

Some Aspects of the Economics of Vegetable Cultivation in relation to New Agricultural Strategies of Assam: A Case Study

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Abstract

This study highlights major some aspects of Economics of Vegetable Cultivation in relation to New Agricultural Strategies of Assam. This paper presents a study in the areas, where new agricultural strategy is being applied; irrigation facilities are speedily being expanded to assure the adequate water supply. The present investigation is descriptive survey method used. The principal aim is to examine the effect of the during the last 10-12 years, there has occurred a remarkable growth of tube-wells, pump-sets etc. The new agricultural strategy called Green Revolution was initiated in environmental awareness and this paper is an attempt to describe the major research carried out on several new public institutions like national seeds corporation, agro industries corporations, national co-operative development corporation etc. have been set up to promote services to the cultivators at door steps. Moreover, they have been provided with sufficient funds to lend liberal loans to peasants to adopt latest farm technology. The most important achievement of new strategy is the substantial increase in the production of major cereals like rice and wheat. These efforts, which were aimed at making us self-sufficient in food and spread the benefits of green revolution to the other as yet unreached regions, are what is referred to in literature as the new agricultural strategy. There are three goals of agricultural development in India. As per the findings, summarize in more detail these are: (a) achieving high growth by raising productivity; (b) inclusiveness by focusing on lagging regions, small farmers and women; and (c) sustainability of agriculture. The new agricultural strategy involves heavy investment in seeds, fertilisers, pesticides and water, which is beyond the capacity of small and medium farmers. Lastly, the paper describes the various problems for utilizing the farm situation, source knowledge; forms of knowledge and its solutions.

Keywords: Economics, Vegetable, Cultivation, New Agricultural Strategies.

INTRODUCTION:

In ancient time people lived in the midst of natural environment by maintaining harmony and unity with nature. As a result human moved forward through the right way with development and prosperity. In the present times no nation can think of economic development without ensuring an abundant supply of highly educated and skilled people. The recent technology and scientific advancement, the man's conquest over the forces of nature, the invention of rapid means of destruction, the capability of probing deeper down into the personality of individual and the ability to brain-wash have shown that highly educated people in all the activities of national life can only keep the nation politically and economically alive. It was adopted in India during Third Five Year Plan. In 1960, from seven states seven districts were selected and the Government introduced a pilot project known as Intensive Area Development Programme (IADP). Therefore, the most important part of productivity is motivating employees. Motivating employees is a key part of labor productivity, and being motivated and inspired contributes to your personal productivity. There are many ways to foster motivation and increase productivity on a personal level and an organizational level. This is a big economical and fundamental change in the history of agriculture. In the case of glacial gravel, no pesticides are used which is economically more beneficial and obviously higher on nutrition and minerals. Plants fertilized on rock dust produce a

flavor and high nutrition content. As the history of agriculture shows us that almost all the top soils of the world lack a large quantity of elements which results in bad crop. Lots of consumers and customers are going for organic farming. Scientists and agriculturists have changed the course of the history of agriculture by farming on the glacial gravel. All these innovations will take agriculture and humans places. While most other states in India are gradually moving away from their traditional agriculture-based economy toward industry or service-oriented economy, Assam is still heavily dependent on the agricultural sector. Compared to most other states in India, Assam is considered a less developed state, which depicts a gloomy picture the economic condition of the state given that India is considered a less developed country (LDC). Agricultural development problems and economic development problems go hand-in-hand in Assam. Thus, while most of the development problems are agriculture-related, some of these are also related to the economic development problems in Assam. Natural calamities-floods and dry spells are the principal natural disasters faced by farmers in Assam every year. The principal source of floods is the Brahmaputra River and its tributaries, capital deficiency, markets in Assam are under-developed. Farmers sell to the nearest dealer or buyers, mostly immediately after harvesting when the price is at the lowest, instead of trying to find the best market for their products. Lack of education, ignorance about the changing economic conditions, out-dated thinking, prejudiced cultural values, disturbed law and order situation, and lack of scrupulous legislative and administrative machinery are some of the principal non-economic factors that hinder agricultural development in Assam.

New Agricultural Strategies of India

1. Consolidation of Land Holdings: Land ownership rights to the tillers and basic forward outlook of Punjab farmers were the basic reasons for providing ground to the green revolution in the northern India.

2. Improved Variety of Seeds: Agricultural revolution is primarily due to the miracle of improved varieties of seeds which have increased yields per acre. Among these, we may mention the new dwarf varieties of wheat PV-18, Kalyan Sona 27, HD 2329, Hybrid Maize, Rice IR-8, PR 106, Padma and Jaya etc.

3. Greater Intensity of Cropping: The new agricultural strategy is not only concerned with higher yield but also with greater intensity of cropping. Therefore, new crop rotations have been made possible by developing short duration varieties of paddy, jowar, bajra and maize which are suited to different agro-climatic conditions. In the same way, other crops like barley, oilseed, potato and vegetables have also been considered for rotation.

4. Extension of Irrigation: In the areas, where new agricultural strategy is being applied, irrigation facilities are speedily being expanded to assure the adequate water supply. During the last 10-12 years, there has occurred a remarkable growth of tube-wells, pump-sets etc.

5. Modern Farm Machinery: Modern farm machinery like tractors, harvesters, pumping sets, tube-well, etc. are being increasingly used and are replacing the bullocks. Being, time saving, use of modern machinery in agriculture is conducive to multiple cropping. Because of accuracy and timelines of use of inputs by machines, the costs have been reduced.

6. Role of Public Institutions: Several new public institutions like National Seeds Corporation, Agro Industries Corporations, National Co-operative Development Corporation etc. have been set up to promote services to the cultivators at door steps. Moreover, they have been provided with sufficient funds to lend liberal loans to peasants to adopt latest farm technology.

7. Package of Inputs: The main thrust of the new agricultural strategy is the application of the package of improved practices. In other words, it aimed at making the cultivators to adopt simultaneously all the elements needed for augmenting production. The main constituents of the package practices are improved seed, fertilizers, plant protection measures and water use etc.

8. Guaranteed Minimum Prices: The guaranteed minimum prices have been given due recognition as an incentive to agricultural production. Support price policy for food-grains was adopted in 1964 throughout the country. In order to advice the govt. for suitable price policies for agriculture, Agricultural Price Commission was set up in the subsequent years. Similarly, Food Corporation of India was also set up to purchase food-grains.

9. Agricultural Research and Education: A number of measures have been adopted in this direction of facilitate organisation and development of agricultural research. The Indian Council of Agricultural Research was reorganised in 1965. Agricultural Universities have been set up in most of the states which were conceived as combining the function of education, research and extension. States Agro Industries Corporation have been set up to motivate the cultivators for the application of improved inputs and infrastructure and further to Coordinate the demand with production, quality control and distribution of supporting services.

10. Plant Protection Measures: As pests and diseases have been causing severe damage to crops, plant protection has been considered another major component of new agricultural strategy. This programme includes seeds treatment, intensive aerial and ground spraying against insects, weed control and rodent control.

Review of the Related Literature:

The final an important specific reason for reviewing the related literature is to know about the recommendations of previous researchers listed in their studies for further research. A review of some major studies is necessary to formulate and project the problem of proposed study. Karen & Kornhauser (1999) found that in case of highly intelligent persons dissatisfaction was higher and there was greater turnover to their home environment. A comprehensive Economic Reform Program 2002 has been implemented recently. The reform program has focused on the important areas such as planning and public expenditure management, financial transparency and management, public enterprises management, private sector development, decentralization and good governance with the objectives of maintaining macroeconomic stability and bringing economy into right track to ensure healthy and sustainable development of the economy. Vegetables crops are useful in rotational system of farming to maintain the fertility of soil. Vegetables are the main source of vitamins and minerals. The vegetable crops also offer better crop diversification and crop intensification. Protected cultivation means some level of control over plant microclimate to alleviate one or more of a biotic stress for optimum plant growth which can be achieved in poly house/net house. Crop yields can be several times higher than those under open field conditions, quality of produce is superior, higher input use efficiencies are achieved. Net house and poly house technology has been recommended for the cultivation of different vegetables. Production of vegetables under protected conditions involves protection of production stage of vegetables mainly from adverse environment conditions such as temperature, hails, scorching sun, heavy rains, snow and frost (Singh et al 1999). The production of off-season vegetable crops under net house conditions was evaluated for total yield, earliness and other character and incidence of insect pests (Cheema et. al. 2004). The cultivation of vegetables in net house can play a better role in improving quality, advancing maturity as well as increasing fruiting span and productivity. Cultivation of capsicum, brinjal and tomato is recommended in net house protected cultivation technologies are being utilized all over the world but the level and extent of their use may be different among different countries. In Punjab the yield of rice shot up from 1932 kg/ha in 1967-68 to 3257 kg/ha 2001-2010 and in Haryana it rose from 1132 kg /ha in

1967-68 to 2851 kg /ha in 2001-2010 whereas it was only 1291kg per hectare in Assam in 2001-2010. Indian agriculture even after almost 70 years of independence has been far from achieving its potential yield and consequently there is still huge gap between potential yield and achieved yield. The ability of financial markets and institutions to reduce these market frictions can lead to more efficient allocation of resources and thereby foster long-run growth (Diamond, 1984; Boyd and Prescott, 1986; Williamson, 1986; King and Levine, 1993).

Significance of the Present Study:

In the main article is presented the role of total productivity as a variable when explaining how income formation of production is always a balance between income generation and income distribution. The income change created by production function is always distributed to the stakeholders as economic values within the review period. Productivity growth is a crucial source of growth in living standards. Productivity growth means more value is added in production and this means more income is available to be distributed. Development of the economy in any farm is the outcome of human activity. This activity in men envisages three roles as an organizers, worker, farmer as well as cultivators and as a user of good produced, of these, the role of man in organizing the factors of production is very important in this present study. Agriculture is the backbone of economy in the Kamrup district. Unless the skills and resources provided by the nature are fully transformed into efficient production units, i.e: at present covers paddy, millets, cabbage, cauliflower, brinjal as well as beet, cucumber, chilies etc. The farmer labour is remain largely unproductive and keeps his levels of consumption very low. The size of the farming community is constituted as small farmers and marginal farmers. Hence, sustainable development must primarily come through small and marginal farmers and this could be achieved in few agricultural technologies is adopted by these farmers along with the rest. The main focus of the present study, now that there is little scope to bring addition areas under cultivation, the increase in agricultural production in future has to come mainly from increase in productivity. This in turn would depend upon a judicious use as irrigation, fertilizer seeds, and plant protection. However, the need for agricultural loan remains largely unfulfilled in Assam. Vegetables play a vital role in the nutritional security of the Indian population and financial economy of the majority of small marginal farmers. In the light of agriculture diversification, vegetables have to play a significant role by providing scope and opportunity for employment generation through export trade and post harvest industry development. Before going into the core of the issues let us present certain information on the overall employment situation in India. The basic components of new innovation in the field of agriculture may be considered mechanization or wide-use of farm machinery tools and implements, improving soil and making it most fit for cultivation, soil conservation, new varieties of seeds, chemical fertilizers, irrigation, pest control and other several methods of raising yield and net returns per hectare. The comprehensive crop scheme is introduced in 1985 and at present covers wheat, paddy, oilseeds, bitter-gourd, onion and tomato etc. Half of the premium payable by small and marginal farmers is subsidized equally by the state govt. The season wise progress of the scheme and suitable changes would be made to existing system depending on the results of the recent pilot scheme or the other agricultural ricks taking in sufficient measure. The investigator to investigate to evaluate the impact of adoption of growth and productivity of agriculture and work is an urgent need of the realization of significance and justified the study that credit for agriculture facilities the new adoption process. The present study is an attempt to analyze the status of Garoimari Block in Kamrup district of various indicators such as access to education, employment, household, decision making power, financial autonomy, exposure the current Public extension system in transferring technologies

are not economically viable, not operationally feasible, not suitable, not matching with the farmers need and not compatible with farmers overall farming system Garoimari Block of Kamrup district in particular.

Statement of the Problem:

The problem under investigation entitled is, 'Some Aspects of the Economics of Vegetable Cultivation in relation to New Agricultural Strategies of Assam: A Case Study'.

Objectives of the Present Study:

- i). To identify the methods of vegetable cultivation in Kamrup district by the farmers.
- ii). To study the economic impact such as income, expenditure, saving of vegetable cultivation and new Agricultural in Kamrup district
- iii). To suggest remedial measures to achieve better and fruitful results and to take appropriate steps for developing vegetable cultivation and new agricultural by the farmers.
- iv). That adoption of improved agricultural practices depends upon assured irrigation facilities.

Methodology:

Descriptive method of research was followed for the conduct of the present study. For this purpose a sample of consists Vegetable Cultivation in relation to New Agricultural Strategies of Kamrup district in Assam. Two types of data i.e. primary and secondary data have been used in this study. Primary data were obtained by interviewing the sample farmers and agricultural extension workers through a set of questionnaire. Relevant unpublished official records have also been used as primary data.

Sample:

In the present study the size of the sample would be randomly selected of 45 consists farm household of 6 villages in only one Development Block namely- Garoimari of Kamrup district in Assam.

Tools Used:

The tools of investigation generally used are- questionnaires, interview, attitude scales. The tools should be tested in a pilot study, before it is administered to the vast sample.

Data Collection:

Data have been collected by the researcher through questionnaire by personal interview with the relevant respondents. Data on the constraints of cultivators or farmers were also collected.

Discussions and Analysis:

The present paper deals with the farmers data obtained by the administration on various tools, for testing the significance of various variables measured and for knowing the confidence that can be placed in each measurement of objectives. The raw data after scoring the tests as per norms was analyzed using various statistical data in order to test the hypotheses and to get meaningful conclusions.

Major Conclusions:

In this paper an attempt has been made to summarise the finding and also put forwarded some concrete suggestion to increase the New Agricultural Strategies of Assam. The empirical findings are summarized and assessed in this paper. The econometric techniques employed are critically appraised and some caveats on the interpretation of the results highlighted as follows:

TABLE .1

Production and Area of principal food grain crops in Assam

	Year	Production Million Tonnes	Year	Area Million Acres
Wheat	2000-02	4.20	1982-83	10.40
Barley	2003-05	0.42	1967-68	1.47
Jowar	2006-07	0.20	1966-67	1.49
Bajra	2008-09	0.64	1982-83	4.13
Maize	2010-11	1.16	1945-46	2.63
Gram	2012-13	1.51	1943-44	6.60
Rape & Mustard	2014-15	2.41	1948-49	1.72
	2015-16	0.94	1960-61	0.58
Cotton	2016-17	0.26	1967-68	0.35
Sugarcane	2017-18	0.47	1941-42	0.55

Agricultural development was characterized by the economic aim of maximizing agricultural output to help bring about rapid industrialization and the social objective of minimising economic disparities in rural areas. Financial intermediaries emerge mainly due to information and transaction costs. In an economy, some agents may have extra funds while some entrepreneurs may experience shortages of funds to finance investment projects. To raise the necessary funds in the absence of a sound financial system, entrepreneurs have to approach individual agents who have surplus funds to lend.

TABLE NO. 2

Improved varieties of seeds supplied to the cultivators through Seed Agencies- 2010-2015

Seed	2005	2010-2015
Wheat	79,402	1,78,137
Cotton	4,222	10,120
Gram	11,359	2,000
Rice	1,275	1,532
Berseem	271	42
Bajra	503	5,255
Barley	267	11,000
Jowar	20,900	29,028
Potato	244	595
Groundnut	1,066	696
	1,19,509	2,38,375

The improved varieties of seed of wheat and cotton used by the farms were almost two and a half times more in 2005-10 over those of 2010-2015. The quantities of improved bajra and barley seeds were ten times and four times more respectively during 2010-2015. The scientists of the age had laid down guide-lines for the development of agriculture along scientific lines. Thus, Paddy and wheat were the main food grain crops in Kharif and Rabi season in 2010-2015. They showed higher application of fertilizers with the increase in farm size group (Table 3). There was

less application of fertilizers on small farm situations and more on the large farms. The American cotton was also dominant cash crop of this area which showed relatively higher use of fertilizer on the small farm and lower on the large farm size. The overall application of fertilizers was 94.62 Kg. of Nitrogen and 33.32 Kilograms of phosphorus per acre in the case of sugarcane. Role of Agricultural changes of Farm situation in adopting High Yielding Variety (HYV). The most important component of modern agricultural technology is High Yielding Variety of seed (HYV). It is basically high yielding seed that has brought about green revolution in India. It is the high yielding variety of seeds for which India achieved self sufficiency in food grains long back in 2005's. Basically, HYV seeds have much more Productive Potential than indigenous or international seeds. It is HYV technology that that made Assam capable of feeding more than 3 crore population.

In conclusion, Assam agriculture faced the grave crisis in one form or the other in the shape of shortage of production. Supply of food grains, abysmally low yield and paucity of agricultural inputs which resulted in the economy sliding completely into the cauldron of stagnation. Many devices like 'Grow More Food' campaign, credit facilities and technical know-how were employed to improve agricultural production but without any tangible results. Therefore, the paper presents a study on farm situation with special reference to economics of vegetable cultivation and New Agricultural Strategies of Kamrup district in Assam state. The purpose of the study is to investigate the significant difference between vegetable cultivation and new agricultural strategies of Assam not fully successful. It was found that rural area farm did not significant economic impact such as income, expenditure, saving of vegetable cultivation and new agricultural in Kamrup district and to suggest remedial measures to achieve better and fruitful results and to take appropriate steps for developing vegetable cultivation and new agricultural by the farmers. The findings of the present study revealed that majority of farm situation were found to have severed health and financial and moderate level of problems in vegetable cultivation. Thus keeping in view the importance of agriculture the state laid down rules and regulations to protect the interests of the agriculturists. Rules were also been prescribed to safeguard the interests of agricultural labours and land holders.

Suggestions for Further Research:

The increased land price has also contributed in economic upliftment of the people of the district. The socio-economic status of the vegetable cultivation and new agricultural growers in this district has a remarkable bearing in the economy of Assam. In doing the research in the district, some problems were encountered the addressing of which is very important lest it may create hurdles in further studies. So, some suggestions are made to remove the inadequacies for improvement of the situation. Reflective studies involving larger sample and different population as also follow up in the farm has emergent as an important factor in the measurement and prediction of vegetable cultivation. There is continued in equality and vulnerability of farmers in all sectors— economic, social, political, educational, health-care, nutrition, right and legal etc. and NGO officials and government will have to take bold steps for horticultural crops in North-Eastern Region. Attendance loans for agricultural which serve as a compensation to the farmers should be given by the government. General awareness programmes should be taken among the cultivators of village area to sensitizes them about the modern development of science and technology, so that they could give up superstitious believes and attitudes.

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