

A STUDY ON AGRICULTURAL MANUFACTURING AND CROPPING PATTERN CHANGE IN TAMILNADU

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ABSTRACT

Agriculture is the major sector of economic activity. The Economic development has undergone thesaurus changes over time with the anticipated reducing level of contribution of agriculture in the Gross Domestic Product. Agriculture has been source of livelihood for more than two thirds of our Indian population. It remains the backbone of our economy. In recent years there has been great diversification in Indian agriculture such as livestock, horticulture and fisheries. Today India occupies a significant place at the global level as the second largest producer of milk. Today India occupies a significant place at the global level as the second largest producer of milk. Since India's Independence great strides have been made in the field of agriculture. Efforts made under the five year plans resulted in the growth rate of agricultural output by about 2.7 per cent per annum as compared with 0.8 per cent per annum during the first half of the 20th century. . In developed countries like the UK and USA, the share of agriculture in GDP is only around two per cent. It accounts for about 10 per cent of total value of India's commodity exports. As incomes rise, people consume even more grain, but indirectly in the form of meat, eggs, milk, cheese and other products of domesticated livestock feed to supply these individuals with meat.

Key Words: - Agricultural Productivity, Green Revolution, agriculture Impact.

INTRODUCTION

Agriculture is the major sector of economic activity. It provides not only food and raw materials but also employment to a very large proportion of population. Agriculture has been source of livelihood for more

than two thirds of our Indian population. It remains the backbone of our economy. The new agricultural strategy has changed the demand for input such as credit, extension services, farmer's trainings, transport, food processing, storage and marketing activities, which are required for generating higher production. India would have a population of 137 crores by the year 2025, 400 million tons of food grains production would be needed to feed this population. It would be therefore be necessary to plan agricultural development on a sustainable level. Sustainable agriculture can be defined as production of sufficient food grains for the present as well as future generation without altering the quality of soil. The technology induced farming gave in for excessive usage of chemical fertilizers, pesticides and weedicides etc., bringing intensive agriculture. This indiscriminate use of synthetic pesticides not only pollutes our nature and natural resources but their toxic residues enter into animals and human through food chains and cause several health hazards. Also the lands are turning acidic leading to lesser production and ultimately to barrenness. In the race for higher production we are ignoring the resilience of the earth and have threatened the sustainability of the production. Thus sustainable production is one of the greatest challenges of the 21st century. Sustainability emphasizes on consistency of production with a long term benefit rather than a short term development. Hence in order to overcome such problems, it is advisable to start cultivation of different types of crops and preservation of the natural products that could has to be arranged with farmers to identify suitable farming technologies in maintaining the quality of the available natural resources. It is the responsibility of the government to educate the people in general and the farmers in particular to save the natural resource management in the required direction. Agriculture is India's backbone for the growth and development of the country's economy. Nearly 65 per cent of the Indian population is still dependent on agriculture for its livelihood and employment. It is also the source of supply of raw materials for industries and provides support to the transport system. In recent years there has been great diversification in Indian agriculture such as livestock, horticulture and fisheries. Today India occupies a significant place at the global level as the second largest producer of milk. Since India's Independence great strides have been made in the field of agriculture. Efforts made under the five year plans resulted in the growth rate of agricultural output by about 2.7 per cent per annum as compared with 0.8 per cent per annum during the first half of the 20th century.

AGRICULTURAL PRODUCTION

Though the earth has perhaps 30,000 plant species with parts that people can eat, only 15 plants and 8 animal species supply 90 per cent of our food. Four crops wheat, rice, corn and potato make up most of the world's total food production than all other crops combined. There four, and most of our other food crops, are annuals; their seeds must be replanted each year. Grains provide about half the world's calories, with two out of three people eating mainly a vegetarian diet-mostly because they can't afford meat. As incomes rise, people

consume even more grain, but indirectly in the form of meat, eggs, milk, cheese and other products of domesticated livestock feed to supply these individuals with meat. In addition, one third of the world's fish catch is converted into fish meal to feed livestock consumed by meat eaters.

PRESENT SITUATION OF INDIAN AGRICULTURE

The following are some of the important features of Indian agriculture: Agriculture provides direct livelihood to 59 per cent of the labour force in India. 75 per cent of India's population below the poverty line lives in rural areas, and is directly or indirectly dependent on agriculture. Agriculture contributes more than 22 per cent of GDP (2007 estimates), although the share has progressively come down from 57 per cent in 1950-51. In developed countries like the UK and USA, the share of agriculture in GDP is only around two per cent. It accounts for about 10 per cent of total value of India's commodity exports. Bulk of agricultural exports consists of 13 key commodities including tea, coffee, tobacco, cashew, spices, raw cotton and sugar. Almost 30 per cent of tea produced in the country and 50 per cent of coffee and jute are exported. In addition to this, credit must be given for export of manufactured goods using agricultural raw materials, which accounts for another 15 per cent of India's exports. Indian agriculture has been able to improve the per capita net availability of food grains to 451 grams (2007) from 395 grams in 1950's.

The gross irrigated area increased from less than one million hectares per annum before green revolution (mid 60s) to about 2.5 million hectares per annum during the 1970's. Total gross irrigated area is now 80 million hectares. Total food grains (cereals and pulses) production increased from 48.1 million tonnes in 1950-51 to 230.67 million tonnes in 2008. While overall growth in food grains production has been impressive assisted by the technological breakthrough, one disturbing aspect is the year-to-year fluctuation in cereals output which affects the employment and income of the poor who depend solely on on-farm activities. This trend will also affect the food security of the masses.

CROPS CULTIVATION IN TAMIL NADU

The agricultural economy of the Tamil Nadu State is dominated by food grains. In spite of the fact that rice production occupies an important place in the state economy, the requirements of the people in the state are not fully met with. The average area under rice has increased from 35 per cent of the gross cropped area in 1961-62 to 42 per cent in 1999-2000. However, there was a fall in the area under paddy during 2000-2001 due to monsoon failure in the gross irrigated area, 45 per cent has been under food grains and paddy is the principal crop accounting for 54 per cent of the area under food grains. The district level figures show that almost the entire crop in Thanjavur district is occupied by paddy. In North Arcot and South Arcot districts the

percentage area under rice in proportion to total area under food grains is 89 per cent and 78 per cent respectively.

AGRICULTURAL POLICY

India has high population pressure on land and other resources to meet its food and development needs. The natural resources base of land, water and bio-diversity is under severe pressure. The substantial income growth, demand an extra about 2.5 mt of food grains annually, besides significant increase needed the supply of livestock, fish and horticultural products. Under the assumption of 3.5 per cent growth in per capita GDP (low income growth scenario), demand for food grains (including feed, seed, wastage and export) is projected in the year 2020 at the level of 256 mt comprising 112 mt of rice, 82 mt of wheat, 39 mt of coarse grains and 22 mt of pulses. The demand for sugar, fruits, vegetables and milk is estimated to grow to a level 33 mt, 77 mt, 136 mt and 116 mt respectively. The demand for meat is projected at 9 mt fish 11 mt and eggs 77.5 billion.

Future increase in the production of cereals and non-cereal agricultural commodities will have to be essentially achieved increase in productivity, as the possibilities of expansion of area and livestock. Populations are minimal. To meet projected demand in the year 2020. country must attain a per hectare yield of 2.7 tons for 2.4 tons for cereal, 1.3 tons for pulses 22.3 tons for potato, 25.7 for poultry products must be improved, 61 per cent for milk, 76 per cent for meat, 91 per cent for fish, and 169 per cent for eggs, by the year 2020 over the base year TE 1999. Average yields of most crops in India are still rather low.

STATEMENT OF THE PROBLEM

Agriculture forms the backbone of the Indian economy and despite concerted industrialization in the last four decades: agriculture occupies a place of pride. Being the large industry in the country, agriculture is the source of livelihood for over to present of population in the country. The planning commission states "An approach to national food security, which relies largely on domestic production of food needed for consumption as well as for building buffer stocks, can be described as a strategy was adopted in the early phase of Indian planning. It emphasized the extension of irrigation facilities and later in the sixties adopted seed-water-fertilizer technology popularly known as the Green Revolution. As a consequence of these concerted efforts, India was able to attain its goal of self-sufficiency of food grains. The government of India has taken several steps to reduce the poverty and to increase the food production. In our buffer stock, six crores and 50 lakh tonnes are being wasted and eaten by rats but the people of India are eating the rats for their

livelihood, it is a tragedy. The pathetic situation in some of the states in India with regard to standard deaths, selling of human organs prompted to take this topic.

OBJECTIVES OF THE STUDY

1. To analyze the changes in the cropping pattern of food grains.
2. To estimate and analyze the input demand elasticity and supply responsiveness of two variety group of farmers.
3. To study the impact of new technology on factor shares and to measure the nature of factor biases in technical change.

ANALYSIS OF DATA

This study consist of primary data and secondary data sources obtained from ministry of agriculture. An attempt had been made in this chapter to study the characteristics of sample farmers, labour utilization, input and output structure, cost and returns for small and large farmers cultivating High Yielding Variety and Traditional Variety of rice. For the purpose of analysis, High Yielding Variety is expressed as HYV and Traditional Variety is expressed as Traditional Varieties, for comprehensive analysis.

TABLE: 1
GROWTH OF VARIOUS CROPS

Crops	Pre- Green Revolution Period (1951-66)	Green Revolution Period (1967-90)	Economic Reforms Period (1991-2013)
Rice	493250 (39.37)	973095 (39.87)	997132 (43.62)
Jowar	263185 (21.01)	412290 (16.89)	225639 (9.87)
Bajra	167919 (13.40)	293236 (12.02)	219492 (9.60)
Maize	61360 (4.90)	143612 (5.88)	162577 (7.11)
Ragi	35727 (2.85)	61310 (2.51)	37789 (1.65)
Small Millets	0 (0.00)	0 (0.00)	12006 (0.53)
Wheat	182805 (14.59)	505304 (20.71)	614111 (26.86)
Barley	48483 (3.87)	51619 (2.12)	17270 (0.76)
Total Cereals	1252729 (100.00)	2440466 (100.00)	2286013 (100.00)

Source: - Ministry of Agriculture, Government of India

Table -1 evident that the Indian agricultural history, green revolution was greatest break through. Farmers had been used technological tools and hybrid seeds in farming. Therefore, entire study period divided into three periods namely pre-green revolution, green revolution and economic reforms period. During pre-green revolution period around 80 percent net sown area is covered from food grains crops.

TABLE: 2
COST OF CULTIVATION PER ACRE

Type of Farmers	Preparatory cost	Manure	Plants & Sowing	Irrigation cost	Plant Protection	Wire gauze	After cultivation on pruning cost	Total cost
Small Farmers	34,780 (28.77)	15250 (12.62)	3550 (2.93)	3800 (3.14)	5452 (4.52)	53500 (44.26)	4550 (3.76)	120882 (100.00)
Medium Farmers	31,441 (29.2)	12105 (11.2)	3460 (3.20)	3600 (3.33)	5220 (4.81)	48305 (44.73)	3880 (3.59)	108011 (100.00)
Large Farmers	29521 (27.88)	16520 (15.60)	3255 (3.07)	3500 (3.30)	4650 (4.39)	44770 (42.28)	3680 (3.48)	105896 (100.00)

Source: Sample Survey Note: Figures in parentheses represent percentage to total

Table-2 Evident that the establishment cost refers to the cost of preparing the land for the cultivation growing and maintenance of the vineyard. Shows the average establishment incurred by small farmers comes to Rs.1, 20,882 out of which Rs.53, 500 is incurred on wire gauze cost and the average cost incurred on preparatory cost is Rs. 34,780.

TABLE: 3
SIZE WISE LAND HOLDINGS IN INDIA

Year	Marginal	Small	Semi medium	Medium	Large	All Classes
1970-71	0.4	1.44	2.81	6.08	18.1	2.28
1976-77	0.39	1.42	2.78	6.04	17.57	2
1980-81	0.39	1.44	2.78	6.02	17.41	1.84
1985-86	0.39	1.43	2.77	5.96	17.21	1.69
1990-91	0.39	1.43	2.76	5.9	17.33	1.55
1995-96	0.4	1.42	2.73	5.84	17.2	1.41
2000-01	0.4	1.42	2.72	5.81	17.12	1.33
2005-06	0.38	1.38	2.68	5.74	17.08	1.23
2010-11	0.38	1.42	2.71	5.76	17.37	1.16

Source: - Ministry of Agriculture, Government of India

Table-3 evident that Deceleration has highly found in large holdings size due is growing population. Marginalized section of farmers has now vital role in farming. They are becomes decision maker and highly

influence by market pull factors. They are changing their cropping pattern as market required. Further, they prefer cash crops which are easily acceptable by market using available resources and best example is large share of wheat and rice in gross sown area under food grains.

TABLE: 4
TOTAL AVERAGE VARIABLE COST OF CROP CULTIVATION PER ACRE

Types of Farmers	Number of Farmers	After cultivation cost	Protection of Nursery labour cost	In Organic manures	Organic manures	Maintenance Cost	Average variable cost
Small Farmers	41	6300 (15.12)	6890 (16.54)	15180 (36.45)	10720 (25.74)	2560 (6.15)	41650 (100.00)
Medium Farmers	34	5850 (13.24)	7540 (17.07)	17640 (39.92)	11050 (25.02)	2100 (4.75)	44180 (100.00)
Large Farmers	15	5455 (10.51)	6400 (12.33)	22280 (42.92)	16550 (31.89)	1220 (2.35)	51905 (100.00)

Source: Sample Survey – 2017.

Table-4 reveals that average variable cost incurred by small farmers comes to Rs.41,650. Out of this the largest expenditure is inorganic manures which is Rs.15,180, Rs.6,300, Rs.6,890, Rs.10,720 and Rs.2,560 are spent for the after cultivation cost, protection of nursery(labour cost), Organic manures and maintenance cost respectively.

CONCLUSION

India also need not give up its objective of self sufficiency in food and it becomes the responsibility of the government to safeguard the interest of the farmers and design policies to make farming activities economically viable. Cropping pattern is changing from food grains crops to non-food grains crops after green revolution period due to higher productivity within food grains crops. Agricultural sector in India does not gain much from the reform process and globalization policies. Crop Insurance, Subsidies, assured water supply, remunerative prices through regulated markets, adequate compensation for loss due to heavy wind and post attack may be provided by the government to encourage the cultivation of the grapes successfully. Due to Green Revolution there is amplifying in inequalities in the distribution of profits between rich and poor farmers. Green revolution additionally leads to the make bigger in regional inequalities as it is limited to solely positive states of our country.

REFERENCES

1. Alka Singh **Agricultural Production and Cropping Pattern Change in India**. South -Asian Journal of Multidisciplinary Studies (SAJMS) ISSN:2349-7858:Volume 2 Issue 2,2010.
2. Bishop, C.E. and Joussunit, W.D., **Agricultural Twin Analysis**, John Wiley and Sons, Inc., New York, 1958.
3. Gadgil S. and Siddhartha G. (2006), "The Indian Monsoon, GDP and Agriculture", Economic and Political Weekly.
4. Garrett. E. Henry, **Statistics in Psychology and Education**, Vakils Feffer and Simopns Private Ltd, Bombay, 1969.
5. Government of India (2012) "State of Indian Agriculture", Ministry of Agriculture, Government of India, Pp. 10-12.
6. Lawrence R. Klein, **An Introduction to Econometrics**, Prentice-Hall of India Private Limited, New Delhi, 1973.
7. Mellor, J.W., **The New Economics of Growth: A Strategy for India and the Developing World**, Cornell University Press, Ithaea, New York, 1976.
8. Misra, S.K. and Puri, V.K., **Indian Economy**, 20th Edition, Himalaya Publishing House, Mumbai, 2002.
9. Rao C.H. (1994), **Agricultural Growth, Rural Poverty and Environmental Degradation**, Oxford University Press, New Delhi.
10. Sadhu and Mahajan, **Technological Change and Agricultural Development in India**, Himalaya Publishing House, New Delhi, 1985, p. 10.
11. Sinha A.K. and Swaminathan M.S. (1991), "Long-term Climate Variability and Changes",