

# EXCERPT ON AGRICULTURE PROFILE OF ASSAM

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CHALLENGE FUND



1.

Agriculture Profile  
of Assam



# 1 Agriculture Profile of Assam

## Introduction

Assam is situated in the North-East region of India south of the eastern Himalayas. It has an area of 78,440 Sq. km and is the largest economy in the northeast region. At constant prices (Base 2011:12), the Net State Domestic Product (NSDP) of the state was Rs 2 trillion in 2018-19 and was ranked 17th amongst 33 states and union territories of India. The NSDP at constant prices has grown at a CAGR of 7% for the period 2011-12 to 2018-19, the same growth rate as that of India. Assam ranked 6th lowest in terms of Per Capita NSDP at constant prices in the year 2018-19 just above Bihar, Uttar Pradesh, Manipur, Jharkhand and Madhya Pradesh.<sup>1</sup>

Assam is predominantly an agrarian economy. As per NABARD State Focus Paper 2020-21, agriculture in Assam contributed to 29% of the Gross Value Added (GVA) in 2017-18 and 53% of the total labor force still depended on agriculture and allied activities for their livelihood. There are 40.61 lakh cultivators in the state of which 14.77% are landless laborers who practice sharecropping and tenant farming. The Net Sown Area (NSA) is 28.27 lakh ha which is 29% of the total land area. There are 27.20 lakh hand holdings of which 67.31% are marginal land holdings and 18.25% are small land holdings. The average land holding size is only 1.10 Ha. The state has two major rivers - Brahmaputra and Barak and is divided into 6 agro climatic zones.<sup>2</sup>

## Major Crops cultivated in the state

Rice is the most important crop grown in the state and constitutes more than two third of the gross sown area. Based on harvesting season, there are three major varieties of rice in the state - autumn rice, winter rice and summer rice with winter rice and summer rice constituting 73% and 22% of total rice production respectively in FY16 (Department of Economics and Statistics, Assam). Other important crops are cereals (wheat, maize and small millets) and pulses (black gram, peas, lentils and green gram). The important commercial crops in the state are oilseeds (rapeseed and mustard) and plantation crops like sugarcane, jute and tea. Sericulture which combines both farm and non-farm activity is an important livelihood activity for many households in Assam. Assam contributes 95% and 65% of country's total Muga and Eri silk production respectively.<sup>3</sup>

## Food grains and Non-Food grains

Summary of Food grains (FG) and Non-Food grains (NFG) production in the state is provided in the table below.

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<sup>1</sup> Source: RBI Handbook of Statistics, 2019-20

<sup>2</sup><https://www.nabard.org/info-centre-state-focus-papers.aspx?cid=512&id=698>

<sup>3</sup><https://sericulture.assam.gov.in/how-to/know-about-silk-and-its-production-in-assam>

Table 1 - Summary of Food Grains and Non-Food Grains

Particulars	Food grains					Non-Food grains/Commercial Crops		
	Rice	Wheat	Coarse cereals	Pulses	Total FG	Oilseeds	Sugarcane	Raw Jute & Mesta
Production ('000 MT) - FY20	5,098	24	108	119	5,349	201	1,147	771
% Share in All India Production - FY20	4.3%	0.0%	0.2%	0.5%	1.8%	0.6%	0.3%	7.8%
CAGR Production (FY14 to FY20) - Assam	0.6%	-8.5%	27.7%	2.2%	0.8%	1.3%	1.1%	0.5%
CAGR Production (FY14 to FY20) - India	1.8%	1.9%	1.5%	3.1%	1.9%	0.3%	0.2%	-2.7%
Avg. Yield (Assam) as % of Avg. Yield (India)	82%	40%	17%	100%	91%	51%	44%	81%

Source: Handbook of Statistics of Indian States, RBI

The low yield of various food grains is on account of lack of irrigation facilities, lack of improved seed, improper spacing, inefficient manuring, and lack of access to credit. The reasons for the low productivity for commercial crops are set out below:

**Oilseeds** -In Assam oil seeds are raised under rainfed condition with low level of modern agro technique and therefore the productivity is low as compared to the national average. This lower productivity is mainly due to the non-adoption of improved method of cultivation, use of traditional seed varieties, low use of chemical fertilizer and other soil nutrients. Moreover, method of cultivation remains traditional and no technological breakthrough have been achieved and hence productivity of this crop has not increased.

### Sugarcane

- ▶ Sugarcane is grown mainly in upland soil with good drainage facilities. Poorly drained soil is not suitable for its cultivation. Therefore, in flood affected districts like Lakhimpur, Dhemaji, Morigaon sugarcane is grown in flood free uplands only.
- ▶ The sugarcane yield is directly related to photosynthesis; therefore the crops suffer due to cloudy weather during peak monsoon period mainly in June and July.
- ▶ The crop is also affected by seasonal drought in the later stage of the crop growth. In Assam rainfall ceases during September/ October resulting in a drought like situation especially in upland which restricts the crop growth and ultimately results in poor yield.

- ▶ There is significant influence of Pest and disease in sugarcane production. Among the different pests occurrence of woolly aphid, early top borer, top borer, stem borer, plassy borer is common. Attack of early shoot borer is found during the early stage of crop growth during March-April. Whereas attack of stem borer is found throughout the crop growth period but causes a major damage during June to September both in the early and late stage. Top shoot borer causes a major damage to the cane crop from the beginning of May up to the end of September. The borer causes severe damage to canes only in the early stages in June-July when nodes have not been formed.
- ▶ From surveys conducted at different locations of sugarcane growing districts of Assam it was found that intensity of leaf spot disease is more as compared to other diseases which varies from 45-60% and common leaf spots diseases are cercospora leaf spot, ring spot, eye spot and brown spots.
- ▶ Weed is also an obstacle for sugarcane growers in Assam which infects both plants as well as ratoon crops.

Table 2- Key Districts in Food grains and Non-Food grains production

Crop/Rank	Rice	Black Gram	Peas	Masur	Jute	Maize	Wheat	Rape & Mustard
Year	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	2014-15
1	Nagaon	Dhubri	Darrang	Barpeta	Nagaon	Darrang	Barpeta	Lakhimpur
2	Sonitpur	Barpeta	Nalbari	Baksa	Dhubri	Karbi Anglong	Dhubri	Kokrajhar
3	Kamrup(rural)	Sonitpur	Sonitpur	Sonitpur	Udalguuri	Sonitpur	Goalpara	Dhemaji
4	Lakhimpur	Goalpara	Nagaon	Dhubri	Darrang	Dima Hasao	Morigaon	Dhubri
5	Golaghat	Nagaon	Tinsukia	Darrang	Barpeta	Dhubri	Udalguuri	Sonitpur

Source: Department of Economics and Statistics, Assam

## Horticulture

Horticulture includes fruits, vegetables, plantation, aromatic and medicinal plants, flowers, spices, and honey. Horticulture crops occupy about 15 percent (State Focus Paper, NABARD, 2020-21)<sup>4</sup> of the gross cultivated area of Assam and has been gaining importance in recent years. The major horticulture crops in the state are ginger, black pepper, turmeric, sugarcane, potato, sweet potato, papaya, banana, arecanut and pineapple. Summary of horticulture production in the state is provided in the Table below.

<sup>4</sup><https://www.nabard.org/info-centre-state-focus-papers.aspx?cid=512&id=698>

Table 3- Summary of Horticulture Production

Particulars	Fruits	Vegetables	Plantation	Aromatic & Medicinal Plants	Flowers	Spices	Honey	Total
Production ('000 MT) - FY20	2562	4012	214	0.1	93	331	1	7215
% Share in All India Production - FY20	2.59%	2.09%	1.32%	0.02%	3.04%	3.51%	1.04%	2.25%
CAGR Production (FY14 to FY20) - Assam	4.6%	6.0%	2.6%		11.8%	2.1%		3.1%
CAGR Production (FY14 to FY20) - India	2.1%	2.7%	0.1%		3.2%	9.3%		2.6%
Avg. Yield (Assam) as % of Avg. Yield (India)	102%	68%	47%	3%	178%	128%		81%

Source: National Horticulture Board (NHB)

Assam has a wide variety of climate and soils and is traditionally rich in horticulture due to its diverse and unique agro-climatic situation conducive for growing a wide range of crops. From the table above we can observe that the growth rate of horticulture production in Assam has been higher than the national growth rate as more farmers are shifting towards horticulture crops due to a) horticulture crops being more remunerative b) being cultivable throughout the year and in varied ecosystems (rainfed, dry land, hilly and arid regions) c) higher potential for value addition than traditional food crops and d) multiple schemes by government to promote horticulture sector. Horticulture sector can gain significantly once related infrastructure (godown, cold storage, food processing etc.) and market linkages are established.

Horticulture & Food Processing Department of Assam is encouraging the farmers for area expansion of high value commercial fruits, Vegetables, Spices, Floricultural crops through different Central sector and State sector ongoing schemes, with an objective of increasing the production as well as productivity of Horticultural crops. The Department is giving emphasis on production and availability of quality planting materials of the commercial horticultural crops; so that higher production with better quality becomes possible for which establishment of nurseries are encouraged under HMNEH and accreditation area advocated.

Diversification in horticulture is a very good option as there are several advantages of growing horticultural crops. These crops<sup>5</sup>: a) Produce higher biomass than field crops per unit area resulting in efficient utilization of natural resources b) Are highly remunerative for replacing subsistence farming and thus alleviate poverty level in rain fed, dry land, hilly, arid agro ecosystems. c) have potential for development of wastelands through planned strategies, d) need comparatively less water than food crops, e) provide higher employment opportunity, f) are important for nutritional security, g) are environment - friendly h) are high-value crops with high potential of value-addition, i) have high potential for foreign exchange earnings, and j) make higher contribution to GDP, i.e. 24.5% from 8.5% area under these crops.

<sup>5</sup> [PRESENT SCENARIO HORTICULTURE IN ASSAM.pdf](#)

Table 4 - Key Districts in Horticulture production

Crop/Rank	Ginger	Potato	Banana	Papaya	Black pepper	Turmeric	Sweet Potato
Year	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16
1	Dima Hasao	Kokrajhar	Sonitpur	Sonitpur	Lakhimpur	Golaghat	Nagaon
2	Karbi Anglong	Sonitpur	Goalpara	Dima Hasao	Golaghat	Nagaon	Sonitpur
3	Golaghat	Barpeta	Golaghat	Nagaon	Kokrajhar	Karbi Anglong	Dhubri
4	Tinsukia	Dhubri	Cachar	Barpeta	Karimganj	Sonitpur	Barpeta
5	Nagaon	Nagaon	Nagaon	Karbi Anglong	Karbi Anglong	Baksa	Karbi Anglong

Source: Department of Economics and Statistics, Assam

## Animal Husbandry (Dairy, Milk, Fish and Eggs)

Summary of Dairy, Milk, Fish and Egg Production in the state is provided in the table below.

Table 5- Summary of Dairy, Milk, Fish and Egg Production

Particulars	Dairy	Meat	Egg	Fish
Production ('000 MT) - FY19	882	50	5015 (Lakh Nos)	332
% Share in All India Production - FY19	0.5%	0.6%	0.5%	2.5%
CAGR Production (FY14 to FY20) - Assam	1.6%	5.6%	1.2%	4.4%
CAGR Production (FY14 to FY20) - India	6.4%	5.4%	6.7%	7.0%

Source: Handbook of Statistics of Indian States, RBI

As per an ILRT (Institute of Livelihood Research and Training) and NABARD Report (Doubling Farmers' Incomes - Issues and Strategies for Assam)<sup>6</sup>, the following are the key issues in the animal husbandry sector

- ▶ The state produces only 10 percent of the demand for meat (pig meat constitutes 40% of the meat demand).
- ▶ About 90 percent of the population in Assam consumes fish, but the supply of fish was deficient by 42,000 MT in FY17 and depends on imports from leading fish producing states like Andhra Pradesh.
  - Though the fish production in Assam is very less in comparison to the country, the state has shown an increase of 1.58 times in fish production from 2005 to 2017<sup>7</sup>. On the other hand, the country's increase in fish production from 2005 to 2017 was 1.53 times which was somewhat lower than the state of Assam. Assam is also the highest fish-producing state in the Northeast. But Assam still does not have facilities which are required to produce fish in large scale such as fish drying facility.
  - There is a large area of rivers, beels, forest water bodies, other derelict water bodies, reservoirs, ponds, and tanks in the state. Bringing these water bodies into the ambit

<sup>6</sup><https://www.nabard.org/auth/writereaddata/tender/0301195903Assam's%20Report.pdf>

<sup>7</sup> [KRISHI Publication and Data Inventory Repository: Trends in Fish Production of Assam: An Analysis. \(icar.gov.in\)](https://www.krishi.gov.in/publication-and-data-inventory-repository/trends-in-fish-production-of-assam-an-analysis)

of fisheries will boost fish production tremendously and hence expansion of fisheries in these water bodies is one of the focus areas of the fisheries department for increasing fish production. The Brahmaputra basin in Assam has enormous beels lying idle. Bringing these water bodies into the ambit of fisheries will boost fish production tremendously and hence expansion of fisheries in these water bodies is one of the focus areas for increasing fish production.

- ▶ Per capita milk consumption of Assam is also very low, 74 ml per day against the prescribed quantity of 208 ml per day by Indian Council of Medical Research (ICMR). From a survey of approximately 1500 households and institutions by the International Livestock Research Institute, it was found that:
  - Local fresh (raw) milk forms the most important part of dairy product consumption. Urban consumers were particularly concerned about the quality of local fresh milk. Almost half of the surveyed urban consumers and 44% of surveyed rural consumers indicated that they were not satisfied with the purity of raw milk being sold by milk vendors. Most urban and rural consumers also agreed that buying milk from vendors was not safe. They addressed this concern by buying milk only from well-known suppliers.
  - People with higher income were gradually shifting towards pasteurized or UHT milk procured from formal milk markets. Based on unofficial estimates from key informants, some 250,000 litres of UHT milk was being imported per year and sold locally throughout the state by Amul Taaza, with other brands supplying UHT milk in smaller quantities in selected areas. Overall, pasteurized milk was found to comprise less than 1% of all milk consumed, and 1.3% of urban consumption. However, pasteurized milk accounted for half of the liquid milk consumption by the few urban households that consumed pasteurized milk (about 3% of survey respondents). This suggests that demand for pasteurized milk is limited to a very small segment of the urban society in Assam.
  - Urban households that bought pasteurized milk depended on it significantly. This suggests that if awareness of and preference for pasteurized milk can be developed, then demand can grow substantially.
  - Urban consumers spent significantly more money on milk and dairy products, particularly on high-value products such as sweets. This practice offers good opportunities for value-addition and associated quality and safety assurance in small-scale dairy processing of these traditional products. Such initiatives would also contribute towards small-scale employment opportunities.

## Key Problem Areas in Agriculture in Assam

Problem Statement	Description and Effect on Agricultural Economy
<p>Small and Fragmented Landholding Size</p> <ul style="list-style-type: none"> <li>• About 60 percent of the operational holdings in Assam are below 1 hectare and 24 percent are in between 1 to 2 hectares.</li> <li>• Thus, nearly 84 percent of the operational holdings are</li> </ul>	<p>Leads to</p> <ul style="list-style-type: none"> <li>• Subsistence level agriculture</li> <li>• Less income from agricultural activity necessitating diversification of livelihood sources, migration etc.</li> <li>• Inefficient farming practices involving low mechanization and traditional inputs</li> <li>• Lesser bargaining power for the farmers</li> <li>• Farming is production driven not market linked</li> <li>• Lack of collection and commercial activities. More of family oriented activities than business perspective</li> </ul>



Problem Statement	Description and Effect on Agricultural Economy
below the minimum economic size of holdings.	
The state receives monsoon rain, which is not uniform and adequate in all the seasons and all the regions of the state.	<ul style="list-style-type: none"> <li>• As irrigation is not sufficiently developed in the state, rainfall plays the significant role in agricultural productivity in Assam.</li> <li>• The South-west monsoon rains start from the third week of June and they continue up to the middle of September.</li> <li>• The state receives during this period about 180 cm of rainfall which constitute about 80 percent of the average rainfall of the state while the remaining 20 percent come in the form of occasional rains from January to May.</li> <li>• Though there is copious rainfall in Assam, it varies from year to year in an unpredictable manner.</li> <li>• The absence of timely rainfall hampers adversely the agricultural production in the state.</li> </ul>
Regular occurrence of flood and soil erosion esp. in Brahmaputra and Barak valley, with little risk mitigation	<ul style="list-style-type: none"> <li>• In Assam, flood occurs as an annual phenomenon and affects the crop production to a considerable extent.</li> <li>• Based on the incidence and extent of flood, the state is categorized into two broad areas—chronically flood prone area and occasionally flood prone areas.</li> <li>• Unfortunately, flood occurs in Assam during the main cropping season (i.e., from June to November).</li> <li>• The floods that occur during the period of July to September have the most devastating effect on the agriculture of the state as these floods affect the Sali crops that occupy more than 70 percent of the total cropped area</li> </ul>
Lack of systematic irrigation and water resources management infrastructure like rainwater harvesting. Assam had one of the lowest Gross Irrigated Area (GCFM) to Gross Cropped Area ratio (about 9%) in India (average of about 49%) in FY15 <sup>8</sup>	<ul style="list-style-type: none"> <li>• Implementation of irrigation plans and programs started in Assam from the Third Five Year Plan. During the first and second plans expenditure on irrigation in the state was very insignificant.</li> <li>• In the third plan period expenditure allotted for irrigation was 2.28 crores.</li> <li>• The irrigation potential created in Assam so far covers roughly 17.17 per cent of the total cropped area, which is very poor in comparison to the potential created in some other states of India. In Punjab 92.9%, in UP 68.7%, and in Bihar 49.4% of total cropped area was under irrigation system which were much higher than that of Assam (Source: Economic Survey, Assam 2010-11)</li> </ul>
Very low level of farm mechanization Farm power available is below 1 Kw/Ha which is amongst the lowest in India. <sup>9</sup> Small land holding size	<p>Mechanization in Agriculture is of utmost importance in transforming agriculture as it may result in to savings in seeds, fertilizer consumption, time, reduction in labour and increased cropping intensity.</p> <p>Low mechanization can be attributed to the following factors</p>

<sup>8</sup> Handbook of Statistics of Indian States, 2020, RBI

<sup>9</sup><https://farmech.dac.gov.in/SMAM/Evaluation%20Report%20SMAM/Final%20Report%20M&E%20SMAM%20.pdf>

Problem Statement	Description and Effect on Agricultural Economy
<p>uneconomical and operationally unviable for owning and operating expensive farm equipment.</p>	<ul style="list-style-type: none"> <li>• Affordability: Financial inability of farmers due to small and scattered land holdings.</li> <li>• Limited availability of financial assistance and subsidies for purchase of farm machinery by farmers</li> <li>• Many farm machineries are not covered under Govt. subsidy schemes (eg.Paddy transplanter, Reaper etc.)</li> <li>• Limited availability of sales and service outlets of farm machinery in the State</li> <li>• Lack of proper knowledge about farm machineries among the farmers and inadequate training and hand holding facilities for farmer users and local service providers.</li> <li>• Lack of repair and replacement facilities for farm machinery specially in rural areas</li> <li>• Lack of skilled manpower to operate and maintain the farm machinery.</li> <li>• Lack of proper regulation for custom hiring services and contract farming.</li> <li>• Relatively dysfunctional financial assistance and subsidy schemes for farm as well as Post harvest mechanization</li> </ul> <p>Low mechanization leads to lower crop yield and over dependence on manual and animal labor</p>
<p>Low level of Farm Inputs including lack of knowledge regarding usage. For example, the per ha usage of fertilizer was about 33% of the national average in FY17<sup>10</sup></p>	<p>There is absence of effective mechanism for ensuring Quality of farm inputs such as seeds, seedlings, pesticides etc.</p> <p>It is reported that the Assam farmers pay double the cost for fertilizer in comparison to north Indian states like Punjab and Haryana.</p> <ul style="list-style-type: none"> <li>• In Assam, farmers use mostly the traditional variety of seeds whose average yield is just half of the yield of improved variety.</li> <li>• Secondly, absence of assured water supply, and other factors like fertilizers, pesticides are also major factors responsible for limited use of HYV seeds in the state.</li> <li>• Thirdly, ignorance and poverty of farmers is also considered as a factor for the limited use of HYV seeds in the state.</li> <li>• Farmers interested in using HYV seeds have to contact various agencies such as Assam Seed Corporation for fertilizer, irrigation department for irrigation facilities and block staff for other necessary help and suggestions. But there is no such agency either at the village level or block level to coordinate all these agencies for smooth functioning of HYV program.</li> <li>• Most of the HYV seeds are imported. So they are not flood and drought resistant and are also not adaptable to local soil, climate and environment</li> </ul> <p>This leads to:</p> <ul style="list-style-type: none"> <li>• Lower crop yield</li> <li>• crop damage by pests and diseases</li> </ul>

<sup>10</sup> Handbook of Statistics of Indian States, 2020, RBI

Problem Statement	Description and Effect on Agricultural Economy
<p>Lack of post harvesting facilities like warehouse, cold storage, packaging rooms, drying facilities and food processing facilities</p>	<p>Out of 1,821 registered warehouses with Warehouse Development Regulatory Authority (WDRA), Assam has only 2 belonging to CWC though 126 godowns were available in 2015.<sup>11</sup></p> <p>Horticulture produce packing house in Assam negligible in number.</p> <p>This leads to:</p> <ul style="list-style-type: none"> <li>• Usable economic life of the agri produce is reduced (spoilage of to the tune of about 25 -30%)</li> <li>• Distress Sale</li> <li>• Lack of Value Addition</li> <li>• Poor export potential (&lt;.03% of All India Total in FY18 as per Agricultural and Processed Food Products Export Development Authority/APEDA)</li> <li>• Inability to access credit facilities like Warehouse Receipt Financing (WRF) for working capital purpose</li> </ul>
<p>Farmers generally produce raw materials and never value added products which leads to low price realization and the profit margin is generally taken over by traders</p> <p>Eg. Cocoon, broom grass, rubber</p>	<ul style="list-style-type: none"> <li>• Assam has the highest production of Eri Silk, but farmers are only involved in primary activity i.e. cocoon production (Rs. 650/kg), rest of the value addition work i.e. production of silk yarn (Rs. 2350/kg) is taken by the traders. Even there is a scheme for subsidized machinery but due to lack of knowledge they do not take benefit of it. Lack of convergence between weaving and sericulture also negates the benefit to promote silk as a lucrative opportunity in Assam.</li> <li>• Broom grass is an important commercial forest product. But farmers only collect the produce, which is then sold by traders to Rajasthan and is converted into brooms and sold back in the state at higher price. In Jute production the market is dominated by middle man, most of the income is taken by them.</li> </ul>
<p>Low cropping intensity and over dependence on paddy cultivation</p>	<ul style="list-style-type: none"> <li>• Though Assam cropping intensity is higher than national average, it is still much lower compared to other states like Punjab, Haryana etc.</li> <li>• Farmers are susceptible to market risk due to higher exposure to paddy cultivation</li> <li>• Very low commercial crop cultivation except for plantation crops like jute and tea</li> </ul>
<p>Low Access to Credit:</p> <p>As per NABARD, the average % achievement of Agriculture Credit was only about 58.34% for the period FY17 to FY20 in Assam<sup>12</sup></p>	<ul style="list-style-type: none"> <li>• Leads to low investment in farm inputs, mechanization etc. which leads to productivity loss</li> <li>• Farmers unable to diversify away from traditional crops like paddy</li> <li>• Overdependence on money lenders leading to debt trap</li> </ul>

<sup>11</sup><https://wdra.gov.in/documents/32110/38835931/RegisteredWarehouseList.pdf/32f79ca5-a287-6713-1199-c44466699225>

<sup>12</sup> State Focus Paper, NABARD, 2020-21

Problem Statement	Description and Effect on Agricultural Economy
<p>Low penetration of Crop Insurance.</p> <p>Considering 27.42 Lakh and 14.6 crore operational land holding in Assam and India respectively as per Agriculture Survey data of 2015-16<sup>13</sup>, the penetration level of crop insurance stands at 2.70% and 39.46% for Assam and India respectively.<sup>14</sup></p>	<p>Most farmers in Assam have no knowledge about the basic idea of crop insurance leave alone the prevailing schemes. According to a primary research done on 100 households, nearly 73% of the farmers could not answer the basic question of what crop insurance was. 67 % of the farmers were unaware of the premium rates, documentation regarding claims from the insurance during personnel interaction.</p> <p>Many loanee farmers also indicated ignorance about the coverage of their crops under the crop insurance further since the compensation was deposited with the borrowers bank account, the farmers didn't know whether they were covered under crop insurance scheme, what was the compensation paid to them and when was it deposited. The participation of methods of mass communication, like television, newspaper, and radio and village fairs is very less in educating the farmers about the same.</p> <p>The farmers have also identified certain drawbacks in the performance of the prevailing crop insurance scheme, such as, inadequate estimation of crop yield loss, low indemnity rate and its delayed payment, and raised concerns over the limited role of Agricultural Insurance Company Limited at grass root level, which according to them was the root cause for many irregularities and misconceptions about the scheme.</p>
<p>Banning of imports by Bhutan because of excessive use of pesticides</p>	<p>The farmers in Assam used to sell their produces via Darranga to Samdrup Jongkhar in Bhutan. But due to the ban the farmers in Assam witnessed a sharp fall in their business.</p> <p>Bhutan is following a policy of ensuring healthy and nutritious food for its citizens. In a bid to become self-sufficient in food production the country is encouraging its farmers in the field of agriculture.</p> <p>Though Bhutan has lifted the ban, yet the country is now more selective on food products from India.</p>
<p>Lack of developed marketing channels</p>	<ul style="list-style-type: none"> <li>• In Assam, still a major portion of the marketed surplus of the farmer is usually sold in the village market called "Haats", which are generally running either on congested space without having infrastructural facilities or on National Highways or State roads.</li> <li>• Under this type of free marketing system, the small farmers do not get reasonable prices for their crops because the marketed produce of the farmers move from rural markets to the large secondary markets in the urban areas through a number of middlemen, who generally indulge in malpractices.</li> <li>• Generally, three classes of middlemen are engaged in purchasing the products of the farmers at the village level.</li> </ul>

<sup>13</sup>[http://agcensus.nic.in/document/agcen1516/writeup\\_repor\\_ac\\_1516-210920.pdf](http://agcensus.nic.in/document/agcen1516/writeup_repor_ac_1516-210920.pdf)

<sup>14</sup> PMFBY portal

Problem Statement	Description and Effect on Agricultural Economy
	<p>They are the commission agents of the rice millers, village traders locally called 'Bepari' and the itinerant traders. The itinerant traders collect the products from the farmers from village to village and bring them to the nearest markets.</p> <ul style="list-style-type: none"> <li>• In case of non-perishable goods, the traders purchase the crops from the village markets at very cheap prices and sell them, when the prices rise.</li> <li>• Because of the lack of transport facilities, storage facilities and fear of being cheated in the market, the small farmers gladly offer their products to the middlemen at cheap price.</li> </ul>

2.

Agriculture Financial  
services Landscape  
of Assam



## 2 Agriculture Financial Services Landscape of Assam

### 2.1 Introduction

Financial Services in Agriculture plays an important role in the sustainability and growth of the sector. While Financial Services covers an entire range of services like Credit, Savings, Insurance, Investments, Payments, Remittance, Forex, Derivatives etc, this report will focus on the following three subsets of Financial Services in Assam

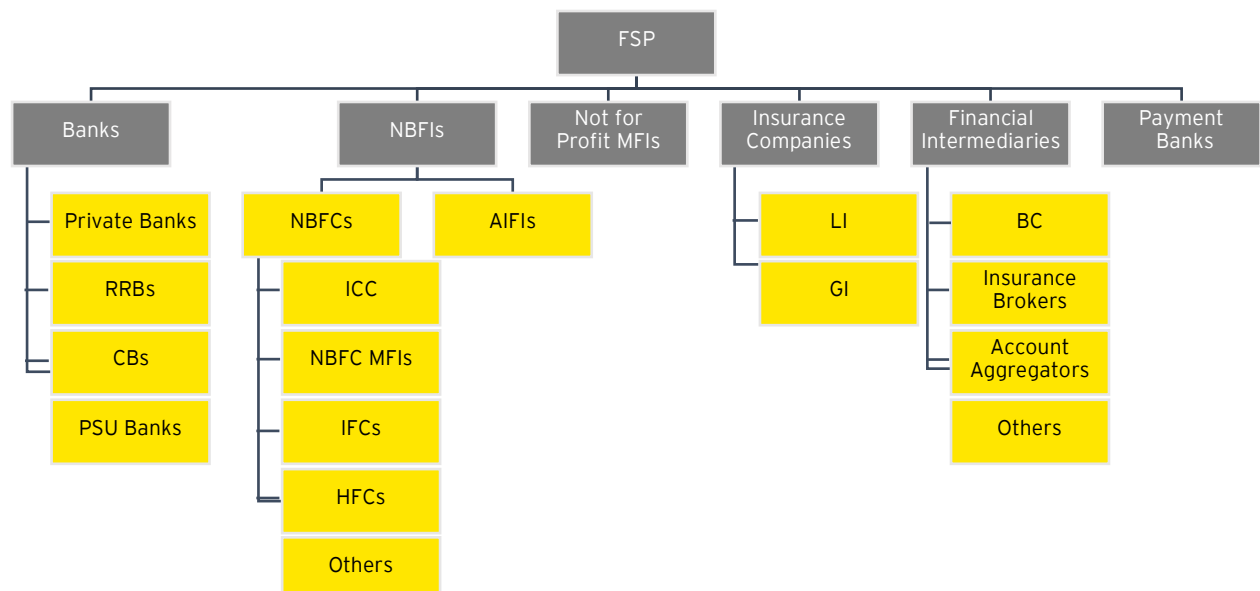
- ▶ Current Status of Agriculture Credit Delivery by the Banking system
- ▶ Current Status of Microfinance
- ▶ Current Status of Crop Insurance in Assam

### 2.2 Financial Sector Profile of Assam

#### Financial Service Providers (FSPs) in Assam

The Financial Services Providers in Assam is presented below:

Figure 1- Financial Services Providers (FSPs) in Assam



Note: NBFIs: Non-Banking Financial Institutions; RRBs: Regional Rural Banks; CB: Cooperative Banks; AIFI: All India Financial Institutions; ICC: Investment and Credit Company; IFC: Infrastructure Finance Companies; HFC: Housing Finance Companies; LI: Life Insurance; GI: General Insurance; BC: Business Correspondents

## All India Financial Institutions (AIFIs)

There are 4 AIFIs in India - NABARD, Small Industries Development Bank of India (SIDBI), National Housing Bank (NHB) and Exim Bank. NABARD and SIDBI both act as refinance organizations to banks and NBFCs in India and play an active role in the agriculture, Micro Small and Medium Enterprises (MSME) and microfinance sector in India. NABARD is an active member of the State Level Bankers Committee (SLBC), which is the apex inter - institutional forum for coordinating development activities in the state related to financial services which includes setting agriculture credit targets for various districts and agriculture subsectors. Further, the Rural Infrastructure Development Fund (RIDF) of NABARD directly invests in various agriculture infrastructure and other rural development projects. EXIM Bank specifically caters to the exporters and importers including that in the agriculture sector. NHB is a regulator as well as refinance organization of Housing Finance Companies (HFCs).

## Banks

As of March 31, 2020, Assam is catered by a network of 2,972 bank branches across 33 districts. As of March 31, 2020, there were 19 Public Sector Undertaking (PSU) Banks, 14 Private Banks, 1 Regional Rural Bank (RRB) - AGVB (Assam Gramin Vikas Bank) and 1 Cooperative Bank - ACAB (Assam Cooperative Apex Bank) operating in Assam. Private Banks include 3 Small Finance Banks (SFBs) - North East Small Finance Bank (NESFB), Jana Small Finance Bank (JSF) and Ujjivan Small Finance Bank (USFB).

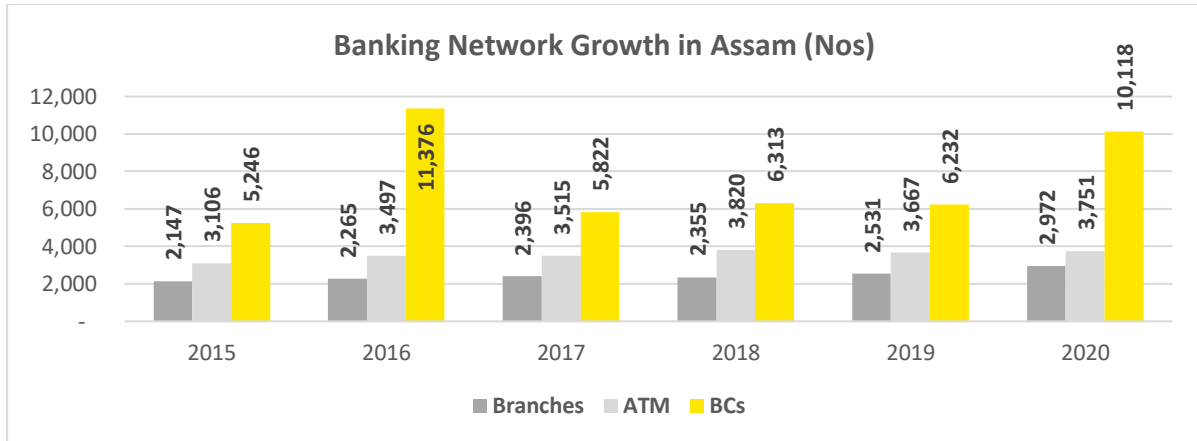
The Banking profile of Assam as on March 31, 2020 is summarized in the table below.

Table 6 - Banking Profile of Assam<sup>15</sup>

Particulars	Deposits (Rs Crore)	Advances (Rs Crore)	Branch (Nos)	BC (Nos)	ATM (Nos)
PSU	123,923	45,761	1,490	8,601	3,161
Private	24,343	24,133	942	393	557
AGVB	11,118	4,043	473	1,124	3
ACAB	3,473	1,438	67	-	30
NEDFI	-	541			
RIDF	-	3,811			
<b>Total</b>	<b>162,857</b>	<b>79,727</b>	<b>2,972</b>	<b>10,118</b>	<b>3,751</b>

<sup>15</sup> Source: SLBC Assam, March 2020





With 50% of the Branch Network, PSU banks play an especially important role in the state economy mobilizing 76% of the Total Deposits and contributing to 57% of the Advances. They also have 85% and 84% of the BC and ATM Network in the state, respectively. The growth of the banking network has been slow in the state.

District wise Number of Bank Branches, BCs and ATM as on March 31, 2020 is provided as Annexure 1.

#### NBFCs

NBFCs are an important channel for delivery of credit to the commercial sector. As at the September 2019, there were about 9,642 NBFCs in India including 82 NBFC - Ds (Deposit Taking), 9461 NBFC - NDs (Non-Deposit Takings) and 99 HFCs. As of March 31, 2019, the asset book of NBFCs primarily comprised of the following sectors - Industry (56.7%), Retail Loans (20.2%) and Services (14.5%). Agriculture and allied sectors comprised only 2.6% of the Gross Advances of NBFCs. The recent policy measure by the RBI, whereby Banks can co - originate priority sector loans with NBFCs is expected to significantly increase lending to agriculture and allied sector by NBFCs.

Since NBFCs do not follow the same regulatory reporting norms as that of banks, separate state wise asset and other financial data is not available. The table below presents some of the key NBFCs operating in Assam as on date.

Table 7- Key NBFCs operating in Assam

SI No	Name of NBFC	Type of Credit Products	Number of Branches/Villages/AUM/GLP (March 31, 2020)
1	North Eastern Development Finance Corporation (NEDFI) - A Public Financial Institution (PFI) specifically catering to the NE region	Various Loan products like Term Loan (TL), Working Capital Loan (WCL), Equipment Finance, Corporate Finance etc. and Venture Capital Funding under North East Venture Fund (NEVF) to sectors like infrastructure, MSE, agriculture and microfinance	Rs 1,072 crore as on March 31, 2019. Disbursed Rs 3,903 crores of loans in FY19 of which Rs 2,344 crores was in Assam (60% of total).

SI No	Name of NBFC	Type of Credit Products	Number of Branches/Villages/AUM/GLP (March 31, 2020)
2	Mahindra and Mahindra Financial Services	New and pre-owned auto and utility vehicles, tractors, cars, Commercial Vehicle (CV), Construction Equipment (CE), and SME Financing	<ul style="list-style-type: none"> <li>▶ 40 branches in Assam out of 1,322 branches in India/6,359 villages in Assam of 382,689 villages in India</li> <li>▶ 26% of Loan Assets (Rs 16,898 Crs) is in Eastern India</li> </ul>
3	Shriram Transport Finance Limited	CV, CE, Trucks, Tractors, market leader in used trucks	<ul style="list-style-type: none"> <li>▶ 25 branches in Assam out of 1,758 branches in India</li> <li>▶ Total AUM of Rs 1,09,749 Crs (All India)</li> </ul>
4	Muthoot Finance	Gold Loans	<ul style="list-style-type: none"> <li>▶ 33 branches in Assam out of 4,567 branches in India</li> <li>▶ Total AUM of Rs 46,870.5 Crs (All India)</li> </ul>
5	Mannapuram Finance	Gold Loans	<ul style="list-style-type: none"> <li>▶ 18 branches out of 4,622 branches in India</li> <li>▶ Rs 25,225 Crs AUM (All India)</li> </ul>

Other prominent retail and SME oriented NBFCs like Bajaj Finance Limited, Tata Capital, L&T Finance etc have limited presence in Assam. Infrastructure Finance Companies (IFCs) like PFC, REC, IIFCL, SIFL etc finance large infrastructure projects in power, highways, ports etc and operate at a national level.

### Payment Banks

India Postal Payment Banks (IPPB), Airtel Payments Banks, Paytm Payment Banks and Jio Payments are currently operating in Assam. While IPPB is also part of the SLBC, the rest operate mainly through BC agents and other third-party operators like retailers for the purpose of customer onboarding.

Payments Banks are still at an evolving phase in India. Of the 11 Payment Bank license issued till date, 5 have either closed operations or surrendered their license. The issue is primarily related to financial sustainability as Payment Banks cannot extend credit, there are restrictions on deposit mobilization and margin on other services like payments, remittance etc is low.

### Micro Finance Institutions (MFIs)

Microfinance has experienced significant growth in Assam like the rest of India in the last few years. As of March 31, 2020, there were 30 MFIs operational in Assam (not counting Banks) across 30 districts with 651 branches. These MFIs include NBFC MFIs, NBFCs, Section 8 companies, Societies, Trusts and Mutually Aided Cooperative Societies (MACS)/Cooperatives. **Microfinance sector has been further covered under a separate section 3.4.**

## Crop Insurance Providers

There are currently two crop insurance schemes being promoted by the Government of India , the Prime Minister Fasal Bima Yojana (PMFBY) and Restructured Weather Based Crop Insurance Scheme (RWBCIS). While PMFBY is Yield based crop insurance product, RWBCIS uses weather parameters as “proxy” for crop yields in compensating the cultivators for deemed crop losses. State Govt have the freedom to choose the type of schemes to be implemented in their respective states or design and implement their own schemes.

The PMFBY is being implemented for both Kharif and Rabi crops in Assam. The entire state has been divided into 8 clusters for effective implementation of the scheme. Agriculture Insurance Corporation (AIC) and HDFC Ergo are the two Implementing Agencies. The notified crops in for Kharif 2017 were Sali (winter paddy), jute and black gram. Farmers’ share of premium for up to one hectare per farmer will be borne by the State government. **Crop Insurance has been further covered under a separate section 3.5.**

## Financial Inclusion in Assam

Financial Inclusion is one of the key policy initiatives of the Government of India (GOI) and Government of Assam (GOA), the framework for which is the National Mission for Financial Inclusion (NMFI). Under NMFI, the Prime Minister Jan Dhan Yojana (PMJDY) launched in 2014 is the flagship program which aims to open a Basic Savings Bank Deposit (BSBD) account for every household in the country along with provision for other financial services like life and accidental insurance cover, pension and Direct Benefit Transfer (DBT) . The BSBD account is a no-frills account that comes with a Rupay Debit Card and no minimum balance requirement. The other important financial inclusion policies launched by the Govt are:

- ▶ Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY): An optional Term Life Insurance policy with Rs 2 Lakh insurance cover
- ▶ Pradhan Mantri Suraksha Bima Yojana (PMSBY): An optional Accidental insurance policy with Rs 2 lakh risk cover
- ▶ Atal Pension Yojana (APY): An optional pension policy
- ▶ Pradhan Mantri Mudra Yojana: a credit scheme aimed at micro enterprises

PMJDY targets are subdivided ward wise amongst banks and is monitored by the SLBC. The BSBD account can be opened with any bank branch or BC agent. The status of Financial Inclusion in Assam is as follows:

## Financial Inclusion Progress

- a. As per PMJDY portal, as on 16.12.2020, all districts in Assam have achieved 100% household coverage under PMJDY except Cachar (99.62%), Jorhat (99.89%), Morigaon (99.43%) and Sivasagar (99.97%). The overall coverage is 99.96%.
- b. As per SLBC data, 198 lakh BSBD accounts have been opened in the state by various banks as of 31.03.2020. This is 66% of the Total Operative Bank Accounts in the states.
- c. PSU Banks and AGVB contributed to 52% and 45% of the cumulative BSBD accounts opened till 31.03.2020.
- d. The total amount outstanding in the BSBD accounts was Rs 15,472 Crs. The amount outstanding per account was Rs 7,802 which compares favorably to the national average of Rs 3,174 (as on 12.12.2020).
- e. Though data for Assam is not separately available, 66% of BSBD accounts were in rural and semi urban India and 55% were women beneficiaries at an All-India level.

- f. 7%, 20% and 2% of persons having BSBD accounts had also availed of the social security benefit under PMJJBY, PMSBY and APY in Assam
- g. As per SLBC data, 64% and 4% of the total operative accounts in the stated were seeded with mobile number and Aadhar number respectively while 44% were issued Rupay Debt Card.

## 2.3 Agricultural Credit in Assam

The District Wise No of Accounts, Agriculture Credit Outstanding and Total Bank Credit Outstanding (as on March 31st, 2020) is provided as Annexure 1.

### Key Observations

- ▶ Agricultural Credit as % of Total Bank Credit is more than 30 % in 8 districts while 5 districts fall below the minimum prescribed regulatory requirement of 18%.
- ▶ Nagaon, Kamrup (Metro), Dibrugarh, Kamrup (Rural) and Golaghat are the top 5 districts in terms of Agri Credit Outstanding.
- ▶ Charaideo, West Karbi Anglong, Majuli, Dima Hasao and South Salmara Mancachar make up the bottom 5 all of which are newly formed districts except Dima Hasao.

## **Demand and Supply for Agriculture Credit in Assam**

### **Source of Information**

To assess the Demand and Supply of Agriculture Credit in Assam we have looked at data from the following sources:

- ▶ District level NABARD Potential Linked Plan (PLP) for FY20 and FY21
- ▶ NABARD State Focus Paper for FY 20 & FY21 (which is a summarized version of district level PLP)
- ▶ SLBC data for March & June 2020.

The PLP forms the basis for the Annual Credit Plan (ACP) of NABARD where Priority sector targets are allocated to each bank in the state including Scheduled Commercial Banks (SCBs), RRBs and CBs.

## **Subsectors of Agriculture Credit**

Agriculture Credit can be divided into various sub sectors depending upon the purpose of loan. The various subsectors of Agriculture Credit as defined by NABARD/SLBC is provided in the table below.

Table 8 - Agriculture Credit Sub-Sectors

Sub-sectors	Purpose
Farm Credit - Crop Production, Maintenance, Marketing	Provides short term credit limit for Land Development, Farm Inputs (Seeds, Fertilizers, Pesticides) and pre-harvest activities. Additional 10% credit limit is provided for post-harvest/household/consumption requirements and additional 20% credit limit towards repair and maintenance of farm assets including agri allied activities (dairy animals, inland fishery etc). These loans usually have a tenor up to 1 year except for long duration seasonal crops like sugarcane, pineapple, banana etc (12-18 months). Additional services like Crop Insurance, Personal Accident Insurance Scheme (PAIS) and Asset Insurance is provided with the Crop Loan.
Farm Credit - Term Loan for Agriculture and Allied activities	Water resources, farm mechanization, plantation & horticulture, animal husbandry and fisheries etc. These loans which are considered as Investment Credit are long term in nature (tenor above 1 year).
Agriculture Infrastructure	Construction of storage & marketing infrastructure, Investment credit for land development, soil conservation & watershed development. It also includes activities like tissue culture, agri biotechnology, seed production, bio pesticides/fertilizers and vermi-composting etc.
Agriculture- Ancillary Activities	Agro & Food processing, loans to cooperative societies of farmers for disposing of their produce, agri-clinic/agri-business centres, loans to Primary Agriculture Cooperative Societies (PACS), Farmer Services Societies (FSS), Large Area Multipurpose Societies (LAMPS), loans to MFIs for on-lending and non-activity specific financing of Self-Help Groups (SHGs) and Joint Liability Groups (JLGs).

Note: Farm Credit is usually delivered through Kisan Credit Cards (KCC) which these days comes with a Rupay Debit Card. Farm Credit Amount depends upon the Scale of Finance (SOF) fixed by the Technical committee of each district. No collateral is required for loans upto 1 lakh (can vary across banks), but hypothecation of crops is required. Interest Subvention and Prompt Repayment Incentive Scheme is available for Crop Loan upto 3 Lakhs as determined by RBI from time to time.

### Demand for Agriculture Credit for the year 2020-21

The subsector wise demand for agriculture credit for FY20 and FY21 is provided in the table below.

Table 9 - Sub-sector-wise Agriculture Credit Demand for FY21 &amp; FY20

(Amount in Rs Crore)				
Year/ Sub- Sector	Farm Credit	Agriculture Infrastructure	Agriculture - Ancillary Activities	Total Agriculture Credit
FY21	15,721	742	390	16,853
FY20	13,942	690.4954	1126.1342	15,758
Growth	12.8%	7.5%	-65.4%	6.9%

Source: NABARD State Focus Paper, 2020-21

## Demand for Farm Credit

Since Farm Credit comprise more than 93% of the Total Agriculture Credit demand, a further break up of Farm Credit demand is provided in the table below.

Table 10 - Sub-sector-wise Farm Credit Demand for FY21 & FY20

(Amount in Rs Crore)

Type of Farm Credit	FY20	FY21	Growth
Crop Loan - Crop Production, Maintenance, Marketing	8,899	10,678	20.00%
Term Loan - Water Resources	480	409	-14.85%
Term Loan - Farm Mechanization	910	748	-17.77%
Term Loan - Plantation & Horticulture	877	922	5.07%
Term Loan - Forestry and Wasteland Development	74	75	1.63%
Term Loan - Animal Husbandry (Dairy)	877	924	5.38%
Term Loan - Animal Husbandry (Poultry)	753	674	-10.45%
Term Loan - Animal Husbandry (Sheep/Goat/Piggery)	743	775	4.24%
Term Loan - Fishery	280	280	0.02%
Term Loan - Others (Bullock, Carts, Two Wheelers etc)	49	236	385.66%
<b>Total Farm Credit</b>	<b>13,942</b>	<b>15,721</b>	<b>12.76%</b>

Source: NABARD State Focus Paper, 2020-21

## Supply of Agriculture Credit in Assam.

The supply of Agriculture Credit against demand for the period FY17 to FY20 is provided in the table below.

Table 11- Demand Vs Supply for Agriculture Credit under the ACP for the period FY17 to FY20

(Amount in Rs Cr)

Sector/Sub-Sector	Particulars	FY17	FY18	FY19	FY20
<b>Crop Loan</b>	Demand	3,480	7,931	7,878	8,899
	Supply	1,253	1,461	1,956	2,044
	% Achievement	36.01%	18.42%	24.83%	22.97%

Sector/Sub-Sector	Particulars	FY17	FY18	FY19	FY20
	Unmet Credit Demand	2,227	6,470	5,922	6,854
Term Loan	Demand	2,230	4,916	5,990	5,043
	Supply	3,155	6,131	5,236	3,997
	% Achievement	141.46%	124.73%	87.42%	79.26%
	Unmet Credit Demand	-	-	753	1,046
Total Agriculture Credit	Demand	5,710	12,847	13,868	15,758
	Supply	4,408	7,592	7,193	7,118
	% Achievement	77.20%	59.10%	51.87%	45.17%
	Unmet Credit Demand	1,302	5,254	6,675	8,640

Source: NABARD State Focus Paper 2020 - 21 and SLBC Assam, March 2020

Note:

1. The unmet credit potential in Agri Infrastructure and Agri Ancillary were Rs 447 Crore and Rs 293 Crore in FY20 respectively which also forms part of the Total Agriculture Unmet Credit Potential standing at Rs. 8,640 Crore.
2. The above data is at the aggregate level

### Key Observations

- ▶ The average demand for crop loan for the period FY17 to FY20 has been 59% of the Total Agriculture Credit Demand while the average supply of crop loans has only been about 26% of the Total Agriculture Credit Supply. We can infer from this that lenders have more risk aversion to crop loan than term loan. The reasons for this have been provided in the section Asset Quality of Agriculture Credit below.
- ▶ The average achievement for Crop Loan is about 25.56% for the 4-year period from FY17 to FY20 and it has been showing a declining trend.
- ▶ Compared to Crop Loan, Term Loans have performed significantly better with average achievement of 108.22% during the same period though it is also showing a declining trend.
- ▶ Total Agri Credit has achieved an average performance of 58.34% during the period and it is also showing a worrying declining trend.
- ▶ The low achievement in agriculture credit leaves a significant unmet credit demand in the agricultural sector particularly for crop loan which forms bulk of the credit demand.
- ▶ Agri Credit as mentioned previously also includes Agri Infra and Agri Ancillary, the separate performance data for which is not available except for FY20.

### Kisan Credit Card (KCC)

KCC is currently the most important tool for delivering Farm Credit (both short term production credit and investment credit) to the farmers in India. KCC is available to all types of farmers including SHGs and JLGs of such farmers. In FY20, the credit outstanding on KCC was 41% of total agriculture credit outstanding for all banks in Assam as per SLBC.

The operational land holding in Assam was 27.42 Lacs against which 10.97 Lakhs KCC were operational as of March 2020. Therefore, penetration level of KCCs (considering only operative KCCs) was only 40%. Based on RBI data on KYC for FY19, we find that the credit amount outstanding per operational KCC in Assam is also only 55% of that of India. Further data on KCC in Assam is given as Annexure 1.

## District wise Annual Credit Plan (ACP) for Assam for FY21

NABARD prepares the ACP for each district and bank based upon the PLP data. The district wise ACP for 33 districts of Assam for FY21 is provided as Annexure 1.

### Key Observation

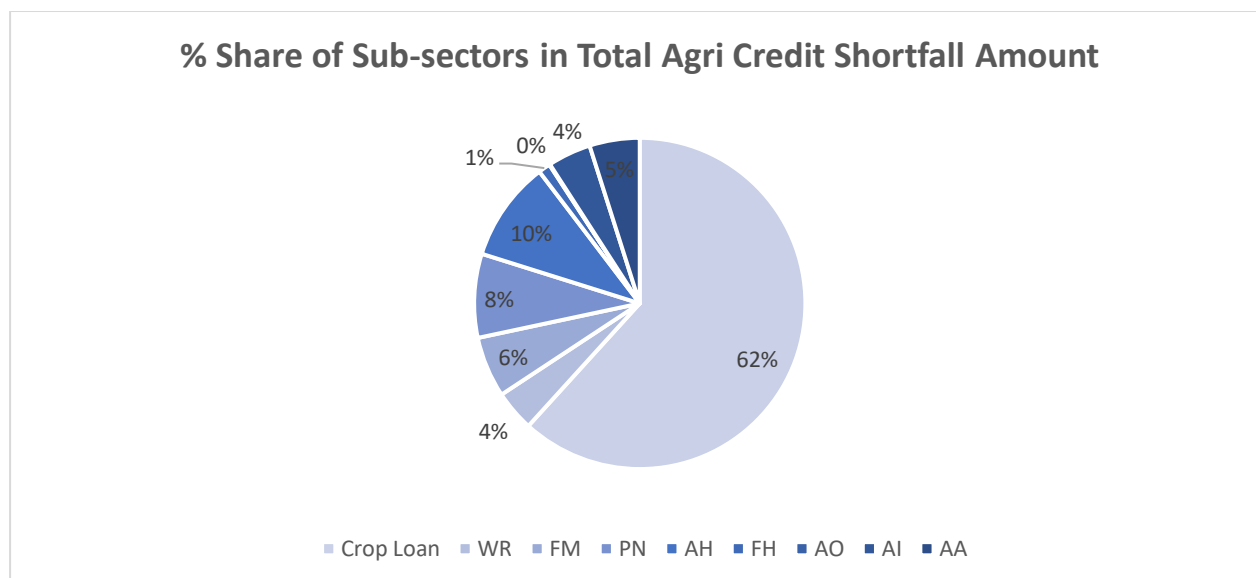
- ▶ Nagaon, Barpeta, Dhubri, Cachar and Jorhat are the top 5 districts with both the highest agriculture credit demand and Farm Credit demand. They together constitute 26% of the Total Agriculture Credit demand in the state.
- ▶ The top 12 districts constitute 50% of the total agriculture credit demand in the state and there are 6 districts where the Farm Credit demand is more than 98% of the Total Agri Credit potential estimated by NABARD.
- ▶ The bottom 3 states are represented by Hojai, South Salmara Mancachar and Majuli in terms of agriculture credit demand.

## District-wise Shortfall in Agriculture Credit under ACP for FY20

There was significant gap in the demand and supply of agriculture credit in most of the districts of Assam in FY20. The supply of agriculture credit has been less than 50% in 18 out of the 33 districts. The supply of agriculture credit was more than 100% of the demand only in 4 districts - Golaghat, Dibrugarh, Kamrup and Tinsukia while it was in the range of 75 - 80% in 3 districts - Sonitpur, Morigaon and Kamrup (rural). Majuli, Karbi Anglong and Dima Hasao are bottom 3 performing states where the supply was less than 10% of the demand.

The district-wise % Achievement for the various sub-sectors of Agriculture Credit under their respective ACP for FY20 is provided as Annexure 1.

Figure 2 - Percentage Share of Subsectors in Total Agriculture Credit Shortfall Amount





The above Figure again shows that there is a significant unmet credit potential in crop loan followed by Animal Husbandry (poultry, piggery, goatery and dairy farming) and Plantation and Horticulture.

Legend: AH: Animal Husbandry - 10% | PN: Plantation - 8% | WR: Water Resources - 4% | FM: Farm mechanization - 6% | AO: Agri Others ~0% | AI: Agri Infrastructure - 4% | AA: Ancillary Activities - 5% | FH: Fishery - 1%

## Asset Quality in Agriculture Credit

The Gross Non-Performing Assets (GNPA) status as on June 30, 2020 is provided in the table below.

Table 12 - Bank Group wise and Agriculture Subsector wise GNPA as of June 30, 2020

Agriculture Subsectors	Crop Loan		Term Loan		Agriculture Infrastructure		Agriculture Ancillary		Total Agriculture Credit		
	Type of Bank/Particulars	No of Accounts	Amount	No of Accounts	Amount	No of Accounts	Amount	No of Accounts	Amount	No of Accounts	Amount
PSU Banks		37%	32%	31%	24%	45%	19%	10%	8%	35%	25.2%
Private Banks		2%	6%	4%	2%	0%	0%	0%	0%	4%	1.8%
RRB		8%	6%	65%	59%	94%	86%	NA	NA	26%	29.5%
ACAB		33%	35%	19%	42%	NA	NA	0%	0%	24%	34.1%
<b>Total</b>		<b>25.40%</b>	<b>24.43%</b>	<b>12.66%</b>	<b>15.28%</b>	<b>5.01%</b>	<b>6.43%</b>	<b>5.91%</b>	<b>5.92%</b>	<b>17.86%</b>	<b>17.42%</b>

Source: SLBC Assam, June 2020

### District wise Agriculture GNPA

The table below shows the top 5 states in terms of GNPA % and GNPA (Nos)

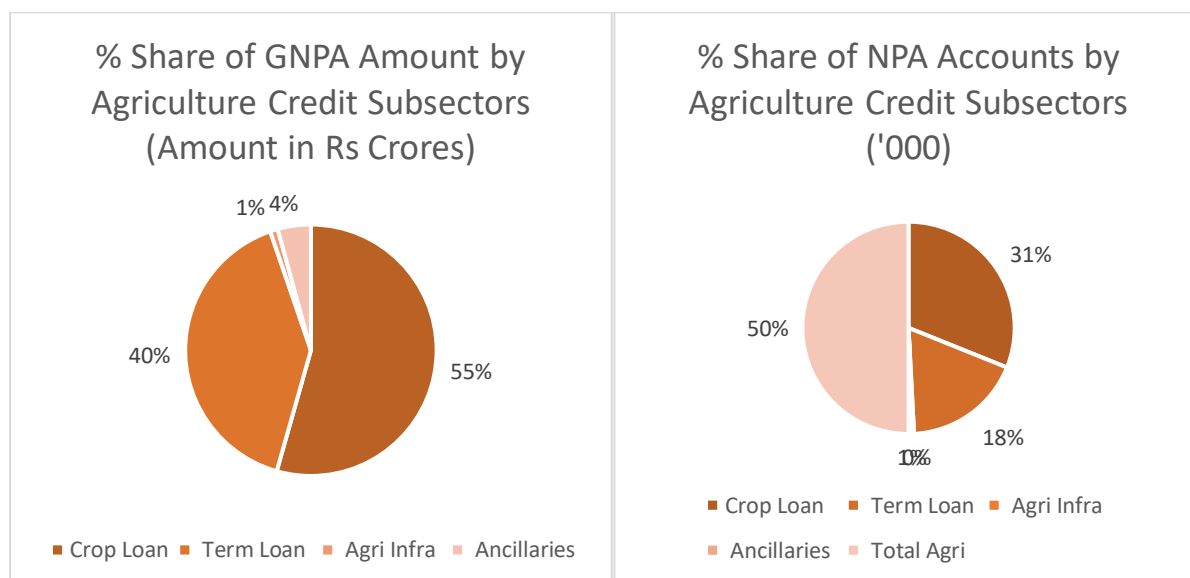
Table 13- Top and Bottom 5 Districts with respect to GNPA

Rank	GNPA % (Amount)	Name of District	GNPA % (Nos)	Name of District
1	45.1%	Udalguri	42.7%	Udalguri
2	30.9%	South Salmara Mancachar	28.3%	Baksa
3	28.7%	Baksa	27.7%	Dima Hasao
4	26.1%	Darrang	24.1%	Dibrugarh
5	23.3%	Dhemaji	22.4%	Majuli

Source: SLBC Assam, June 2020

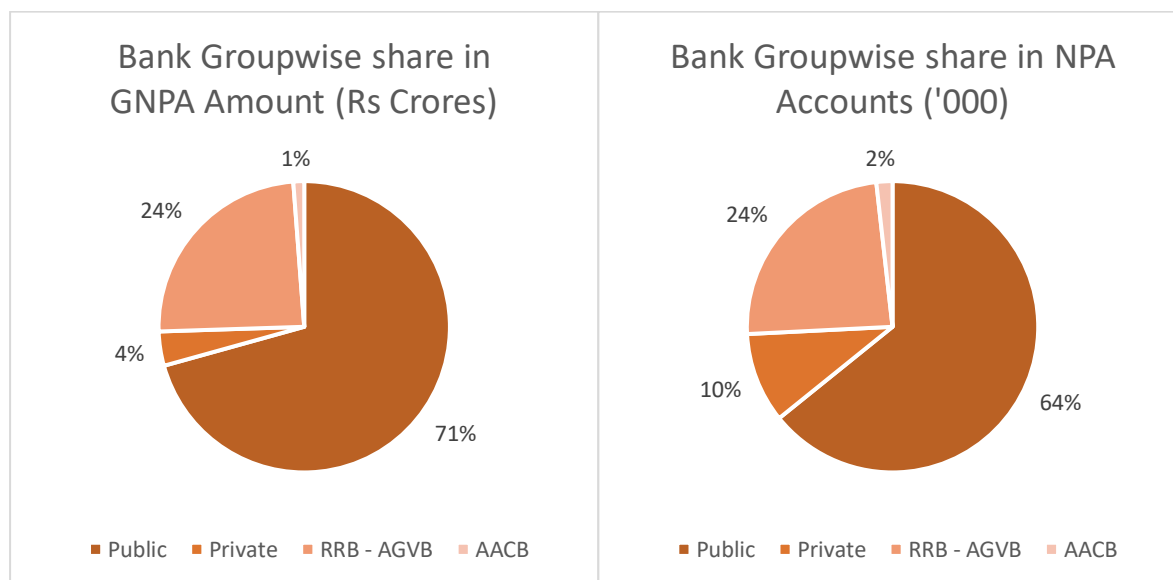
District-wise details of NPA Accounts and NPA Amount is provided as Annexure 1.

Figure 3 - Percentage share of GNPA Amount and NPA Accounts by Agriculture Credit Sub-Sectors



Source: SLBC Assam, June 2020

Figure 4 - Bank Group-wise Percentage Share in Total GNPA Amount & Accounts



Source: SLBC Assam, June 2020

### Key Observations

#### High Level of NPA in Agriculture Credit

It is to be noted that Assam has a much higher level of NPA in the Agricultural Sector than India. As per RBI Internal Working Group on Agricultural Credit<sup>16</sup>, the GNPA in the Agricultural Sector for the

<sup>16</sup><https://www.rbi.org.in/Scripts/PublicationReportDetails.aspx?UrlPage=&ID=942>

whole of India was 8.44 % as on March 31, 2019. The key reasons for the high NPA level are as follows:

- ▶ Farmers in Assam are predominantly into rice cultivation which for most part goes into domestic consumption given the small land holding size. There is urgent need to diversify into high value crops like fruits, vegetables, spices etc which can provide more income to the farmers.
- ▶ Lack of systematic irrigation and water resources management infrastructure like rainwater harvesting. Assam had one of the lowest Gross Irrigated Area (GCFM) to Gross Cropped Area (GCA) ratio (about 9%) in India (average of about 49%) in FY15
- ▶ Farmers still follow traditional farming methods which results in lower productivity. For example, Assam has one of the lowest farm mechanizations in the whole of India. Even the usage of fertilizer was only about 33% of All India average in FY17.
- ▶ There is dearth of post-harvest agriculture infrastructure like cold storage and warehouses for which there is spoilage of farm produce and farmers resort to distress sale. Due to limited number of food processing units, value addition to farm produce is also limited.
- ▶ Annual occurrence of floods primarily due to overflowing of the Brahmaputra and Barak river and its tributaries. The annual occurrence of flood has been a unique problem to Assam resulting in large scale loss of life and property on an annual recurring basis. As per the Water Resources Department of Assam (WRDA) the flood prone area of the state stands at 39.6% of the total area of the state (the flood prone area of the country stands at about 10.2 % of the total area of the country). As per WRDA the average annual area affected by flood is 9.31 Lakh Hectares which is 12% of the total land area of the state. There are also multiple waves of flood in a year. The year 2020 has witnessed 3 waves of flood till date causing large scale damage to agriculture land. In the first wave, ASDMA (Assam State Disaster Management Authority) reported that 2,323 villages across Assam were submerged and 1.10 lakh hectares of crop area was damaged. In the third wave, over 2.25 lakh people of nine districts have been affected and flood waters have submerged 9,948 hectares of crop land of 219 villages in Nagaon, Morigaon, West Karbi Anglong, Dhemaji, Majuli, Sivasagar, Dibrugarh, Tinsukia and Lakhimpur district. As per govt estimates crops valued at Rs 1,000 crores have been damaged due to floods in 2020.
- ▶ As of June 30, 2020, Crop Loan GNPA amount constituted 54% of Total Agriculture Credit NPA. High level of NPA in the crop loan segment might also be due to the Rs 600 crore (Rs 25,000 per farmer or 25% of loan outstanding whichever is less) debt relief scheme announced by the Govt. in the 3rd quarter of FY19. Some farmers in anticipation of further loan waiver resort to willfully defaulting on their repayment to the lenders.

It is also observed that Private Banks have been able to maintain a comparatively better portfolio quality than PSU banks. The reasons behind the better performance of Private Banks are as follows:

- ▶ Independent and better credit decisioning in terms of subsectors to be financed. For example, as of June 30, 2020 Private Banks share in Total Agriculture Credit was 36%. But its share in Crop Loan was only 8%, though Crop Loan comprised 39% of Total Agriculture Credit. The reason behind this is that up to a certain crop loan amount (for example Rs 1.6 lakhs in case of SBI), farmers do not have to provide any collateral, the primary security being the hypothecation of crops. And since crop loans are utilized primarily for crop inputs and labor cost, no fixed asset creation takes place on which charge can be created by the bank. Therefore, Private Banks perceive Crop Loans to be risky and avoid it. Instead, they have significant exposure to Term Loan and Agriculture Infrastructure Credit since these loans are backed by fixed asset creation and collateral. It is observed that as on June 30th, 2020, Crop

Loan had a GNPA of 24.43% while Term Loan and Agriculture Infrastructure Credit had a lower GNPA of 15.28% and 6.43% respectively.

- ▶ The primary security in agriculture loans of higher ticket size (for example loan for drip irrigation and farm equipment) is hypothecation of the assets created out of the loan money. This provides a fallback mechanism to the lender via asset repossession and resale like in the case of two-wheeler and car loans.
- ▶ The primary collateral in agriculture loans with higher ticket size is land and property besides financial instruments like Fixed Deposits, Post Office Savings etc. While collateral does not mean lower credit risk, borrowers might have a higher propensity to repay such loans as they otherwise risk losing the collateral asset. Thus, better risk management capacity of Private Banks is one of the primary reasons for lower NPA of Private Banks.
- ▶ Better portfolio monitoring and recovery mechanisms through use of digital/mobile technology
- ▶ Adoption of innovative methods like Value Chain Finance to reduce credit risk and transaction costs- for example HDFC Bank Milk2Money program, Yes Bank STG program etc **which have been documented as Case Studies in Annexure 2.**
- ▶ Private banks are conservative in their approach to agriculture lending and they prefer to invest in Pass Through Certificates (PTCs) of Priority Sector Loan (PSL) portfolio for meeting their priority sector shortfall. NBFC MFIs and SFBs are primary issuers of PTCs with PSL benefits in the agriculture sector. NBFC MFIs and SFBs have more than 99% recovery rate (pre COVID-19) resulting in lower NPA for buyers of their PTCs. As per the India Securitisation Report 2019 by Vinod Kothari Consultants, the Securitization market in India in FY19 was Rs 1.9 lakh crore and has grown at a CAGR of 16.8% since FY10. PSL transactions form a significant part of the securitization market at about 58% share in FY18.
- ▶ Private Banks are also active buyers of Priority Sector Lending Certificates (PSLCs) which allow them to meet their priority sector shortfall. The volume of PSLC transactions was Rs 3.3 lakh crore in FY19 compared to 1.9 lakh crore in FY18. Out of the 4 types of PSLCs - General and PSLCs - Small and Marginal Farmers are the most traded PSLCs. It is usually found that while Private Banks have surplus of PSLCs - General, they have shortfall of PSLCs - SMF while the reverse is applicable for RRBs.

## Credit to Deposit Ratio

- ▶ As per SLBC data, the average CD ratio of all banks in Assam was only 46.28% as on March 31, 2020. PSU Banks, RRBs and CBs had a CD ratio of 36.93%, 36.37% and 41.4% respectively while Private Banks had a CD ratio of 99.14%.
- ▶ As per RBI, the overall CD ratio of SCBs in Assam as on March 31st, 2020 was 44.4% which does not compare favorably to the national average of about 90%.
- ▶ NABARD has been setting a target of 60% as the desired CD ratio. As on March 31, 2020 only 11 districts were able to achieve a CD ratio of above 60.

The district wise Credit and Deposit Outstanding of SCBs as on March 31, 2020 is provided as Annexure 1.

### ***Business Correspondents***

As on March 31, 2020 there were 10,118 BCs operating in Assam covering 33 districts. The top and bottom 5 districts in terms of BCs are presented in the table below.

*Table 14 - Top and Bottom 5 districts - Number of BCs*

SI No	Top 5 Districts	Number of BCs	Bottom 5 Districts	Number of BCs
1	Nagaon	818	South Salmara Mancachar	30
2	Barpeta	668	West Karbi Anglong	44
3	Kamrup (rural)	615	Dima Hasao	44
4	Dhubri	557	Majuli	85
5	Cachar	538	Charaideo	89

Source: SLBC Assam, March 2020

#### Types of BC Agents in Assam:

- ▶ Common Service Centers under CSC e - Governance Services India Limited, a SPV set up by Ministry of Electronics & IT to implement the CSC scheme. Srei Sahaj and Amtron are the two State Designated Agency (SDA) for implementing the CSC Scheme. There are currently more than 4,000 CSCs in the state, and many have been appointed as BCs by banks like SBI, HDFC Bank, Axis Bank etc
- ▶ Corporate BC Agents like Drishtee, Atyati Technologies Private Limited, Sub K etc
- ▶ Individual Bank Mitras or Customer Service Providers (CSPs)
- ▶ Bank Sakhi: Women SHG members under Assam State Rural Livelihoods Mission (ASRLM) can also work as BCs.

## 2.4 Microfinance in Assam

### Outreach Profile of MFIs in Assam

The outreach profile of MFIs in Assam is provided in the table below:

Table 15- Outreach Profile of MFIs in Assam

Parameters	2018		2019		2020		Growth in FY20	
	Assam	India	Assam	India	Assam	India	Assam	India
No of MFIs	24	200	28	202	30	202	7%	0%
Number of Districts	30	591	29	570	30	593	3%	4%
Number of Branches	399	14026	560	17,218	651	19,073	16%	11%
Client Outreach (in lakh) - Only MFIs	8.02	351	15.11	429	13.27	423	-12%	-1%

Parameters	2018		2019		2020		Growth in FY20		
	Assam	India	Assam	India	Assam	India	Assam	India	
Loan Portfolio Outstanding (Rs Cr) - Only MFIs	1,335	81,737	2,739	94,391	2,426	101,663	-11%	8%	
Loan Disbursement (Rs Cr) - Only MFIs	1,487	81,737	3,267	109,804	2,640	106,404	-19%	-3%	
Active Unique Borrowers - All Lenders (Lakhs)			24	492	25	571	4%	16%	
Loan Portfolio Outstanding - All Lenders (Rs Cr)	7,966	127,234	12,021	178,531	11,433	236,427	-5%	32%	
Active Loans Lakhs	-	29	698	41	865	43	1,041	4%	20%

Source: Bharat Microfinance Report, Sadhan

- ▶ The districts that are currently not covered by any MFIs in Assam are Majuli and West Karbi Anglong. Svatantra Microfin Ltd has recently started operations in Dima Hasao.
- ▶ Assam (total 9 districts) and Tamil Nadu (total 12 districts) have the highest number of districts with penetration level between 50% to 80% penetration. Kamrup is one of the 3 districts in the country with penetration level above 80%.
- ▶ Penetration Level = Active Microfinance Borrowers/Total Households (2011 Census)
- ▶ The Client Outreach and Loan Portfolio Outstanding amount in FY20 for MFIs is reflecting a decline because data from North East Small Finance Bank which was an NBFC MFI earlier has not been included in FY20. If we add the NESFB number, then there has been a growth of 28% and 38% in Client Outreach and Loan Portfolio Outstanding amount respectively in FY20 for Assam. The overall growth for India if we add the contribution of Small Finance Banks would be 42% and 57% respectively.
- ▶ NESFB which is the only SFB with HQ in Assam had a client outreach of 6 Lakhs and portfolio outstanding of 1,359 Cr with operations across 9 states and 57 districts.
- ▶ Assam has the 9th highest Loan Portfolio Outstanding in India with about Rs 11,433 Crore as at March 31, 2020.

- ▶ Active Unique Borrowers in Assam and Loan Portfolio Outstanding is 4.4% and 4.8% of All India Total as of March 31, 2020 which compares favorably to that of Agriculture Credit which is only 0.94% of All India Total.
- ▶ Assam has registered a growth of 4% and degrowth of -5% in Active Unique Borrowers and Loan Portfolio Outstanding in FY20 respectively compared to a growth of 16% and 32% in both the parameters across India. This is due to the rising delinquency in MFI portfolio and subsequent public unrest across some districts of Assam for which many MFIs had to curtail their lending activity.
- ▶ Though separate data for Assam is not available we may consider the All India data regarding Loan Purpose which is 93% for Income Generating Purpose and balance for Non-Income Generating Purpose. Income Generating Purpose includes Agri Loans (39%) and Animal Husbandry (21%).

## Portfolio Quality of MFIs in Assam

Table 16- Portfolio Quality of MFIs in Assam

Parameters	2018		2019		2020	
	Assam	India	Assam	India	Assam	India
Average Ticket Size per Loan (Rs)			46,468	33,966	48,574	36,904
PAR > 30 Days		1.39%	0.37%	0.92%	13.90%	1.78%

Source: Bharat Microfinance Report, Sadhan

- ▶ Assam has seen a significant deterioration in the quality of microfinance portfolio in FY20. The PAR > 30 Days (30+ DPD) which is one of the most important measures of MFI portfolio quality has seen a significant rise from a low of 0.37% in FY19 to 13.90% in FY20, which is the highest across all states.
- ▶ PAR > 60 Days and PAR>90 Days was 9.05% and 5.16% as of March 31, 2020.

The primary reasons for rise in delinquency levels are as follows:

- ▶ Lending to economically vulnerable groups like temporary and casual workers of tea estates. Currently tea industry is going through a downturn in Assam leaving many workers out of work. Many of these laborers resorted to borrowing from MFIs since it is easily available. Assam govt. has recently passed the Assam Microfinance Institutions Bill, 2020 whereby MFI lending to permanent workers of tea estate will be limited to Rs 30,000 and Rs 50,000 in case of single and double income respectively which is much below the regulatory requirements of Rs 1.25 lakh. Further all aggressive recovery methods will have to be discontinued by MFIs.
- ▶ Many of the borrowers were affected by natural calamities like flood and were unable to repay their loan
- ▶ Snowballing effect of protests that were taken out against microfinance companies resulting in addition of borrowers not willing to repay
- ▶ Over lending to Borrowers - Assam does not have a developed agriculture economy like that of other states like Andhra Pradesh, Karnataka, Punjab etc. Even then the average loan ticket size in Assam was 1.37 and 1.32 times of the national average in FY19 and FY20

respectively. Assam had the 4th highest average loan ticket size in FY20 just after Nagaland, Sikkim and Tripura. This reflects aggressive lending tactics resulting in overborrowing which in many cases finally leads to default.

- ▶ At an All-India level, the percentage of rural borrowers is 77%. Since Assam is predominantly rural, we may assume that most of the MFI borrowers of Assam are from rural areas.

Table 17- Agency Wise 30+ Delinquency % by Value for FY20

Agency	Assam	India
Industry <sup>17</sup>	13.90%	1.33%
NBFC MFIs	21.21%	1.47%
Banks	9.76%	0.16%
Small Finance Banks	15.43%	1.22%
NBFCs	31.20%	6.01%
NPM	NA	0.92%

Source: Bharat Microfinance Report, Sadhan

District wise List of MFIs as on March 30, 2020 is presented as Annexure 1.

## 2.5 Crop Insurance

Crop Insurance plays an important component of Financial Services in Agriculture due to its role in Financial Risk Mitigation and protecting livelihoods of farmers. It also is important for overall stability of the financial services sector as farmers can use the claims payout for repayment of debt to lenders in the event of a crop loss thus preserving the capital of the Banking system and their capacity lend further during subsequent crop seasons.

GOI is currently implementing two crop insurance schemes across various states - PMFBY and RWBCIS. The ultimate decision to implement the above two policies is that of the State Government. Currently the PMFBY is the more prevalent scheme with almost all states and UTs having adopted the scheme for Kharif 2019 implementing it except a few states like Bihar, West Bengal, Sikkim, Jammu and Kashmir etc. On the other hand, RWBCIS has been implemented in 8 states since its launch in FY17. Both PMFBY and RWBCIS are heavily subsidized by the Central and State Government.

### Current Status of Crop Insurance in Assam

The combined business statistics for Assam (for both PMFBY and RWBCIS) for FY17, FY18 & FY19 for both Kharif and Rabi crops is provided in the table below.

Table 18- Combined Business Statistics for both PMFBY and RWBCIS as on 02.11.2020

<sup>17</sup> The entire microfinance industry comprising banks, NBFCs, micro finance institutions, small finance banks and non-profit micro finance institutions.



	FY/Particulars	Farmers Applications Insured (Lakh)	Area Insured (Lakh ha)	Sum Insured (Cr)	Farmers Share in Premium (Cr)	Gross Premium (Cr)	Reported Claims (Cr)	Paid Claims (Cr)	Farmer Applications Benefitted (Lakh)
Assam	FY 2016 - 17	0.603	0.418	244.79	4.971	8.64	5.37	5.37	0.236
	FY 2017 - 18	0.553	0.412	252.79	5.146	11.9	1.18	1.18	0.021
	FY 2018 - 19	0.741	0.491	316.89	2.046	13.25	0.39	0.09	0.004
	CAGR	11%	8%	14%	-36%	24%	-73%	-87%	-87%
India	FY 2016 - 17	584	567	201,266	4,046	21,769	16,768	16,749	156
	FY 2017 - 18	533	508	202,243	4,204	24,651	22,118	22,113	170
	FY 2018 - 19	576	523	230,036	4,852	29,347	28,498	27,319	215
	CAGR	-1%	-4%	7%	10%	16%	30%	28%	17%

Source: PMFBY portal

\* Rabi 2018-19 claims yet to be fully reported for FY19

From the table above, we can infer that crop insurance penetration level is still very low in Assam. Considering 27.42 Lakh and 14.6 crore operational land holding in Assam and India respectively as per Agriculture Survey data of 2015-16, the penetration level of crop insurance stands at 2.70% and 39.46% for Assam and India respectively.

- ▶ The growth rate in number of farmers insured under crop insurance and area insured is however significantly higher for Assam for the period FY17 to FY19 compared to that of country as a whole.
- ▶ While the country as a whole has reported a CAGR of 30% in reported claims, Assam has registered a degrowth of 73%. The reasons for this needs to be further investigated.
- ▶ Both PMFBY & RWBCIS are significantly subsidized by the Government. It envisages a uniform premium rate of only 2%, 1.5% and 5% for Kharif, Rabi and annual commercial and horticulture crops respectively. For PMFBY, the farmer has to pay 50% of the premium and another 50% is paid equally by the Central and State Government. The subsidy premium or the difference in Actuarial Premium Rate (APR) and Premium Rate payable by farmers will be shared between central and state government in the ratio of 9:1 for North East states including Assam upto APR of 25% and 30% for irrigated and rainfed area respectively.
- ▶ While previously PMFBY and RWBCIS was compulsory for loanee farmers, they have been made optional from FY20 onwards.

Other Important Crop Insurance Parameters based on the above date is provided in the table below.

Table 19- Key Crop Insurance Parameters (PMFBY & RWBCIS combined)

	FY/Particulars	Reported Claims/Gross Premium	Gross Premium/Sum Insured	Farmers Share in Premium/Gross premium	Reported Claims/Sum Insured	Farmers Application Benefited/Farmers Application Insured
Assam	FY 2016 - 17	62%	3.5%	58%	2%	39%
	FY 2017 - 18	10%	4.7%	43%	0.5%	4%
	FY 2018 - 19	3%	4.2%	15%	0.1%	1%
India	FY 2016 - 17	77%	10.8%	19%	8%	27%
	FY 2017 - 18	90%	12.2%	17%	11%	32%
	FY 2018 - 19	97%	12.8%	17%	12%	37%

Source: PMFBY portal

Assam Specific challenges for low penetration of Crop insurance<sup>18</sup>:

- ▶ Lack of awareness of farmers regarding crop insurance and its benefits is another reasons for low voluntary adoption. As farmers are unaware of the benefits, they perceive the process of obtaining insurance as fruitless.
- ▶ In the districts of Nagaon and Bongaigoan, apart from lack of awareness, branch offices for insurance companies are limited. Also since these are not prone to floods and wildlife attacks, the farmers underestimate risks and do not feel the need for insurance

#### Current Issues with PMFBY

- ▶ PMFBY scheme has not been found remunerative by many insurance companies. The table above shows that reported claims/gross premium ratio (claims ratio) for FY19 stands at high of 97% even though the claims for rabi crop has still not been fully reported. Several states like Chhattisgarh, Haryana, Kerala and Tamilnadu have reported claims ratio of more than 100% in FY19. This is the primary reasons why 4 GI companies - ICICI Lombard, Cholamandalam MS, Shriram General Insurance and Tata AIG have opted out of PMFBY from kharif 2019-20.
- ▶ Implementaion of PMBFY is voluntary for the states. Several states like Bihar, West Bengal, Telengana and Jharkhand have decided to opt out of PMFBY for Kharif crops as they find the subsidiy burden too high. Many states have launched their own crop insurance scheme.

<sup>18</sup> NABARD report on Doubling farmer's income – Issue and Strategies for Assam

- ▶ Delayed claims payout have been reported from many states primarily due to pending State subsidy and/or pending yield data.
- ▶ Disputes in crop yield assessment is one of the key issues affecting the PMFBY. The crop yield estimation, done through the method of Crop Cutting Experiments (CCE) has been found to be time consuming with high manual intervention. Many farmers find the results of CCE unreliable.
- ▶ PMFBY was compulsory for loanee farmers which also did not find support amongst many farmers. The premium was deducted from the loan amount by the banks providing the farm credit. Understanding this, the government has made PMFBY voluntary from Kharif 2020 onwards.
- ▶ The Government has brought significant changes to PMFBY from Kharif 2020 onwards after looking at all the issues negatively affecting the scheme for the last three years. Many of these changes are aimed at reducing disputes related to crop yield assessment by leveraging latest available technology such as mobile applications, geo spatial technology, remote sensing, drone technology and artificial intelligence.

The district wise data on No of Policies and Sum Insured as on March 31, 2020 and Bank wise Participation in PMFBY is provided as Annexure 1.

## 2.6 Equity, Grant in Aid and Subsidy Support to Agribusiness and Agritech Companies

As per Inc42, an online startup focused news portal, there are currently more than 500 agritech startups in India, growing at the rate of 25% year on year. Agritech companies have received funding of about 513 mn USD during the period 2016-20 of which 245 mn USD was in FY19 alone. Investments are mostly for enabling direct consumer access, building marketplaces and branding. Some of the prominent investors in these agritech companies are Aaviskhar, Ankur Capital, Omnivore, Blume Ventures, Accel, Aspada etc. Funding has been active even in FY21 with many agritech companies like Arya Collateral, DeHaat, Ergos, Intellolabs, Vegrow etc. being able to raise funds. There are also dedicated food and agribusiness PE fund in India like India Agribusiness Fund (Rabo Bank), SEAF India Agribusiness Fund, Pioneering Ventures etc.

But the flow of VC/PE funding into the agribusiness/agritech sector in Assam is negligible. Equity contribution in most of the existing agri business companies in Assam has come from the promoters and friends and relatives of the promoters. Understand this void, Assam government has been trying to promote a vibrant startup economy in Assam through NEST and other initiatives. NEST is a startup incubator and connects startups to investors. NRL Ideation sponsored by Numaligarh Refinery Limited (NRL) and North East Venture Fund (NEVF) sponsored by NEDFI Venture Capital Fund (NVCF) are the two prominent investors in the startup economy in Assam. Considering the nascent stage of the startup economy of Assam, NRL Ideation currently provides financial assistance in the form of Grant in Aid. Some of the notable seed/VC/PE funding and/or incubation support from the above agencies in agri related startups are presented in the table below:

*Table 20- Key Funded Start-ups of Assam*

SI No	Name of Startup	Business Activity	Funding Agency	Funding Amt (Rs lakhs)
1	Arohan Agri Sciences	Composite concrete from bamboo, water hyacinth and other materials	Numaligarh Refinery Limited Ideation	24.70
2	Deroi Tea	Tea	Numaligarh Refinery Limited Ideation	6.82
3	Joibik	Organic seeds	Numaligarh Refinery Limited Ideation	20.00
4	Chroma Biotech LLP	Plant biotechnology	Numaligarh Refinery Limited Ideation	50
5	Arohan Foods *	Processed pork meat	Omnivore	200-600 (undisclosed)
6	One Stop Kitchen	Cloud Kitchen	NEVF	Undisclosed
7	Sahoni	Farm Extension services for STGs	NEST	Undisclosed
8	Esah Tea	Tea	NEST	Undisclosed
9	Symbiotic Foods Private Limited	Commercial Pig Farming	NEVF	Undisclosed
10	North East Flavors India Pvt Limited	Food Processing	NEVF	Undisclosed
11	Pratyaksha Agrotech Private Limited	Tissue culture for horticulture fruits and bamboo	NEVF	Undisclosed

\*currently the only notable investment by a mainstream PE fund

## Subsidy Schemes by Government

Small scale agribusiness enterprises owned and managed by village-based entrepreneurs are currently unable to attract angel/seed/VC funding due to their limited scale of operations and small funding requirements. Most startup funds look for funding startups that are owned and managed by professionals and have the potential of being scaled up rapidly. Understand this void, the government has launched several subsidy/quasi equity schemes for supporting such agri entrepreneurs. While most of these schemes come under the Central Govt., many state govt. has also launched their own

schemes or enhanced the central govt. schemes as per requirement. Most of the schemes give special emphasis to the North East Region including Assam besides focusing on certain population groups like SC, ST and women.

While it is not in scope of this report to document all government subsidy schemes, brief overview of key subsidy/quasi equity schemes aimed at some specific agriculture subsectors is provided as Annexure 1.

## 2.7 Current challenges of Agri financing

SI No	Particulars	Remarks
1	Unsatisfactory Performance of Agriculture Credit	<p>As per the NABARD State Focus Paper for Assam, 2020 - 21, the average achievement of Agriculture credit for the period FY17 to FY20 was 58.34% thus leaving a large section of farmers whose agri credit demand has not been met. The poor performance of Crop Loan at 25.56% during the above period is particularly worrying. Term Loan has achieved an average performance of 108.22% during the same period which is a silver lining. The declining trend in both Crop Loan and Term Loan is a matter of concern.</p> <p>At an overall level, too, credit disbursement by banks in Assam is quite low. As per SLBC data, the average CD ratio of all banks in Assam was only 46.28% as on March 31, 2020. PSU Banks, RRBs and CBs had a CD ratio of 36.93%, 36.37% and 41.4% respectively while Private Banks had a CD ratio of 99.14%. This is also detrimental to banks as by not deploying the mobilized deposits for productive purpose they are incurring a high carry cost and reducing profitability.</p> <p><i>The demand - supply mismatch in agri credit offers an opportunity to both existing lenders and new participants to deploy innovative products and processes in the agriculture credit sector that can reduce transaction costs and default risks.</i></p>
2	Very High NPA in Crop Loan	<p>As per the SLBC data, Agriculture Credit is showing a Gross NPA of 17.42% as on June 30, 2020 which is very high. As per RBI Internal Working Group on Agricultural Credit, the GNPA in the Agricultural Sector for the whole of India was 8.44 % as on March 31, 2019.</p> <p>There is high level of NPA both in the Crop Loan and Term Loan sector at 24.4% and 15.3% respectively. High level of NPA results in the following:</p> <ol style="list-style-type: none"> <li>Lending Agencies become reluctant to lend to the sector which further reduces the credit disbursement to that sector</li> <li>Reduces the profitability of Lending Agencies and to maintain Capital Adequacy Ratio (CAR), they are forced to raise more capital from the market and government</li> </ol>
3	Exclusion of large number of farmers (without land title or	NABARD has identified certain category of farmers like sharecroppers, tenant farmers and oral lessees comprising 14.77% of the total 40.61 lakh cultivators in the state who find it difficult to

SI No	Particulars	Remarks
	documents) from the formal financial system	<p>access institutional credit due to their inability to offer land records for collateral. There are a large number of farmers who do not have land documents (Patta). The Tea Board of India issues Identity cards to tea garden farmers which states their land holding. However, the same identify card has a disclaimer that land records have not been verified by the Tea Board of India.</p> <p>The only source of credit for these farmers are local money lenders and MFIs who have a much higher interest rate.</p>
4	Limited credit track record of farmers	<p>Most of the farmers are first time borrowers or there is limited repayment track record available given the past farm loan waivers. Given the small ticket size and unavailability of credit history, the private sector banks with limited branches in villages find it unviable to undertake due-diligence to check farmer's repayment capacity. There is an opportunity of using alternate data and analysis for credit decisions.</p>
5	Farmers scattered over inaccessible areas	<p>Agriculture financing in Assam involves higher transaction costs given the distances and lower population density. As a result financial institutions do not find it viable to have bank branches catering to the entire catchment. As of now the only financial institutions which have a deep penetration in Assam are State Bank of India and Bandhan Bank.</p> <p>Only a small percentage of total villages of the state are connected by all-weather roads. The scattered farmer base is not accessible through current road systems.</p>
6	Land valuation is difficult	<p>Financing institutions rely on land valuations to be able to process asset backed loans. Given the single use of land and remote locations with no comparable land sale transactions in the vicinity, land valuations are often difficult to determine.</p>
7	Increasing delinquency in MFI portfolio	<p>While MFI has played a particularly important role in delivering credit to farmers who do not have access to the formal financial system, the increasing delinquency and related unrest in Assam is matter of concern.</p> <p>Given the recently enacted Assam Micro Finance Bill, 2020 the ability to collect the past dues has been severely curtailed. Any further deterioration in the credit culture in the state is expected to impact the operations of the existing MFI s. There is need to relook at the client acquisition strategy. The quantum of loan per borrower should be in consonance with GSDP per capita of the state. MFIs should also look beyond the traditional lending method of JLGs and SHGs and graduate towards funding micro and medium enterprises that can generate employment.</p>

SI No	Particulars	Remarks
8	Low adoption of Crop Insurance	Though Crop Insurance has been heavily subsidized by both the Central and State Govt, the current penetration in the state is low. The key issues are a) need to develop a reliable and timely crop yield estimation technique by leveraging latest technology b) need to develop a faster claims payout system b) need for a more efficient dispute resolution mechanism between farmers and CFM/ICs c) need for outreach and awareness generation.
9	Need for a Vibrant Startup culture in the Agritech and Fintech space	While in recent years, several startups have come up in Assam and adjoining NE states, there are no startups in the agritech or fintech space that have reached scale. While there is need to create a dedicated and professionally managed seed/VC fund for both agri business/agritech and the fintech sector in North East India, the efforts of such fund can be supplemented through incubation support and grant support like ACFIFA.
10	Farmers' collectives are at an infancy in Assam	Assam has not ventured much into farmers' collectives. Efforts are taken in some districts (viz. Nagaon) but a more systematic approach and efforts are required to demonstrate the effectiveness of collectives for value chain development and access to financing at reduced transaction cost. Assam State Rural Livelihood Mission (ASRLM) is working with a mandate to promote farmers collectives at village level and federate these collectives into larger Farmer Producer Organizations (FPO). APART has also taken a mandate of promoting FPOs and their financing.