

# Action Plan

## Organic Farming of Agri-Horti crops in NER



## FINAL REPORT

Submitted to

Ministry of Development of North Eastern Region (M-DoNER)  
Govt. of India

Prepared by



North Eastern Development Finance Corporation Ltd. (NEDFi)

# EXECUTIVE SUMMARY

## TITLE OF THE STUDY

### PREPARATION OF ACTION PLAN ON DEVELOPMENT OF ORGANIC FARMING OF AGRI- HORTI CROPS IN NER

Organic farming is not a new concept in India, as Indian farmers have traditionally tilled their land without the use of chemicals, relying majorly on organic manures. According to data of the Ministry of Agriculture and Farmers' Welfare (MoAFW), 2.78 million ha is covered under organic farming in India as of March 2020. India accounts for around 50 % of total organic growers in the world because of the small holdings with each producer.

The food habits of people, especially in urban areas, have been changing faster towards organic health food, diversified and processed foods due to rising income levels, changing lifestyles and growing urbanisation creating opportunity for NE Region. Though the region is known to be 'organic by default', it has not been recognized through the process of certification. The natural advantage of the North East region in organic farming can be turned into real wealth by providing necessary infrastructure for storage, marketing, and processing. Sikkim has become the first state in the world to become fully organic. Other states including Mizoram, Arunachal and Tripura have also set similar sustainability targets.

The Ministry of Agriculture and Farmer Welfare has launched a Central Sector Scheme entitled "Mission Organic Value Chain Development for North Eastern Region" (MOVCD-NER) for implementation in all 8 states of NE region during the 12<sup>th</sup> plan period. The scheme aims at development of certified organic production in a value chain mode to link growers with consumers and to support the development of entire value chain.

The present study is an outcome of the decisions taken in the review meeting chaired by the Principal Advisor to the Hon'ble Prime Minister held on 22/09/2020 on major infrastructure projects, new initiatives and PMs announcements in respect of North Eastern Region, wherein it was decided that comprehensive sector-specific, state-specific holistic development operational Action Plans will be prepared for the sectors identified under new initiatives in NER. Accordingly, North Eastern Development Finance Corporation Ltd. (NEDFi) has been advised by the Ministry of DoNER to prepare a 5-year Action Plan on Organic Farming of Agri.-Hort. products in North Eastern Region to exploit the emerging potential of north-eastern region in the global and domestic organic foodmarket.

The terms of reference of the preparation of the plan includes:

- a. Examination of the current scenario of organic farming in NE Region
- b. Selection of Agri. -Hort. crops from the region having economic values as organic products.
- c. Preparation of a 5-year Action Plan for organic farming for the selected crops
- d. Preparing Sub-plans for all eight States in the Region

Current scenario of organic farming in North East

North eastern region has shown progress of growth; the area has become double from 1 lakh ha in 2014-15 to more than 2 lakh ha in 2019-20. The share of NER in total area under organic certification including organic harvest has also increased from 2.25% in 2014-15 to 5.48% in 2019-20.

Under MOVCD programme 78,500 ha has been brought under organic certification during Phase-I & II and another 61,500 ha is targeted under phase III to be completed by 2023-24.

Stakeholders' interactions

The Plan is prepared after interactions with all stakeholders, their views, suggestions and feedback from their on-field experience in implementation of MOVCD programme and sharing of data & information has been incorporated in the Action Plan. Few areas of concerns of the stakeholders:

1. Awareness and mind-set issues of the farmers.
2. Non-availability of quality planting materials in adequate quantity and on schedule.
3. Inadequate availability and high cost of both on-farm and off-farm organic inputs.
4. Difficulty in expansion of area due to hilly terrain and lack of irrigation facility.
5. Certification process is expensive and field data are not available.

6. Lack of Post-harvest management facilities, bad road condition, high transportation cost.
7. Marketing problems due to non-availability of organised supply chain, absence of local organic market.
8. Absence of Regulatory Framework-Organic policy, restrictions on use of chemicals.

#### Selection of crops

A list of crops was drawn up for the purpose of preparation of the plan based on the broad parameters as below. However, **Spices crops have been excluded from the list of this plan since a separate plan for spices in the region** is under preparation.

- Economic value of the crops
- Potential to unlock the economic value of GI tag products.
- Demand in distant market
- Products which are ethnic in nature in NER and thus have the inherent advantage.
- The production clusters are in contiguous and consolidation of produce for further movement to the markets is feasible.
- The crops having marketable surplus as fresh and for processing of the products.
- Scope of enhancement of income of the farmers

#### Selected crops:

Fruits: Orange, Kiwi, Pineapple, Banana, Assam lemon, Kachai lemon, Jackfruit, Passion fruit and Apple.

Other products: Red Rice from Assam and Black Rice from Manipur. Vegetables: Seasonal & off-season vegetables.

#### Emerging crops

Avocado: Avocado has been growing in the region since long time but in a small quantity except Sikkim. Mizoram and Nagaland have initiated steps to promote the crop.

Dragon fruit: Dragon fruits are presently grown in approx. 500 ha in Mizoram and all other NE States have started introducing the crop and in next five years the region may have substantial production of Dragon fruit.

#### Action Plan

The action plan has been drawn up with a holistic approach with the goal that the North east shall be the organic hub by unlocking the economic potential of being 'default organic' in nature and improves income of the farmers of NE region in a sustainable manner.

A community driven, farmer oriented and sustainable market led action plan for organic certification, Organic farming & value addition for selected Agri. -Hort. products of North East Region have been prepared with the following basic tenets:

- Leveraging the social capital and the community architecture in the villages of North East.
- Co-creation with the community traditionally aligned to the values of protecting the nature.
- On-boarding of community shall help in restricting use of chemicals and allotment of land for creation of post-harvest infrastructure in the villages.
- Formalise 'organic by default' through proper certification process.
- Focus on improving the income of the organic product growers and to ensure that higher share of consumer's price reaches the farmers.
- Unlock economic values of GI tag, niche area of production, quality parameters and volume of production.
- The FPOs federated at different levels to empower the farmers with collective strength.
- Intensive capacity building for the farmers and leaders of the farmer.
- Market linkage models through FPO / FPO federation with minimum or no intermediation, to ensure higher return for the produce by the farmers.
- Empower Farmers federations to function also as financial intermediaries.
- Continue providing financial support to FPOs for renewal of organic certification of existing area.

#### Institution building process

Farmers will be organised as FIGs and FPOs. The FPOs shall be further aggregated at State level and

Regional level to empower the farmers and strengthening the existing FPOs and the FPOs to be formed under the plan to ensure sustainability of the organic farming in the region.

Plan for organic certification process

Organic certification process shall begin with the area under selected crops with the whole village as the unit and then proceed to District and State as a whole.

Plan for area under organic certification

States	Area proposed for organic certification under the plan (in Ha.)			Total
	Fruit crops	Agri Crops	Vegetables	
Arunachal	35000		5000	40000
Assam	50000	8000*	5000	63000*
Manipur	30000	2000**	5000	37000**
Meghalaya	25000		5000	30000
Mizoram	32000		2500	34500
Nagaland	25000		2500	27500
Sikkim	--	--	--	--
Tripura	28000		5000	33000
<b>Total</b>	<b>225000</b>	<b>10000</b>	<b>30000</b>	<b>265000</b>

\*Red rice, \*\*Black Rice

[Note: Sikkim is already covered under certification]

Plan for expansion of area

Crops States	Kiwi	Apple	Dragon fruit	Avocado	Total
Arunachal Pradesh	500	500	--	--	<b>1000</b>
Assam	--	--	300	--	<b>300</b>
Manipur	--	--	--	--	--
Meghalaya	--	--	--	--	--
Mizoram	--	--	400	200	<b>600</b>
Nagaland	400	400	300	200	<b>1300</b>
Sikkim	100	100	--	100	<b>300</b>
Tripura	--	--	--	--	--
<b>Total</b>	<b>1000</b>	<b>1000</b>	<b>1000</b>	<b>500</b>	<b>3500</b>

Plan for renewal of existing area under organic certification

States	Year	Year-1	Year-2	Year-3	Year-4	Year-5	Total
Arunachal	--	--	--	2460	2470	2470	<b>7400</b>
Assam	--	--	--	3000	3000	4000	<b>10000</b>
Manipur	--	--	--	1500	1500	1500	<b>4500</b>
Meghalaya	--	--	--	2000	2000	2000	<b>6000</b>
Mizoram	--	--	--	4000	4000	5000	<b>13000</b>
Nagaland	--	--	--	5000	5000	6000	<b>16000</b>
Sikkim	15000	15000	15000	15000	15000	15000	<b>75000</b>
Tripura	--	--	--	2000	2000	2089	<b>6089</b>
<b>Total</b>	<b>15000</b>	<b>15000</b>	<b>15000</b>	<b>34960</b>	<b>34970</b>	<b>38059</b>	<b>137989</b>

State wise year wise no. of farmers to be covered and FPOs to be formed

States	Year	Year-1	Year-2	Year-3	Year-4	Year-5	Total
Arunachal	Farmers	4000	4000	4000	4000	4000	20000
	FPOs	8	8	8	8	8	40
Assam	Farmers	6000	6000	6000	6000	6000	30000
	FPOs	12	12	12	12	12	60
Manipur	Farmers	3500	3500	3500	3500	4000	18000
	FPOs	7	7	7	7	8	36
Meghalaya	Farmers	3000	3000	3000	3000	3000	15000
	FPOs	6	6	6	6	6	30
Mizoram	Farmers	3500	3500	3500	3500	3500	17500
	FPOs	7	7	7	7	7	35
Nagaland	Farmers	2500	2500	2500	3000	3000	13500
	FPOs	5	5	5	6	6	27
Sikkim	Farmers	2000	2000	2000	2000	2000	10000
	FPOs	4	4	4	4	4	20
Tripura	Farmers	3000	3000	3000	3500	3500	16000
	FPOs	6	6	6	7	7	32
<b>TOTAL</b>	<b>Farmers</b>	<b>27500</b>	<b>27500</b>	<b>27500</b>	<b>28500</b>	<b>29000</b>	<b>140000</b>
	<b>FPOs</b>	<b>55</b>	<b>55</b>	<b>55</b>	<b>57</b>	<b>58</b>	<b>280</b>

State-wise Crop-wise Nurseries proposed under the plan

States		Assam	Manipur	Meghalaya	Mizoram	Nagaland	Sikkim	Tripura	Total
Orange	1	1	1	1	1	1	1	1	8
Kiwi	1	--	--	--	--	1	1	--	3
Pineapple	--	2	1	2	1	1	--	1	8
Banana	--	2	--	1	--	--	--	1	4
Jackfruit	--	1	--	1	--	--	--	1	3
Lemon	--	1	1	--	1	--	--	--	3
Passion fruit		--	1		1	1	--	--	3
Apple	1	--	--	--	--	1	--	--	2
Dragon fruit	--	1	--	--	1	1	--	--	3
Avocado	--	--	--	--	1	1	1	--	3
<b>Total</b>	<b>3</b>	<b>8</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>3</b>	<b>4</b>	<b>40</b>

Total investment proposed under the plan (Rs. in Crore)

Year Components	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Backward linkage	502.21	511.89	490.83	505.42	486.19	2496.54
Post-harvest management	245.95	136.51	43.79	35.28	36.00	497.53
Other investments	58.58	58.58	78.54	79.07	82.42	357.19
<b>Sub-Total investments</b>	<b>806.74</b>	<b>706.98</b>	<b>613.16</b>	<b>619.77</b>	<b>604.61</b>	<b>3351.26</b>
Capital for Regional level federation of FPOs	--	25.00	--	--	--	25.00
Capital for State level federation of FPOs	10.00	--	--	--	--	10.00
Revolving fund to FPOs @15.00laks each for 280 nos.	8.25	8.25	8.25	8.55	8.70	42.00

<b>Grand Total</b>	<b>824.99</b>	<b>740.23</b>	<b>621.41</b>	<b>628.32</b>	<b>613.31</b>	<b>3428.26</b>
--------------------	---------------	---------------	---------------	---------------	---------------	----------------

State-wise Year-wise plan for total investment (Rs. in Crore)

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Total
States						
Arunachal	94.66	79.20	75.55	68.47	55.88	373.76
Assam	162.09	152.85	123.94	126.09	127.09	692.07
Manipur	106.87	80.96	73.22	72.85	73.83	407.73
Meghalaya	76.38	65.48	58.72	58.73	58.73	318.04
Mizoram	96.11	82.53	77.09	76.71	71.42	403.86
Nagaland	73.98	79.08	70.77	75.04	67.64	366.51
Sikkim	111.97	88.04	72.80	72.80	72.81	418.42
Tripura	84.68	78.83	61.07	69.08	77.21	370.87
<b>Total</b>	<b>806.74</b>	<b>706.98</b>	<b>613.16</b>	<b>619.77</b>	<b>604.61</b>	<b>3351.26</b>
Capital for regional level federation of FPOs		25.00				25.00
Capital for State level federation of FPOs	10.00					10.00
Revolving fund to FPOs @15.00 lakhs each for 280 nos.	8.25	8.25	8.25	8.55	8.70	42.00
<b>Grand Total</b>	<b>824.99</b>	<b>740.23</b>	<b>621.41</b>	<b>628.32</b>	<b>613.31</b>	<b>3428.26</b>

Sources of funding the total investments under the plan (Rs. in Crore)

Year Components	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Govt. share	708.35	608.78	523.18	528.55	518.45	2887.31
Capital for Regional level federation of FPOs		25.00				25.00
Capital State level federation of FPOs	10.00					10.00
Revolving fund for FPOs @15.00 lakhs each for 280 nos.	8.25	8.25	8.25	8.55	8.70	42.00
<b>Total Govt. share</b>	<b>726.58</b>	<b>642.03</b>	<b>531.43</b>	<b>537.10</b>	<b>527.15</b>	<b>2964.31</b>
Bank credit	19.79	17.27	9.15	7.84	8.01	62.06
<b>Total Farmers / FPC/FPO share</b>	<b>78.60</b>	<b>80.93</b>	<b>80.83</b>	<b>83.38</b>	<b>78.15</b>	<b>401.89</b>
<b>Total investments</b>	<b>824.97</b>	<b>740.23</b>	<b>621.41</b>	<b>628.32</b>	<b>613.31</b>	<b>3428.26</b>

Few assumptions for funding sources:

- Government share of fund may be considered to be funded from Non-Lapsable Central Pool of Resources (NLCPR), Govt. of India by Ministry of DoNER
- The plan envisages credit linkage or subsidy linked to bank credit under post-harvest components. Rest of the plan outlay may be fully funded by Government fund and investments by the farmers/ FPOs.
- However, the scope of convergence with any other credit linked subsidy scheme of the government like PMFME, MIDH, MOVCD, NHB schemes may also be explored. In such cases of convergence, gap funding may be extended to meet the deficit in margin amount for the FPOs to facilitate easy flow of fund and bank credit.
- All infrastructures to be created with Government funds may be leased out to FPOs or farmers in PPP model for operation and maintenance.
- The State level and regional level federations shall be provided adequate capital for conducting their business including procurement / aggregation and marketing etc. The FPOs shall be provided with revolving fund as working capital.

Proposed market interventions

The market intervention plan shall address the following aspects of organic farming in the region:

- a. Establish dedicated marketing networks for local, domestic and export markets.
- b. Create a common brand for NE Region, while giving adequate acknowledgement to different brands already created by the States to help traceability of the products.
- c. Give responsibility to an entity for brand creation and promotion, provide adequate fund for promotion and establishing the brand in the market, including appointing prominent sportspersons, sport enthusiasts, musical talents from NE Region as brand ambassadors for organic products of NE Region.

Avail digital marketing networks, e-marketing platforms, and established banking channels for transactions viz. marketmirchi.com, HFN Mandi etc. The platforms are free of cost for the farmers since in these platforms the buyer meets all expenses for carrying the produce from an aggregation point.

Market interventions in the proposed plan includes marketing approach, packaging, and branding, designing different marketing channels for accessibility to local market, domestic markets and export markets. For local markets setting up of organic markets at District level and the FPOs at cluster levels shall organise the farmers and reach the produce to organic markets., for domestic

market using digital marketing platforms and for export market the federations of the FPOs to co-ordinate with NERAMAC, NAFED, APEDA etc.

Few pricing models for Agri. produce like penetration pricing, bundle pricing, loss leader pricing, bulk pricing and good, better, best pricing models have been discussed in the report. Private partnership experiences in marketing in Uttar Pradesh and Rajasthan by FPOs have been shared in the report, which also may be explored.

The implementation architecture for the plan is suggested to ensure that organic farming in NE Region becomes a sustainable process and the farmers and FPOs in the Region are empowered, organised, and enabled with decision making capacity. The Government agencies / departments may play the role of the providers of fund, facilitators, knowledge partners, trainers and guides and transfer the ownership to the farmers for successful and sustainable implementation of the plan. NEC and the Ministry of DoNER shall monitor implementation of the plan in the region.

In the context of NE Region, the Governments may need to provide more support by-

- a. Drawing up organic policies to support smooth implementation of the action plan.
- b. Assisting in minimising the costs of certification by the State-owned Organic Certification agencies.
- c. Promulgating laws/ rules to restrict use of chemicals in the districts identified for implementation of the action plan.
- d. Ensuring free movements of all Agri. products within the region or to outside the region without being subjected to any taxes / cess by any agency.
- e. Initiating review with the concerned ministry regarding eligibility of the farmers / collectives in NE Region for transportation and storage subsidy under Operation Green.
- f. Processing and selling of organic produce as PGS certified produce if it is processed under the supervision of cluster members or by a duly authorized federation, for domestic market and to the countries accepting PGS certification.
- g. Organising system of handholding of new exporters/ young entrepreneurs to promote the emerging entrepreneurship culture in exports from the region.
- h. Providing support to FPOs for strengthening the existing FPOs and the FPOs to be formed under the plan through a network and federation at different levels.

Few highlights of the output and outcome of the plan are listed below. The other socio-economic benefits to be derived from implementation of the plan includes better nutrition, healthy soil, healthy food, meeting the SDG goals for India and the vision of the Hon'ble Prime Minister of India to create North east as the organic hub of the country.

<b>Activity</b>	<b>Output</b>	<b>Outcome</b>
Community interactions	Changing the mind-set, community ownership and participation.	Smooth roll out of the plan.
Selection of crop and geography	Focussed organic certification process on selected crop and in selected geography	Organic certification and can fetch premium pricing of 15%.
Intensive capacity building	Skill based capacity building for farming, logistics, storage, processing and marketing including extensive use of digital support and platforms by professional service providers	Improve knowledge and skill and improve income by at least 10% for minimum 1,40,000 farmers.
Federation of FPOs	Empower the farmer community in an organised manner	Better price negotiation sustainability of the system, play the advisory role

<b>Activity</b>	<b>Output</b>	<b>Outcome</b>
Setting up of Nurseries	Supply of adequate planting materials at an affordable price	Enhance productivity and hence increase in income @ 10%
Organic certification	Provide Legal status to organic produce from the region and accessibility to bigger markets	Ensure better price realisation and enhance income
Organic market	Help exclusive market for organic products at premium prices	Shall improve better price realisation between 10%-15%
Post-harvest management practices	Creation of infrastructure and facilities for aggregation, transportation, storage, processing, cold chain	Reduce spoilage. Add income for the farmer by 10%
Market interventions	Federations will help to execute bulk orders and export orders at remunerative price Using digital platform for direct marketing improve revenue model	Bulk orders and export orders shall add to farmers' income. Digital marketing platforms will ensure 10%-15% more share of consumer spent in the hand of the farmer
Direct Employment generation	Employment in the PHM units shall be generated for rural women and additional income for the farmer families	8400 direct employment and engagement of another 4,00,000 farm labours.
Revenue generation	Self-sufficient through revenue generation models	More than Rs. 635.00 Cr. revenue per year, more than 3000 Cr. revenue is expected to be generated during the planned period
GST earning	The state shall earn GST from processing units and also in any private enterprises under the plan	Approx. Rs. 17.41 Cr. is expected to be generated in a year.