

**Impact of Emerging Marketing Channel In Agriculture Marketing Benefit To  
Producer , Sellers And Marketing Costs And Margin of Rice At  
The Sonitpur District of Assam**

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**Abstract**

*Aim Of The Study :AIM of the study is to find out the margin of Rice production at Sonitpur District of Assam.*

*Methodology used : Sampling Technique is used to collect data mainly Primary data from Sonitpur district rice growing areas as well as secondary data mainly existing Research journals ,Magazines , News papers etc.*

*Findings of the Study :As per the data Revenue estimates of Rice production is more in Assam in comparison to other Crops*

**Introduction**

The increasing trend of agricultural production has drawn the attention of marketing due to its pivotal role. The new challenges emerged from the post W.T.O. regime have necessitated the strengthening of agricultural marketing system in India. In an economy like ours, production and marketing must go hand in hand. Marketing plays an important role to stimulate production and consumption and accelerates the pace of economic development of a country. Agricultural marketing deals with all the activities, agencies and policies involved in the procurement of farm inputs by the farmers and the movement of agricultural products from the farms to the consumers. Agricultural marketing involves all the aspects of market structure, both functional and institutional, based on technical and economic considerations, and includes pre and post-harvest operations, assembling, grading, storage, transportation and distribution. The expansion in the volume of farm output stimulates forward linkages, which encompasses transportation, storage, processing, packaging and retailing to the consumers. Increasing demands for money with which to purchase other goods leads to increase sensitivity to relative prices on the part of the producers and they opt for specialization in the cultivation of those crops on which the returns are the highest, subject to socio- cultural, ecological and economic constraints. The marketing system transmits the crucial price signals. The horticultural marketing in India is highly decentralized having wide capacities, but regional disparities is still there. There has been concern in recent years on the efficiency of marketing of fruits and vegetables, because of high and fluctuating consumer prices and also due to the fact that only a small share of the consumer rupee reaching the farmers. Many committees review it and there are reports that Indian farmers are good producers but not good marketer. As early as 1976, National Commission on Agriculture pointed out the inefficiency in agricultural marketing with particular reference to fresh perishables and strongly recommended that, "It is not enough to produce a crop; it must be satisfactorily marketed." The marketing of horticultural crops is complex especially because of perishability, seasonality and bulkiness. Fruits and vegetables are the items of daily consumption, and though perishable in nature, they constitute essential component of human diet. Cultivation of horticultural crops is more profitable than any other seasonal crops particularly, the food grain crops. Many a time, fruits & vegetables are grown in one area but marketed in other areas in order to reap better prices. This involves long distance transport. For these purpose good roads in the interior villages is necessary. Fortunately, there are good state and national highways, but there are no good roads in the interior areas. Sale of the fruits generally takes place through pre-harvest contactors, so that the farmer gets an advanced payment and covers his risk. Vegetables are usually sold through

commission agents and very little of pre-harvest contacting is done. Due to this, the net returns are generally low. The farmers usually devote more time to their field crops rather than to the orchards. If the farmer does the marketing of his produce himself, then for obvious reason the net returns would be more. In case of marketing of fruits and vegetables, producer cannot go to wholesale market or long distant market and he has to depend on some intermediaries to sell his produce. Therefore, in the marketing of fruits and vegetables costs are to be incurred for grading, packing, transport, loading/unloading, fees, etc. In addition, the intermediaries also charge some margins for them. These costs and margins determine the final price to be paid by the consumer. Marketing systems are dynamic; they are competitive and involve continuous change and improvement. Businesses that have lower costs, are more efficient, and can deliver quality products, are those that prosper. Those that have high costs, fail to adapt to changes in market demand and provide poorer quality are often forced out of business. Marketing has to be customer-oriented and has to provide the farmer/transporter, trader, processor, etc. with a profit. This requires those involved in marketing chains to understand buyer requirements, both in terms of product and business conditions.

### **Agricultural Marketing Reforms: Traditional And Emerging Marketing Methods**

#### **Introduction**

Agricultural market reforms have been introduced in India since the Eight Five Year Plan (1992-97). As the Government needs to depend more on market forces for price stabilization and regulation, planning is now indicative more on private sector as it has a greater role to play. Normally, the market mechanism favors the richer section of the society and the poor growers are always remain at the receiving end. Hence, under new mechanism, provisions have been made to make the markets friendly towards the growers by fixing the minimum support prices. Or else, the efficiency of production, skill formation, adoption of technology and generation of marketable surplus get adversely affected. It has to be accepted that no mechanism in the market can equally distribute the fruits of development to all parts of the country at a time. Government of India set up Several Committees and Expert Groups to suggest the direction of reforms in the field of agricultural marketing. The first was the Expert Group on Agricultural Marketing (Acharya) constituted by the Union Ministry of Rural Development in 1998. Following the constitution of this Expert Group, a major structural change occurred leading to the transfer of agricultural marketing division of Union Government from the Ministry of Rural Development to the Ministry of Agriculture. In December 2000, the Union Ministry of Agriculture constituted another Expert Committee on Strengthening and Developing Agricultural Marketing System in the Country under the chairmanship of Sri Shakneral Guru. This Committee (Guru Committee) reviewed the entire system of agricultural marketing in the country and submitted its specific recommendations to the Government in June 2001. The Expert Committee's recommendations included various legislative reforms as well as reorientation of policies and programmers (Government of India, 2001). Major recommendations of the Committee are –

1. The Government should examine all existing policies, rules and regulations with a view to remove legal provisions inhibiting free marketing system. Private Sector, Corporate and Joint Ventures need to be encouraged to set up markets for free and competitive trade
2. By an amendment in Agricultural Produce Markets Act, the utilization of funds by the Agricultural Produce Market Committee (APMC) and State Agricultural Marketing Board (SAMB) for support services like grading, standardization, storage and pledge finance should be made mandatory.

3. Government should strengthen and institutionalize commodity exchanges and futures markets.
4. Government should remodel the functions of APMCs and SAMBs and these bodies should be headed by professionals.
5. All laws that regulate participation in the market such as licensing, controls on packaging and labeling, commodities under regulation, controls on movement and volumes, traded access to credit and dispute resolution should be comprehensively reviewed.
6. Essential Commodities Act, 1955 should be repealed.
7. Direct marketing by farmers or through SHGs should be promoted by taking it out from the APMC Act. Some common code of conduct and modalities for ownership, and operation should be prescribed
8. Consumer organizations should be promoted to directly procure from farmers and distribute to consumers.
9. The use of IT in agricultural marketing should be promoted.
10. Substantial investment from private sector should be mobilized for creation and expansion of agricultural marketing infrastructure, which will require complementary public investment and creation of conducive legal environment.
11. A system of certified warehouses and negotiable warehouse receipts should be introduced to improve credit delivery for marketing functions. Similarly, pledge financing should be encouraged.
12. Government should design a full-fledged agricultural marketing credit policy

### **Market Regulation in Assam**

#### **Market Regulation before the Amendment of the Act**

The Assam Agricultural Produce Market Act, 1972 has been implemented in Assam with effect from 15-6-1977 with the objective of regulation of buying and selling of agricultural produces and to establish an efficient marketing system where the growers may obtain reasonable and competitive price for their produce. The Regulated Market Scheme was introduced in the State with the formation of State Agricultural Marketing Board and the Regulated Market Committees (known as APMCs in other States) at different places in the State. The purpose is to establish modern market yards where all the facilities like scientific go-downs, platforms for auction of commodities, storage facilities, traders shop, bank and post office, parking places, provision of drinking water etc. are provided through the Market Committees under the provisions of the Assam Agricultural Produce Market Act, 1972. The scheme has been implemented through the Market Committees under the supervision, control and guidance of the Assam State Agricultural Marketing Board. The Assam State Agricultural Marketing Board with its head quarter at Guwahati is a statutory and apex body established for exercising superintendence and control over the Market Committees, the agencies responsible for successful implementation of the scheme in the field. The agricultural marketing system of Assam is to some extent different from other States due to deficit production as well as less market arrivals. Moreover, the total marketable surplus was also not found to be transacted through the designated markets, alone. For example, about 70% of the commercial crops like Jute, Mesta etc. out of almost 99% of marketable surplus, 40% of Paddy out of almost 40% of marketable surplus, 50% of Pulses etc. out of 60% of marketable surplus are being transacted either at farm gate or at trader's premises directly. Together with this, malpractices were quite rampant especially, in the methods of sale, weighing, delivery, payment etc. which resulted in wide differences between the

producer's rupee and consumer's rupee. All these bottlenecks and constraints were the major reasons for non-receipt of better prices by the producers.

### **Amended Assam Agricultural Produce Market Act, 1972**

Following provisions are inserted vide section 7 of the Assam Agricultural Produce Market Act (Amendment) Act, 2006 (Assam Act No. III of 2007) to encourage Private Marketing, Direct Marketing, Consumer –Farmers Market and Contract Farming in the State.

#### **(i) Sale of specified agricultural produce:**

5A (1) All specified agricultural produce shall ordinarily be sold in the principal market yard/sub-market yards, subject to the provisions of sub-section (2): Provided that the specified agricultural produce may also be sold at private market yards and other places subject to the provisions of sections 5B, 5C and 5D. Provided further that it shall not be necessary to bring agricultural produce covered under contract farming to the principal market yard/ sub-market yard/private market yard and it may be directly sold to contract farming sponsor from farmers' field.

(2) Such specified agricultural produce, as may be brought by the licensed/registered traders from outside the market area or in the market area in the course of commercial transaction or by way of transportation, may be brought or sold anywhere in the market area.

(3) The price of the specified agricultural produce, brought for sale into the principal market yard or sub-market yard, shall be settled by tender bid or open auction or in any other transparent system and no deduction shall be made from the agreed price on any account whatsoever from the seller.

Provided that the price of specified agricultural produce in the private market yards shall be settled in the manner as may be prescribed.

#### **(ii) Establishment of private market yards and direct purchase of agricultural produce from agriculturist:**

5B The Director may issue registration in the prescribed manner to purchase agricultural produce by establishing private market yard or direct from agriculturist, in one more market area for-

- a) process of the specified agricultural produce.
- b) trade of specified agricultural produce of particular specification:
- c) export specified agricultural produce;
- d) grading, packaging and transaction in other way by value addition of specified agricultural produce

#### **(iii) Establishment of Consumer/Farmer Market (Direct Sale by the Producer)**

5C (1) Consumer /Farmer market may be established by developing infrastructure, by any person or group of persons of a body corporate other than the Market Committee in any market area, at such place, producer of agricultural produce himself may sell his produce directly to the consumer-provided that the consumer shall not purchase more than such quality of a commodity at a time in the consumers market as may be prescribed.

(2) Registration of establishment of consumer/farmer market shall be granted by the Director in such manner as may be prescribed

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(2) Registration of establishment of consumer/farmer market shall be granted by the Director in such manner as may be prescribed.

(v) Power to cancel the registration : In case of fraud or any kind of undue influence would lead to cancellation of the registration .

**(vi) Contract Farming**

5F Contract Farming agreement shall be governed in the manner laid hereinafter provided-

- 1) Contract Farming Sponsor shall register himself with the Deputy Commissioner of the district where the contract-farming producer resides in such manner as may be prescribed.
- 2) The Contract Farming Sponsor shall also get the contract farming agreement recorded with the Deputy Commissioner of the district, in such manner as may be prescribed in this behalf. The contract farming agreement shall be in such form and containing such particulars and terms and conditions as may be prescribed. Notwithstanding anything contained in contract farming agreement, no title, right, ownership or possession shall be transferred or alienated or will vest in the contract farming sponsor or his successor or his agent as a consequence arising out of the contract farming agreement.
- 3) Disputes arising out of the contract farming agreement may be settled by the Director. The Director shall resolve the dispute in a summary manner within thirty days after giving the parties a reasonable opportunity of being heard.

**(vii) Redressal of dispute**

5G Any dispute between the owners of private market yards, consumer/farmer market and the Market Committee shall be referred to the Director or his representative or any other officer authorized by the State Government in this regard. The dispute shall be resolved after giving both the parties a reasonable opportunity of being heard. Appeal against the decision may be preferred for disposal under section 5H in such manner as may be prescribed.

**(viii) Appeal**

5H Any aggrieved person, concerning any matter under section 5B, 5C, 5D and 5E or a contract farming sponsor or producer under section 5F against the decision of the Director, may prefer an appeal before the State Government in the prescribed manner whose decision thereon shall be final and shall not be called in question in any court of law.

**Comparison between TMC and EMC**

The marketing system is defined to be traditional where a large number of intermediaries are involved and the share to the producer is comparatively lower. The role of these intermediaries in agricultural marketing is to consolidate the produce at the village markets. Reconsolidate again at least two or three times before it reaches to the final consumer. As a result, the supply chain in the traditional marketing system becomes long and is completely dominated by those traders who operate

on high margins without much value addition. The purpose of state regulation of agricultural markets was to protect farmers from the exploitation of intermediaries and traders and also to ensure better prices and timely payment for their produce. Regulated markets in Assam, however, have not attained much success even after introduction of the system way back in 1977. Lack of adequate infrastructure facilities, ignorance of farmers about these markets, lack of proper market information, lack of grading and storage facilities are some of the problems often associated with the regulated market system in the state. Another problem associated with the system is the tendency of these markets to acquire the status of restrictive and monopolistic markets, providing no help in direct and free marketing, organized retailing and smooth raw material supplies to agro industries. Exporters, processors and retail chain operators cannot procure directly from the farmers as the produce is required to be channelized through regulated markets and licensed traders. There is, in the process, an enormous increase in the cost of marketing and farmers end up by getting a low price for their produce. Monopolistic practices and modalities of the state-controlled markets have also prevented private investment in the agricultural marketing sector. Now the scenario of agricultural marketing is changing gradually because of the changes made in the APMC act and the emerging marketing concepts like direct marketing, contract farming, corporate entry etc. have began to be popular amongst the farming communities. Direct marketing is an innovative concept of emerging marketing system, which involves marketing of produce by the farmer directly to the consumers/millers without any intermediaries. Direct marketing enables producers and other bulk buyers to economize on transportation cost and improve price realization. It also provides incentive to large-scale marketing companies and exporters to purchase directly from producing areas. Direct marketing by farmers to the consumers has been experimented in the country through *ApniMandisin* Punjab and Haryana. At present, these markets are in Punjab and Haryana. At present, these markets are being run at the expense of the state exchequer, as a promotional measure, to encourage marketing by small and marginal producers without the involvement of the intermediaries. Direct marketing helps to generate the idea of market oriented production and increases profit of the producer. It helps in better marketing, minimizes marketing cost and encourages distribution efficiency. It promotes employment to the producer and enhances the consumers' satisfaction. It provides better marketing techniques to producers and encourages direct contact between producers and consumers. It encourages the farmers for retail sale of their produce also.

### **Research Objective**

- The study is proposed with the following main objectives:
- To estimate the share of the farmer in the consumer rupee in emerging marketing channels *vis-à-vis* the traditional marketing channels.
- To estimate the degree of market efficiency and incidence of post harvest
- Losses in emerging marketing channels *vis-à-vis* traditional channels.
- To study the superior market practices and services provided by different
- Agencies in the emerging marketing channels *vis-à-vis* traditional
- Marketing channels.
- To study the constraints faced by the farmers and different market functionaries in the emerging marketing channels *vis-à-vis* traditional marketing channels.
- To study the margin volume of Rice production in the Sonitpur district of Assam.

### **Literature Review**

A number of studies on agricultural marketing have been found in field of the literature of agricultural marketing. Some of the literatures that have been reviewed for this paper are presented as:

The National Commission on Agriculture has defined agricultural marketing as a “process that starts with a decision to produce saleable farm products that also includes pre and post-harvest operations, assembling, grading, storage, transportation and distribution”. These are the main functions of agricultural marketing. It is observed from many theoretical and empirical studies that transfer of agricultural produce from the hands of farmers to the hands of consumers takes place through a chain of middlemen or agencies. On the basis of this, markets are classified as primary, secondary and terminal or export market. These markets are operated through various channels: such as government channel, cooperative channel and private channel (Krishnamacharyulu. and Ramakrishnan, 2011, p 494-495). Among these, lots of intermediaries exist in private channel. In Assam except few, most of the agricultural crops are marketed through private channel. In their findings, Jaffer et.al (2005), show that lower the number of intermediaries higher is the market efficiency and vice versa. A hand full of studies conducted around the world has concluded that distribution costs of agricultural products are relatively higher. In each market channel share of farmer in the consumers’ rupee is relatively small as compared to that of several intermediaries due to diversified interest of the farmer and the consumer and the middleman. Sudha. et.al (2005) has found that ‘the producers share in consumer’s rupee is higher where no middleman existed then where middleman existed’. So marketing efficiency is more where there is no middle man existed.

There is a network of rural markets (Haats) in Assam. These are often poorly linked in terms of information and transport with one another. These unregulated markets are likely to become even more important as demand increases in the urban areas. The price variations are wide in different markets due to the missing market link. Therefore, strong interventions in the Commodity Marketing have become the need of the hour. To assist producers to adapt and compete more effectively in changing market situations, several initiatives are to be supported to liberalize marketing arrangements in Assam and develop closer connections between extension activities and the operation of the market supply chain including, (i) Proper amendment of the Assam Agriculture Produce Committee Marketing Act to facilitate private sector involvement in contract production and development of wholesale markets, (ii) Making marketing extension a core aspect of extension activities in all the Departments (balancing the traditional focus on production) and establishing closer working relationship with traders associations, (iii) Change line Department emphasis from short term price information to longer-term market intelligence and (iv) Piloting of an Enterprise Development Grant Fund.(v) To regulate the prices through the emerging marketing channel. The scope of emerging marketing channel has led to various dimensional changes during the passes of time. In India, with growing distortions in the supply chain for agricultural commodities, there is need for greater efficiency in the supply chain. The emerging marketing channels are supposed to reduce the transaction costs and ensure that the high margins that certain intermediary agents get in the regular marketing channels is reduced. Some of the emerging channels include group-marketing, e-trading, direct marketing, contract farming, modern terminal markets, future trading, ITC choupal, Self Help Groups and NGOs in the marketing chain.

### **Need For Study**

The present study has been conducted by selecting RICE growers from the four blocks of one districts of Assam. The selected district is the most important districts in the State of Assam so far as the production and marketing of RICE is concerned. The data collected from the selected sample households were based on the reports of the respondents. The data so collected were verified from other sources like farmers views. If there was any doubt regarding the truth and veracity of the reports of any respondents, then the case was verified once again after certain interval so that reliable and

authentic information was recorded for the purpose of the study. The other limitation is that period of data collection is short but try to cover all sorts of data.

### **Research Methodology**

Research Methodology is the systematic approach to solve the research problem with some logic behind it. Research design is the plan to be followed to answer the research objectives and the structure or frame work to solve a specific problem. But there is always a tradeoff between research cost and the quality of decision making information provided.

### **Research Objective**

- To study the superior market practices and services provided by different Agencies in the emerging marketing channels *vis-à-vis* traditional Marketing channels.
- To study the constraints faced by the farmers and different market functionaries in the emerging marketing channels *vis-à-vis* traditional marketing channels.
- To study the margin volume of Tea and Rice production in the Sonitpur district of Assam.

### **Research Design**

Research designs are concerned with turning the research question into a testing project. The best design depends on your research questions. Every design has its positive and negative sides. The research design has been considered as a "blueprint" for research, dealing with at least four problems: what questions to study, what data are relevant, what data to collect, and how to analyze the results.

### **Types Of Research**

The types of research which will be applied in report as follows:

#### **Descriptive Research:**

In the descriptive research we only defined the state of affairs because here in this research the situation had already been defined.

### **Research Methodology Contains The Following Parameters**

#### **Methods Of Data Collection**

As an instrument for survey method.

Structured questionnaire.

Type of questionnaire: Open ended and closed ended.

Secondary data

Reference books. Here data can be collected by the help review, journals, human resource development plans, magazines, and internet

### **Methodology for the Study and Data**

The study is based on both primary and secondary data and the methodology of the study is as follows:

#### **(a) Primary Data Survey**

The data has been collected from the following respondent by using specially designed interview schedules and questionnaires from Sonitpur district various places.

- (1) Farmers
- (2) Buyers

- (3) Retailers
- (4) Consumers
- (5) Market Committee Members
- (6) Wholesalers
- (7) Grocery Shops

A focused group discussion with the members (7 nos.) of the market committees was also conducted in order to get a clear picture of market charges, market practices and market infrastructures, market prices, market products quality as well as govt schemes.

**Secondary Data Sources:**

The secondary data are collected from various sources including National Informatics Centre, and other State/District level published Government sources for the chosen district viz.- sonitpur of Assam. The State Marketing Act, By-laws and Regulations of State Marketing Board were accessed, analyzed & inferences were drawn accordingly.

**Research Findings And Data Analysis**

Here an attempt has been made to present the sampling methodology and brief profile of the study area and socio-economic profile of the sample households.

**Sample selection method for primary data**

As per the methodology received from the Coordinating Agency, the study was confined in the state of Assam and the selection of crops, districts, C.D. blocks, villages and farmers has been presented below:

**Selection of crops**

Two horticultural crops viz.- TEA(Crop-1) and RICE as Vegetable Crop (Crop-2) have been selected purposively for the study on the basis of the existence of the two marketing channels, viz.- Traditional Marketing Channel (TMC) and Emerging Marketing Channel (EMC).

**Selection of Districts:**

Two horticultural crops dominated district was accordingly selected purposively viz.- SONITPUR, respectively.

Villages and farmers : Data's have been collected from the discussion with farmers, and other blocks.

Table : 1 Agricultural classes of indigenous rice in Assam

Seasonal class*	Growing	Duration	remarks
<i>Ahu</i> (Autumn rice)	March/April	80-130	Photoperiod insensitive, early Maturing usually broadcast, grown under variable water depth(0-25cm).In Barak valley, <i>ahurice</i> is further classified as <i>Dumai</i> , <i>Murali</i> and <i>Chengr</i>
<i>Dumai</i>	80-90		Generally grown broadcast, Red kernelled
<i>Murali</i>	90-100		do
<b>Chengari</b>	90-100		do
<b>Ahu</b>	>100		Grown transplanted
<b>B. Sali winter rice</b>	June/ july November /december		Photoperiod sensitive, long duration, grown transplanted under variable water depth (0-30cm) There are sub classes like <i>sali</i> , <i>lahi</i> and <i>joha</i> based on the grain characteristics

<i>Sali</i>	150-180		Coarse grained called <i>sail</i> in Barak valley
<b>Lahi</b>			Medium grained
<b>joha</b>			Scented, fine grained
<b>boro</b>	150-180		Glutinous or sticky rice, called <i>birain</i> in Barak valley
<i>Chakuwa</i>	150-180		Soft rice with low amylose content
<b>Asa</b>	April/May Dec./Jan		Deep water or floating rice, normally grown broadcast, can endure water depth >100 cm. Sown at the time when <i>ahurice</i> is sown and harvested at the time when <i>salarice</i> is harvested.

Yield difference between Research Station and Farmers' field demonstration yield in Assam: --**Yield gap and its reasons**

Though a number of technologies have been generated for the fragile rice growing environment of the state, most of them have not become popular in such situations. The rice yield demonstration plots have been substantially more than the yield obtained by the farmers in their field. Therefore there is possibility of increasing the yield level in the farmers' field.

variety	Season	Research station yield	FLD yield
<b>Ranjit</b>	sali	5500	4500
<b>Bahadur</b>	sali	5400	4500
<b>Luit</b>	Late sali	3500	3000
<b>Jaymati</b>	bodo	4500	3500

The reasons for the yield gap is presented below-

1. Vagaries of monsoon with weather aberrations.
2. Frequent flooding and water inundation in plains.
3. Periodic droughts in between showers in critical growth stages.
4. High incidence of insect pest due to high humidity.
5. Non adherence of recommended package and practices.
6. Inadequate availability of quality seeds.
7. Low light intensity during the *Kharif* season.
8. Lack of awareness about the new varieties/technologies

**Economics of rice production in the state: ----**Cost of cultivation of rice per hectare (approx cost

Particulars	Man days	Expenditure rs
<b>Ploughing</b>	1	100
<b>Sed selection , treatment</b>	1	100
<b>Seed Preparation and sowing</b>	4	400
<b>Irrigagtion, cultural operaton</b>	4	400
<b>Spraying against diseases and pest</b>	2	200
<b>Final land preparation, fertilizer application, and leveling</b>	15	1500
<b>Planting</b>	5	500

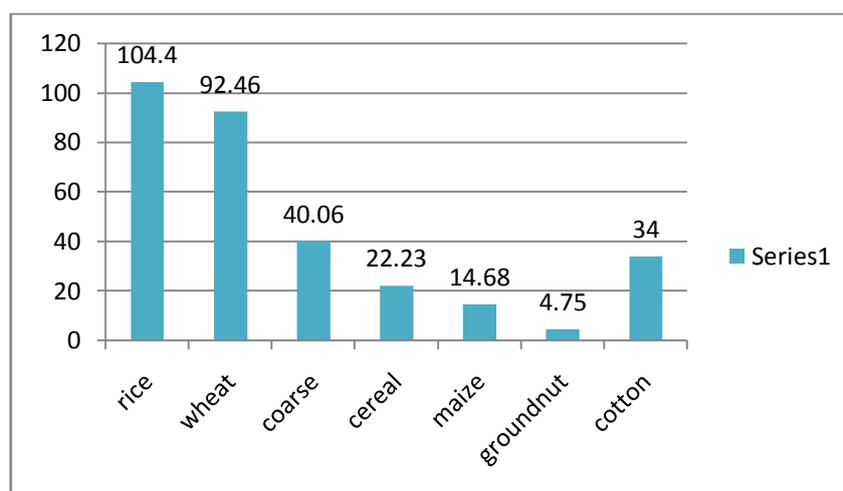
<b>Water management</b>	7	700
<b>Harvest ing</b>	25	2500
<b>Drying and treasuring</b>	30	3000

**Data Analysis:**

**Agricultural Production**

Total Food Grains In The Year 2011-2012

=259.29 And In The Year 2012-2013 =255.36 Accroding To The Estimates Review Rice Production Is More Than Other Crops.



**Special schemes for rice production:-**

<b>Name of the scheme</b>	<b>Objective</b>
<b>RastriyaKrishiVikash Yojuna (RKVY)</b>	For all round development of agriculture & allied sectors for food security. Implemented from 2008-09
<b>National Food Security Mission (NFSM)</b>	Development of Rice cultivation, Implemented in 13 districts. Implemented from 2007-08
<b>Agricultural Technology Management Agency (ATMA)</b>	Strengthening agricultural extension system through ATMA Implemented in 12 districts from 2006-07. Another 11 districts covered under World Bank assisted project AACP.
<b>Macro Management Mode of Agriculture (MMMA)</b>	Implementation of various schemes identified to meet the state's requirement, Implemented 2000-01
<b>5. Seed Village Programme</b>	To produce quality seeds to make state self sufficient in seeds. Implemented from 2007-08 with direct involvement of farmers.

**Rice production**

Assam is one of the seven states of northeast India, which is located between 24°N and 28°18' N latitudes and 89°4' E and 96°00' E longitudes. The State is surrounded by Arunachal Pradesh, Nagaland, Manipur and Myanmar in the East, Mizoram, Tripura and Meghalaya in the South, Bangladesh and West Bengal in the West and Bhutan and Arunachal Pradesh in the North. The state is surrounded by many hills in all directions. The total geographic area of Assam is 78523 sq. km with a population of 2.6 crores as per census 2001. The two main rivers viz., the Brahmaputra and the Barak flow through the state with 40 and 7 major tributaries each, respectively. The Brahmaputra valley occupies about 5.6 million ha with 24 administrative districts while the Barak valley is about 0.7 million ha with 3 districts. The Brahmaputra flows from the east (Sadiya) to west (Dhubri). The altitude at Sadiya is 134 m while in Dhubri it is 35 m. The Brahmaputra valley is an alluvial plain having varying topography. The Barak River flows from east to west through undulating plains. There are two hill districts viz. Karbi Anglong and North Cachar Hills in the state occupying about 1.5 million ha. The hills constitute a part of the Barail and the Meghalaya ranges with maximum altitude of about 1000 m above mean sea level. Thus the state has three distinct physiographic units - the plains, the plateaus and the hills. The state has its climatic and physiographic features favourable for rice cultivation and the crop is grown in a wide range of agro-ecological situations. It is grown from hill slopes of Karbi-Anglong to very deep-water areas of North Lakhimpur and Dhemaji during very wet humid months to drier period of the year. Wide variation of physiographic features and climatic characteristics have resulted three distinct growing seasons of rice viz., *ahu* (Feb /March - June /July), *sali* (June/July - Nov /December) and *boro* (Nov /December -May /June). To match with diverse land situations encountered with varying growing season, diverse varieties are traditionally grown in the state since unknown past. *Ahu* or autumn rice is grown during February/March to June/July and it covers 4 lakh hectares (16 percent of gross rice area) to contribute 11 percent of rice production. This class of varieties are photoperiod insensitive and can be grown as early *ahu* as pre-flood crop in flood affected areas where as normal *ahuis* grown in the areas where risk of flood is minimal.

**Zonal information:-**

**Climate:** By and large the climate of Assam is subtropical with warm humid summer and cool dry winter. Due to its large variation of physiographic, the state has a very wide variation of climatic conditions. Climate of North East (NE) India, including Assam is distinct from that of the rest of India due to special features like topography, alternating pressure cells over NE India and Bay of Bengal, predominant maritime tropical air mass, the roving periodic Western disturbances and the Local Mountain and valley winds. The climate of the Brahmaputra and Barak valley are characterized by hot and wet summer and mild to moderately cold dry winter. India enjoys a typical monsoonal climate and Assam is no exception. Four distinct seasons viz., Pre-monsoon (March-May), Monsoon (June-September), Post-monsoon (Oct-Nov) and winter (Dec-Feb) are quite obvious in the State. Pre-monsoon is not very hot in this State. Rainfall starts generally from the 3rd week of March and the weather becomes pleasant. During winter and premonsoon seasons, due to western disturbances bring precipitation in the region. The State gets more than 60% of the annual precipitation during monsoon season, which starts in the 1st week of June. Because of the movement of the trough line towards north of India (around Himachal) or due to weak depressions in Bay of Bengal, sometimes the monsoons get weaker after it starts blowing. This leads to a dry spells of 7-15 day duration during the season. It is called "monsoon break" and is deleterious to the crops, particularly to the standing paddy crop. This season is characterized by flood, inundation and water logging. Almost along the Brahmaputra and Barak valley, the ground water level comes to the surface. The monsoon season receives maximum amount of rainfall (62-65 % of annual rainfall) followed by pre-monsoon (20-23%), post-monsoon (6-8%) and winter (2-3%) season.

### **Contribution to the GDP**

Agriculture is the mainstay of a large majority of the population of Assam. As per 2001 census, 53% of total work force is engaged in agricultural activities. The contribution of agriculture to Net State Domestic Product at current prices of the state is 26.4% in 2007-08 (advanced estimates). The agriculture in the state mostly depends on rainfall. One of the most serious problems adversely affecting the state's agriculture is the recurrence of devastating floods almost every year. At present, rice occupies about two-third of the total cropped area in the state. Being the single major source of agricultural GDP, rice plays a significant role in the state economy. Further, its importance in the consumption basket (the average monthly consumption per capita is about 13kg) also speaks volumes on the rice orientation of the state.

### **Constrains in rice production**

The entire north eastern region experiences wide variation in soil and climatic conditions. The state of Assam has been divided into 6 agro climatic zones based on variations in soil, climate and cropping pattern, broad soil characteristics, annual average rainfall and irrigation available etc. Problems of crop production vary with zones as the soil and climate vary from zone to zone. However, there are still many constraints of rice production which are common to more than one zones and types of rice culture. The problems of rice cultivation in Assam are manifold. Therefore, it is the need of the hour to find out constraints which hinder high productivity to plan research and development strategies in order to achieve as much of rice production potential as possible

### **Conclusion**

At last it's a worth mentioning Agriculture marketing in has a pivotal role to play but for this govt should have to be very much helping hand to this small farmers to move ahead with new farming technology, pesticides, tractor, fertilizers and other material so as to develop the crops in a proper way with robust production of rice, potatoes and other vegetables. Again the dairy sector has yet to take the stride in Assam because after agriculture, handloom the dairy sector needs to be given emphasis for better and productive development. Because still Assam is in very grassroots level in terms of production of potatoes, rice, tea and other vegetables due to the condition of drought, famine as well flood situation has completely dampened out the situation. Therefore govt should need to be initiated a long-term plan formulation for solving it.

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