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22nd International Day of World's Indigenous People *Empowering Indigenous People of North Eastern Region*

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ABSTRACT

Ninth August 2016 was the 22nd International Day of the World's Indigenous People aimed at promoting and protecting the rights of world's indigenous people. The concept of indigenous peoples has often been questioned in India. The Supreme Court of India's landmark judgment pronounced on 5th January 2011, while dismissing the criminal appellate jurisdiction, unequivocally asserted that *scheduled tribes are indigenous people of India.* The people of North Eastern region have evolved as traditional tribal communities or clans with unique socio cultural moorings deeply embedded in the forests, hills, rivers and local biodiversity. In the context of 9th August 2016 which had been the 22nd international day of world's indigenous people, this paper reviews in brief the impact of development initiatives in eight States of the North Eastern Region on agriculture, horticulture, etc. and suggests aspects of strategic action plan to empower indigenous people of the NER so as to enable them to promote agricultural development during the next five years & protect their rights to comfortable livelihoods.
Keywords: UNGA, ADCs, NER, HYV, NEC, ICAR, NEPED, ICAR

I. INTRODUCTION

International Day of the World's Indigenous People aimed at promoting and protecting the rights of world's indigenous people was first proposed by the General Assembly of United Nations in December 1994 marking the day of the first meeting of the United Nations Working Group on indigenous population of the sub-commission on promotion and protection of human rights in 1982. By resolution of 1994 the UNGA decided to observe 9th August each year as the international day of world's indigenous people. At the United Nations, the Government of India consistently denied existence or applicability of the concept of "*indigenous peoples*" to India, though it voted in favour at the General Assembly on 13 September 2007 on the Rights of Indigenous Peoples. India is signatory to the ILO Convention No. 107 concerning the Protection and Integration of Indigenous and Other Tribal and Semi-Tribal Populations in Independent Countries and it has legal responsibilities for its implementation. The Supreme Court of India in its latest judgement on 5th January 2011, while dismissing the Criminal Appellate Jurisdiction arising out of Special Leave Petition, unequivocally asserted that Scheduled Tribes are indigenous peoples of India.

According to the 2011 Census of India, there are 705 individual ethnic groups, which are notified as Scheduled Tribes across 30 States and Union Territories of India. Tribal communities have been given special protection through the Constitution of India with some areas in the country recognized as Schedule V or Schedule VI (in the north eastern states only). Through this, the Constitution acknowledges the distinctness of not just tribal lives and livelihoods but their distinct rules and regulations to manage where they live. For instance, in Schedule VI areas, there are Autonomous District Councils (ADCs) or traditional customary institutions of village elders which continue to have a say on which farming technique should be used for cultivation, whether rivers should flow or be dammed and whether a community member has performed a "culturally inappropriate" act.

North Eastern Region

The people of the North Eastern region have evolved as traditional tribal communities or clans with unique

socio cultural moorings deeply embedded in the forests, hills, rivers and local biodiversity. In the context of 9th August 2016 which had been the 22nd international day of world's indigenous people, this paper reviews in brief the impact of development initiatives in eight States of the North Eastern Region [which has significant population of indigenous people engaged in agriculture and horticulture] on agriculture, horticulture, irrigation, institutional infrastructure and suggests aspects of strategic action plan to empower indigenous people of the NER so as to enable them to promote agricultural development during the next five years & protect their rights to comfortable livelihoods.

Among six distinct geographical regions and 29 States in India, the North East Region [NER] comprises eight states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura. According to the latest Census [2011], the NER has 2,62,190 sq.km of geographical area with a 54.68% forest cover of 1,43,360 sq.km, 4,54,86,784 population [17,349 population density/sq.km] and 74.48% literacy rate. For administrative purpose, it has 86 districts covering 607 community development blocks. As on 2013, out of 44,996 villages 36,862 [81.92%] were electrified. One Doordarshan Kendra and one All India Radio in NER serves 37,98,998 and 6,16,054 population as against 1,39,10,269 and 29,37,363 population in India. Region's GDP in 2013-14 amounted to Rs.2277.53 billion with annual per capita income of Rs.50,070.

Table 1. State-wise Area, Population in 2011 & SDP Growth Rate [2007-2012]

State	Area	Population		Percentage Share of Tribal		SDP %
	Sq. Km	Total	Tribal	State	All India	Growth rate
Arunachal	83740	13,83,727	9,51,821	68.79	0.91	9.4
Assam	78440	3,12,05,576	38,84,371	12.45	3.72	6.9
Manipur	22330	25,70,390	9,02,940	35.13	0.82	6.5
Meghalaya	22430	29,66,889	25,55,861	86.15	2.45	8.1
Mizoram	21080	10,97,206	10,36,115	94.43	0.99	11.0
Nagaland	16580	19,78,502	17,10,973	86.48	1.64	6.2
Sikkim	07100	6,10,577	2,06,360	33.80	0.20	22.8
Tripura	10490	36,73,917	11,66,813	31.76	1.12	8.2
Total [NER]	262190	4,54,86,784	1,24,15,254	27.29		
All India		121,01,,93,422 [3.76%]	10,42,81,034 [11.90%]		08.62	

Source: www.tribal,nic.in

Figures in Parentheses indicate % share of NER in India

Literacy rate in general as well as for male & female population in NER varied considerably across States. Mizoram had the highest literacy rate [91.5%] in general, 93.6% for male & 89.5% for female whereas Arunachal Pradesh had the lowest at 64.6%, 71.5% and 58.0% respectively. Literacy rate in general in each of eight States of NER was significantly higher than that of national level [59.0%].

Share of NER in terms of important parameters in India has been fairly reasonable except in case of electrification of villages and construction of roads.

Table 2. Share of NER in India in respect of important parameters

Parameters		Parameters	
Geographical area	2,62,179 sq.km [7.97%]	Community Development Blocks	607 [10.25%]
Population	4,55,87,982 [3.77%]	Number of villages	44,996 [7.02%]
Population density	17349 [45.55%]	Villages electrified	36,862 [6.58%]
Literacy rate	74.48%	Total road length	3,76,819 km[8.01%]
State domestic product	Rs.2,27,31,388 [2.74%]	Total forest cover	1,43,360 sq.km [20.71%]
Per capita income	Rs.50,070 [72.67%]	Doordarshan Kendra	12 [13.79%]
Number of districts	86 [13.44%]	All India Radio Station	74 [17.96%]

Source: www.tribal,nic.in

Figures in parentheses indicate percentage share of NER in India

Rural Population [84.34%] in NER is higher than that in India [72.20%]. The potential work force (15-59 years) constitutes 56.97%, almost at par with country's 56.93%. Agriculture provides livelihood support to 70 % of region's population. NER continues to be a net importer of food grains even for its own consumption.

Natural Resources

The region has been endowed with favorable soil, agro-climate, agro and forest biodiversity, wetlands, good rainfall, flora and fauna. The NER is richly endowed with natural resources, viz. forest cover of 54.68%, largest producer of bamboo, world's single largest tea growing region (16% share), largest producer (55% share) and exporter of tea in India, producer of premium quality Jute and silk, horticulture and herbal resources. It is rich in flora and fauna and is one of the most bio-diverse regions in the world. The torrential Brahmaputra river deposits her rich alluvial silt along the banks of the plains of Assam. Despite abundant natural resources and better literacy rate NER is one of the least developed [economically, agriculturally and industrially] regions in India.

Agriculture: Following are the attributes contributing to agricultural growth in the NER.

Table 3. Attributes To Agricultural Growth in NER & Their Share in India [2010-11]

Attributes		Attributes	
Total cropped area	32,26,000 ha [1.62%]	Current fallow	3,08,000 ha [2.16%]
Area not available for cultivation	32,77,000 ha [7.52%]	Fallow land other than current fallow	5,62,000 ha [5.44%]
Other uncultivated land	13,57,000 ha [5.19%]	Net sown area	11,78,000 ha [0.83%]
Culturable wasteland	5,90,000 ha [4.66%]	Area sown more than once	20,48,000 ha [3.57%]
Total fallow land	8,70,000 ha [3.54%]		

Source: www.tribal,nic.in

Figures in parentheses indicate percentage share of NER in India

In the region, agricultural land including fallow was significantly less at 22.20% than that of India [54.47%].However, it varied considerably among States, exhibiting that agricultural land was higher in in Assam (37.43%), Nagaland (29.45%) and Tripura (26.86%) than that of NER [22.20%] and lower in Sikkim (21.72%), Meghalaya (19.15%), Mizoram (15.76%) and Manipur (12.14%) and the lowest in Arunachal Pradesh (4.40%).

Cultivators [41.61%] and agricultural laborers [13.07%] together constituted the majority of the workforce as against 31.65 % and 26.55% respectively in India. Land is held almost by all.

Among agricultural laborers, concentration of poor was the highest in Meghalaya (28.8%), followed by Assam (20.7%) and Tripura (16.3%) presenting the problem of surplus labor and low wage rates in the agricultural labor market. As compared to this, concentration was very low in Sikkim (7.9%), Arunachal Pradesh (2.7%), Manipur (1.2%), Mizoram and Nagaland (negligible) where labor scarcity and high wage rates are often experienced.

NER has a low share of net area sown [0.83%], area sown more than once [3.57%] and total cropped area [1.62%] in India as compared to culturable wasteland [4.66%], other uncultivated area [5.19%] and fallow land other than current fallow [5.44%].

Shifting cultivation has been an age old inherited practice. There were 4,43,000 zhum families in the region with jhum land per family varying across States from 0.16 ha to 1.29 ha [average being 0.87 ha]. Annual area under shifting was 3,86,900 ha with fallow period ranging from 3-10 years.

Operational Holdings

Operational holdings of all size groups in NER constituted 2.97% owning 3.40% land area in the country. Share of marginal and small farmers owning up to two hectares in NER [82.07%] was marginally

less than that in India [84.97%] whereas they cultivated significantly less land area [38.74%] as compared to 44.31% in India. In sharp contrast to this, large size holders possessing more than 10 hectares accounted for significantly higher [0.91%] than that in India [0.73%] and also cultivating substantially higher [15.59%] land area than that in India [10.92%]. While average size of holding for all size groups [1.32 ha] and marginal holdings [0.41 ha] in NER was marginally higher than that in India [1.15 ha & 0.38 ha], average large size holding [22.62 ha] was significantly higher than that in India [17.37ha]. Average holding in other three size groups in NER was marginally less than that in India.

Land Tenure System

As in the rest of the country, land in NER is state and privately owned, albeit with a difference. Private ownership falls under various systems of community ownership. For example, land owned collectively by the villagers or communities, land owned by the clans, land owned by the chiefs and land owned by individual families. The unique agricultural practices are largely influenced by this peculiar land tenure system. And, though, 80% of the population depends on agriculture, the region reports 7.5% net sown area and only 1.5% of national grain production.

NER manifests two types of land tenure systems viz.(i) Government administered revenue system operates in the plains and valleys of Assam, Tripura, Manipur and in the hilly state of Sikkim (ii) Village level customary land tenure system operates in the hilly states of Arunachal Pradesh, Meghalaya, Mizoram and Nagaland and in the hilly parts of Assam, Manipur and Tripura. . The land records system is outdated and farmers' access to it is time-consuming and expensive. Only in Assam land records system is being computerized.

Land distribution is mostly egalitarian rooted in the principle of community way of living and sharing. The productivity of land as compared to its potential is low since NER, according to the latest available statistics, had only 47 soil testing laboratories with an annual capacity of testing 1.206 million soil samples. Similarly, in 2011-12 while total NPK consumption in Kg/hectare was 51.67 in NER as compared to 144.33 in India and individual components of N,P, & K per hectare was 28.09; 9.59 & 13.19 respectively as against 90.01, 41.18 & 13.14 in the country. Total NPK usage per hectare varied considerably across States viz. 130.5 [Manipur], 46.6[Assam], 29.4 [Tripura], 17.0 [Meghalaya] and very low in other states. Indigenous plough is the main farm implement (95.66%), irrigation covers only 11% of net sown area, area under HYV paddy is 9,50,000 ha (35%), HYV seed replacement rate is extremely low and 4,31,000 farmers possess Kisan Credit Cards.

Irrigation

NER is endowed with 33% of country's water resources. It receives annual rainfall ranging from 2,480 mm to 6,350 mm. The annual water availability of 16,500 cubic meter per capita and 44,180 cubic meter per hectare is the highest in the country. Due to high rainfall NER has inherent advantage in rain-water harvesting. However, the rate of harnessing and utilizing irrigation potential has been low since only 11% of net cultivable land is irrigated. Accelerated Irrigation Benefit Program [AIBP] emphasizes exploiting surface irrigation through Minor Irrigation [MI] schemes in NER. Under MI schemes irrigation potential of 46,500 hectares has been created of which 34,300 hectares [73.76%] are being utilized. Besides, irrigation potential of 2,93,110 hectares under Bharat Nirman is targeted comprising 1,09,140 hectares under major and medium irrigation and 1,83,970 hectares under minor irrigation. North Eastern Council [NEC] cautions against intensive exploitation of underground water as hazardous elements have been found at several locations.

Fertilizer Consumption

During 2009-10 to 2011-12, total fertilizer consumption in NER increased by 11.07% as against 4.73% in India. Share of total consumption in NER was 37.30% of that in India in 2009-10 which declined to 35.80% in 2011-12. Consumption of N,P & K per hectare in NER during 2009-10 accounted for 34.40%, 27.50% & 69.49% of that in India whereas total consumption per hectare in NER was 37.32% of that in India. During 2011-12, N & P consumption per hectare in NER declined to 31.21% & 23.29% of that in India and for K it was almost at par with India. During 2009-10 to 2011-12, per hectare consumption of N & K in NER insignificantly increased by 2.60% & 2.33% whereas in case of P it declined marginally by 6.17%. At national level, N & P increased marginally by 13.12% &

10.85% as compared to significant decline by 29.17% in case of K.

Major Crops & Productivity

Rice is the most important cereal crop in the valleys, plains and in the hill areas covering about 70% of total cultivated area. Besides maize, millets, potato, oilseeds (mostly mustard, rapeseed and sesame), cotton, jute, pulses, chilies, sugarcane, sweet potato etc. Wheat cultivation is also gradually increasing. Fruits and vegetables make up about 5-6% of the produce. Per hectare yield of major crops [rice, wheat, cereals, food grains, oilseeds, sugarcane & jute] in the region vary considerably across eight States and were low as compared to that in India in 2011-12 except in case of rice, cereals & food grains in Manipur.

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Table 4. Yield of major crops in NER [2011-12] Yield in Kg/ha

State	Rice	Wheat	Cereals	Food grain	Oilseeds	Sugarcane	Jute
Arunachal	2065	1757	1799	1967	1015	19355	NA
Assam	1780	1147	1756	1704	557	38611	1669
Manipur	2642	2498	2562	2397	788	57913	NA
Meghalaya	1988	1564	1904	1873	766	2914	1600
Mizoram	1411	NA	1381	1382	967	5284	NA
Nagaland	2106	1711	2020	1920	1043	43513	324
Sikkim	1730	1060	1557	1495	841	NA	NA
Tripura	2700	2000	2681	2498	751	48913	1541
All India	2393	3177	2415	2098	1133	71668	2389

Source: www.tribal,nic.in

Horticulture

Diverse agro-climatic conditions, varied soil types and abundant rainfall have endowed NER with promising horticulture and value added products that can be marketed within the country and abroad. In the lower altitudes and mid-hill ranges of the region various horticulture and cash crops such as ginger, turmeric, areca nut, pineapple, large cardamom, passion fruit, oranges, litchis etc. are being grown. In the high hills and mountain areas the maximum cultivars are fruits like plums, pears, peaches, apricots, apples, potato, cabbage, cauliflower, radish, carrots, beans, broccoli, maize, millet and large cardamom. Wild Cardamom occurs naturally in the region. Passion fruit grows in the hills of Mizoram, Nagaland and Manipur as home garden fruit; however Nagaland and Sikkim in recent times have explored its commercial local and export potential.

Fruits & Vegetables

Total area & production of fruits, vegetables, aromatic plants, spices & plantations in NER accounted for 5.67% & 3.95% respectively in the country. Share of vegetables was 41.12% in terms of area & 47.86% production, followed by fruits [36.31% & 36.91%] of the total area & production in the region. Per hectare yield of fruits, vegetables & plantation crops in NER was lower than that in India.

Table 5. Area & Production of Fruits, Vegetables, Flowers etc. in NER [2011-12]
Area ‘000 ha & Production ‘000 tons

	NER		All India		Yield/ha in Tons	
Particulars	Area	Production	Area	Production	NER	All India
Fruits	454.93	4157.11	6704.17	76424.21	9.14	11.40
Vegetables	462.32	4838.32	8989.54	156325.48	10.46	17.39

Flowers	1.58	25.95 3433.42$	253.66	1651.16 75065.98$		
Aromatic	5.17	109.25	505.60	565.70	21.13	1.12
Spices	190.89	649.32	3212.47	5951.46	3.40	1.85
Plantations	138.98	354.33	3576.53	16358.68	2.55	4.57
Total$	1252.89	10108.33	22088.31	255625.53	8.07	11.57

Source: www.tribal,nic.in

$ indicates cut flowers in lakh numbers; Total does not include cut flowers ,honey ,mushrooms

Between 2009-10 & 2011-12, area & production of fruits in the region increased significantly by 34.83% & 34.68% respectively as compared to a meagre increase by 9.89% & 11.62% in the country. However, during four years there was no improvement in per hectare yield in the region as also in the country.

Area under vegetables in NER during 2009-10 to 2011-12 increased by 13.87% whereas production declined by 20.66% as against increase in area & production by 12.58% & 16.89% in the country. This obviously reflected on significant declining per hectare yield in the region as against marginal rise in the country.

Area and production of spices during 2009-10 to 2011-12 in the region significantly declined by 64.52% & 22.55% respectively as against significant rise by 39.39% & 48.20% in the country. However, per hectare yield of spices in the region significantly increased in the region as compared to very meagre rise in yield in the country.

Fruit Crops

Total area & production of major fruit crops in NER accounted for 7.48% & 5.49% in the country. Banana, citrus, papaya & pineapple had higher share among major fruit crops in the region than that in the country. However, per hectare yield of banana, citrus, papaya & pineapple was significantly lower than that in the country.

Organic Farming

In January 2016, Sikkim has become India's first fully organic State by converting 75,000 hectares of crop land into sustainable cultivation of most crops. The process was initiated in 2003 and in 2016 an independent certifying agency certified all farms organic using no chemicals [fertilizers, pesticides etc.] genetically modified crops. In fact, all states of Assam, Arunachal Pradesh, Manipur, Meghalaya, Nagaland, Mizoram, Sikkim and Tripura are organic by tradition. Region has significant potential for organic farming that can better be harnessed by encouraging farmers to practice organic farming. In this context the Union Ministry has initiated measures to promote organic farming in the region to take advantage of the growing international demand for organic foods. The ICAR has, also, aptly identified the need to establish a Quality Control Laboratory for the entire NER and an accredited agency for organic certification to tap the huge market opportunities in South and South-East Asian countries. Thus, in order to promote organic farming and tap export market in an organized way there is need to [i] train farmers, more importantly youths and women, in this specialized field [ii] make required arrangement that can facilitate producers to access technology, inputs and market easily [iii] put in place organic farming regulatory and development authority, organic farming certification system and agency in place in each State.

Institutional infrastructure

ICAR: The Indian Council of Agricultural Research Center for North Eastern Hill [NEH] Region at Umiam was established in 1975 with six regional centers to improve and develop sustainable farming systems for different agro-climatic and socio-economic conditions of the region. It has undertaken significant researches which have yet to create impact on improving productivity, production and profitability of agriculture.

Local Bodies: NER has 7564 local bodies comprising 5106 gram Sabhas, 2023 village panchayats, 376 Block Councils, 47 Zilla Parishads, nine Autonomous District Councils [ADCs] and three Hill ADCs. While ADCs strive for preservation of tribal identity and heritage Village Councils act as administrator, justice provider and custodian of land and other resources. The Village Councils function in Nagaland, Mizoram and Tripura. Nagaland and Tripura have utilized the importance of these institutions to large extent. The PRIs functioning in Arunachal Pradesh, Sikkim, major parts of Assam and plain areas of Tripura act as development agent.

***NERAMAC*:** North Eastern Regional Agricultural Marketing Corporation Ltd is engaged in capacity building of producers as sellers and markets farm products adding value to products. It assists to source, procure, and market cash crops and fruits from farmers of NER. It supports farmers in production and post-harvest technology to arrest decline in the prices arising out of larger output. It procures processed products from registered units in NER and supplies through its own outlets and other buyers to end-users. Its thrust area is to procure a variety of products from NER and market them inside and outside NER. Also, it markets seeds, planting materials and fertilizers. It has tie-up arrangement with National Horticultural Mission and National Food Security Mission for procurement and supply. In collaboration with Ministry of Food Processing Industries, Ministry of Development of NER, NEC American Soybean Association, Indian Institute of Packaging, etc. It has been conducting a number of programs, seminars, workshops, training on agricultural marketing, creating awareness, capacity building, investors' meets etc. Under PPP mode it has set up vermin compost plant utilizing Agro-horticultural waste in Guwahati.

Processing Units: NER has Fruit Juice Concentration Plant at Nalkata; the Cashew Processing Unit at Agartala and Ginger Processing Plant at Byrnihat

***Credit agencies*:** Scheduled Commercial Banks including public & private sector banks, cooperative & Regional Rural Banks and Microfinance institutions have relatively lower rate of penetration & expansion in all States of NER. Their performance has been progressively improving in respect of mobilization of savings, deployment of agricultural credit, disbursement of micro-credit under NABARD's SHG-Bank Linkage Program & Joint Liability Groups, supporting Government programs etc. The factors responsible for low penetration & performance as compared to targeted include, *inter alia*, difficult topography, sparse population settlements, inadequate infrastructure to sustain banking & credit operations, discouraging land tenure system, lack of agricultural entrepreneurship, massive amount of grants and subsidies under Government programs, and unfavorable law and order conditions in some parts.

Vision 2020: To accelerate agricultural growth NER has put in place Vision: 2020 that, *inter alia*, emphasizes achieving targets, viz. [i] Increasing present cultivated area from 1.778 million hectares to about 2.5 million hectares and bringing under cultivation about 750,000 hectares of cultivable waste and an additional area of about 200,000 hectares as culturable command area that is being developed under eight Command Area Development projects [ii] Bringing 25% of valley land area (1.5 million hectares) under double cropping by 2015 and raise food production by one million tone [iii] Reducing 350,000 hectares under jhuming by 2020 [iv] Improving productivity of fruits [11 tons/ha] and vegetables [15 tons/ha] by 2015 and annual production to 5.5 million tones for fruits and vegetables each. [v] Bringing 750,000 hectares cultivable wasteland under fruits depending on its suitability of which 50% to be brought under fruits by 2015 [vi] Establishing five nurseries each in Arunachal Pradesh, Meghalaya, Mizoram and Nagaland and two each in Manipur and Sikkim for state specific fruits by 2015[vii] Integrating National Program for Organic Production with cold storage network in selected cluster of villages and in public-private-partnership mode establishing 25 to 30 medium size processing units to export products by 2020 [viii] Exploitation of Irrigation envisioned is 44% and 80% with cumulative potential 2.36 million hectares and 4.2 million hectares by 2015 and 2020 respectively [ix] Development of ground water in NER is in the nascent stage focusing concerted efforts to plan, implement, review and monitor the schemes to tape the irrigation potential by 2020.

Slow Growth

Region has formulated a Vision 2020 document envisioning short-term targets to be achieved in 2010, medium and long term in 2015 and 2020 respectively. Field studies revealed that the performance as on 31st March 2010 & 2015had been quite poor exhibiting significant gaps between achievements and targets. Region's growth has been slow due to factors, viz. extremely difficult terrain, grossly inadequate physical infrastructure including institutional banking and credit structure, lack of required level of managerial, technical and financial skills leading to slow growth of entrepreneurship and low level of technology intervention, absence of proper market linkages, among others. Last but not the least has been the disturbed law and order in some of the states that discourages investment in the region. It is now most opportune time to review the performance as on March 31,2017 being the terminal year of country's Twelfth Five Year Plan [2012-17] and identify the shortcomings in critical areas which should help the States in the region to formulate State and sector-wise strategy to achieve the

targets for next three years. Even experiences and lessons from the past several decades should help NEC, States and Union Government draw the road map for the integrated development of the region to achieve during the next three years and 90% of goals envisioned in the Vision document 2020.

People's empowerment

Self-governance and participatory development through grass-roots planning can empower people. Decentralized form of governance right from the village level onward, seeking maximum participation of the people, provides opportunities to people in decision-making process and creates a responsive governance system. Grassroots plans, formulated and implemented from the village level and consolidated at the district level should focus creating physical and institutional infrastructure to harness region's resources and facilitate public services to satisfy people's basic minimum needs. It is necessary to build political consensus for a responsive socio-economic development-oriented environment in the region which, apart from people's participation in planning, involves people to create a secured climate for attracting investment, protect investors' property rights and ensure a corruption-free administration. Moribund and defunct Village Development Councils need to be activated, reorganized and strengthened, planning exercises at village level initiated and Panchayats as effective institutions of good governance developed.

Capacity Building

Significant improvement in the capacity building of the people and institutions is a prerequisite for successful implementation of the development strategy. Capacity building of people should instill in them the spirit & culture of self-help, rather than depending upon subsidies, and firm determination to productively utilize available resources to achieve the envisaged/targeted development. Similarly, capacity building of institutions should address issues of planning and implementation of development programs and their accountability to the people. Since large parts of the region are marked by severe market imperfections and non-existence of markets altogether, planned efforts are needed to create markets and improve them.

Improving Investment Climate

Investment-friendly climate is a *sine qua non* to attract significant amount of private investment in the region to supplement public investment to create state-of-the-art infrastructure, especially connectivity within the region and with the rest of the country. Investment priority during the next five years should be accorded to sufficiently expand the transport and communication networks and make available adequate and stable power supply since the fortunes of the people of the region are inextricably intertwined with those of their neighbors and even removing trade barriers with the neighboring countries. Impact of this will be reflected on the improvement of the quality of people's lives and stimulating the region's economic growth. To harness the abundant resources of the region for the welfare of the people and economic development of the region, initially the State Governments and the Union Government would need to create enabling environment that can attract investors to invest in strengthening and expanding physical and social infrastructure. Simultaneously, Government through policy framework should forge public-private partnerships to mobilize adequate financial & technical resources. It is, also, important to ensure [for reasons of efficiency and accountability] that States in the region do not depend entirely on outside capital, but should generate internal resources.

Strategic Action Plan

Improvement and maintaining 4% annual growth rate in agricultural in India is a *sine qua non* to significantly increase rural employment and income of rural households directly reflecting on minimizing the incidence of rural poverty and enhancing standard of living. It is, therefore, necessary to harness agricultural & horticultural potential in NER to generate surplus to support the secondary sector, create demand for goods in the rural areas, increase disposable income that could enhance purchasing power of about 33 million people and bring socio-economic development. Agricultural productivity in particular and output in general can be significantly enhanced through intensifying agricultural research, reinventing agricultural extension, communication & credit delivery system, expanding area under cultivation, increasing crop intensity and developing agricultural processing and marketing infrastructure. In hilly areas, programs can be initiated to expand horticulture, floriculture, plantation crops and organic farming. This calls for a meticulously

formulated strategic action plan. Strategic planning and implementation to develop agriculture should make NER marginally, if not significantly, surplus in food production by integrating research, extension and education duly supported by a time bound reforms in land tenure system in each State. National Food Security Mission & National Lively-hood Mission have a significant role in this area. Agricultural development strategy for NER has to be evolved depending on resources, State-specific conditions, people's needs and priorities. Private sector participation will not only provide additional resources but will also create necessary environment to generate job opportunities, better utilization of resources and enhance credit flow impacting directly on farm sector development. Strategic action plan need to be formulated sharply focusing following.

***Agriculture*:** As the land use pattern in the plains and hills is different, separate strategies need to be designed to improve farm productivity to match requirements of hills and plains. The land productivity as compared to its potential is low except for few pockets in Manipur, Assam and Tripura. Land productivity and farm output can significantly be enhanced through initiating measures, among others, viz.[i] Formulating a State specific land and water use policy and adopting agro-climatic zonal planning for agriculture sector suggested by the Planning Commission [ii] Institutions viz. Indian Council of Agricultural Research , State Agricultural Universities and Central Research Institutes to facilitate breeder seed production of HYVs and their multiplication and distribution involving SHGs of Youths and establishing State-wise warehouse, centers for certified seeds, fertilizer, pesticides, farm-equipment depending on scale of operation, in co-ordination with National Seed Corporation, National Fertilizer Corporation and Governments [iii] Improving effectiveness and expanding the agricultural extension service network significantly to demonstrate and transfer among farmers proven yield-maximizing technology developed by research institutes [iv] Making small operational holdings of farmers economically viable and profitable through forming farmer-SHGs, participatory approach and community action on cluster basis [v] Establishing institutions for capacity building of farmers to adopt technology and centers at strategic locations to supply reasonably priced quality seeds, fertilizers, pesticides and farm equipment [vi] Enhancing public investment and institutional credit to enable farmers to access technology to achieve and continue the expected growth of agriculture, horticulture, agro-processing and irrigation [vii] Neutralizing soil acidity through soil testing and judicious application of lime and cultural practices [viii] Reasonably reducing crop duration by evolving short duration hybrid and high yielding varieties [ix] Commercializing traditional diversified farming system [x] Farmers practice organic farming particularly in the hills as organic products fetch high market price. This can be exploited by improving grower's technical skill, formulating action plan linking with input delivery and marketing services [xi] Exploiting the potential of non-traditional and high value crops like aromatic and medicinal plants, flowers, spices and condiments that are endemic and best suited to the region [xii] Replicating the Integrated Agricultural Development model piloted successfully in Tinsukia (Assam) and Bisalgar (Tripura) [xiii] Total involvement of the community to guarantee the success.

Shifting Cultivation: In the hills even today, agriculture remains predominately in the form of shifting cultivation locally known as 'Jhum.' Jhuming, of late, is viewed as environmentally unsustainable by policy makers and major attempts to wean people away from this traditional practice are underway. On the other hand, there are arguments and independent studies indicating the appropriateness of jhum as a good agricultural practice for the NER. However, the external interventions promoted by official bodies as an alternative to jhum have brought in the cultivation of areca nut, ginger, pineapple, large cardamom and passion fruit in recent times. Sikkim perhaps is the only region that has no intensive jhuming practice.

Efforts need to address the social and human aspects of the problem of jhuming and offer alternatives acceptable to the farmers in consultation with the local farming communities. NEPED project raising cash crops and horticulture using forest as alternative to jhuming in Nagaland has proved to be a promising model demonstrating environmental soundness and profitability which can be replicated in other jhuming areas. This alternative promises success to minimize jhuming provided concerted efforts are made to involve farming communities and integrate with timely provision of quality planting material and production inputs, and efficient extension and marketing services. This would also need adequate financial resources to sustain field operations including maintenance for initial five years for which scheduled commercial banks and NABARD need to take initiative and be pro-active

to development. Besides, tea, cardamom and rubber plantation can be tried successfully on a pilot basis.

Horticulture: The agro-climatic and altitudinal advantage accompanied by the tradition of growing fruits and vegetables can be capitalized to enhance the productivity and output by formulating a State-specific program on selected fruits and vegetables linking with, among others, supply of planting material, inputs, processing facilities and marketing network. Small Farmers Horticulture Estate (SFHE) can be established on fairly larger by forming fruit grower-SHGs, training them to upgrade their technical and managerial skill and providing credit support. A value chain system has to be put in place that ensures post-harvest handling, assembly, storage, transport packing, processing, credit and modern marketing system for horticulture products in public-private-partnership mode. National Horticultural Mission has a significant role in this area. Floriculture potential available in Arunachal Pradesh, Meghalaya, Mizoram, Nagaland and Sikkim can be exploited on commercial scale through preparing a feasibility studies and action plan. This can facilitate the Regional Integrated Agro-Horticulture Commercial Complex to emerge.

Irrigation**:** Around 90% of the cultivated area in the plain areas of Tripura, Manipur and Assam are under irrigation. The rest are rain fed. To ensure targeted growth in agriculture the available water resources need to be fully harnessed to timely irrigate a variety of agricultural, horticultural and plantation crops. NER has significant amount of unexploited irrigation potential, particularly in the Imphal valley of Manipur and in Tripura. Till recently, about 19% of the total potential of 5,70,000 hectares is exploited in Assam as against 40% in India. Manipur can attain about 10% of its potential to cover 65000 hectares. Irrigation potential in Tripura can cover 2,81,000 hectares. Surface irrigation potential in Mizoram, Meghalaya, Nagaland, and Sikkim needs to be exploited since topographical conditions do not favor exploitation of groundwater for irrigation. In view of high rainfall and fragile top soil, an integrated program for water development and soil management is considered necessary. The program should have appropriate institutional mechanism and should mobilize adequate funds to equitably spread the benefits of irrigation. The strategy should focus on [i] framing State-wise water policy [ii] formulating district-wise water management plans [iii] bringing all degraded, rain-fed and wasteland under watershed project [iv]promoting drip and sprinkler irrigation system.

Accelerated Irrigation Benefit Program: It is necessary review the current status of implementation of AIBP by mounting Action Research Project in each State analyzing the factors responsible for better progress and constraints hindering the progress and designing appropriate system to exploit the existing potential, accelerate the utilization of funds and streamline implementation, monitoring and review process. Besides, it is necessary to simplify and streamline administrative procedure to speed up land acquisition and timely release of adequate funds to successfully implement Accelerated Irrigation Benefit Program. Union Ministry can consider making guidelines and norms adequately flexible to suit the needs of NER as also each State in NER from those stipulated for the country as a whole under AIBP considering State-specific constraints, viz. [i] Increasing reasonably per hectare project cost taking into account ground realities of the NER and releasing funds in appropriate installments including fairly reasonable amount before the working season commences. Of course, this necessitates good governance and transparency. [ii] Tripura, due to inadequate surface flow, is unable to access benefits under AIBP. The norms need to include groundwater development and provision of cost towards renovation, extension of pipelines and maintenance [iii] For Nagaland AIBP needs to include construction of check dams [iv] For Arunachal Pradesh, AIBP to include extension/renovation of existing schemes. It favors tapping of groundwater wherever feasible [v] For Sikkim, eligibility criteria needs to be revised to five hectares as the threshold for MI schemes in small hills instead stipulated requirement of minimum irrigation potential area of 20 hectares per scheme effective from 12/2006 [vi] Union Ministry to release funds timely in Mizoram to help implement AIBP in a limited working period [vii] NEC to assist Meghalaya in hiring competent professional consultants to formulate micro/minor irrigation projects.

ICAR: Detailed evaluation is necessary to assess usefulness of ICAR and SAUs farm researches to farmers, identify deficiencies and reasons why farmers have yet not accepted and benefited and redesign research program involving farmers. ICAR should intensify research on designing small farm implements to meet needs of farmers in hilly States of NER on lines

of those developed in Mandi district of Himachal Pradesh. Gradually in five years one Krishi Vigyan Kendra for a group of four homogenous districts be established and linked with ICAR's center to empower farmers including women-farmers. The KVK should act as a change agent to transfer technology, provide extension services, market information, impart skill and management up-gradation training and agent for social mobilization. Their performance should be critically evaluated once in three years and KVKs be redesigned to match emerging local needs. Enabling area specific rural infrastructure should be created and suitable products developed to add value to horticultural products, viz. passion fruits cultivated in Senapati district of Manipur, Anthurium in Aizawl district, Mizoram, Strawberry cultivated under horticulture mission in Ri Bhoi district of Meghalaya, Apple Cultivated in Arunachal Pradesh.

Local Bodies: Participation of these institutions for decentralized development is a *sine qua non.* These grass-root institutions need to be organizationally and financially strengthened, their functions clearly defined and their capacity built to plan, implement, review and monitor farm development projects seeking local people's participation.

The District Infrastructure Index of NE states issued on September 24, 2009 should help Autonomous District Councils responsible for development to optimally utilize the already created infrastructure and plan and place in time the required infrastructure for farm development in concerned districts. Social/Community mobilization needs sharp focus to improve program performance and sustainable farm development.

Women Empowerment : The status of women in NER is relatively better than in many other States. Despite women actively participate in economic activities, particularly in the hill areas their participation in decision-making process is low. Even in many tribal societies social system and certain customary laws smack of gender discrimination. Focused attention should be paid to empower women through (i) Formation of SHGs (ii) Strengthening women NGO's to make their voice herd [iii] Launching movement for woman literacy, training and motivation that helps capacity building [iii]SHGs as economic tool for women empowerment to improve their credit worthiness, apart from raising bargaining strength as a group. Provision of micro-credit would help SHGs develop micro-enterprises of women that would give even the poorer section among them economic strength.

***NERAMAC*:** North Eastern Regional Agriculture Marketing Corporation needs to be strengthened financially, organizationally and professionally in consultation with the National Institute of Agricultural Marketing that can facilitate processing, marketing and establishing a network of common facility centers in each State.

Credit agencies: Since banks have a significant role as a catalyst to accelerate the process of agricultural development in NER they should be pro-active and make financial services available to farmers by establishing branches at strategic locations as also through technology applications. In a time bound program they can provide Kisan Credit Cards to all farmers and where necessary link with insurance companies to facilitate farmers access insurance products. They can design simple borrower-friendly lending policy, procedure, documentation and customized and flexible financial products that match needs of farmers in NER rather than one-fits-all for the country as a whole. State Governments should create enabling environment that can improve credit absorption capacity of farmers and geographical areas, accelerate flow of credit and loan recovery simultaneously. Banks, Government and print/electronic media can launch massive campaign to create awareness among farmers to avail financial services.

II.CONCLUSION

The year 2017-18 can be fully devoted to create awareness among farmers in NER on available farm technology that should motivate farmers to adopt technology and significantly raise farm productivity and output by end of March 2020. With appropriately defined targets, clear outcomes, strategies and coordinated planning the NER can become increasingly self-reliant in food output. Effective computer-based monitoring and management information system is necessary to ensure effective implementation of programs on time, improve quality of implementation and efficient service delivery mechanism that can avoid cost and time over runs and yield envisioned results. Farmer-SHGs should become *empowered group of farmers* to exert pressure on elected representatives, right from villages to parliament and Rajya Sabha for

strategic planning and implementation of agricultural development projects to yield results envisioned in Vision 2020.

III. REFERENCES

[1] Anonymous [2010], Who are Indigenous people of India? India Human Rights Report, October-December 2010

[2] Sindhi S.[2012], Prospects & Challenges in Support of Tribal Women; ISOR Journal of Humanities % Social Science; Vol 6, Issue 1; November-December 2012 PP46-54

[3] Anonymous [2013], Statistical Profile of Schedule Tribes in India, Ministry of Tribal Affairs, Statistical Division, Government of India, New Delhi

[4] Anonymous [2013], India: Landmark Supreme Court Ruling a Great Victory for Indigenous Rights, News, India Indigenous People, April 18,2013,New Delhi

[5] Anonymous [2015], Annual Report of the Ministry of Agriculture, New Delhi

[6] Anonymous [2015] Annual Report of the Union Ministry of Tribal Affairs, New Delhi

[7] Anonymous [2016], India's First Fully Organic State Sikkim to now have Institute of Organic Farming; India Today, February 11, 2016, New Delhi

[8] Anonymous [2016], North East Belongs to Indigenous People of the Rights; Meghalaya Times, August 22,2016