiruchendur block and 32 percent of the respondent in Srivaikundam block are used high yielding variety seeds in banana cultivation. Both the areas they are using High Yielding Variety Seeds. But in Srivaikundam block production is more than Tiruchendur block.

Paddy cultivation in Tiruchendur block and Srivaikundam block, the β co-efficient are significantly less than one, which means as farm size increases, the productivity decreases in paddy cultivation. These results are consistent with general expectation that higher the productivity means small size farm. Larger the farm lower the productivity. Hence the null hypothesis is rejected; therefore there is a negative relationship between farm size and productivity in paddy cultivation.

Banana cultivation in Tiruchendur block and Srivaikundam block, the β co-efficient are significantly greater than one, which means as farm size increases, the productivity also increases in banana cultivation. These results are consistent with general expectation that higher the farm means higher the productivity. Hence the null hypothesis is accepted; therefore there is a positive relationship between farm size and productivity in banana cultivation.

INDIA'S MAJOR FOOD GRAIN PRODUCTION: AN ECONOMIC ANALYSIS

Introduction

The agriculture sector being the largest source of national income is also the primary source of saving and hence capital formation. Also, agriculture provides raw materials to industry like sugarcane, jute, cotton, hides, etc. So the entire range of food processing industries are dependent on agriculture. Though agriculture is the backbone of the Indian economy, it has been in doldrums for a long time. Indian agriculture accounts for about one fourth of gross domestic products and is the source of livelihood for more than two-third of the Indian population. Only in recent years, considerable attention has been focused on analyzing the impact of economic reforms, measures on agriculture growth and agriculture food grains.

India's agricultural trade policy in the past was dualistic. There were no export restrictions on few commercial and plantation crops, but there was restrictions on essential commodities particularly food products. Complete removal of quantitative restrictions in future will provide an opportunity for our farmers and agro-based industries to tap the world markets. Moreover, trade liberalization leads to scale economics because of increase in market size.

Statement of Problem

India did benefit from globalization as evidence from higher GDP (Gross Domestic Product) growth rate, increased exports, greater flow of foreign capital in the form of FDI (Foreign Direct Investment) and FII (Foreign Investors Investment) and bigger number of migrant labour from India. On the other hand, the primary sector, that is agriculture has not been much benefited from globalization. At this juncture this study has found out the relationship between Indian food grain and its impact on GDP with a view to suggesting further promotional policies as regards to inviting Indian agriculture.

The specific objectives of the study are, to understand the status of total agricultural production and its various food crops and to analyse the relationship between agricultural food grains and GDP.

Results and Discussion

India's Major Crop Production

Table 1 shows India's major crop production such as rice, wheat, coarse cereals and pulses.

Table: 1 - India's Major Crop Production

(in million tonnes)

Year	Rice	Wheat	Coarse Cereals	Pulses	Total Food Grains
1950 - 51	20.58	6.46	15.38	8.41	50.82
1960 - 61	34.58	11.00	23.74	12.70	82.02
1970 - 71	42.22	23.83	30.55	11.82	108.42
1980 - 81	53.63	36.31	29.02	10.63	129.59
1990 - 91	74.29	55.14	32.70	4.26	176.39
1996 - 97	81.70	69.34	34.10	14.20	199.34
1997 - 98	82.50	66.40	31.15	13.08	193.13
1998 - 99	86.10	71.30	31.30	14.90	203.60
1999 - 00	89.70	76.40	30.30	13.40	209.80
2000 - 01	84.90	68.80	31.60	10.70	196.00
2001 - 02	93.30	72.80	33.40	13.40	212.90
2002 - 03	71.80	65.80	26.10	11.10	174.80
2003 - 04	88.50	72.20	37.60	14.90	213.20
2004 - 05	83.10	68.60	33.50	13.10	198.30
2005 - 06	91.80	69.40	34.10	13.40	208.70
2006 - 07	90.00	72.50	32.00	14.50	209.00
2007 - 08	96.69	78.57	40.76	14.76	230.78
2008 - 09 QE	99.15	80.58	39.48	14.66	233.88
2009 - 10 QE	89.09	80.80	33.55	14.66	218.11
2010 - 11 AD	94.01	81.47	40.08	16.51	232.07

Source: Economic Survey 2000-01 to 2010-11

Note: QE - Quick Estimate, AE - Advance Estimates

Table 1 reveals that the total production in food grains in the year 1950-51 was 50.82 million tonnes and the same in 2010-11 was 232.07 million tonnes, nearly five fold increase. The peak production is 233.88 million tonnes in the year 2008-09 due to good monsoon between 2005-06 and 2008-09 and the efforts of our farmers led to consistent increase in food production during the period.

Trend Analysis of Total Food Grains Production

The present study carries out the forecasting analysis by making use of trend analysis for the agricultural food grains production. For this purpose the researcher collected the secondary data from 'Economic Survey' for the period from 1950-51 to 2010-11.

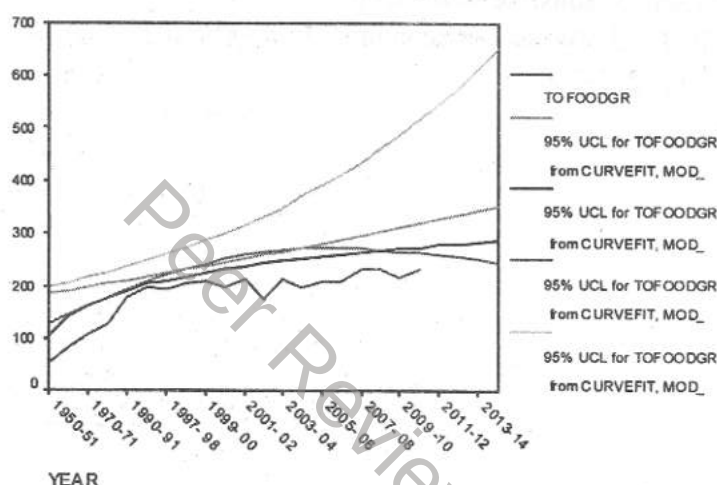
In order to find out the trend in the total major food grains production in India, different trend models are applied. Among the linear, logarithmic, quadratic and exponential models, the logarithmic model has high R^2 (0.886) and the co-efficient are also found to be significant. The results are depicted in the table 2. The fitted trend model of agricultural food grains is depicted in Figure 1.

Table: 2 - Total Food Production - Fitted Trend Models

Dependent Variable	Mth	Rsq	d.f	F	Sigf	b0	b1	B2
TOFOODGR	LIN	.667	18	36.04	.000	109.882	7.0629	
TOFOODGR	LOG	.886	18	139.44	.000	58.6235	59.2499	
TOFOODGR	QUA	.843	17	45.68	.000	55.4757	21.9010	-.7066
TOFOODGR	EXP	.566	18	23.43	.000	102.546	.0502	

TOFOODGR : Total Food Grains Production

Figure: 1 - Total Agricultural Food Production - Fitted Trend Models



Among the trend models applied on agricultural production, the linear, quadratic, observed, logarithmic and exponential trend models, all the four models are found significant in terms of their respective values of 'F' statistic. However, the trend curves are fit well and the R^2 value is 0.667, 0.886, 0.843 and 0.566 respectively.

The model forecasts India's food grains production in 2015 to be 246.84 million tonnes, indicating that India's food grains production growth will be totally reduced. Hence, it is suggested that suitable agricultural production policy be framed and other promotional measures may be undertaken.

Findings

The total production in food grains in the year 1950-51 was 50.82 million tonnes and the same in 2006-07 was 232.07 million tonnes, nearly five fold increase. The peak production is 233.88 million tonnes in the year 2008-09 due to good monsoon between 2005-06 and 2008-09 and the efforts of our farmers led to consistent increase in food production during the period.

India's food grains production growth will be totally reduced. Hence, it is suggested that suitable agricultural production policy is framed and other promotional measures may be undertaken.

The economic analysis of GDP and agricultural production shows that the agricultural production will be encouraging the GDP. Thus, it is suggested that increase agricultural food grain production will effectively increase GDP.

Conclusion

Agricultural development means growth of food grains and non-food crops, extension of irrigation facilities, introduction of modern technology, increase in livestock, etc. The overall development of these sectors may lead to increasing volume of production, and consequently rural development.

India's food grains production growth has totally reduced. Hence, it is suggested that suitable agricultural production policy is framed and other promotional measures may be undertaken.

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Peer Reviewed Journal

RURAL LABOUR MARKET, WAGES AND POVERTY IN WESTERN TAMIL NADU

Introduction

The number of total workers in agriculture (cultivators and agricultural labourer) increased from 97.2 million in 1951 to 235 million in 2001. This includes 127 million cultivators and 107 million agricultural labourers. According to Census reports, the proportion of agricultural labourers to total main workers in India has increased from 20 per cent in 1951 to 26.7 per cent in 2001. One of the major challenges facing Indian agriculture today is that it is failing to generate employment. The annual growth rate of agricultural employment was 1.51 percent during 1983-94 and it had declined to -0.34 percent during 1999-00. This is reflected in the increasing proportion of marginal workers to workforce. Further, the failure of crop production, declining efficiency of input use, technological stagnation and drop of infrastructure investment in agriculture will lead to declining employment elasticity in agriculture. In this context, the western Tamil Nadu (Erode, Coimbatore, Namakkal, Nilgiris) has healthier agrarian and industrialized region compared to any other regions of Tamil Nadu. This present study examines the rural labour markets, wages and poverty in Western Tamil Nadu. The second sections deals with the workforce structure in western Tamil Nadu. Third section deals with the supply of cultivators and agricultural labourers in western Tamil Nadu. Fourth sections deal with the different agricultural operational wage rate and fifth section deals with the level of poverty in western region. A final section deals with conclusion.

Agricultural Wage Rate

The below tables provide the real wage rate for different operations, such as, transplanting and weeding, repair and harvest, and other agricultural labour, for male, female from the period of 1980s to 2000s. Districts like Nilgiris and Kanniyakumari reported higher level wage rate compared to any other district in all the agricultural operations. These two districts show higher level real wage in all operations and these district wage rate is not suitable to compare to any other districts. Because, these two districts cropping patterns and geographical location is different from other districts. The predominant crops in these districts are plantation crops like tea, coffee and rubber and located in hilly areas. These plantation crop wage rates push up the agricultural wage rate.

Table 1: Other Agricultural Laborer Real Wage

District	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2000-01 to 2008-09
Other Agricultural Laborer/Real Wage Rate-Male										
Erode	21.71	22.26	19.95	18.98	19.94	21.49	23.06	24.39	28.22	2.94
Coimbatore	22.95	21.21	20.63	20.13	18.87	21.30	25.38	25.55	24.95	2.30
Nilgiris	24.25	23.49	20.76	19.32	19.62	20.43	20.44	20.79	16.35	-3.15
Namakkal	23.46	19.95	23.24	21.80	21.86	24.72	24.49	25.76	27.64	2.79
Other Agricultural Laborer/Real Wage Rate-Female										
Erode	10.33	9.98	8.72	8.80	9.05	10.27	11.48	11.98	13.82	4.12
Coimbatore	12.07	10.68	10.37	11.45	10.86	10.65	12.70	16.08	10.86	1.91
Nilgiris	16.91	14.47	13.01	10.81	10.49	14.75	12.47	11.38	10.13	-4.15
Namakkal	23.46	19.95	23.24	21.80	21.86	24.72	24.49	25.76	27.64	2.79

Source: Season and Crop Reports for Different Years

Dr. V. Sivasankar, Assistant Professor, Department of Economics, Muthuram Government Arts College, Vellore.

Level of Poverty

The average monthly per capital consumption expenditure of rural Tamil Nadu was Rs.602 in 2004-05. In the inter-district analysis, 15 districts out of 30 districts (50 per cent) the AMPCE was less than state level. For districts like Tiruvallur (Rs.546), Tiruvannamali (Rs.464), Villupuram (Rs.476), Salem (Rs.460), Namakkal (Rs.575), Erdoe (Rs.562), Tiruchirapalli (Rs.531), Perambalur (Rs.483), Ariyalur (Rs.506), Cuddalore (Rs.596), Pudukottai (Rs.521), Madurai (Rs.579), Virudhunagar (Rs.532), Ramnathapuram (Rs.466), Tirunelveli (Rs.503), and Kanniyakumari (Rs.549). Similarly, the urban AMPCE in Tamil Nadu was Rs.1080 in 2004-05 and only districts like Chennai (Rs.1596), Kancheepuram (Rs.1112), Namakkal (Rs.1086), Coimbatore (Rs.1085) and Tiruchirapalli (Rs.1111). And other districts are lower than the state levels.

Further, 61st NSS consumption data revealed that the proportions of poor in rural Tamil Nadu was 23 per cent and urban was 22.5 per cent. Among districts, the most poor districts in rural Tamil Nadu was Tiruvannamalai (43.2 per cent), Dharmapurai (40.3 per cent), Salem (37.4 per cent), Ramnathapuram (36.7 per cent), Villupuram (34.8 per cent), Perambalur (34.4 per cent), Tuticorin (33.2 per cent), Vellore (26.2 per cent), and Tirunelveli (23.6 per cent). The poorest urban district in Tamil Nadu was 17. These are Perambalur (57.3 per cent), Ramnathapuram (56.2 per cent), Tuticorin (47.1 per cent), Tirunelveli (44.3 per cent), Cuddalore (42.5 per cent), Dharmapurai (38.5 per cent), Kanniyakumari and Tiruvannamalai (38.1 per cent), Vellore (36.8 per cent), Dindigul (35.8 per cent), Virudhunagar (32.7 per cent), Theni (31.2 per cent), Villupuram (29.9 per cent), Pudukottai (28.7 per cent), Salem (28.4 per cent), Karur (26.2 per cent) and Sivgangai (26.1 per cent).

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Conclusion

The proportion of marginal workers had increased and main workers had reduced. Similarly, the proportion of cultivators also declined and on the other side the proportion of agricultural labourers had increased. The level of wage rate was better position in western region than other regions in Tamil Nadu both for male and female. Correspondingly, the levels of poverty have less in western region compared to other regions of Tamil Nadu.

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A STUDY OF EDUCATED EMPLOYED AND NON EMPLOYED WOMEN IN VELLORE CITY WITH SPECIAL REFERENCE TO SRIPURAM AREA

Introduction

Knowledge is the vital information that is fed into human brains as explained by psychologies. Knowledge is used in all the human endeavors even from babyhood, child hood education to the most sophisticated organizational use and finally to the end of human life.

Knowledge is essential for people to respond successfully to the opportunities and to meet challenges associated with socio-economic and technological changes in life. Knowledge is needed to improve one's own productive capacity as a human factor, agricultural productivity, food security and rural livelihood. Knowledge is gained through education. As knowledge is acquired through both learning and practice. As knowledge is obtained and applied thought the life time of an individual, it has become a quotable quotation viz., "Acquire knowledge from cradle to grave."

Statement of the problem

In India, low literacy rates, traditional gender bias, lack of marketable skills and lower educational level make it difficult for women to find employment either skilled or technical jobs. Women often settle for jobs that are low paid and require little skill. The problem is compound for women from disadvantaged background, who are often forced to work in the informal sector of the economy which afford little job security or growth potential. A quick scan shows that there is no lack of opportunities for women. There is low percentage of the female work force in the technical field.

Female literacy and employment constitute low percentages in India. The situation is still worse in rural parts of India. The urban areas and their sub-urbs provide considerable scope for female literacy and their employment. Women's employment is altogether cannot be considered as a blessed one but with much hardship. Against this backdrop, the present study namely "A Study of Educated Employed and Non - Employed women in Vellore City with Special Reference to sripuram Golden Temple Area is undertaken with the following objectives.

Objectives

The study attempted

- i) to study socio - economic conditions of educated employed and non - employed women;
- ii) to find out whether the women's education has now improved or not;
- iii) to know whether education influences women's employment;
- iv) to know the extent of educated working women in various sectors;
- v) to assess the extent of financial independence enjoyed by educated employed women;
- vi) to find out whether employment leads to improvement in the social status of women.

P.Sivabharathi Raja. Ph.D., Scholar, Department of Economics, University of Madras, Chennai
C.Sudhagar, Assistant Professor, Department of Commerce Imayam Arts and Science College,
 Vaniyambadi

Hypotheses

- i) There is positive correlation between the level of education and the total income of the employed women.
- ii) There is correlation between monthly income and savings of employed and non – employed women.

Limitations

- i) This study is limited to Vellore city Sripuram area only. So, the conclusions drawn from this may hold good for similar situations elsewhere.
- ii) Income calculations were based on the information given by the respondents who might be apprehensive and based towards the information sought.
- iii) The sample size was limited to "200" respondents because of shortage of time and resource constraints.
- iv) The study did not cover the rural parts of the country
- v) There might be recall memory error on the part of the sample respondents
- vi) The respondents were unable to give separate details about their family income and their individual income. Since in the traditional units the entire family worked, the family income alone was considered for the study.

Percentage Distribution of Men and Women Discipline Wise

Sl No.	Discipline	1980 - 81		1990 - 91		2000 - 01		2010 - 2011	
		Women	Men	Women	Men	Women	Men	Women	Men
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Arts	67.9	43.2	70.2	41.7	64.3	38.7	56.2	34.6
2	Science	21.0	33.4	18.6	10.2	25.7	33.2	20.6	19.6
3	Commerce	0.4	9.6	0.5	10.2	1.9	14.1	11.8	23.3
4	Education	3.1	0.8	3.7	1.5	3.2	1.5	4.5	1.9
5	Engg./Tech	0.00	3.4	0.2	5.1	0.1	3.8	0.7	1.9
6	Medicine	5.8	3.6	4.5	3.1	3.4	3.2	3.6	4.2
7	Law	0.7	3.8	0.5	3.0	0.4	2.9	1.6	8.1
8	Agriculture Veterinary Science & other	1.1	2.2	01.8	4.6	0.9	2.5	1.2	2.8
9	All facilities	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source : University Development in India, Consolidate Data State wise 1980 – 81 to 2010-11, information and statistic bureau, New Delhi.

As seen in table, it was found that 67.9% of women and 43.2% of men had studied in arts groups in 1980 – 81 and the same reached to 56. 2% and 34.6% respectively in 2010 – 11. It was also found that 21.0% of women and 33.4% of men had studied in science groups in 1980 – 81 and their corresponding figures were 20.6% and 19.6% in 2010 – 11. It was also seen that 0.4% of women and 9.6% of men had preferred in commerce only in 1980 – 81 and their figures reached to 11.8% and 23.3% in 2010 – 11. this revealed that there was greater preference for commerce course in 2010 – 11.

It was also found that 3% of women and 0.8% of men had their ways to education in 1950 – 51 and their corresponding figures stood at 4.5% for women and 1.9% for men in 2010 – 11. It was also shown that 5.8% of women has studied medicine in 1980 – 81 and the same formed only 3.6% in 2010 – 11.

As indicated in the Table, women were found studying in almost all the courses in competition with the men in between 1980 – 81. 51 and 2010 – 11. It was found that women's choice to commerce course and law course was greater in 2010 – 11 as compared to 1980 – 81.

Conclusion

In India, low literacy rates, traditional gender bias, lack of marketable skills and lower educational level make it difficult for women to find employment either skilled or technical jobs. Women often settle for jobs that are low paid and require little skill. The problem is compound for women from disadvantaged background, who are often forced to work in the informal sector of the economy which afford little job security or growth potential. A quick scan shows that there is no lack of opportunities for women. There is low percentage of the female work force in the technical field.

There was widening gap between male and female literacy rates between 1961 and 2011. It was 21.70% in 2001 and therefore there is need to improve female literacy in the near future.

The finding was that, as the girls had switched from primary to middle and then to high school, the percentages of their drop – outs had also increased. It might be due to the prevalence of socio – economic – cultural conditions in the country. Early marriage, poor economic conditions, low standard, and distant location of schools could be some of the reasons for such higher drop – outs among the females in India.

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WATER POLLUTION

Introduction

Water is one of the most important natural resources essential for the survival of living organisms. Water as a commodity generates concern for being an exhaustible resource and also because of the environmental issues related to its degradation. Pollution of water courses may take place due to natural causes such as silt carried by run-off, organic wastes of plants and animals, minerals leaching through soils, thermal pollution and algal blooms. It may also be due to the discharge of domestic and industrial wastewaters. Toxic chemicals used for agriculture and other purposes, solid wastes, oil from garages and cleaning of vehicles, drainage from farms and manure, land surface drainage cattle washing, watering and dipping agricultural wastes, dust fall, wastes due to recreational use, intrusion of sea water and many more such activities cause pollution of water bodies.

Amongst the aforesaid sources of contamination, the impact of untreated sewage discharge is escalating at a Tuticorin which have chemical, petro-chemical and other industries. These complexes have also become environmental hotspots. There are cement units, distilleries, sugar, sago, paper, dairying, electroplating, chemical and fertilisers (Agro chemicals), mining industries, ores/mineral processing industries and a variety of other industries which are water consuming and also generate large quantities of effluent. Some of the industries have also provided the treated effluent for irrigation with some degree of success. However, other industries, particularly a pulp plant faced serious problems when the effluent used for irrigation contaminated the surrounding wells.

Industrial Pollution

There are more than 3000 industrial units in Tamil Nadu which have been classified under the highly polluting or "red" category. The total effluent generated is about 6 lakh litres per day of which more than 5 lakh litres (85 per cent) is generated by large industries. About 400 units discharge directly into rivers.

Coastal Pollution

The major activities that are responsible for coastal pollution in Tamil Nadu are discharge and disposal of untreated domestic and industrial wastes, discharges of coolant waters, harbour activities such as dredging, cargo handling, dumping of ship wastes, spilling of cargo's Chemicals and metal ores, fishing activities etc.

There are 14 major industries located in the Ennore-Manali areas. The industries at Manali and Ennore are mostly chemical based, manufacturing petro-chemicals, fertilizers, pharmaceuticals, paints etc.

Sewage Pollution

In Tamil Nadu out of the 151 Municipalities and Corporations, only 15 Municipalities and 4 Corporations have partial underground sewerage system. The river water is used downstream for irrigation or drinking by people/livestock, contamination of the river has increasingly become a serious problem in many of the river basins of the State.

R. Logeswari, M.Phil, Research Scholar,
Department of Economics, Gobi Arts & Science College, Gobichettipalayam.

Driving Forces

The following are considered to be the major driving forces of water pollution:

- Urbanisation
- Industrialisation
- Water Pollution Control

Water pollution is being prevented and controlled by enforcing the Water Prevention and Control of Pollution Act 1974 as amended in 1988. The TNPCB categorizes the polluting industries into three, viz., Red, Orange and Green with reference to seriousness of water pollution. Under 'red' category, there are 17 industrial concerns which are prone to adverse environmental spill over. The industries which are highly polluting the atmosphere have to obtain letters of consent to establish' and 'consent to operate'. The Board had issued 4,822 letters of consent to establish industries and 22,663 letters of consent to operate under the Water Act.

Water Quality Monitoring

Water quality ensures health and human effectiveness. For attaining high water quality the Board is constantly watching the inland water quality through two major programmes, namely Monitoring of Indian National Aquatic Resources System and Global Environmental Monitoring System. The water quality of rivers, namely, Cauvery, Thamiraparani, Palar, Vaigai and lakes of Udthagamandalam, Kodaikannal and Yercard comes under the first category whereas water quality.

Common Effluent Treatment Plants

Leather industry creates emission of high incidence of pollution affecting the water quality in the neighbourhood but also tells upon the ambience. In order to arrest the effluents of waste from the leather industries, the Board has been directing the leather industry to come under the fold of Common Effluent Treatment Plants. In addition to the leather industry, textiles, dyeing, hotels and lodges are also bound to generate adverse externality. For coping with the incidence of pollution of varying proportion, the Board has established 33 Common Effluent Plants in different places. Establishment of the Common Effluent Treatment Plant impacted on the reduction in the quantum of pollution.

Conclusion

Evidence shows that a number of chemicals that may be released into the air or water can cause adverse health effects. The associated burden of disease can be substantial, and investment in research on health effects and interventions in specific populations and exposure situations is important for the development of control strategies. Pollution control is therefore an important component of disease control, and health professionals and authorities need to develop partnerships with other sectors to identify and implement priority interventions. Developing countries face major water quantity and quality challenges, compounded by the effects of rapid industrialization. Concerted actions are needed to safely manage the use of toxic chemicals and to develop monitoring and regulatory guidelines. Recycling and the use of biodegradable products must be encouraged. The principles and practices of sustainable development, coupled with local research, will help contain or eliminate health risks resulting from chemical pollution. International collaboration involving both governmental and nongovernmental organizations can guide this highly interdisciplinary and intersecting area of disease control.

MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT GUARANTEE SCHEME 2005 AND ITS IMPACT ON PHYSICAL AND RURAL INFRASTRUCTURE IN DINDIGUL DISTRICT

Introduction

Giving a statutory framework to wage employment programmes – based on the experience of these programmes, the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) was enacted to reinforce the commitment towards livelihood security in rural area. The act was notified on 7th September 2005. The significance of MGNREGA lies in the fact that it creates rights – based framework for wage employment programmes and makes the Government legally accountable for providing employment to these who are for it. In this way the legislation goes beyond providing a social safety net towards guaranteeing the right to employment. Vide on amendment in the NREG Act, called the National Rural Employment Guarantee (Amendment) Act 2009. The name of the NREG Act has been changed to “The Mahatma Gandhi National Rural Employment Guarantee Act”. The corresponding Act shall be deemed to have come into force on 2nd October 2009.

MGNREGA Objectives

The Mahatma Gandhi NREG Act (MGNREGA) aims at enhancing the livelihood security of people in rural areas by guaranteeing hundred day's at wage employment in a financial year to be a rural household whose members of volunteer to do unshelled manual work. The objective of the act is to create durable assets and strengthen the livelihood resource base of the rural poor. The choice of work suggest in the act addresses causes of chronic poverty like drought, deforestation and soil erosion, so that eh process of employment generation is maintained on a sustainable basis.

Objectives of the Study

- To study the management of ground level sustainability of rural development programmes launched by central and state governments.
- To identify the impact of rural infrastructure and physical infrastructure in Dindigul through NREGA.

N. Nagarajan, Ph.D Research Scholar,
Department of Rural Industries and Management, Gandhigram Rural Institute,
Deemed University, Gandhigram

Methodology:

The study uses the secondary data from various survey rounds. Spanning 2009 to 2010 to study how Mahatma Gandhi National Rural Employment Guarantee Act and its impact of physical and rural infrastructure at all major states in India. Though the study mainly focuses on physical and Rural infrastructure in Dindigul in NREGA it also covers all major states of India so as to understand its impact on physical and Rural infrastructure. In order to understand the state levels its impact on physical and rural infrastructure. Over the period at time, member at journal and books related website, etc.

Results and Discussion

In recent Budget an allocation of Rs 39,100 crore (Rs. 391 billion) for NREGA for 2009 – 10 was made which is an increase of 144 per cent over 2008 – 09. Budget also proposed convergence of NREGA with other schemes relating to agriculture, forest, water resources, land resources and rural roads.

The average per households works out to be 26 days, which is marginally higher than the previous year's. The districts which provided employment per household for more than 30 days are Purulia, Birbhum, Nadia, North 24 Parganas, and Burdwan. Highest numbers of days of employments of 42 days on an average was provided in North 24 Parganas district, which is comparable to national average of 48. On the lower side, only 9 days employment on average was provided in the district of Howrah, which is of course a third phase district and has low demand for such employment. Less than 20 days employment per household on an average was provided in the districts of Cooch Behar, East Midnapore, Malda and South 24 Parganas. The position for the year of 2009-2010 for different districts.

Educational Status

Many children in school-going-age in the village are engaged in collection of fodder, fuel wood, water etc or in animal grazing. Assuring water supply at the door step, regeneration of common lands for fuel and fodder as well as child care centers will reduce unpaid work of children. This will enable them to attend the school regularly. This will particularly be beneficial to girl children, who stay back at home either to take care of younger siblings or to help in collection of water, fodder etc and other household work. Moreover, improved economic condition will encourage parents to send their children to school.

Health

As far as access to health infrastructure is concerned, the scenario is not very encouraging. While basic healthcare facilities like an integrated child development centre (anganwadi or balwadi) exists within the village in around 55 per cent villages in the country, higher order healthcare facilities are not accessible to a vast majority of villages.

Conclusion

The NREGA is an important step towards realization of the right to work. It is expected to enhance people's livelihood security on a sustained basis, by developing economic and social infrastructure in rural areas. One of the most distinguishing features of the NREGA is its approach towards empowering citizens to play an active role in the implementation of employment guarantee schemes, through Gram Sabhas, social audit, participatory planning and other activities. In fact, the huge potential of the NREGA has already been evident particularly in the enthusiastic response of local people, landless and marginal farmers and women workers in particular, wherever information about the program has been properly disseminated.

Perhaps the most remarkable feature of NREGA, making a decisive break with the past, is the complete ban on contractors. Ever since independence, most government programmes in rural areas have been implemented through the agency of local contractors, who have emerged as major agents of exploitation of the rural poor, especially women. They have run roughshod over basic human rights, paid workers a pittance and used labour-displacing machinery. NREGA bans the use of such machines, mandates various legal entitlements to workers. All of this is obviously incompatible with programmes where the main goal becomes maximization of profits of the contractor.

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