

# Agriculture in Assam: A Case Study

Rajani Das

Assistant Professor, Department of Economics  
Unity College Dimapur  
E-mail: rajanidas316@gmail.com

**Abstract**—Agriculture in Assam exhibits most of the characteristics of underdeveloped/backward agriculture, namely, a high dependence on agriculture for livelihood, widespread practice of traditional farming techniques and correspondingly low usage of modern farm inputs, low levels and low growth in productivity and incomes in the sector, widespread prevalence of subsistence cultivation, poor / inadequate agricultural infrastructure, and so on. In this paper, we examine the progress of agriculture in Assam, the constraints it faces and possible policy actions that can be taken to remove / reduce those constraints to agricultural growth in the state. Agriculture continues to occupy a pre- eminent place in the economy of Assam and the farmers living in rural areas constitute the backbone of Assam agriculture. But, the State's agriculture is exposed to vagaries of monsoon. In order to achieve the desired level of productivity of agricultural crops the Government of Assam must come up in an effective way in creating basic infrastructural facilities and in co-ordinating with related departments. "Rapid growth of agriculture is essential not only to achieve self-reliance at national level but also for household food security and to bring about equity in distribution of income and wealth resulting in rapid reduction in poverty levels".. The share of agricultural exports to the total national export in value terms is about 13 per cent where as its import is about 6.19 per cent, which implies that this sector is net earner of foreign exchanges to support the supplementary and complementary foreign trade in other sectors. The present study is basically an empirical one where secondary data have been used.

**Keywords:** Assam, Agriculture, Government, People.

## Objective of the study

1. To study the present scenario of agriculture.
2. To find out the various existing problems of agriculture development in Assam.
3. To suggest measures to solve the agricultural problems in Assam.

## Limitation of the study

The whole study was strictly depends only on the secondary data collected from difference sources like magazines, journal and government annual report.

## Introduction: Agriculture in Assam

The economy of Assam is mainly agrarian with agriculture and allied activities contributing about 20 per cent to the

state's net domestic product and providing livelihood support to about 75 per cent of the population of the region. However, the productivity of the major crops like rice, pulses, and oilseeds is still much lower in Assam compared to the national average. Agriculture in Assam in macro sense is characterized by monocropping, largely small holders' low input-low output, subsistence farming systems practised primarily under rainfed condition. These weaknesses, however, could now be converted into opportunities by capitalizing on the hidden strengths in the form of maximizing production through input optimization, specially when green revolution belt has experienced fatigue. From the existing and anticipated R & D support, the state has to gear up itself to double its food grain production in the next decade. At present, the net and gross cropped areas in the state are 28.11 (35.1 per cent of geographical area) and 40.99 lakh hectares, respectively with a cropping intensity of 144 per cent. Rice is the dominating crop of the state occupying around 91% of the gross cropped area.

## Average Size of Operational Holdings in Assam

Agriculture Census	Average size(ha)
1990-91	1.27
1995-96	1.27
2000-01	1.15
2005-06	1.11
2010-11	1.10

Source: A Report on change in economic condition of operational holders since 1970-71 to 2010-11, page 14, Directorate of Economics & Statistics, Assam.

## Land Use Pattern in Assam

Land Use	Percentage of Total Geographical Area
Net Sown Area	35.80
Land Not Available For Cultivation	31.03
Area Under Forest Cover	23.61
Fallow Land	1.63
Land Under Still Water And Water Logged	2.27
Social Forestry	0.16
Other Uncultivable Land	5.5

Source: Economic Survey, Assam: 2012-13

### Growth Trend of Agriculture and Allied Sector in Assam

Year	Growth Rate
2004-05	-1.35
2005-06	2.76
2006-07	-0.99
2007-08	0.67
2008-09	6.43
2009-10	6.89
2010-11	5.87
2011-12	2.95

Source: Economic Survey, Assam: 2012-13

### Average Yield of Major Crops in India and Assam

Crops	Average Yield of Assam(kg/ha)	Average Yield of India(kg/ha)
Rice	2,135	2,390
Wheat	1,652	2,557
Pulses	1,257	2,872
Sugarcane	35,987	69,859
Jute & Mesta	1,908	2,550
Potato	26000	27854

Source: Agricultural Statistical Year Book of India 2016, Ministry of Statistics and Program Implementation.

### Present status

- Agriculture is the principal occupation of majority (60%) of the rural population in the state in terms of employment and livelihood. Agriculture sector continues to providing employment of more than 50 per cent of the total workforce and support more than 75 per cent population of the state directly or indirectly.
- Growth in the agricultural sector now stands at 4.5 % and contributes 17.89% to the State Gross Domestic Product at current price (2013-14).
- The total area under operational holding is 29.99070 ha distributed among re 27.20 lakh operational holders with an average land holding of 1.10 ha. About 85% of these holders belong to small and marginal categories.
- Agriculture sector continues to providing employment of more than 50 per cent of the total workforce and support more than 75 per cent population of the state directly or indirectly.
- The Gross cropped area has been reducing every year due to various reasons viz. soil erosion, urbanization, construction of road, population explosion, etc. The cropping intensity stands at 149%.

### Natural Divisions of Assam and the Farming Systems

The state is divided into three broad natural divisions, viz. the Brahmaputra valley, the Barak valley and the hills. The Brahmaputra valley being the largest comprises about 72 percent of total geographical area of the state and about 85 percent of total population of the state lives in this region. The Barak valley is in southern part of the state with the river

Barak passing through it. The Barak valley comprises about 9 percent of total geographical area of the state and 12 percent of total population of the state resides in this region. The hills comprising of two districts Karbi Anglong and Dima Hasao, covers 19 percent of total geographical area of the state But it accommodates only 3 percent of total population of the state. The systems of cultivation in the plain regions comprising of Brahmaputra valley and Barak valley are largely similar. The method of cultivation in these areas is more or less similar to the method prevalent in most part of the India(Bezbaruah, 1994). Rice grown during the rainy summer season is the principal crop in these areas. In certain area, jute is also cultivated during the same season. During the winter season crops such as rape and mustard, sugarcane, potato and vegetables are traditionally grown in the plain areas. In the hills, the system of cultivation is different from that of the plain regions. The traditional practice of shifting (jhum) cultivation is widely prevalent in the hills. Because of this practice, agricultural productivity has been found to below in the two hilly districts of Assam.

### Problems of agriculture in Assam

**Pre-dominance of Small and Fragmented Holdings:** In Assam, about 82 per cent of the farmers belong to small and marginal category. It is one of the major factors hindering the proper utilization of new farm technology.

**Lack of Institutional Credit and Banking Services** The flow of credit to the farmers is an important criteria to encourage them for intensive cultivation and adoption of new farm technology in crop cultivation. Availability of agricultural credit in Assam per hectare is only 30 per cent of the national average. The per capita credit disbursement to farmers in the State is very low, not even Rs.100/-. The credit-deposit ratio was only 32.50 per cent for Schedule Commercial Banks and 39.93 per cent for Regional Rural Banks. The number of bank branches were only 1, 619 and each branch covers 1, 646 persons. Most of the farmers faced financial problem in their pursuit to crop cultivation.

**Non-adoption of Proper Cropping Pattern** Non- adoption of proper cropping pattern is one of the major problems of rabi crops cultivation on the part of the farmers. Besides, most of the farmers were found to be risk averter and were sceptical in trying new crop varieties. It was also observed that the farmers were not aware of the concept of crop planning and the efforts made by the state agriculture department to educate the farmers did not yield much.

**Limited Use of Short Duration HYV Seeds** The supply of short duration HYV seeds were reported to be very limited in the sample area. The use of HYV seed of paddy was only about 60.91 percent in the state in the year 2008-09 as against 71.11 per cent in the study area. The supply of improved variety of pulses and mustard seed were not available in the study area. The farmers usually adopted the traditional variety of seeds whose average yield rate is almost half the yield of

improved variety. Although some of the farmers keep HYV seed of paddy for the subsequent years, it was found to degenerated over time due to and productivity also decreases.

#### **Lack of Agricultural Research and Backup Support**

Agricultural research in Assam is very poor as compared to its requirement. Whatever research is conducted on varieties development and in adoption of technology are not made available to the farmers. It was assumed that some back up support of research management system is considered necessary. The newly generated crop varieties and technologies should be evaluated for their adaptability across different environment depending upon the soil condition and soil type in different localities. Development of disease and pest resistance varieties are needed for better yield of pulses and oilseeds. For this the Field Trial Stations (FTS) and soil testing services has a greater role to play. But, the services of FTS and soil testing services are broadly lacking in the study area. The research programmes on problems in specific situation in wide diversities of farming conditions may go a long way in guiding the farmers in adoption of suitable farm technologies for higher return.

**The Problem of Iron Toxicity** The soil of Assam in general is acidic with poor base saturation and low exchange capacity which restrict productivity potential of soil. Also the iron content of soil and ground water sources is very high and continuous use of such water may lead to complex iron toxicity problem in the soil which may caused nutritional imbalance and may affect the production of crops and environment.

**Marketing Constraints** Availability of market with assured price is one of the best incentives to motivate the farmers to adopt new farm technology for enhancing crop production. However, there was no regulated market or marketing cooperatives for marketing the surplus produce in the study area. The village traders or middle man and commission agents played a vital role in marketing of mustard and pulses and the traders took full advantage of the situation. Certain fraudulent practices were reported to be followed by the traders to earn big margin. Moreover, the traders financed some of the needy farmers at the time of flowering of mustard and pulses and they were constrained to be satisfied with lower price dictated by the traders. The farmers opined that they were not getting the expected return for their produce and hence incurred losses at time in cultivation of crops.

#### **Suggestions**

**Consolidation of Holding.** For modernization of agriculture in Assam and to utilized full potential of agriculture consolidation of holding is essential to make agriculture economically viable. The uneconomic small farms and fragmented small holdings needs to be grouped through land consolidation and cooperative farming type of organization be formed. Some incentives should be provided for formation of group farming or co-operative farming. It is needless to

mention that the farmers must adopt new farm technology for raising agricultural productivity. If the lands consolidated, the small and marginal farmers will be benefited through optimum utilization of irrigation potential. In this regard, the FMCs (Field Management Committee) and SHGs operating in the locality can be utilized to motivate the farmers in respect of benefit of land consolidation.

**Supply of Institutional Credit** There is reasonably good network of branches of Commercial Banks, Regional Rural Banks and Co-operative Credit Institutions in the state. But such bank branches are located in towns and urban areas. Also, the delivery of credit to the farm sector has not been found satisfactory. Banks are in fact less interested in providing credit to agriculture because of uncertainty. Therefore, lack of institutional credit for investment on modern inputs is one of the important problems faced by the farmers for adoption of scientific package of practices. Some of the small and marginal farmers reported to have availed credit from private sources at a very high rate of interest which caused additional burden to the poor farmers. Institutional credit in the form of crop loans should be provided in easy terms, so that the farmers are not compelled to take loans from the private traders on pre-condition of selling the produce at a low price. In the study area not a single farmer reported to have short term loan or crop loan which had been waived as per relief package declared by the Government. The state government may negotiate with the banking system in this regard.

**Supply of Diesel and Electricity in the Rural Areas at Subsidiary Rate** Irrigation is one of the essential inputs for rabi crops cultivation. So in the greater interest of the farmers in general diesel may be supplied at subsidized rate. The electricity used for energization of pump sets also needs to be subsidized as these two items are not within the affordable range of the poor farmers.

**Supply of HYV Seeds within the Easy Reach of the Farmers** Making available adequate quantity of certified seeds before sowing time is a pre-requisite for any crop enterprise. Good quality certified seeds should be made available to the farmers at reasonable prices at the time of need. The department of agriculture should popularized short duration crop varieties of all crops together with judicious application of fertilizers particularly phosphatic fertilizers in pulses cultivation. The Department of Agriculture, Government of Assam may take up schemes for production of improved seeds of mustard and pulses within the state.

**Development of Rural Roads and Transport Facilities** It is of utmost necessary to develop the road communication system to facilitate the transportation of marketable produce to the places of assembling and marketing. To provide minimum road communication facilities link roads should be built to connect cluster of villages. Improvement of road communication facilities would ensure marketing of produce and reduce the cost of transportation as well as the transit

losses. Moreover, the development of rural roads will not only ensure easy marketing it will also be helpful in improvement of the status of socio-economic conditions of the people at large.

### Conclusion

The economic and real sector growth in Assam, India, which hinges on agriculture, is constrained by poor irrigation facilities and poor marketing and storage facilities in the district. The increasing casualisation of labour together without migration for livelihood speaks about the levels of deprivation. The most difficult part of adapting to climate changes would be to change the mindset of the growers. It would take a great deal of continuous and tireless efforts to change the age-old practices of crops productions before many of them quit the practice of agriculture and shift the mode of livelihood. **“We have to prove two things. First, our farmers have to feed the nation and the world and secondly, our agriculture should be able to provide financial sustainability to farmers.” (Narendra Modi)**

### Reference

- [1] Barah, B.C., V. Ratna Reddy and K.N. Selvaraj (2006), Economics of Productivity Enhancing and Resource Conserving Practices in Rice Production: A Case of Systems of Rice Intensification (SRI), Research Project, National Council of Applied Economics and Policy Research, New Delhi.
- [2] Barah, B.C. and Pratap Singh Birthal (2006), Agricultural Diversification and Sources of Growth in the Northeast India: Role for High-Value Agriculture, NCAP Research Project, New Delhi.
- [3] Baruah, A. (Ed) (2005), India's North East: Developmental Issues in a Historical Perspective, Manohar Publications, New Delhi.
- [4] Bardoloi, G. and A.K. Neog (1986), Economy of North Eastern India, LBS Publication, Guwahati.
- [5] Bhowmick, B.C., B.C. Barah and N. Barthakur (2005), Changing Pattern of Rice Production Systems and Technology in Assam: A Spatio-Temporal Analysis of Performance and Prospects, Policy Paper No. 22, National Council of Applied Economics and Policy Research, New Delhi.
- [6] Binswanger, H.P. and B.C. Barah (1980), Yield Risk, Risk Aversion, and Genotype Selection: Conceptual Issues and Approaches, Research Bulletin No. 3. ICRISAT, Hyderabad, India.