

Chapter 7

SUMMARY, FINDINGS AND CONCLUSION

This study titled **Communication and Agricultural Development in Sivasagar District of Assam** has attempted to understand the patterns of communication in agricultural development in four villages; namely, Charal, Bhuyan, Lahdoigarh and Borbahoni of Sivasagar district in Assam. The chapter now discusses summary, findings and conclusion of the study.

THE RESEARCH PROBLEM

India is predominantly an agricultural economy based country. Agriculture is still playing an important role in total economy of India. So, agricultural communication while dealing with other production factors such as land, labour, capital and managerial ability can be improved by relevant and reliable information and knowledge so that farmers can make better decisions to avail of market opportunities and to manage continuous changes in production systems (Demiryurek 2008). Effective agricultural information delivery requires recognition of the needs of the farmers and the determination of how best to provide them with the information they need. Information is a critical resource in the operation and management of the agricultural enterprise. Access to the right information determines the success and failure of the farmers and therefore agriculture, the mainstay of rural life, needs proper communication of new ideas and technological innovations for improvement of the life as a whole. The communication patterns of farmers are shaped by socio-structural factors like class, caste, gender, age etc. Lack of proper communication and distribution of information is some of the constraints to achieve sustainable agricultural development in many least developed countries. Development is a process of acquiring control over environment by a society to bring in social, economic, political and cultural advancement of people. It consists of such goals as promoting literacy, health, limiting family size, increasing productivity and material advancement, along with greater equality, freedom and other valued qualities, varying from place to place and time to time. Over the years, the social scientists have propounded a number of models such as capitalist, socialist/communist, democratic, psychological, social, economic and diffusion models of development, grouped as

growth model (Adam Smith, Ricardo and Malthus); Marxian model; modernization models (Lerner, Inkles, Hoselitz, Rostow, Eisenstadt, and Parsons), dependency model (A.G Frank, Cardoso, Baran) and post-communism model. Some models have been given by Indians also such as P. C Mahalanobis' econometric model used in formulating the framework of second five-year plan, essentially an allocation model based on techniques of operational research as applied to development planning and useful for making effective use of scarce resources to meet ends; Mahatma Gandhi's model for uplift of the rural people, stressing on increase in production and employment and Sarvodaya model constructed by some Indian reformists like Vinoba Bhave, J. P. Narayan, K. C Kummarappa etc., emphasizing on 'uplift of all', without generating class antagonism. The Government of India has given emphasis on multidimensional and integrated rural development for improvement of the people's lot. However, most of the western and eastern models of development have emphasis on modernizing agriculture by using modern technology for improving the lot of rural masses in the developing societies like India. All the models have stressed on communication to achieve new vistas of improved quality of life as communication network is an integral part of modern society and one of the latent functions of communication is to initiate as well as to maintain the process of development; to distribute effects of development in all segments of society; to generate creativity among the people and to increase efficiency and productivity (Borthakur 1994).

A major characteristic feature of the developing societies is their predominantly rural character and subsistence oriented agrarian economy. All models of development have a major emphasis on transformation of these societies by structural changes of total society. The classical economists felt that the proper path of growth for a country is to develop its agriculture first, manufacturing industries second and commerce last (Adam Smith quoted in Bhatia: 1977: 23). Schramm (1964: 116) is also of the opinion that economic and social development often begins with agriculture. Although, agricultural production of Assam increases step by step but it is still lacking as compared to other states of India. The farmers of Assam still needs information or need more communication for agricultural production and marketing. Information needs can be understood through uses of recommended doses in agricultural fields regarding seeds, fertilizers, agricultural implements, pesticides, insecticides, irrigational facilities, marketing and agricultural production etc. The

findings show that: the Agriculture Department has set the target to cover 26.65 lakh hectare of area under rice so as to increase the production of rice to 46.31 lakh MT during the year 2010-11. The area coverage of HYV rice to total rice area has been increasing step by step from 59.9 per cent in 2005-06 to 65.0 percent in 2009-10. Considering the productivity, cultivators preferred the seed of HYV rice viz., Mala, IR-36., Lachit, Masuri, Joya, Ranjit, Ratna, China Boro, Biplov, Bahadur, Kaveri, Krishna etc. However, the yield rate of summer paddy was marginally low during 2009-10 [3.8 percent] compared to the yield rate of 2007-08. As per final estimates, the production of Rice in the State was 44.08 lakh MT during the year 2009-10 as against 40.08 lakh MT rice during the year 2008-09. Total production of rice in the State recorded 9.98 percent increase during the year over 2008-09. The Paddy cultivation occupies 91.9 per cent of the net cropped area and 65.9 per cent of the Gross Cropped area in the State during the year 2009-10. As per final estimates, the average area covered for normal paddy cultivation during the year was 25.30 lakh hectares or about 92.5 percent of the total area under food grains in the State.

Role of communication is much more important to improvement of agriculture, health, political activities and dissemination of information in the developing societies like India. The radio became cheap only in 1950s and later the other communication technologies like television and print media became popular in India. So, impact of mass communication on socio-economic development has not received as much attention among social scientists as other means of development. However, it has been noticed that development efforts have proved to be unsuccessful due to lack of proper communication strategies and a majority of villagers had no access to information or had problems in understanding or implementing any new schemes in the villages. The villagers are often not supplied with adequate, simple and accurate information to use innovation properly. Due to the lack of proper communication the villagers are often not able to articulate real needs for productivity in agriculture or other needs related to health, education, political awareness etc. The World Development Research (1999) focuses on knowledge about technology (technical knowledge) and knowledge gaps that relate to the unequal distribution of technical knowledge. Knowledge about the qualitative aspects of economic production and the unequal distribution of qualitative information results in information problems that also contribute to underdevelopment. The actual role of

communication is to communicate and facilitate acceptance of innovations helping in mobilization of people through transformation of attitudes and values. As the mainstay of rural life agriculture needs proper communication of new ideas and technological innovations for improvement of the life as a whole. For long, even after Independence, villagers in Assam had no access to modern mass media of communication and they persisted with interpersonal mode of communication. Of late, many of villagers in Assam have had access even to new media of communication; namely, Cable TV, Internet and mobile phone, besides Radio and newspapers, and, from these, they are getting new ideas to implement, many a time, in agricultural development. However, interpersonal mode of communication is also widely used in diffusing new ideas in agriculture and, sometimes, both the modes of communication are seen to be working hand in hand, though at different levels. Further, modes of communication are somehow related to certain structural factors such as age, gender, caste/community, education, income, size of land etc. Here, a question arises: **What patterns of communication are perceived to be emerging out of the agricultural development taking place in Assam, especially in the villages of Sivasagar district?** The study has been undertaken (i) to analyse the patterns of communication in agricultural development, (ii) to find out the most effective interpersonal and mass media sources of communication in agricultural development and (iii) to understand the role of the structural factors such as age, gender, education, religion, caste, community, income, occupation etc. intermediating communication in agricultural development in Sivasagar district of Assam.

METHODOLOGY OF THE RESEARCH

The context of the study has been the Sivasagar district which comprises 874 villages, most of which are mixed villages. Some of these are predominantly having General Caste, Scheduled Tribe, and Scheduled Caste or tea garden labour populations. Four villages have been selected purposively and all of their households are taken for data collection. The data were collected in March-May 2011 by administering a structured interview schedule. The obtained responses in the interview schedule were coded in a code sheet and analysed manually. The coded data were tabulated and converted into percentages for comparisons and analysis.

FIELD OF THE STUDY

Sivasagar district is situated on the plains of Brahmaputra valley in Assam and the north of Nagaland with a population of 1150253. As per 2011 Census, 90.45 % population (1040376) of Sivasagar district is in rural areas, out of which males and females are 531,541 (51.09%) and 508,835 (48.90%). The population density of Sivasagar is 431 persons per square km. It is 16th most densely populated district out of 27 districts in Assam. Sivasagar has a sex ratio of 951 females per 1000 males and a literacy rate of 81.36% (males -86.75% and females -75.69%). The district comprises 874 villages and 9 development blocks comprising Hindus 927,706 (80.59%) and Muslims 85,761 (8.15%). The main communities in the district are Ahoms, tea-tribes, Sutiya, Sonowal Kachari, Mising and Deori. There are also a few villages of Buddhist tribes like the Khamyang and the Turung. There are also small populations of Konyak, Manipuri and Nocte people in some parts of the district. (en.wikipedia.org/wiki/Sivasagar_district#_Geography). However, to study the communication and agricultural development, four villages; namely, Charal, Bhuyan, Lahdoigarh and Borahoni are selected from the district which have constituted of different castes and communities. The four villages are located in south part of the Sivasagar district, which is one of the historical places among the present district of Assam.

The village Charal also known as Hira is located in the south-east of the district, near Amguri College, at a distance of 30 km from the district headquarters at Sivasagar town. The village is under Pengera Gaon Panchayat in Amguri Development Block. Its total population is 257 persons distributed over 55 households; male 133 and females 124. Majority (52 households) of them belong to Schedule Castes, known as Hira community and only 3 households belong to Ahom community. The village is surrounded by Japihajia village in the north and Borbam Tea Garden in the south along with large cultivated fields in the east. The villagers belong to Hira community and Sudra in sect. Though they have had a very low status in traditional Hindu society, now-a-days they have followed all the rites and rituals as the other Vaishnayite Hindus do. Out of 55 households, 22 are semi-pacca and 8 are kachcha, 25 families live in pacca houses including Raw Concrete Cement (RCC) house. Of the households, 27 have four living rooms, 25 families have five, 2 families have 3 and only one family has 6 living rooms besides kitchen. The village has

electricity, water supply and road facilities. Though there is no government bus passing through the village, but autorikshaw, and Tata magic vehicles are available to visit other places. Besides the houses, there are five shops found on both the sides of the main road. Four of the shops deal in grocery and one deals in fertilizers and tea medicines. Hira Lower Primary School is situated at the end of the village. For high school education, students usually go to Amguri boys higher secondary school, Janata high school or Gyan Vikash Vidyapith (private semi govt. school) situated in the west and east side of the village at a distance of 2 km. For higher education students take admission in Amguri College and Janjhi College which are located half a km & 8 kms from the village respectively. So, educational facilities are available to the villagers. The primary health centre located in Kowar Gaon near Boruah Tea Garden hardly facilitates the villagers. So, they visit the other nearest hospitals, i.e., Pengera Primary Hospital or private nursing homes; namely, Amguri town. People use supply water for drinking and other household purposes. The villagers established a Namghar (temple) in the centre of the village beside the main road. Religious functions organized and other collective decisions are taken the Namghar.

The village Bhuyan located in the north of Amguri town and south of Sivasagar town under Amguri sub-division is surrounded by Dhunia Gaon, Charaimoria and Maaj Gaon comprising bamboo cover and large cultivated fields. The village is 5 km away from NH-37; hardly half a km from Amguri town and NH-61. The pacca roads also connect it with Amguri town and Cheuni-ali. The village comes under Bhuyanhat Gram Panchayat and Amguri Legislative Assembly Constituency. The total population is 239 out of which 139 (58.15%) are male and 100 (41.84%) are female. In all, there are 52 households in the village, out of which 48 (92.30%) belong to Kalitas (general caste) and other four (7.70%) belong to Ahoms- both are Hindu communities. 57.69% of families are small in size and 42.31% are large size having more than five members. The settlement pattern of the village is linear and scattered. Most of the households of the village are constructed along the road side as well as farther from the road. There is one Government School named Bhuyan Lower Primary located at middle of the village. As the village is not far away from Amguri town the children face no problem of schooling. For college education they take admission in Amguri College, Arundoi Academy, Janjhi College or nearby colleges such as Jagannath Boruah, Chandra Kamal Boruah etc. in Jorhat district. The socio-

economic condition of the villagers is good. Though there is no medical facility in the village, the villagers face no problems due to its proximity with the Amguri town. For any necessity requirement they can easily travel to the town. The main economic sources of the villagers are agriculture, business and service.

Lahdoigarh is a village of Mishing tribe, having 115 households with a total population of 480 persons, 257 males and 223 females. It is about 35 kms from the district headquarters, 5 km to the South of Amguri town and to the North from of Nagaland Assam Border. The NH-61 is passing by the village towards Nagaland. The village falling under Amguri Gaon Panchayat is situated on the bank of historical Janjhi river which divides the Sivasagar district from the Jorhat district. It is linked with Halwating Tea Garden and Chutia village. The entire road is kachcha; the village have bamboo cover along with large cultivated fields opposite to the households. Lahdoigarh Janajati Prathomic School is only the educational institution in the village. For Middle English (ME) and high school educated children have to go either Halwating Mazdoor School or Amguri Higher Secondary School. Because of autorikshaws operating between Halwating and Amguri (NH-61) students face no problem of access to school or colleges. The settlement pattern of the village is a typical line with traditional *Chang Ghar*. The households are arranged on both the sides of the road. Though some households are pacca they still maintain chang ghar type with pacca walls. In the village, most of the Chan ghars are kachcha with bamboo & mud walls and tin roof. The Namghar, the place for taking all decisions is located in the centre of the village. They organize various festivals, religious ceremonies there. There is no medical facility in the village; however, a primary health centre and a veterinary hospital are located 5 km away the village. Though there is no hospital, the villagers visit private chambers of doctors at Halwating for treatment. Most of the villagers are cultivators, petty businessmen and a few are service holders. Janjhi river is one of the major sources of income from where they catch fish and collect wood for sale. The valuable trees like *Tita Sepa*, *Halah*, *Kokon*, *Saam* flows down from the nearest forest of Nagaland and some of the villagers carry bamboo for sale. The storing of Sand in winter season from Janjhi River is also another source of income. Most of them used river water or ring well for drinking water. The village is not covered under Rural Water Supply Programme.

The village Borbahoni or Purana Baghjan is located between Dopdar Joradhara and Chutiabasti or Halwating town in the South of the district headquarters town of Sivasagar. It is about 35 kms from Sivasagar town, 6 km from Amguri town and one and half kilometre from Halwating town. The total population of 437 persons comprises 223 (51.02%) males and 214 (48.97%) females distributed over 101 households. Kathkotia Borua Ali and Mehgor Ali are the main roads to connect it with the outside worlds. The houses are settled beside the village road. The canopy of bamboos and other trees cover it. It is surrounded by Barua Tea Estate in the west and cultivated field in the east. It is a village of SC, ST and OBC populations. The entire road of the village is kachcha which is the only means of communication in the village. The people of other villages also use this road as a short cut to the Halwating Bazaar. In rainy season the condition of road is poor due to the tea carrying vehicles. There are no private or government buses plying through the village. Although NF Railways lines (Assam to Nagaland) are passing by the village but due to illegal and some other unavoidable condition overnment stopped the train services in this tract. The households are located in a linear way beside the village road. Majority of the households are kachcha with bamboo walls and tin roofs. The safe drinking water supply is not available in the village and the villagers depend on pond and tube well. For marketing and shopping they use their personal vehicles. Cultivation and tea labour are the main source of earning in the village. The tea labour workers earn wages by plucking tea leaves in small tea gardens in the nearest village. There is a Borbahoni Lower Primary School in the village; for Middle and high school education children take admission in Modern English School, Dopdar High School or Halwating Mazdoor School. The Amguri College is the nearest college, 6 km. from it. The primary health centre and the veterinary hospital are 4km away from the village.

SOCIO-ECONOMIC CONDITIONS AND INFORMATION LEVELS IN THE VILLAGES

1. The largest section (41.44%) of people is in the age group of 35-59 (middle aged); followed by the youth (29.98%), Children (19.24%) and old aged (9.34%) in the four villages.
2. One fifth (21.49%) of the villagers are illiterate; of them 32.49% in Borbahoni, 18.54% in Lahdoigarh, 14.65% in Bhuyan and 13.62% in Charal.

The total literacy rate of the villagers is 78.51%: Borbahoni (66.81%) but the villagers have high literacy rate of more than 80%.

3. The Bhuyan villagers are found in different high categories of educational levels like graduate, post graduate, professional, technical etc. The socio-economic conditions help to adopt education in Bhuyan village than other three villages.
4. 39.01% houses are pacca, 37.46% are kachcha and 23.53% are semi pacca. In Borbahoni, 60.39% of houses are kachcha followed by semi-pacca (24.75%) and pacca (14.86%) houses whereas in Lahdoigarh, over two fifths (45.22%) have kachcha, followed by pacca (31.31%) and semi-pacca (23.47%) houses. Bhuyan have the highest number (96.15%) of pacca house followed by semi-pacca (3.85%). In Charal 45.45% of houses are pacca, two fourth (40%) semi-pacca and 14.55% have kachcha houses.
5. Most of the villagers (82.60%) concentrated in the houses having 3-4 rooms in Lahdoigarh followed by Charal (74.54%), Borbahoni (19.13%) and Bhuyan (13.46%). 73.07% of families in Bhuyan have 5-6 rooms, whereas 25.46% in Charal, 6.96% in Lahdoigarh and 4.35% of families are in Borbahoni village. Numbers of room relates with size and income of the family.
6. In Charal 76.36% of the families have television, sofa (65.45%), carpet (3.63%) and showcase (61.81%). In Bhuyan, all have television sets, including sofa (96.15%), carpet (25%) and (69.23%) showcase. In Lahdoigarh 26.95% of the families have television, sofa (10.43%) and showcase (12.17%). In Borbahoni, one fourth (25.74%) have television followed by sofa (7.92%) and showcase (5.94%). Those families which possess all these items in their houses are economically well-to-do families. So, guest room items like TV, sofa, carpet etc. found high in Bhuyan followed by Charal, Lahdoigarh and Borbahoni. It shows impact of modern items and way of living style in the four villages.
7. Of the total, 34.67% families have gas stove, dining table (35.91%), water filter (56.65%) purifier/cooler (13.31%), electric pressure cooker (3.40%), pressure cooker (58.51%), mixer/ juicer/grinder (8.04%), electric oven (1.23%) and 16.40% of the families have wash basin.
8. Six types of vehicles; namely, truck, car, bicycle, two wheeler vehicle, motor cycle and scooter are found in villages. 1.85% of the families in the villages

have truck, 7.73% have car, 81.11% have bicycle and 21.67% have scooter and motor cycle. Vehicles like truck are not found in Borbahoni. There are also a very few (0.86%) families in Lahdoigarh village which have own truck. This indicates that some of the families in Lahdoigarh village are economically well off. The transport vehicle scenario indicates that the villagers adopt modern way of life to maintain status as well as personal convenience.

9. The villages get supply water for drinking and 33.12% of families use supply water for drinking, washing clothes and related works. 10.84% of the families use both tube well and ring well for bathing, washing clothes, utensils etc. 45.20% of families have used pond for drinking water. The villagers of Lahdoigarh and Borbahoni use water from tubewell, pond and ringwells due to lack of governmental facilities.
10. The sanitary conditions are improving through pacca latrine. In Borbahoni, highest (71.28%) numbers of kachcha latrine are found followed by Lahdoigarh (39.14%) and Charal (27.27%) village. The kachcha latrine having families are low income in four villages.
11. One fifth (20.12%) of the families have no water purifier, whereas 11.45% have homemade filter, 55.10% have water filter with candle and only 13.31% have electronic water filter in the villages. In Lahdoigarh and Borbahoni, families' drinking water is less safe due to poor economic condition as well as lack of health consciousness.
12. Over one third (35.91%) of the families use LPG for cooking and nearly two thirds of families (64.09%) use fire wood and 18.88% use both LPG and fire wood. The families of Bhuyan village use LPG than firewood as fuel; it because of families getting less time to span on collecting firewood whereas majority of villagers engaged with service, business etc.
13. Over two thirds (67.57%) of the villagers are engaged in agriculture whereas only 7.72% are in the service sector of private and government institutions. 9.45% of villagers are engaged in business like small brick industries, broiler farms, tent house etc. In Lahdoigarh 20.05% villagers are engaged in selling *aapong* (home-made wine) and in the other three villages people are mostly engaged in selling vegetables, small grocery shops etc. Although very less

- villagers (12.16%) are engaged in daily wage labour but it is highest in Borbahoni (36.82%) followed by Lahdoigarh (8.38%) and Charal (5.88%).
14. One third of the families (30.65%) are in the group of below Rs 46860, one fourth of them (25.07%) are in between Rs 46861- 93720 and 13.62% of families are in between Rs 93721-140580. One fifth (18.57%) are in the group of Rs 140581-187440 and a few (5.57%) of villagers are in the categories of Rs. 187441-234300. 4.03% of families' annual income is in between Rs 234301-281160 and 0.62% are in between Rs 281161-328020 and Rs 468601-515460 in the four villages. 0.32%, each, of families are in the categories of Rs 328021-374880, Rs. 374881-421740 and Rs 421741-468600 in the four villages.
 15. Two fifths (40.41%) of the families' annual income is Rs45001-46860 and one fourth 24.24% of families have annual income of Rs30000-35000. 20.20% families have Rs35001-40000, followed by Rs 40001-45000 (15.15%). Further, BPL families are highest (52%) in Borbahoni, followed by Lahdoigarh (35%), Charal (9%) and Bhuyan (3%).
 16. Two fifths (60.37%) of the families are nuclear and the rests are joint.
 17. Half (46.74%) of the families have small sized followed by medium (41.80%) and large (11.36%) due to consciousness on family planning among the families' which is high in Bhuyan and Charal because of modern education.
 18. Three fourths (73.68%) of the families visit government hospitals located in Amguri town. Nearly one fifth (17.64%) of the families go to private hospitals located in Amguri, Sivasagar, Jorhat or Dibrugarh for major diseases and a few of them (8.8%) visit sub-centres for treatment.
 19. The families having low income visited government hospital: more from Lahdoigarh and Borbahoni village. In Charal, most of villagers visited government hospital due to short distance of the Pengera hospital at Amguri town. The families of Bhuyan prefer both private and government hospital for treatment as the village is located near Amguri town. Primary sub-centres are almost ignored by the villagers due to lack of doctor, nurses and medicines. It has also been noticed that in case of serious health problems all the villagers used to visits private nursing home for better facilities.
 20. Most (88.24%) of the villagers prefer allopathic treatment followed by homeopathic (6.19%), ayurvedic (3.31%) and herbal (2.26%) medicine for

treatment. In Borbahoni 85.99% prefer allopathy, 4.21% prefer homeopathy, 6.16% prefer ayurvedic and 3.64% of individuals prefer it. In Lahdoigarh, 92.92% prefer allopathic, 3.96% homeopathy, 3.96% ayurvedic and 2.27% prefer herbal medicines. In Bhuyan 80.89% prefer allopathy, 16.17% homeopathy, 0.98% ayurvedic and 1.97% prefer herbal medicine whereas 90.57% prefer allopathy, 8.37% homeopathy and 1.05% prefer ayurvedic medicine.

21. Families having low income visited government hospital which is found more in Lahdoigarh and Borbahoni village. In Charal, most of villagers visited to government hospital due to short distance to the Pengera hospital at Amguri town. The families of Bhuyan prefer both private and government hospital for treatment as the village is located near Amguri town. Primary sub-centres are almost ignored by the villagers due to lack of doctor, nurses and medicines. It has also been noticed that in case of serious health problems all the villagers used to visits private nursing home for better facilities.
22. Most of the villagers prefer allopathic medicines in the four villages. The villagers believe that it cures quicker than other medicines. Besides, allopathic medicines are available in markets and they have also minimum knowledge on it.
23. Over two fifths (47.13%) of the villagers get information on health from their neighbours, followed by ASHA (29.3%), friends (18.64%) and media (4.88%). Of the total half of the villagers, 56.58% get information from neighbour, 22.12% from friends, 17.64% from ASHA and 3.64% from media. 47.72% of villagers get from neighbours, 29.29% from ASHA, 22.47% from friends and 0.50% of villagers get health information from media. In Bhuyan, 51.47% of villagers get information from ASHA, 20.09% from neighbours, 14.22% from friends and 1.96% get from media such as radio, TV and newspaper. 57.07% of villagers get from neighbours, 19.37% from ASHA, 17.27% from friends and 6.29% from media.

FINDINGS OF THE STUDY

The major findings of the study are as follows:

(i) Information Needs in Agricultural Communication

1. The State Agriculture Department helps through systematic and schematic effort for providing irrigation facilities, seed replacement, organic farming and development of marketing & market infrastructure so as to encourage the farming community and to create maximum potential for employment generation.
2. The paddy cultivation occupied 91.9 per cent of the net cropped area and 65.9 per cent of the Gross Cropped area in the State during the year 2009-10. As per final estimates, the average area covered for normal paddy cultivation during the year was 25.30 lakh hectares or about 92.5 percent of the total area under food grains in the State.
3. Overall rainfall pattern during the Rabi crop season of 2009-10 was deficient. During the period from October 2009 to March 2010 the State had received 223.4 mm of rainfall against normal rainfall of 302.9mm, a deviation of 26%. This deviation was recorded (-) 76% to (-) 99% during the months of December 2009 to January 2010 as the State had received scanty rainfall ranged between 0.2 mm to 2.9 mm.
4. The State during the Kharif crop season of 2010 was favourable both in terms of total rainfall and its spread. The overall rainfall recorded during the season was 2066.3 mm against the normal 1976.0 mm (+5% deviation from normal). The State had experienced excessive rainfall in the month of April, normal during the months from May to September except July. Rainfall was marginally deficient in the month of July. During the season excessive rainfall and down stream water from the neighbouring hill states and countries caused flood in few districts. Immediate steps taken by Agriculture Department helped farmers save the Kharif crops, mainly Sali Paddy, in most of the flood affected areas.
5. The production of rice in the State was 44.08 lakh MT during the year 2009-10 as against 40.08 lakh MT rice during the year 2008-09. Total production of rice in the State recorded 9.98 percent increase during the year over 2008-09.

6. The yield rate of winter rice (kg/ hectare) maintains its decreasing trend during the years from 2004-05 to 2007-08. The yield rate of winter rice was low during the years 2006-07 and 2007-08 over the previous two years mainly due to drought like situation and severe floods that the State had experienced during the peak Sali Paddy season of the aforesaid years respectively.
7. The total reporting area of the State was 78.50 lakh hectares. Of the total reporting area, net sown area constituted 35.80 percent (28.10 lakh hectares), 23.61 percent was under forest, land not available for cultivation 26.26 lakh hectares or 33.45 percent of the total reporting area and other uncultivable area was 4.32 lakh hectares or 5.5 percent . While fallow land constitutes 1.63 percent of the total reporting area with around 1.28 lakh hectares, land under still water and water logged area jointly constitutes 1.78 lakh hectares or 2.27 percent. The area under Social Forestry was only 0.13 lakh hectares or 0.16 percent of the total reporting area. The Gross Cropped Area recorded increase from 38.39 lakh hectares in 2007-08 to 39.99 lakh hectares in 2008-09.
8. Of the total landholding in the four villages, about one tenth (8.37%) is used as household land, and over four fifths (89.18%) is cultivated and 2.45% is non-cultivated land or forest land. Further, 94.04% of the land is cultivated land in Charal village, 91.48% in Bhuyan, 86.61% in Lahdoigarh and 84.83% in Borbahoni. Thus, Charal (0.96%) has less uncultivated land than other three villages-Bhuyan village (4.08%), Borbahoni (3.32%) and Lahdoigarh (1.81%).
9. Cultivated land is more in Charal and Bhuyan than in the rest of the villages. In Lahdoigarh and Borbahoni cultivated lands are comparatively less due to increasing population in their villages.
10. One fifth (19.81%) of the families are landless; 34.66% families in Borbahoni, 17.39% in Lahdoigarh, 10.91% in Charal and 5.77% in Bhuyan village. One fourth (26.94%) of the villagers are marginal land holders; over 46.53% in Borbahoni, one third (34.62%) in Bhuyan and 20.87% in Lahdoigarh village. Over two fifths of the villagers are found as small farmers: over four fifths 87.28% in Charal, 56.53% in Lahdoigarh, 30.76% in Bhuyan and 17.82% in Borbahoni. Only a few villagers (7.13%) are large landholders. However, in Bhuyan, 28.85% of the families have large landholding compare to Borbahoni (0.99%) because rich families in Bhuyan bought land from the neighbouring villages.

11. One fourth of the families (25.09%) use local or homemade seeds for cultivation: 56.06% in Borbahoni village, 21.06% in Lahdoigarh and 16.33% in Charal. Of the total families three fourths (74.91%) use HYV as well as local seeds: 100% in Bhuyan village use it, 83.67% in Charal and one third families in Lahdoigarh. In Borbahoni village, four fifths (43.94%) of families use both seeds.
12. Over four fifths of the families (86.48%) use Hali seeds: all the villagers of Charal, Bhuyan and Borbahoni and 28.57% in Bhuyan. Over one fifth (22.77%) of families use Bora seed in their fields and a little more than it or 23.16% families are found using Sakua seeds for cultivation: one third (34.69%) in Charal. Joha is also popular local seed among the villages and about one fourth of the families use it in their fields. About half of the families (48.97%) in Bhuyan use this variety in their fields, followed by Charal village (44.89%), Borbahoni village (21.21%) and Lahdoigarh (4.21%). Almost equal percentages of families use Betguti and Kon-joha seeds.
13. Less HYV seeds are used in Borbahoni than any other villages because most of the villagers are tea garden labourer and less cultivable land. They also not give much important about HYV seeds. So, they need information on HYV seeds. Besides, the villagers of Borbahoni and Lahdoigarh use more local seeds as they prepare liquor (*aapong*) from them.
14. Masoori is used in all families for crops. Similarly the seeds like Pankaj and Basmati are also used by them whereas more than one fourth (28.35%) use Pankaj seed and less than one fifth (18.55%) of families use Basmati seed. The other seeds like Joha 775(1.03%), Piyoli (1.54%) and Bahadur (9.27%) are found very less used seeds in four villages. Comparatively, Bhuyan villagers used higher yield varieties than other.
15. Farmers' families in Lahdoigarh, Borbahoni and Charal need information on HYV seeds like Basmati, Joha 775 etc. as these types of seeds have more demand in any markets.
16. In the four villages, 2007 bighas of land are cultivated: Kharif crops (85.55%) and Rabi crops (14.45%). 478 bighas (Kharif 96.03% and Rabi 3.97%) are cultivated in Charal village, 516 bighas (Kharif 94.18% and Rabi 5.82%) in Bhuyan village, 673 bighas (Kharif 70.13% and Rabi 29.87%) Lahdoigarh and 340 bighas (Kharif 88.23% and Rabi 11.77%) in Borbahoni.

17. The villagers preferred Kharif than Rabi crops in the villages due to small size of landholding and lack of irrigation facilities. The Rabi crops like-potato, beans, tomato, mustard, cabbage etc need adequate irrigation. Therefore, the villagers need information on irrigation system to grow more crops that the villagers depend on mosoon rain.
18. The farmers' families of Lahdoigarh grow more Rabi crops as they have fertile land near Janjhi River. So, villagers like Borbahoni, Charal and Bhuyan more need irrigation facilities to grow Rabi crops.
19. The families into landholding categories and their preferred crops in villages show that about three fifth (59.45%) of small farmers cultivate 57.89% kharif and 61.69% cultivate Rabi crops in the villages. Among the marginal group of farmers (32.82%): around two fifth (38.82%) grow kharif and 24.29% grow Rabi crops. Out of total (7.73%) of large land holders, 3.29% farmers grow kharif crops and 14.02% grow Rabi crops. It is also important to say that those who have grown kharif crops grow Rabi crops also. The data regarding Rabi crops show only those villagers who pay more attention to Rabi crops specially on vegetables.
20. Large sections (44.40%) are growing foodgrain as well as vegetable crops followed by only food grains (41.70%); foodgrains, oilseeds and vegetables (12.36%) and 1.54% of families growing foodgrains and oilseeds in the four villages. Due to suitability of land, majority of the families grow foodgrains and vegetables in the villages. In Lahdoigarh, villagers grow more vegetables for selling in markets than rest of the villages. Besides, the villagers need information on growing oil seeds as the land is favourable for it.
21. Growing crops for marketing is low as compared to grow for domestic purposes. Hence, the villagers' still lag behind on commercial crops and, therefore, they also need information of crops production for commercial purposes. In the villages like Bhuyan, Lahdoigarh and Charal have enough opportunity to grow chilies, bitter gaud, pumpkin, potato, cucumber, cabbages etc.
22. The villagers are engaged in business by rearing animals. It indicates that Bhuyan has more interest on animal-farm business than any other villages. Half of villagers have habits of rearing duck, goat, cock, hen, pig etc. for their own consumption in the four villages.

23. Largest section (44.40%) is growing foodgrain as well as vegetable crops followed by 41.70% families growing only food grains, 12.36% families growing foodgrains, oilseeds and vegetables, and 1.54% the families growing foodgrains and oilseeds. growing crops for marketing is low as compare to grow for domestic purposes. Hence, the villagers' still lacking behind on commercial crops, therefore, they also need information of crops production for commercial purposes. In the villages like Bhuyan, Lahdoigarh, Charal have enough opportunity to grow chillies, bitter gaud, pumpkin, potato, cucumber, cabbages etc.
24. Most (93.19%) of the families have no animal farming. Only 6.81% of families have animal farming in the villages. In Bhuyan 17.30% of the families have animal farming, followed by Charal (9.10%), Borbahoni (3.96%) and Lahdoigarh (3.48%).
25. Bhuyan has more numbers of animal farming as compare to other villages especially in fishery due to availability of water bodies; it is convenient for them to rear it. It is important to note that half of villagers have habits of rearing duck, goat, cock, hen, pig etc. for their own consumption in the four villages.
26. Different sources are important such as friends and relatives in Charal, friends and dealer in Bhuyan, neighbours in Lahdoigarh and dealer in Borbahoni village. Thus, most of the villagers are getting information from friends and local dealer and none of them are getting information about animal breed for farming from the other means of communication like mass media in the villages. Therefore, the villagers also need information from mass media other than inter-communication to seek new methods of animal rearing for more products in the four villages.
27. Over four fifths (84.16%) of the families use chemical fertilizer in their fields and over one tenth (15.84%) use both natural and chemical fertilizers for more productions. Bhuyan has more percentage of using fertilizer than the rest of the villages because most of the farmers grow vegetable or cash crops in their cultivated land to produce more products. Thus, habits of using chemical fertilizers are almost equal in the four villages.
28. The recommended knowledge on utilization of fertilizers among families of the four villages is found 56.75% from small landholding group followed by

marginal group (34.36%) and large group (8.89%). Thus, in all the villages, marginal farmers applied less Urea after transplanting seeds due to monetary problems than the small and large landholding farmers. In Lahdoigarh, nearabout four fifths (79.17%) of marginal farmers (65.95% in Borbahoni, 50% in Bhuyan and 25% in Charal) do not use urea at growing stage in the four villages. So, marginal farmers need information on this matter.

29. Over one fourth (26.25%) of the families use Urea and DAP in their fields, 44.40% use a combination of Urea, DAP and Potash, 15.44% use a combination of fertilizers like Urea, Potash, Super, Phosphate and DAP (15.44%). Some villagers (13.51%) use NPK in addition to all the above mentioned fertilizers.
30. Chemical fertilizers like Urea, DAP, Potash and Super Phosphaste are used in all villages. However, in Borbahoni Super phosphaste is found less use than other villages and none of the families use NPK due to the lack of information in the village.
31. The Bhuyan village is using more recommended fertilizer than other villages such as Charal, Lahdoigarh and Borbahoni. However, all the farmers have traditional knowledge on use of fertilizer. Thus, farmer families are using same method and amount of fertilizers in case of HYV, local hybrid. So, information on recommended fertilizers is strongly required to the farmers in all the four villages.
32. The size of landholding is not a factor related to use of fertilizer but it depends on farmer's intension, awareness and level of income.
33. Most of the villagers use traditional method of cultivation. Only Bhuyan farmer families are found having all the categories of agricultural implements. So, information on farming machinery/ equipment and associated costs are needed for rest of three farming families of the villages.
34. 62.67% of the families use urea after four weeks of transplantation; of total families, 33.80% use urea after five weeks followed by after six weeks (3.53%). In all the four villages, Urea is applied after transplantation in four or five weeks but only in Bhuyan is applying Urea after six weeks because the villagers are more aware about commercial activities of product than the rest of villages.

35. Most of the families (96.91%) have bullocks for cultivation in their fields and they use bamboo-made harrow for leveling the soil. Only 2.70% of families have power tillers and 0.38% of families have tractors. 5.01% use spray machines in their cultivation, especially in tea gardens and only a few (0.38%) families use disc harrow in cultivation.
36. All the families have knowledge of rice hispa (saraha), only 1.93% of the families have knowledge of blight, followed by Stem rot (0.77%) and Blast (0.38%). The farmers specially in Charal, Borbahoni and Lahdoigarh need more information on crop diseases at the time of deciding, seeding, preparing of crops.
37. Nearabout, less than one fifth (18.14%) of the families use pesticides only on vegetables like arum, potato, turmeric, gingers etc. but not in paddy fields.
38. Of the families 71.44% have bank account in UBI, followed by SBI (16.40%) and LGB (11.14%). 7.12% families have bank account in Indian Bank and a few (4.64%) of them have bank accounts in Canara Bank.
39. Most of the families have not taken loans for any purpose but only 3.41% have taken. It is also found that 11.53% of the families in Bhuyan, 3.64% in Charal, 1.98% in Borbahoni and 0.86% in Lahdoigarh have taken loans.
40. Over half of the loan taking families took it for agricultural purpose; nearabout two fifths have taken it for broiler, housing and one tenth have taken it for cow-farming. Of the families 54.54% have taken loans in Bhuyan, followed by 18.18% in Charal and Borbahoni and 9.09% in Lahdoigarh.
41. Information on finance (formal and informal sources, the cost involved,.etc.) deciding; seeding; preparing and planting; growing are needed.
42. Of the families 91.33% do not have knowledge about agricultural schemes, except KCC. The villagers heard about KCC because it is common loan for growing agricultural production, fisheries, veterinary, implements etc. The basic reason behind lack of knowledge is related to size of land, education and income of the villagers.
43. Two fifths (40.54%) of the villagers depend on river water, 15.44% on canal water from Janji River and a few (1.15%) uses pond water. irrigational sources show that all of the villagers use rain water for agricultural activities. Bhuyan farmers used canal irrigation and the rest do not, so, the farmers need

information regarding irrigation facilities provided by the government instead of waiting rain water for cultivation.

44. Of the cultivating families, majority (69.92%) produce 4-8 mun of paddy per bighas, and two thirds (23.57%) produce 24-28 mun local paddies. A few of (6.51%) them produce (9-13) mun paddy per bigha. 39.83% in Bhuyan, 30.08% in Borbahoni, 23.57% in Lahdoigarh and 6.50% in Charal village families product it.
45. Over one fourth (28.35%) of the families produce 2500-2900 mun of HYV paddy in a season and over two fifths (23.19%) produce 2100-2500 mun followed by 1300-1700 mun by 20.61% and 100-500 by 14.43% families. The farmer families quantity of products by using HYV seeds show not much satisfied result in the four villages perhaps due to dependency on natural irrigation etc.

(ii) Structural Patterns of the Communication in the Agricultural Development

1. Public places like market, grocery shop, Namghar (temple), card playing places are important for agricultural discussions. They are centres of communication from where the information spreads to other people. Almost all sorts of information- recreational (jokes), religious prediction, political news, agricultural activities and festivals- are matter of discussion. These gossip centres help to get new information about the outside world in the four villages.
2. Communication within and outside of their own caste happens in the four villages. In Borbahoni, inter-caste communication is higher than rest of the three villages as it has different caste and communities. There is more intra-group interaction in the castes of the particular category because of ritual norms of purity and pollution. However, secular places like shops and other places help inter-group interaction.
3. The role of traditional headman is still stronger in Lahdoigarh than rest of three villages it because of less impact of modern education, strong religious beliefs, unity among the villagers etc.
4. Communication through Na-bhui, have seen specially at the time of late tilling where the farmers get helped from neighbouring villages, friends, relatives etc. which is mostly seen in Lahdoigarh and Borbahoni. This is only because of the

farmer families used more traditional ploughing implements than power tiller, tractors etc. But, communication at the time of seed transplanting happens equally in all the four villages.

5. Religious tours, oracles have great impact on social life of the villagers which further helps to agricultural communication in the four villages. Some economically sound families visit these places by their own vehicles.
6. Rituals are sources as well as ways of agricultural communication where religious priest takes an important role. These patterns of communication are found in all the four villages.
7. Bihu festival is another important channel of communication found in all the four villages. The families visit to neighbours, relatives where communication happens on various issues relating from preparation of land to harvesting.
8. Communication through folk media has seen much more in Charal than rest of three villages. The villagers have devoted lots of labours, energy to make the play/drama/Bhauna successful. It is also observed that every evening some *Bhakats* with youths recites *Nama* in the village Namghar (temple) in Charal specially in the month of Bhado. The villagers of Bhuyan also did same religious communication by performing *Bhauna*, *Nama Kirtana* and various pujas in their village Namghar.
9. In many aspects the upper caste people take helps from other caste people like traditional treatment in case of stomach diseases, fracture or muscular pain etc. But, again, communication with lower caste or community people is happening mostly through agricultural activities.
10. Communication through Bhagawat Paath is being seen in Bhuyan and Charal. Villagers' meets on these occasions help each other for getting new information on various matters including agriculture, family, marriage, disease, governmental facilities, scheme, loan, subsidy, seed etc. So, communication through folk media is frequent in these two villages.
11. Communication through traditional headman is seen more in Lahdoigarh village. In a kind of discussion like religious, agricultural, festivals or dispute the headman is crucial in the village. The power is executed through meeting known as *Kebang* (Gaon Sabha).

12. Any new information such as religious, agricultural, visit of officials and other comes to be known through different gossip centres and temple. It can be said that the role of announcer is played by the *Gaonburha*.
13. The ritual priest of the respective caste interact with certain jatis and influences their attitudes, customs and practices and helps in finding auspicious days and timings for commencement of agriculture, occupational, domestic and socio-religious activities like finding a bride or bride-groom, performing naming ceremony of a child, buying domestic or agricultural appliances, auspicious day for entry into a new house etc.
14. Majority of the villagers are Hindu. They visit the Hindu temple or Namghar like *Dhekia-khua* Namghar (Jorhat), *Bottadua* (Borpeta) and *Aathkheia* Namghar (Golaghat), *Jagannath temple* (Puri) to religious purposes.
15. There are more families having the intra-caste or community marriage in the four villages. Except Bhuyan village, inter-caste marriage is found very less. There exists a particular set of practices of marriage, negotiations, customs which involve a pattern of communication. Such pattern of communications deciphered from kinship and marriage, customs and practices provide insights for understanding the nature of traditional communications and villagers' contact with outside world.
16. The villagers of charal, Bhuyan and Borbaoni are using different symbols in their day to day life than Lahdoigarh it because of exceptional life style of tribal people like Mishing.
17. Agricultural communication happens more in the age group of 34-41 in the four villages. They discuss agricultural matters like kinds of seeding according to suitability of land, using of preferable fertilizers, practice of insecticides and pesticides in agricultural field etc. Among the four villages, farmers of Bhuyan often discuss these matters as they grow hybrid seeds like Arize 6444. During field visit, it is also observed that farmers of charal village communicate with each other about further development of surplus agricultural production at their leisure time. In case of Lahdoigarh farmers, it is notable that agricultural communication is mostly observed between female to female members as they equally participate in agricultural activities.
18. Of the families 99.07% perform Lakshmi, followed by Saraswati (76.47%), Vishwakarma (38.08%), Kali (27.55%), 26% of Tusu and Karam puja. In

Borahoni, 97.02% in Lakshmi, 88.11% in Kali, 24.75% in Saraswati, 15.84% in Viswakarma and 83.16% in Karam and Tusu puja perform in the village. It is notice that variance of performing puja is only Viswakarma where 17.39% in Lahdoigarh, 63.63% of families are found in Charal village.

19. Majority (30.23%) of the spouses have married at a distance of above 30 km. Besides, over one fourth (26.99%) of spouses were drawn from distance of 10 km and over one fifth (23.75%) of them from 20 km distance. A few of them (19.03%) came from around 30 km distance. Further, over one third (33.33%) of those who have married from above 30 km are rural areas against town areas (26.77%). Those who married from 30 km distance they also found that rural areas (23.24%) than urban (21.25%). Over one fourth (29.92%) of persons from urban and one fifth (19.32%) of persons are married from rural areas within 20 km. fourth (24.08%) of persons from rural and over one fifth (22.04%) of person from town married within distance of 10 kilometers.
20. In Lahdoigarh medium of communication happens through own dialect within the village system and Assamese in outsides. Besides, all the members of the village know Assamese as they learn it in their schools. In Borbahoni, Oriya people use oriya language to communicate among themselves and Assamese for outside their community.
21. Over half (51.30%) of the villagers communicate or discuss within the 35-75 age group; Over three fifths (37.13%) of the villagers' communication happens within the group of 15-34 age and over one tenth (11.57%) of the villagers communicate among the old age group
22. A few villagers (3.39%) visit agricultural offices in a week, whereas one tenth (10.16%) of villagers visit offices in two weeks. More than one fourth of villagers (27.12%) visit offices in three weeks and almost three fifths (59.33%) of the villagers visit BDO and agricultural office in a month. Furthermore, only 5% of male farmers visit offices weekly for information on seeds whereas one tenth of male and female villagers visit the office fortnightly. Over one third of female (36.84%) and over one fifth (22.5%) of male villagers visit agricultural offices in three weeks. Majority of male and female (52.63% and 52.63% respectively) villagers visit once in a month the offices for seeking information on seeds.

23. Out of total 1424 villagers only 87 (6.10%) villagers are aware about agricultural information on loans and schemes. Half (50.57%) of villagers got information from agricultural office, followed by neighbour (24.14%) and friends (17.25%).

(iii). Interpersonal Communication in the Agricultural Development

1. Friends and neighbours are important source for seeds in the four villages. Over four fifths (85.71%) of the families got information from friends. Besides, all of them got all kinds of information, including agriculture from neighbours.
2. Nearly three fourths (71.82%) of the agricultural families used preserved seeds and 28.18% used the seeds purchased from market as well as their preserved seeds.
3. Farmer families use different seeds from different channels through communication with one another. Village level discussions have taken important role in seeds communication. Generally they discuss the types of seeds that they have sown in this year and reasons for that. The villagers express their own experiences to adopt a particular kind of breed. They use more preserved seeds than market. It sometimes shows lack of risk taking behaviour towards new seeds. As most of farmers' are marginal and small landholders who do not want to take risk to apply a new seeds in their fields. Only friends and neighbours can motivate them to adopt these new seeds.
4. One tenth (10.82%) of families visit block development as well as agricultural office for communication. Majority of them (89.18%) do not visit for seeds' information. Information seeking from officials shows a bit higher (28.57%) in Bhuyan than other three villages: Charal (14.28%), Lahdoigarh (5.27%) and Borbahoni (3.03%).
5. Over half (52.95%) of the total visits are found seasonal, whereas over one third (35.29%) of the visits of the officials are found bi-monthly. visits of the officials are much more in Bhuyan and Charal village due to farmers' habits of information seeking behaviours.
6. Nearly three fourths (72.20%) of the families purchase fertilizers from Amguri town and a few (2.31%) of them purchase it from Chutia Basti. Over one fifth of families i.e. 21.23% bring fertilizer from Halwating and a few (4.24%) purchase it from Dopdar Chariali. The size of land holding does not seem to

matter in buying of fertilizer from different places. Generally, farmers' prefer to buy it from Amguri town or a wholesaler than a village retailer; but sometimes due to time and transportation constraints they buy it from local stockers in the four villages.

7. Majority of the families (34.37%) got information on fertilizers from friends and over one fourth (27.79%) of families got fertilizer information from neighbour which is highest in Lahdoigarh. A very few (3.87%) of families use relatives as source followed by agricultural offices (4.25%) and mass media sources (5.01%). Information from local stockist or dealer is shown *comparatively higher than (24.71%) other sources.*
8. Local dealer helps the farmers by giving information on various insecticides when they face problem, by discussing with friends or sometimes directly visiting to the shops to buy miticides, eldex, phuraton etc. Generally, salesman (medicine store) of the shop describes the method of use and effects on production etc. The families of the four villages trust them and use in their cultivated field.
9. Friends and neighbours play an important role as sources of agricultural market information in all the four villages. Besides, landholding size shows that majority (45.52%) of the families have small size of land in the four villages.
10. The school teachers are other important officials to disseminate new information, values and norms of behaviour to the children and others in the villages. During the field work it was noticed that the behaviour of the children, their way of speaking, attitudes towards polio campaign, vaccination etc. are quite informative and communicative.

(iii) Mass Media Communication and the Agricultural Development

1. Of the total families, majority of them have mobile phones and the mass media electronic sets are more in Bhuyan village. This is because of good economic condition of the Bhuyan families.
2. Subscription of newspaper in the three villages is very low due to replacement of electronic media like television; however, in Bhuyan it is high due to the easy means of accessing new media for them that acquiring from Amguri town.

3. The largest section of the villagers read the local newspapers such as Dainik Janambhumi (45.05%), Pratidin (24.77%) and Aamar Asom (13.51%). Of them 7.65% villagers read Dainik Agradoot whereas a few villagers (3.15%) read national newspaper such as the Assam Tribune and equal percentage of villagers (3.15%) read Dainik Batori. A few (2.25%) of them read Asomiya Khabor and a very few of them read a national paper, the Times of India.
4. Both male and female villagers prefer to read local newspaper which is written in local language and easy to understand it.
5. Borbahoni is found highest percentage as compare to the rest of the villages though the numbers of villagers is less in reading and in gender-wise too female percentage of reading agricultural item is higher.
6. Moreover, in Lahdoigarh and Borbahoni none of the female read 1-2 hours on newspaper because of busy in household work and engaged in tea garden.
7. Most of the villagers read agricultural item in newspaper regularly in a week but none of the females are found in all the four villages due to household work activities. So, highest villagers are found in Bhuyan who read more agricultural items compared to other three villages as majority of them are illiterate.
8. Magazine-reading habit among females is higher than male villagers. However, in Lahdoigarh neither males nor females do not spend time in reading of any magazine related to agriculture like Goriyakhi, Nandini, Priyo Sakhi etc. Therefore, all the villagers need information related to agricultural magazine for more agricultural development.
9. Most of these villagers read magazines for 1-2 hours in a day and about half of them (49.27%) read it for one hour. Of the total magazine readers 37.5% of female and 55.55% of males read less than 1 hour per day. Over three fifths (62.5%) of the females read magazines for 1-2 hours in the four villages.
10. Over one tenth of the families (14.81%) listen programmes on sports and a few (8.33%) listen educational programmes on radio. Over one fifth (22.22%) of these families listen agricultural news and nearly one third, each, listen

drama (31.48%) and health news (30.55%). The villagers of Lahdoigarh and Borbahoni listen news and music than other programmes like agriculture.

11. Most of the villagers listen Krishi Anusthan on radio broadcast by AIR Dibrugarh and Guwahati. Moreover, none of the female villagers listen Khetir Diha in the villages of Charal Lahdoigarh and Borbahoni
12. Most of them listen 1-2 hours in radio and of the total population, the percentage of female population listening radio programmes is higher than the male due to staying at home in most of the time. Besides, listening radio programme is higher in Borbahoni and Lahdoigarh than rest of the two villages because of having more radio than TV.
13. Most of the villagers in Bhuyan are learned computer in their home because some families are affordable to buy it. Only in Bhuyan computer is used for business purposes by both the sexes.
14. Over half (52.32%) of the families use mobile phone to communicate with their relatives: 100% in Bhuyan, followed subsequently by Lahdoigarh (53.04%), Charal (45.45%) and Borbahoni (30.69%). One fifth (20.74%) of the villagers use it for business purposes including agriculture, grocery shops, furniture, etc. Of these, one third (34.78%) of them in Lahdoigarh and about one third (32.69%) in Bhuyan and a few of them (6.93%) in Borbahoni and in Charal (5.45%) also use it for business purposes. Uses of mobile phone in agricultural purposes are found less; only 16.09% of them use it. Over two fifths (44.23%) of families in Bhuyan use it for agricultural purposes followed by Charal (20%), Lahdoigarh (11.30%) and Borbahoni (4.95%).

THE SUGGESTIONS

The findings of the study 'Communication and Agricultural Development in Sivasagar District of Assam: A Sociological Study' shows various new issues relating to agricultural development of Assam specially in the district. On the basis of the findings the following suggestions are given:

1. The policy makers should give importance to interpersonal communication in agricultural development. Because the findings show agricultural

communication happens through various interpersonal sources such as friends, neighbours and relatives.

2. More effective agricultural programmes should include in mass media channels to attract the farmers. Leaflets, posters, announcement can easily disseminate the information. During the time of field observation no single poster was seen in the four villages. Besides, posters should be in local language with attractive design and images.
3. Agricultural extension workers should be active, smart and informative. More appointment of officials makes it possible to directly contact with farmers. Field observation also reveals that due to lack of staff the officials could not approach to villages under their circle or eleka. Frequent visits of extension officers, village level workers including Krishak Bandhu make agricultural awareness among villagers. Now, the reality is that one Krishak Bandhu has to cover 15 villages under Amguri Block office. So, it is impossible to contact farmers instantly.
4. Agricultural shows will be helpful to the farmers. So importance should be given to this aspect. District Agricultural Department should provide scientist/expert to conduct agricultural shows on different methods and techniques which is essential for rural farmers. This type of agricultural show can touch the issues like preserving seeds, applying fertilizers, techniques of growing hybrid seeds, methods of applying insecticides and pesticides, levels of irrigation etc.
5. Education and training of extension agents needs to emphasize the acquisition of persuasive communication skills to enable them function effectively as change agents.

CONCLUSION

The villagers in Assam need information, knowledge in agricultural operations. Specially, they need information on seeds, fertilizers, irrigation, implements, schemes and loans, marketing facilities and production etc. Although agricultural offices are somehow helpful to them but due to lack of information seeking behaviour the villagers have lost various facilities provided by Government of Assam. The facilities such as 95% subsidy for power tiller (only for ST/SC), pump-set

etc. are not availed by many of them. Besides, due to lack of information and knowledge they lost high productive seasonal seeds like mustard, beans, paddy, loans, etc. especially in Charal, Borbahoni and Lahdoigarh village. The agricultural knowledge is still taking traditional methods of ploughing, transplanting seeds, using fertilizer, irrigating crops etc. in the villages.

Amongst small landholders, the main information needs over an entire crop cycle are information on fertilizers, market prices and pesticides. However, informational priorities varied depending on the stage of crop cycle and to a lesser extent across countries. The overall informational priorities differed for agricultural microenterprises, where the main information needs were market prices, sources and costs of inputs and information on transport. In a majority of the cases (by stage or by country), for both the small landholders and micro-enterprise samples, the most important sources of information and advice were self-knowledge, family and friends, and peers (other farmers in the case of smallholders and traders/ collectors/ buyers in the case of the micro-enterprises). What was striking in the survey results was the lower ranking of agricultural extension and input suppliers, even with regards to information related to the well known functions of these sources, i.e., information related to best practices, inputs, etc.

The patterns of agricultural communication are broadly found of two types; namely, interpersonal communication and mass media communication. Majority of villagers are found who often get information through these channels in the four villages. Among interpersonal communication friends, neighbour, relatives, fellow farmers and government officials are main sources. Here, it can be said that the study confirms the first hypothesis as it was assume that interpersonal communication is more effective than mass media communication in diffusion of agricultural innovations among the villagers. Interpersonal communication plays a major role in communicating among the villagers in agricultural inputs such as seeds, fertilizers, markets, production, schemes and loans.

This interpersonal communication mostly happens through certain socio-structural factors like caste, community, religion, size of landholders, income and gender. Another important communication happens through traditional channels or media including festivals, theatres, Kirtana, language, symbolic interaction, Pujas, religious tours etc. In India as well as in Assam, villagers still make effective

communication through structural factors. This communication is seen through traditional media or channels. These channels of communication also help to disseminate traditional knowledge to younger generation. Traditional knowledge of storing seeds, drive out insects, protect farmers from leech bite by throwing elephant, bark of cucumber etc.

Role of mass media is found less important in the villages. Although they have average levels of access to it but information regarding agricultural development is minimal. The villagers spend more time on other programmes than agricultural. It indirectly relates with the low prices of produced items like paddy, tea leaves and other vegetables. In case of all these items (paddy, tea leaves, vegetables) the wholesalers and mediators make the situation worse. The farmers do not get reasonable value of their production. In case of vegetables, businessmen import from Nowgaon, Barpeta and Kharupatia which creates problems among local farmers as they can sell it at low prices due to their high as well as commercial production. Diffusion of agricultural information through mass media such as radio, TV and newspaper does not depend on villagers' socio-cultural attributes. Information received from any sources the villagers share and disseminate as they get a chance. So, the study also correctly assumes that there is no relation between effectiveness of mass media information with socio-cultural attributes in the villages.