

# **Assessment of the Impact of Cultivation of Abandoned Paddy Lands in Eastern Province**

**R. Gnanasegar<sup>1</sup>, S.A Norbert<sup>2</sup>**

<sup>1</sup>Director Planning, Ministry of Agriculture, Animal Production & Health, Industrial Development, Fisheries & Tourism, Eastern Province, Sri Lanka

<sup>2</sup>Professor, Department of Geography, University of Colombo, Sri Lanka

## **Background**

Agriculture is the mainstay of the economy of the Eastern Province and accounts to around 23% of the estimated provincial GDP. The Eastern Province has an area of 9,996 square kilo metres and has a population of 1.5 Million and is recognized as an important agricultural area with scope for expanded development. The farming population in the province is about 30% of the total population and is equivalent to 450,000. (Department of Census and Statistics, 2008). Over the past three decades, the Northern and Eastern provinces had been engulfed in war complexities, resulting in the disruption of normal economic and social life of the people. Excessive damage to public and private assets, displacement of farmers and fishermen, loss of income, decline in investment, restriction in movement of farmers and fishermen, disruption of supporting services (extension, agrarian, veterinary, marketing, input supply, transport and others), inadequate social and physical infrastructural facilities and security limitations have led to a substantial reduction in the crop, livestock and fisheries production. Furthermore taxes imposed by the militant groups, trade embargo imposed by the government especially on fertilizers and fuel and general collapse of security system led to lower outputs, increased cost of production and contracted market opportunities. As a result, agriculture sector was badly affected resulting in lower GDP to the provincial economy. The end result was that production was sufficient only for the local consumption within the same conflict affected localities. Even though the contribution from agriculture sector to GDP has halved in the last two decades, agriculture is still plays vital role in the economic development of the Eastern province. Therefore the agriculture sector will remain as the largest in absolute terms, and must be strengthened to attain economic prosperity. Much of the land that went into disuse during the conflict period has reverted to scrub jungle, range lands or eroded lands. Impact of the end of the conflict on food demand in Eastern Province as expected to be a positive one. Since Eastern Province has been a traditionally a high potential agricultural area this sector dominated the provincial economy both in contribution to provincial G.D.P as well the source of employment to rural population.

## **Research Problem**

End of the conflict in year 2007 Government of Sri Lanka implemented several measures to revitalize agriculture sector in Eastern Province. Since large segment (over 70%) of the population being dependent on agriculture for their livelihood the rehabilitation of this important sector, revitalization of rural economics and resumption of farming activities were considered as fundamental success of the overall post conflict development programme in Eastern Province. The extent of cultivable paddy land in Eastern Province is about 197,552 ha and only 53% of it was cultivated in year 2006 due to unstable security conditions. At the end of the conflict it was estimated that there was an extent 104,413 ha of land abandoned in Eastern Province. The objective of the agriculture development strategy is to bring 90% of the total cultivable land under production. With restoration of peace in the Eastern Province abandoned paddy lands to the extent of 17,795 ha in Trincomalee, Batticaloa and Ampara districts were brought under cultivation with paddy in Maha 2008/ 2009. This paper assesses the impact of cultivation of abandoned paddy land in economy of Eastern Province.

## **Objectives**

The objective of this study is to evaluate the impact of the cultivation of abandoned paddy lands in Eastern Province. It is intended to evaluate the impact on livelihoods using broad measures such as extent of production, scale of production, productivity and application of improved production technologies.

- (i) To find out the contribution of the paddy production from the abandoned land paddy cultivation to the national paddy production in Eastern Province.
- (ii) To compare the gross profit of paddy cultivation of the farmers who cultivate abandoned lands and normal paddy lands in each district in Eastern Province.
- (iii) To identify the main issues and find remedial measures related to the cultivation of abandoned paddy lands.

## **Research Methodology**

The study was conducted in Trincomalee, Batticaloa and Ampara districts in Eastern Province. Multiple data sources were used for the study. Numerous secondary sources were gathered from Ministry of Agriculture, Eastern Province and Department of Agriculture, Eastern Province. Primary sources included interviews with Agriculture Instructors and farmers who were involved

in paddy production. Expenditure shares with respect to major categories of inputs for paddy production includes labour, farm power, fertilizer, agro- chemicals and seeds were also gathered from interviews with the farmers and Agriculture Instructors. The data were analyzed using the SPSS software package.

## Major Findings

The result indicated that the coefficient of determination for paddy production of Trincomalee, Batticaloa and Ampara districts were 0.705, 0.475, 0.749 respectively (Table 1). Variation in paddy production due to the extent of paddy land cultivated in Trincomalee Batticaloa and Ampara districts were 70.5%, 47.5%, 74.9% respectively.

**Table 1: Summary of Co-efficient of determination and Correlation Co-efficient of Production of Trincomalee, Batticaloa and Ampara District**

| District    | r Value | R <sup>2</sup> Value | Co-efficient of Correlation |
|-------------|---------|----------------------|-----------------------------|
| Trincomalee | 0.840   | 0.705                | 0.840                       |
| Batticaloa  | 0.689   | 0.475                | 0.689                       |
| Ampara      | 0.865   | 0.749                | 0.865                       |

(Dependant Variable- Production)

The variation in paddy production due to extent cultivated was high in Ampara and low in Trincomalee district. The remaining variation of 29.5%, 52.5% and 25.1% in Trincomalee, Batticaloa and Ampara districts may be due to availability of high quality seed paddy, adopting better management practices(adopting correct tillage, water stability, pest and weed control) and damage to the crop due to flooding. The results also showed that the correlation co-efficient for Paddy production for Trincomalee, Batticaloa and Ampara districts were 0.840, 0.689, 0.865 respectively. This indicates that a strong positive correlation exist for paddy production in Trincomalee and Ampara districts. Batticaloa district also shows a positive correlation for paddy production in relation with the cultivated extent.

Regression equation for paddy production in abandoned lands:

- Trincomalee District:-  $(-12,596.3)+4.207* \text{Extent}$
- Batticaloa District :-  $3522.795+2.836* \text{Extent}$
- Ampara District :-  $(-3026.97)+ 5.203* \text{Extent}$

**Table 2: Extent of abandoned paddy lands and expected production**

| District                | Cultivated extent of Abandoned paddy land (ha) | Production (mt)    |
|-------------------------|--|--------------------|
| Trincomalee             | 6233.6   | 13,628.7552        |
| Batticaloa              | 6171.3   | 21,024.6018        |
| Ampara                  | 7511.1   | 36,053.2800        |
| <b>Eastern Province</b> | <b>19916.0</b>                                 | <b>70,706.6370</b> |

Table 2 shows the extent of abandoned land cultivated during maha 2008/ 2009 and the expected production of paddy in the cultivated abandoned paddy lands. The results indicated that the average paddy yield in Trincomalee, Batticaloa and Ampara districts were 2.18mt/ ha, 3.4mt/ha, 4.8mt/ ha respectively. Further, cultivation of abandoned paddy lands in Eastern Province contributed to 2% of the national paddy production in year 2008.

The results demonstrate that expenditure shares with respect to major categories indicate that the farmers are compelled to incur nearly quarter of their expenditure as labour costs. Labour costs constitute 25%, 19%, 23% of the total cost of production in Trincomalee, Batticaloa, Ampara districts respectively. This implies that improvement in efficiency in labour utilization would reduce the cost of production significantly. However, wage rates are high during peak seasons.

Four wheel tractors are widely used for land preparation and combine harvesters are used for harvesting. Farm power cost constitutes 31%, 35%, 28% of the total cost of production in Trincomalee, Batticaloa, Ampara districts respectively. Results also show that the cost of fertilizer and agro- chemicals cover 31%, 32.7%, 33 of the total cost in Trincomalee, Batticaloa, Ampara districts respectively. This is due to cost of fertilizer had increased substantially as a result of international price hikes and the quantity applied is high in these districts. This study indicates that the profitability of paddy farming was high in Ampara district. Furthermore profit of paddy cultivation in Trincomalee, Batticaloa and Ampara districts were 53,170/=, 54,020/=, 76,044/= respectively. Profit of famers who received seed paddy assistance was 56,670/=, 57,620/=, 80844/= for Trincomalee, Batticaloa and Ampara districts respectively and the farmers who received ploughing assistance was 55,670/=, 58,020/=, 82,244/= for Trincomalee, Batticaloa and Ampara districts respectively. This study also demonstrates that in the abandoned land programme, if the farmer is provided with assistance in terms of seed paddy, ploughing assistance, fertilizer subsidy coupled with dissemination of improved cultivation practices will obtain increased profit from paddy cultivation.

## **Conclusion:**

Results obtained in this study indicated that the cultivation of abandoned lands contributes nearly 2% of the national paddy production and the farmers receiving seed paddy assistance or ploughing assistance obtained more profit than the normal cultivation. Further average yield of paddy and profit from paddy cultivation was high in Ampara district. It was observed that creation of marketing arrangements, increased access to quality seed material, fertilizers and agrochemicals, promotion of best crop management practices through improved agricultural extension system which were the components of the initiative to bring abandoned paddy lands under cultivation contributed positively towards increased production and productivity of paddy lands in Eastern Province. Full recovery of agriculture sector was made a reality through cultivation of abandoned of paddy lands and this contributed positively towards the post conflict growth of Eastern Province.

## **References:**

- (1) Administration Report, Department of Agriculture, 2009
- (2) Administration Report, Ministry of Agriculture, 2009
- (3) Department of Census and Statistics, 2008
- (4) Cost of cultivation of agricultural crops- 2009/2010 Maha/ Yala, Socio- Economics and Planning Centre, Department of Agriculture, Peradeniya
- (5) Development of North and East of Sri Lanka, Economic Review, Feb/ March 2010.
- (6) Paddy sector development- Major issues, Economic Review, Jan- March 1999
- (7) Sri Lanka State of the Economy 2010, Post Conflict Economic Development Challenges, Institute of Policy Studies of Sri Lanka.