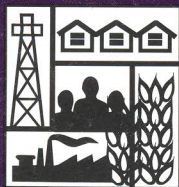


**SPECIAL ISSUE**

ISSN-0971-8400



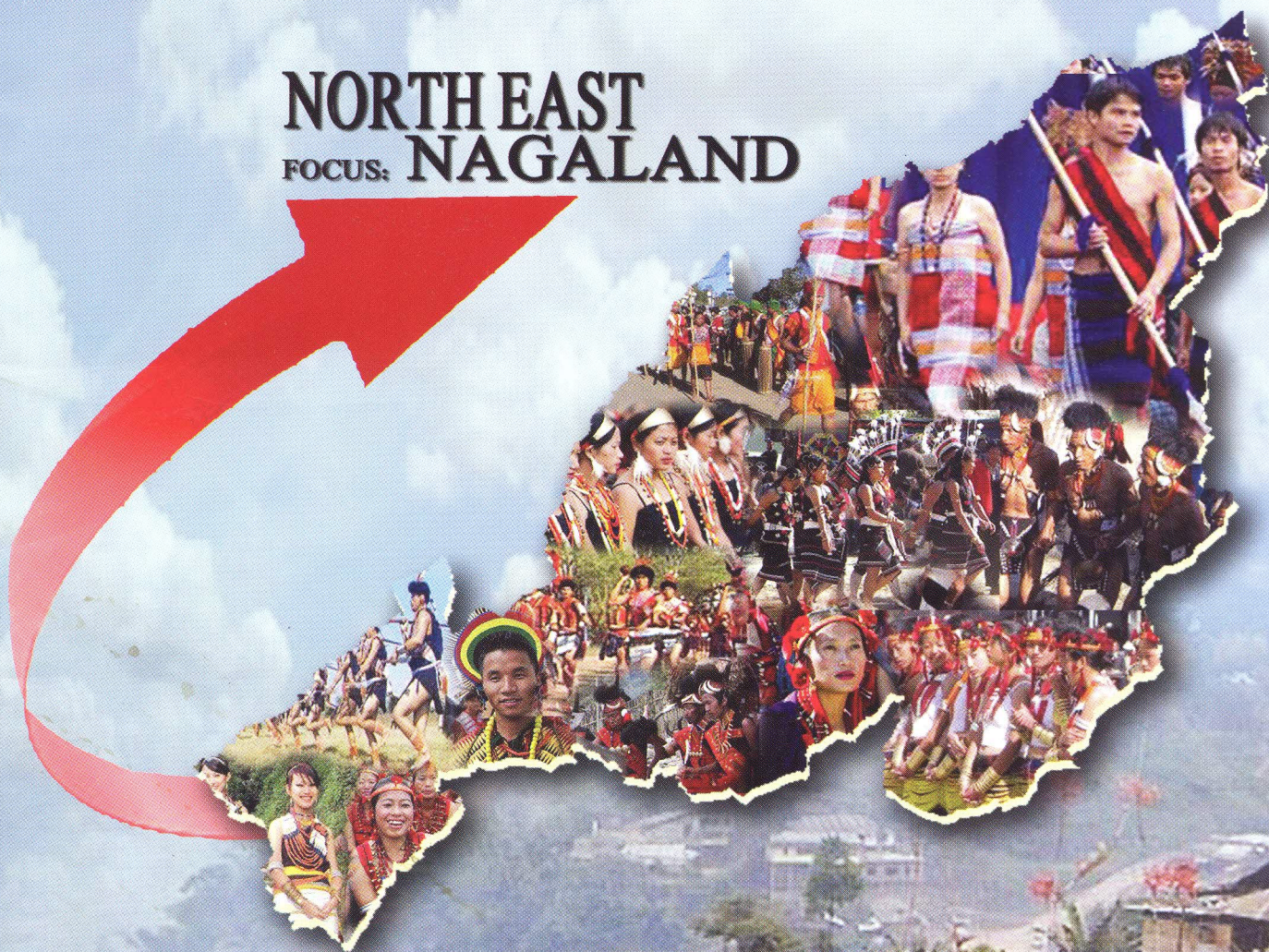
# YOJANA

**DECEMBER 2012**

**A DEVELOPMENT MONTHLY**

**₹ 20**

**NORTH EAST**  
**FOCUS: NAGALAND**







*Let noble thoughts come to us from every side*  
*Rig Veda*

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**EDITORIAL OFFICE :** Yojana Bhavan, Sansad Marg, New Delhi-110001 Tel.: 23096738, 23042511.  
Tlgm.: Yojana. **Business Manager (Hqs.) :** Ph :24367260, 24365609, 24365610

**For new subscriptions, renewals, enquiries please contact : Business Manager (Circulation & Advt.), Publications Division, Min. of I&B, East Block-IV, Level-VII, R.K. Puram, New Delhi-110066, Tel.: 26100207, Telegram : Soochprakashan and Sales Emporia :** Publications Division: \*Soochna Bhavan, CGO Complex, Lodhi Road, New Delhi -110003 (Ph 24365610) \*Hall No.196, Old Secretariat, Delhi 110054(Ph 23890205) \* 701, B Wing, 7th Floor, Kendriya Sadan, Belapur, Navi Mumbai 400614 (Ph 27570686)\*8, Esplanade East, Kolkata-700069 (Ph 22488030) \*‘A’ Wing, Rajaji Bhawan, Basant Nagar, Chennai-600090 (Ph 24917673) \*Press road, Near Govt. Press, Thiruvananthapuram-695001 (Ph 2330650) \*Block No.4, 1st Floor, Gruhakalpa Complex, M G Road, Nampally, Hyderabad-500001 (Ph 24605383) \*1st Floor, ‘F’ Wing, Kendriya Sadan, Koramangala, Bangalore-560034 (Ph 25537244) \*Bihar State Co-operative Bank Building, Ashoka Rajpath, Patna-800004 (Ph 2683407) \*Hall No 1, 2nd floor, Kendriya Bhawan, Sector-H, Aliganj, Lucknow-226024(Ph 2225455) \*Ambica Complex, 1st Floor, above UCO Bank, Paldi, Ahmedabad-380007 (Ph 26588669) \*KKB Road, New Colony, House No.7, Chenikuthi, Guwahati 781003 (Ph 2665090)

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**No. of Pages :** 76

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## About the Issue

Economic development is considered as a symbol of progress and prosperity of any country or society. India since independence has been consistently striving to attain uniform economic development through rapid industrialization liberal economic policies and new legislations. A new beginning in the economic history of India was initiated with the introduction of the five year Plans to facilitate balanced progress and development in the country.

However, the efforts of uniform development in the subcontinent suffered a major blow due to widespread regionalism and other institutional factors. As a result the North Eastern States of India remain relatively less developed when compared to other parts of the country. Added to this is the insurgency, rising unemployment, youth unrest leading to huge socio-economic inequalities which are impediments to sustainable development. These inadequacies have the potential to produce adverse interpersonal conflicts and today the region has become a haven of movements and crisis which jeopardize the peaceful existence of the various multi-ethnic groups. In such a complex situation, the question of development and its implications become a critical issue to be addressed.

Government of India has increased allocation of funds as part of the many developmental projects. However, the region continues to grapple with many hindrances to economic development. There is a lack of effective implementation of policies and programmes and an increasing sense of alienation, frustration and distress. This sense of alienation of the northeast needs to be understood, assessed, and addressed by engaging in more critical assessments and dialogues.

Yojana magazine has been documenting development in the North-East over the last seven years, every December. This year, we complete the eighth State in the series on North-East, with focus of Nagaland.

Nagaland with an area of 16,579 sq. km, shares a long international border with Myanmar in the East and bounded by Assam in the West and North, Arunachal Pradesh in the North and Manipur in the South. Almost entirely hilly, the State has a population of 19,80,602 which is 0.2 percent of the country's population. English is the official language and medium of instruction. It has a high literacy rate of 80.1 percent.

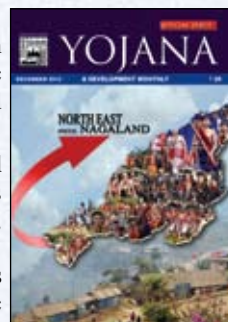
At current prices, the Gross State Domestic Product (GSDP) of Nagaland was about Rs.8,891.8 crore in 2007-08. Its GSDP grew at a compound annual growth rate (CAGR) of 13.1 percent between 2004-2005 & 2007-08. At current prices, the Net State Domestic Product (NSDP) of Nagaland was about Rs.8146.1 crore in 2007-08. Nagaland's NSDP grew at a CAGR of 12.8 percent between 2004-05 and 2007-08. The State's per capita GSDP in 2007-08 was Rs.32,229 as compared to Rs.25,842 in 2004-05. Per capita GSDP increased at a CAGR of 7.6 percent between 2004-05 and 2007-08.

The State's HDI rank among the Indian States has remained at a consistently high 8 in 1996 and in 2006, whereas its GDI Rank has gone up by one place, from 8 in 1996 to 7 in 2006. Basically an agricultural economy (70 percent of the population is engaged in the agricultural sector), agriculture contributed around 18.1 percent to the GSDP of Nagaland in 2011-12.

Nagaland is home to 16 different tribes and several sub-tribes. Each tribe has its distinctive dress, language, culture. The customs and traditions of the Naga people are intertwined with their agricultural cycle and festivals. Key industries in the State include bamboo, horticulture, sericulture, minerals, handloom & handicrafts and Tourism. The Nagaland Industrial Development Corporation is responsible for the development of industrial infrastructure in the State.

Poor infrastructure base has for long been identified as a binding constraint on the growth process. Sector wise, the picture presents a mixed bag. While power, telecom and civil aviation appears to be at least comparable with the rest of the country. The situation is not so satisfying in respect of rail or road transport. In the present scenario, the Central Government continues to act as the principal agent for infrastructure development. The major challenge for the future lies in devising ways and means to harness private potential to the advantage of the region. Only a concerted, continuous and consistent policy efforts along with broad-based public-private participation can ensure a prosperous and vibrant NER in the near future.

This issue brings to you articles by various experts on the different aspects of development in the region with particular emphasis on Nagaland.





### NAGALAND





# Higher Education in Nagaland

**B K Konwar**



***A long-term planning and well orchestrated implementation strategy has to be taken up with the mission of 'for the quality by the quality'***

**W**ELL DEFINED objective oriented consistent effort to produce knowledge empowered manpower is the need of the society. The “horizontal” model of academic leadership that emphasize collaboration and team work among the similar institutes as well as group of individuals can bring wonders in the field of academia. Organizational need to account for professional practices and expanding academic staff whose work contained an exploratory and innovative component; and growth in graduate and postgraduate programmes need equivalents to the knowledge-transfer models. There is a need to understand teaching, research and innovation, and this represents an opportunity to reorient the existing and required systems by which teaching and research are undertaken and supported.

One of the most revered personalities, Dr. A. P. J. Abdul Kalam, former President of India rightly stated that the ‘21<sup>st</sup> Century belongs to the knowledge age, where acquisition, possession and application of knowledge

are the most important resources. Knowledge has been the prime mover of prosperity and power; it empowers and enriches people, causes societal transformation, encourages discoveries and innovations, causes goodness in all spheres of the society resulting peace and prosperity.’ Knowledge is the sum total of education, experience, research, intelligence and information. It is basically harnessed in academic institutions.

## **Higher education at the National level**

The country presently (2011-12) possesses 634 universities and 33,023 colleges with the student strength of 1,69,75,000 (girls 70,49,000). The number of graduates coming out of technical colleges was slightly over 7,00,000 in the last year. However, 75 percent of technical graduates and more than 85 percent of general graduates are unemployable by India’s high-growth global industries, including information technology. In the North-East states 40 universities and such institutions are present with Nagaland having 3, Assam 10,

The author is Vice Chancellor, Nagaland University.



Meghalaya 9, Sikkim 5, Arunachal Pradesh, Mizoram, Manipur and Tripura each having 3. The small number of institutions in these states can be due to the small size of the states.

In the country out of the GDP, 3.77 percent was spent on education in 2011, 32.3 percent of the total amount went to higher education. Despite growing investment in education, 25 percent population still remains to be illiterate; 15 percent of Indian students reach high school and just 7 percent college and university. The quality of higher education is significantly poor. India's post-secondary institutions offer only enough seats for 7 percent of India's college-age population.

### **The State of Nagaland**

Nagaland lies between 93°20' to 95°15' E longitude and 25°60' to 26°40' N latitude in the extreme North Eastern end of India and its topography is mostly mountainous. The altitude varies from 25 (Dimapur) to 3,840 m MSL (Saramati peak, Twensang district). The average height of the hilly terrains is 900-1,200 m MSL. Almost all hillsides are covered with green forests. The slope level of the hilly terrain varies from 40 – 60 percent. The annual average rainfall of the state is 200-300 cm with the highest during June to mid October and the relative humidity from 65-90 percent. Nagaland encompasses a total area of 16,579.0 sq km comprising 6.32 percent of North East and 0.5 percent of the total land area of the country.

The people of Nagaland though commonly known as Naga, actually

comprise of several unique tribes and many more sub-tribes and clans belonging to the Mongoloid stock. The economy of the state is predominantly agriculture-based, 68 percent population engaged in agriculture and allied activities. The state has 3,58,138.70 ha land under forest. It possesses rich mineral wealth, but due to lack of modern industries, road connectivity and transportation, effective utilization of these resources are restricted. The total population of the state is 19,80,602 comprising of 10,25,707 males and 9,54,895 females with the sex ratio 909 and population density 120 per sq km. The rural population numbering 14,06,861 comprises of 7,24,595 males and 6,82,266 females, urban population 5,73,741 with male 3,01,112 and female 2,72,629.

### **Education in Nagaland**

English is the official language of the state since 1967 as announced by the State Assembly and Nagamese common lingua-franca. The state has 1,520 primary schools with 2,24,715 enrolments, 481 middle schools with 92,271 enrolments and 449 high and higher secondary schools having the enrolment of 54,635 students. Nagaland has a literacy rate of 80.11 percent, male 83.29 percent and female 76.69 percent as per 2011 Census. In 2001, the literacy rate in the state was 66.59 percent, a change of 13.52 percent is registered. This proves that the state has grown significantly in the education sector. The literacy rate of the State is much higher than the national average. Out of the total population of the state 12 percent numbering 1,38,637 is in the age group of 18-23 years. In the colleges under

Nagaland University *ca.* 12,825 students (2011-12), out of which 47 percent numbering 6,028 women are enrolled. The student strength in five schools of Nagaland University is nearly 2,000. About 80 percent of the school passed out students go for higher study in colleges, and hardly 8.8 percent go for post graduate studies in universities and other institutes. Every year *ca.* 1,000 students go for higher learning outside the state. In view of the youth in the age group of 18-23 years, an alarmingly huge population of school drop outs has been resulted every year. Hardly 200 master degree students annually go for Ph D research, and about 300 for diploma/certificate courses.

The present ratio of student : teacher in the country is almost 20:1, which is much higher in Nagaland. The majority of graduates of both sexes in Nagaland prefer humanities stream; followed by girls' science, agriculture and boys' commerce, engineering, management or medicine.

### **Institutes of higher learning**

The state has three universities, one under the Central sector, Nagaland University and one private The Global Open University. Recently, the Government of Nagaland has given permission to establish a second private university in the state. In 2010, National Institute of Technology (NIT) was instituted at Dimapur.

### **Nagaland University**

The Nagaland University Act No. 35 of the House of Parliament was passed in 1989, and the announcement was made



on 6<sup>th</sup> September 1994. Finally, the University came into existence with the declaration of State capital Kohima as its interim Head Quarter on 2<sup>nd</sup> June 1996. The HQ was shifted to the permanent site Lumami (altitude 1,100 m MSL) in 2010 and since then Nagaland University became fully operational.

The University has four campuses, Meriema (Kohima): School of Arts and Humanities with 7 disciplines, Mezdiphema: School of Agriculture and Rural Development with 10 disciplines, Dimapur: School of Engineering with 5 disciplines and School of Management – lone discipline and HQ Lumami: School of Science with 7 disciplines and Social Sciences with 3 disciplines. One social science department History and Archaeology and one science department Geology are in Meriema (Kohima) campus.

Nagaland University is an affiliating University with the present affiliation strength of 54 colleges from all over the state. Out of these 13 are State Government Colleges, and the rest private or run by the various Christian Charity Organizations. Most of the colleges are in and around the plains of Dimapur and state capital Kohima. Some colleges are located in remote and high altitude areas and visiting them is a difficult task.

### **The Global Open University**

This Private Sector University offers academic degree programmes at both undergraduate and postgraduate levels in the areas of Management and Commerce, Health and Medical Sciences,

Ecology and Environment, Law and Judicial Science, Psychology and Counselling, Education, Journalism and Mass Communication, Computer and Information Technology, Library and Information Science, Applied Science, Social Science, Tourism, Travel & Hospitality Management and Self Employment

The Government of Nagaland is putting effort to make higher education more accessible and affordable to the economically weaker sections, as well as to create employment opportunity through higher education. For the purpose, Government plans to open Polytechnics in all districts. Moreover for the creation of professional teachers, the Government has so far established three B Ed colleges.

### **National Institute of Technology**

NIT Nagaland is a technological higher education institute established in 2010. It is one of the 30 National Institutes of Technology. However, due to lack of infrastructure, it had been functioning out at NIT Silchar in Assam from 2009. The institute started functioning from Chumukedima (Dimapur) from the early part of the current year. The Institute is running 3 BE: Electronics and Communication Engineering, Electrical and Electronic Engineering, Computer Science and Engineering; and one MBBS course in Medicine. NIT, Nagaland prepares to start 9 PG, 14 Ph D and one PG diploma courses in the near future.

### **Professional courses**

Professional courses leading to B Sc (Agri) and M Sc (Agri) in

ten disciplines are offered by the School of Agriculture and Rural Development, NU, Mezdiphema and the disciplines are: Agronomy, Horticulture, Plant Breeding & Genetics, Plant Pathology, Entomology, Soil Science, Soil Conservation, Agricultural Economics, Extension Education and Rural Development.

The School of Engineering offers 5 B Tech programmes: Agricultural Engg & Tech, Biotechnology, Computer Sci & Engg, Electronics & Communication Engg, and Information Technology. On the other hand the School of Management offers the lone Master of Business Administration degree programme.

Colleges affiliated under Nagaland University offer various general and professional courses: Arts and Humanities in 46 colleges, Science in 7, Computer application in 2, Commerce in 14, Management in 3 and Music, Truism etc in 5 colleges. The University has also affiliated 1 Nursing College, 3 Teacher Training Colleges (B Ed), 3 Law colleges and 1 Polytechnic.

The State has three research institutes: National Research Centre (NRC) on Mithun (Jhornapani), Central Institute of Horticulture (Mezdiphema), and ICAR Research Complex for North East Hill Region (Jhornapani).

### **Leading Colleges of the State**

Most of the promising colleges in the state are situated in and around Kohima, the state capital and Dimapur, the commercial hub at Assam border, having better transport and communication



facility. Some of the leading colleges of the state are Kohima Science College, Patkai Christian College, Jafu Christian College, Alder College, Kohima Law College, Dimapur College, Fazal Ali College (Mokokchung) and Kohima Arts College. Out of these seven colleges, Patkai Christian College having all three streams of Arts, Science and Commerce is the lone autonomous college under Nagaland University.

### **Prospect of Distance Education in the State**

Distance education could be a major facility to reach the people at remote and difficult terrains. With the proliferation of media like television, radio, land-line and mobile telephones and internet connectivity the universities and colleges can effectively participate in this endeavour. However, regulations of distance education need to be taken up by a State body. Further, there is also a need for an effective delivery system for resources like books, research journals, periodicals etc as support to the distance education.

EDUSAT was launched by the Indian Space Research Organization (ISRO), a geo synchronized satellite of 2,000 kg entirely dedicated to education. This satellite technology has been used with various technological combinations to reach the remote hilly terrains for meeting the challenges of education in the state. The satellite has one national KU band, six national extended-C band transponders and 5 regional beams at KU band. The same has been used in the state to impart teaching at remotely located

colleges, higher secondary and high schools, teachers training and polytechnics.

The facility is to provide interactive mode of sessions among teachers and students for sharing knowledge, ideas, experiences and new developments. The facility would enhance the ability of students to relate concepts and theories to real life and practical situations through demonstrations and experiments. Career counselling is an important part of EDUSAT. A total of 50 Satellite Interactive Terminals (SITs) have been identified under Higher, School and Technical Education in Nagaland. Under the EDUSAT Network, the transmission hub along with one studio has been installed at Kohima Science College. Private Colleges having all requirements are also provided with the facility.

What is needed 'literacy or education'? A state where more than 40 percent population live below the poverty line, education almost remains unaffordable. Out of passed out graduates and post graduates every year more than 25 percent remains unemployed. This clearly explains a negative impact in the society; students are simply taught 'how to read and write, but not how to think and apply'.

### **Educational Challenges in Nagaland**

**Location disadvantage:** Barring colleges in Dimapur, almost all colleges and the lone Central University are situated in remote and difficult places. While appreciating the concern of the Central Government in giving opportunity to all parts of

the country including Nagaland to have access to higher education, but the support provided for their all round development is not so satisfactory. In addition to lack of infrastructure, the university and colleges are suffering from bad road connectivity, lack of transportation, poor telephone - mobile – internet connectivity, difficulty in getting and retaining quality faculty. Moreover, like any other hilly state the cost of living in Nagaland is 30-40 percent higher as compared to the state of Assam. Because of high altitude and high slope level, transportation is not only time consuming but also very expensive.

**Local social factors:** The state inhabited by 17 major tribes, sub-tribes and clans has unique land holding patterns. The land belongs to the village community; the State Government does not have jurisdiction and control. Hence acquiring land for establishing educational institutes is a difficult proposition. Villagers and land owners of the locality tend to pressurise for jobs and contracts for the livelihood of their people. At times other interest groups also create pressures. Remoteness also causes fear psychosis in the institutions.

**Teaching Quality and Research Culture:** Research is a neglected area in the institutes of higher learning. It is necessary for teachers of colleges and university to be embarking on the larger goals of state building through knowledge creation and research. The emphasis continues to be on teaching, leading to the best of the researchers across disciplines having little motivation



to work. In the recent years, there is a positive trend with faculty members submitting and obtaining research projects from different funding agencies.

**Private participation:** In the state majority, 41 out of 54, of the colleges are established and run by Christian Charitable Organizations and some by private parties. There is a need to assess them on the basis of objective standards relating to the quality of teaching, faculty, research, and capacity building. There shall be a mechanism of disaffiliation, once an affiliated college has been observed to perform below the level of expectation.

### **Academic limitations in the State**

Teaching is a choice based dedicated full time job. Like the other parts of the country, in Nagaland too teaching is measured in terms of periods. The UGC recommends 18 periods of teaching per week from an Assistant Professor which is quite reasonable. Similarly, recommended duty hours are also there for Associate Professors and Professors. But, some faculty members, in the name of academic freedom, remain absent from classes, research works and also from the institute without any valid to ground. The daily food intake behaviour of Nagas, lunch by 7-8 am and dinner 6-8 pm, heavy rains from July-September and shorter day length during winter from mid October-March make it difficult to maintain an effective working time frame. Moreover, difficult terrain, lack of transport facility, poor road conditions, lack of effective power

supply etc affect the teaching-learning process in the state.

### **Knowledge environment**

To keep the research interests alive and popular, senior faculty members shall engage themselves in teaching fresh undergraduate and postgraduate students to satisfy their inquisitiveness. But a sizeable number of faculty members all over the nation and also of the state of Nagaland become unwilling to take classes as and when they get senior status. In the higher education sector of the state, teaching is perceived as institutional work, but research still remains untouched. Not surprisingly, infrastructure and administrative procedures for facilitating quality research do not exist.

In an academic institution, the library is the nerve centre for teachers and students. College libraries in the state mostly suffer from lack of fund to buy books and back volumes, to subscribe journals and magazines, as well as maintain available books and journals.

### **Quality higher education for the state**

Creation of excellence and obtainment of quality output demand continuous and sustained commitment and effort on the part of each and every stake holder. A long-term planning and well orchestrated implementation strategy has to be taken up with the mission of 'for the quality by the quality'. Along with socio-economic development, the state has to give emphasis on school level science education

and to create tertiary education institutions like polytechnics, community colleges etc. Quality higher education in the state calls for (a) emphasis on research, (b) establishment of academic staff college, continuous faculty training, (c) quality assurance and improvement, (d) collaboration of all stakeholders, (e) out-reaching society for developmental activities, (f) freedom from social disturbance, administrative logjam, and fear psychosis, (g) adequate funding for research and teaching infrastructures, and (h) incentives for meritorious teachers and researchers.

### **Conclusion**





Teaching is in fact imparting of capability in individuals through knowledge transfer. On the other hand, research indicates evaluation, surveillance, reward, competition for societal benefit etc. There is a need to engrave confidence in our research for the generation of new knowledge. In the state academicians, policy makers and administrators shall plan effectively to do justified and rightful things for the cause of education. Issues like corruption, selfishness, socio-political pressure, favouritism etc shall not interfere in the higher academic organizations. Accordingly, the institutes shall have proper rules and code of conduct. All round quality covering infrastructure, faculty, library, research and teaching shall produce quality manpower and also research output. If the negative parameters prevalent in academia are removed and serious efforts made for improvement, quality would not remain unachieved. □

(E-mail: [vicechancellornu@yahoo.com](mailto:vicechancellornu@yahoo.com))



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# Development of Infrastructure

*Krishna Dev*



***This would develop new linkages with major economic centres and markets may bring about a sea change in the economic landscape of the region***

**I**NFRASTRUCTURE DEVELOPMENT is a fundamental prerequisite for realizing the vision of progress towards peace and prosperity and for creating an investment climate and market development in the North East. In fact, this is a basic prerequisite for development and has strong complementarities with measures to improve health and education as well as industry and services are crucial for establishing a stable and peaceful society and hence for the progress and prosperity of the entire region.

## Transport

Transport is a vital input for the proposed shift from subsistence agriculture to cash crop based farming, as well as the planned development of industry and the service sector. Most of the area in the region is hilly and undulating with low population densities, accompanied by low per area production of goods. In the hilly terrain, what it is in the NER (except in Assam and some parts of other states) development of inland waterways is the most expensive. Similarly, rail connectivity in such a terrain is not only time

consuming but would need prohibitive investments, probably beyond the means of the nation. It is road connectivity which would play a dominant role in fulfilling the transportation needs of the public. Air connectivity would certainly play a role for a limited segment of people and goods.

## Roads

The main grid of transportation of goods and passengers in the North East is the road network of 82,000 Kms. This network is most developed in the Assam and Arunachal Pradesh. The five other main States in the region have networks ranging from 5000 to 9000 Kms. The vast majority of roads, around are unpaved roads, which are generally unsuitable for transport of heavy goods.

The Ministry of Road Transport and Highways (MoRTH) has been paying attention to the development of National Highways (NHs) in the North-Eastern region and 10 percent of the total allocation is earmarked for this region. The total length of NHs in the NE, including Sikkim, is 6880 Kms and these are being developed and maintained by three agencies-the State Public Works Department (PWD), Border

The author is Consultant, National Transport Development Policy Committee (NTDPC), Planning Commission.

Roads Organisation (BRO) and National Highways Authority of India (NHAI).

Special Accelerated Road Development Programme for the North Eastern Region (SARDP-NE) is a flagship programme implemented by the MoRTH covering the improvement/construction of 8737 kms road. Phase-A covering 2304 km had approved for implementation and Phase-B the length to be covered is 4570 Kms. The objectives of the programme are as under:

- Connectivity of all State Capital towns with NH through at least 2 lane road
- To provide 2-lane connectivity to the remaining 51 District Headquarter towns of NER (there are in all 85 District Headquarter towns of NER, 23 are already connected by 2-lane road and connectivity to 11 District HQ is provided under Phase-A of SARDP-NE).
- To provide inter-connectivity of all the State Capital towns by at least 2-lane NH
- To improve certain roads of strategic importance
- To provide improved

connectivity to remote and backward areas, and

- To improve road connectivity to border areas, Land Custom Stations and neighbouring countries

The Asian Highways project covering a road network of about 65,000 km. and passing through 15 countries is lying dormant for more than 40 years. The objective of this project is to promote and coordinate development of international road transport for connecting all the capital and industrial cities, sea routes and places of tourist and commercial interests in the Asian region. The proposed roads in the Asian Highways project would connect the NER not only with Bangladesh but also with other East Asian countries. This will give a big boost to the development of this region. This project, therefore, needs to be pushed through for implementation.

#### Rail

The railroad network is limited to 2500 Kms and lies almost entirely within the State of Assam (2466 Kms), with short stretches in Nagaland (13 Kms) and Arunachal Pradesh (1 Kms). Only 960 Kms of

this network consists of standard gauge track suitable for haulage of bulk goods and the majority of the network is made up of narrow gauge track suitable for small trains and transportation of passenger and transportation of smaller cargo.

Similarly, there is an urgent need for a rail link to Meghalaya and Sikkim. The more important issue from the long-term point of view of the strategic planning is to develop a rail network with the aim of increasing inter-state connectivity. In addition, rail connectivity should be integrated with developments in the other avenues of transport being proposed for the NER as a whole.

#### Air

The terrain of the region and very tenuous land link with the rest of the country makes air connectivity a *sine qua non* for trade and commerce, tourism, realization of the potential for horticulture and floriculture in the region, promotion of higher and technical education and even for reducing the image deficit that the region suffers from.

The air connectivity was extremely unreliable prior to 2002 as the limited traffic made the use of Boeing jets uneconomical and led to

**Table: 1 State-wise Route Length of Railway Lines in North Eastern Region of India, (2000-2001 to 2009-2010):**

(In Kms.)

States	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Arunachal Pradesh	1	1	1	1	1	1	1	1	1	1
Assam	2516	2516	2516	2517	2506	2284	2284	2284	2284	2433
Manipur	1	1	1	1	1	1	1	1	1	1
Meghalaya	0	0	0	0	0	0	0	0	0	0
Mizoram	2	2	2	2	2	2	2	2	2	2
Nagaland	13	13	13	13	13	13	13	13	13	13
Sikkim	0	0	0	0	0	0	0	0	0	0
Tripura	45	45	65	64	64	64	64	64	151	151

Source: Ministry of Railways.



irregular flight schedules. However, since 2002 the introduction of smaller ATR planes has made flights within NER somewhat more reliable though Kolkata still seems to be the hub rather than Guwahati. To make Air connectivity within region and with India there is a need for substantial investments and participation from both the Government and private investors.

During 11<sup>th</sup> Plan, three Greenfield airports, one each at Pakyong in Sikkim, Itanagar in Arunachal Pradesh, and Chiethu in Nagaland was proposed. In addition, some existing airports in NER also has taken up for expansion/modification, to make them operational for scheduled flights.

### **Waterways**

One of the key development constraints for the Northeast over the past decades has been its geographical isolation. Certainly the advances in air flight have brought markets closer to the North East, but the relatively high proportion of bulky goods in the region's economy requires the further development of a means of transport. Specifically, the use of inland waterways as the main network for transportation of bulk goods in the Northeastern Region has a number of advantages.

The main network of 1800 Kms of navigable waterways of the Brahmaputra and Barak system has been designated National Waterways (NW)-2 which is currently used for the transport of bulk goods, but expansion of the transportation sector is limited by the lack of transport and overhaul facilities and natural restrictions in the river system due to sedimentation and shallow water levels.

A number of infrastructure developments have been proposed

to expand the inland waterway network linked to NW-2 and improve port facilities. Such initiatives would enable the further development of several cargo routes and ferry service routes along NW-2.

There is also a range of other waterways besides NW-2 that could be developed and contribute to the economic growth of the Northeast and promote Indo-Myanmar cross-border trade.

The third major option for increased inland water transport is the further development of the international Indo-Bangladesh Protocol route for water transport. The development of this route would increase options for goods movement to and from the Northeast and peninsular India through the Sundarbans and Bangladesh, improving the accessibility of the Northeastern Region.

### **Information and Communication Technology (ICT)**

The teledensity of the North East is low in comparison to the rest of India except Mizoram. In addition to that the Internet usage is also low in the North East is clear from the insignificant number of connections in NER, being a low 15,303 in 2002, just 0.48 per cent of the total number in the country. This increased since 2003 but was still less than 1 per cent (0.88 per cent) of the total. It is thus reasonable to conclude that the NER states have not been impacted by the telecommunication revolution as much as the rest of the country. The low Internet penetration is particularly worrying given the long-term plan of rapidly increasing the spread of IT services in the region.

Cellular mobile services were introduced in the region only in

2003 after a delay of eight years than the rest of the country for security reasons. There are still some restrictions in border areas and no signals are allowed within 500 metres of the international border. This restriction is particularly harsh to the North East states where a significant population lives in border areas and, therefore, should be removed as early as possible. To address the situation, BSNL declared the year 2007 as the "Year of Development of Telecom Network in NE Region".

In addition, major initiatives have been taken to boost the ICT activities in the region by the DoT are: (i) introduction of IMS-compliant functions into the existing solution, (ii) Testing is in progress for the implementation of IMS-SSF functionality, (iii) Development work for implementation of IMS Gateway control functions, (iv) BBWT system has been installed at Agartala, Tripura for Proof-of-concept and is being evaluated for implementation of SWAN (State-Wide Area Network) and (v) it is also planned to explore north-eastern states for piloting some of the new technologies developed.

### **Power**

There is a huge potential for the power generation in the region. Apart from this almost every North Eastern state is a deficit in power. This power deficit is a major constraint in the economic development of the region which is important for the growing state of industrial and other economic activities based on power in the region. The power generation opportunities especially in the hydro power are there in the states especially Arunachal Pradesh, Sikkim and Meghalaya.

As noted in the Pasighat Declaration, the total power

potential in NER is about 50,000 MW. According to NEC Vision 2020 the estimated hydro-power potential of Arunachal is around 50,000 MW. The state is expected to generate an additional 22,584 MW hydel power by 2020 in 166 hydel projects, of which only 88 MW is to be created under state projects, the rest will be under central and private projects.

Many policies like the “50,000MW hydro initiative”, Hydro policy 2008 have been formulated by Central Government to promote investment in hydropower in the north-eastern region. Under the Mega Power Policy of the Central Government, the qualifying threshold capacity for setting up hydro power plants in the region and for availing the special benefits thereof is 350 MW, whereas for the rest of the country, it is 500 MW.

As per the ‘North Eastern Industrial and Investment Promotion Policy (NEIIPP) – 2007’ by Ministry of Commerce and Industry, the whole of NER has been declared as SEZ and many subsidies, tax exemptions/ waivers are offered on cost of infrastructure, transport, power etc.

## Nagaland

Nagaland is a vibrant hill state located in the extreme North Eastern End of India, bounded by Myanmar in the East; Assam in the West; Arunachal Pradesh and a part of Assam in the North with Manipur in the south. It is the 16<sup>th</sup> state of the Indian Union, was established on December 1, 1963. It is divided into eleven districts. The state capital is Kohima, and the largest city is Dimapur. The state of Nagaland has an area of 16,579 km with a population of 1,980,602 as per the 2011 census making it one of the smallest states of India. The state is mostly mountainous except

**Table: 2 Installed Capacity and Generation of Electricity:**

Particulars	Unit	2006-2007	2007-2008	2008-2009	2009-10	2010-11
<b>Installed Capacity</b>						
Diesel	KW	1.80	1.80	1.00	1.00	0.10
Hydro	KW	26.54	26.54	26.54	26.54	27.59
Bio Mass Gasifier	KW	0.16	0.16	0.16	0.16	0.16
<b>Total</b>	<b>KW</b>	<b>28.50</b>	<b>28.50</b>	<b>27.70</b>	<b>27.70</b>	<b>27.85</b>
<b>Generation</b>						
Diesel	MKWH	-	-	-	-	-
Hydro	MKWH	14.50	14.50	97.02	80.02	74.94
Bio Mass Gasifier	MKWH	-	-	-	-	-
Energy Purchased	MKWH	345.82	345.82	526.13	475.50	443.03
<b>Total</b>	<b>MKWH</b>	<b>360.32</b>	<b>360.32</b>	<b>623.15</b>	<b>555.52</b>	<b>517.97</b>

Source: Statistical Handbook of Nagaland 2011

those areas bordering Assam valley. Mount Saramati is the highest peak in Nagaland with a height of 3,840 metres and its range forms a natural barrier between Nagaland and Burma.

Agriculture is the most important economic activity in Nagaland. Principal crops include rice, corn, millets, pulses, tobacco, oilseeds, sugarcane, potatoes and fibres. Other economy boosters are forestry, cottage industries, insurance, real estate and tourism.

The railway network in the state is minimal and runs only 13 kms, National Highway roads 365 km, and state roads 1,094.5 km. The NHs passing through state are NH-61, NH-29, NH-36, NH-150 and NH-155. There is one airport in Dimapur.

The Department of Power, Nagaland, is responsible for generation, transmission and distribution of power in the State of Nagaland. The state has negligible capacity of its own. Majority of the Nagaland’s demand (86 MW in 2008-09) is met from the central sector allocation and peak demand deficit and energy deficit are of the order of 9.5% and 8.2% respectively.

Nagaland has potential of around 1,600 MW in Hydel power generation which provides a scope of investment opportunities in the Power sector. With commissioning of more 132/66KV substations in Wokha and Tizit during the 2000, augmentation and System improvement the peak demand is expected to reach 80 MW. Even after commissioning of the 75 MW Doyang HEP, 24 MW Likhimro HEP and 24 MW Thermal Power Station, the State will still have power shortage. The state is having a hydro power potential for power generation.

Above all, the core infrastructural development have to be a primary objective of both the central and the state government in collaboration with the private participation for improving and developing the major soft infrastructure such as health and education. This would develop new linkages with major economic centres and markets may bring about a sea change in the economic landscape of the region and could make the wealthiest and most prosperous region of India and play a crucial role in the strategic and economic partnership with the rest of the world. □

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# Sustainability: Wisdom from the North East

*Sanjeeb Kakoty*



***Under the circumstances, it hardly needs argument that the nation and the region must capitalize on the traditional knowledge and wisdom that is available in the north east***

**I**N MOST contemporary discourses on the north east, a commonly accepted practice is to depict the region as being backward and under developed. This can probably be held to be true when one takes into account certain modern day parameters of development. But when one widens the scope of the discourse and include concepts such as quality of life and the happiness index, the equation could significantly alter. For instance, Bhutan's successful inclusion of the happiness quotient into the development paradigm brought about a quantum change in the parameters of development measurement indices. Today, the happiness index has become an integral part of the development measurement indices being adopted all over the world and is gradually emerging as a corner stone of the development debate.

With happiness having established itself as a key component of measuring development, it is hardly surprising that two other components are slowly gaining centre stage in developmental economics: these are sustainability and quality of life. While sustainability has become the key focus of countries and

corporations, especially after the World Commission on Environment and Development known as the Brundtland Commission, published its report in 1987, and the United Nations has adopted it as a focus area. The quality of life debate is yet to develop universally accepted measurement indices. None the less, what is pertinent is that the concept of sustainability would necessarily encompass the quality of life component within its discourse.

An interesting aspect of the paradigm of the modern day concepts of sustainability is the growing realization that the production and distribution systems of ancient civilizations and the philosophical basis of it, were based on what constitutes the modern day best practices of sustainability! Hence, there is a growing clamour to learn from the wisdom of the ancients and incorporate philosophies and practices that have stood the test of time. It is in this context the north eastern region of India could make significant contribution to the sustainability discourse.

Inhabited as it were by numerous communities, tribes and sub tribes, the north east is predominantly inhabited by indigenous communities, designated as tribal.

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Tribal communities and indigenous religions the world over are accepted repositories of ancient knowledge and wisdom. Significantly, with the tribal communities, such knowledge systems are living traditions. Thus such living knowledge systems could be an important source of guidance for modern man in his quest for sustainability.

It would be very interesting to review some of the practices of the north east and examine the lessons it holds for us.

### **Khasi Sacred Forests**

Arguably, one of the best examples of ancient wisdom in ensuring ecological sustainability is the Khasi tradition of sacred forests. Like many tribes in different parts of the world, including central India, forests, rivers and trees were considered to be the home of gods and spirits. Hence these were revered, worshipped and protected. Such forests were venerated, protected and preserved. Under the belief system, it was considered taboo to pick up even a leaf and carry it out of the forest. It was believed that disobedience of this led to punishments in the form of ailments, which unless atoned for, through prescribed rituals, could prove fatal. The forests spirits were also appeased through rituals and sacrifices and in turn the spirits ensured the welfare of the people.

Such beliefs, in the industrial age, were often dubbed as animism and superstition and under the relentless onslaught of modernism, such belief systems are fast disappearing. With them are disappearing a way of life that was instrumental in preserving the sustainability of human civilization. As a case in point may be cited the example of the sacred forests in Meghalaya. In the not too distant past, many forests of the state were designated

as sacred. In fact even the name Shillong is derived from the hill U Lum Shyllong, where the present day Shillong Peak is located. It was a sacred forest, where resided the spirit of the guardian deity, U Lei Shyllong. The Laitkor forest Range which housed the sacred forests, are today accepted as an important rain catchment area that feeds the perennial springs that supplies crystal clear water to a large part of Shillong round the year. Today, with the denudation of this forests, mountain springs are drying up and water scarcity has become much more common.

In a landscape that was once dotted with numerous sacred forests, what remains today are a mere handful. Of these, the most celebrated is probably the one located at Mawphlang. Located some 25 km away from Shillong, this forest with an area of 76.08 acres, is considered to be an ecological hotspot. It is believed that the core forest area has remained undisturbed for over five hundred years and is home to various exotic species of flora and fauna. The only reason that the forest has survived for so long is that it is designated a sacred forest, and the belief system of the indigenous people that continues to protect it. Probably, it is no co-incidence that much of Shillong's growing water supply needs are met from the nearby Mawphlang dam!

The entire range of flora and fauna that thrives in the pristine sacred forest of Mawphlang is yet to be properly documented. Home to many exotic and endemic species, recently it was found that the Mawphlang forests is home to a rare species known as the *Taxus Baccata*. The plant has become extremely important for the medical world as it used to produce anti cancer drugs. Interestingly, in the Khasi tradition, this tree was always

venerated and called the *Ksesh Blei* which may be literally translated as God's tree or the Sacred tree. Why was it so named? Was it because the ancients had knowledge about its medicinal properties? These questions do throw up tantalizing possibilities.

### **Apatani Composite Farming**

The Apatanis are one of the major tribes of Arunachal Pradesh. Predominantly occupying the Lower Subansiri district, the tribe is renowned for its skills in composite agriculture. Their terraced wet rice fields are also used to grow fish while the elevated borders or bunds, that retain water in the fields are used for growing finger millets. The millet plants not only bind and hold the soil but reduces weed growth. Moreover, the millet produced is highly prized for its use in manufacturing the local brew. Normally fish fingerlings are released in the paddy fields and subsequently, the fish feed on the plankton and other micro flora and insects. As they forage for food, they release micro-nutrients from the soil that is beneficial for the paddy. The fish grow along with the paddy crop and sometimes the fish is harvested as much as two times during the year.

In addition, the Apatanis have perfected the art of nutrient management of the rice terraces in a number of ingenious ways. Compost is derived through decomposition of paddy straw by inundating fields. A number of essential mineral supplements are added to the fields through ash derived from burning of straw and other vegetation that remain in the fields and outlying areas. In addition, additional manure is derived from animal droppings, rice husks and kitchen waste. It was also observed that it was common practice for Apatani villages which are normally located at high elevations, to direct the

organic sewage generated in the villages, to the outlying fields. This was a good source of organic manure, useful for both the plants as well as the fish.

Another interesting aspect of traditional wisdom is amply displayed in the Apatani attitude towards the forests. The community clearly realized that the success of their agriculture was dependent on the adequate and timely availability of water. They also realized that the water supply to the terraced rice fields were in turn dependent on the mountain springs and streams, which in turn required preservation of the catchment areas. Thus the Apatani developed social customs that prohibited cutting down certain trees like *Kiira* or the *Castanopsis* that had a unique deep root system that helped water percolation and retention. In addition severe restrictions and taboo against tree felling, coupled with provisions for exemplary punishment ensured that the trees and forests of the catchment areas were well preserved. In effect, Apatani customs and traditions display ecological sagacity in land and water management and optimizing the production process, that is certainly worthy of emulation even today.

It may be mentioned that the Apatani traditions are not unique and similar practices are seen among many other tribes. For instance, the Zabo practice of the Chakesangs of Nagaland, also bears comparison to the agricultural practices of the Apatanis. Here too, there is an integrated approach to agriculture, fishery and forestry, based on traditional wisdom that has stood the test of time.

### **Nitrogen fixing techniques of the Angamis**

The Angamis are one of the major tribes of Nagaland and the village of Khonoma, near the

capital Kohima, is considered to be one of the oldest inhabited village in the region. In and around the hills of Khonoma can be found trees that are hundreds of years old. Many of these are Alder trees, a species extolled by agricultural scientists for its nitrogen fixing capacity. The ancient tradition of the Angamis seems to have realized the value of the Alder in agriculture and hence its preservation over the centuries. In fact, they seem to have developed an alder based system of shifting cultivation or *Jhum*, that gave spectacular productivity. Under this system, while the secondary foliage or the undergrowth is cleared and burnt to clear the ground for cultivation, the primary vegetation the Alder trees are left undisturbed. The Alder ensures water retention in the soil, cushion rainfall and water percolation and most importantly fixes nitrogen in the soil, thereby ensuring high productivity. Studies of this system have shown that it produces an astounding 57 varieties of crops that is used to supplement the primary crop that is rice which is cultivated in the wet terrace rice fields. It has been seen that in the traditional system of shifting cultivation the average cycle of land use was nine years in which fields would be continuously cultivated for two years. In other words, this constituted an almost 1:4 ratio of cropping to fallow. In the system where the Alder overgrowth system was used, it is seen that it allowed two harvests in two out of every four or five years which in other words constituted an almost 1:1 ratio of cropping to fallow. This amazing increase in productivity of the soil, due to the presence of the Alder tree had significant implications for agriculture.

Studies have shown that the Alder belongs to the genre the *Alnusnepalensis* and is a non-leguminous, large deciduous tree

that grows well in cool climate especially of the northern temperate region. It seems to grow best at altitudes ranging from 800 to 3000 metres. Significantly, the Alder plant does not require fertile land for growth and propagation and have shown good results in what is termed as degraded or scrub land. This makes it the ideal species to be used in over used and degraded lands that are unstable and considered unusable for normal agriculture. As a matter of fact, introduction of the alder to this type of land has shown spectacular results. The root nodules of the Alder tree greatly improve soil fertility by fixing atmospheric nitrogen into the soil. The leaves that are shed in order to retain moisture and mulches greatly contributes to the humus content of the soil. In addition the wood from the branches can be used for various domestic uses such as wood for burning as fuel or for converting to charcoal. The mature wood can also be used for the purpose of construction and furniture.

At a time when there is talk of initiating India's second green revolution in the East, especially the north east, there is also a growing body of knowledge that clearly shows that the first green revolution was not without far reaching ecological and health consequences. Excessive use of chemical pesticides, fertilizers and ground water are making their ill effects clearly visible today. There is a need to learn from our past experience and our mistakes, and put together better and more sustainable practices and policies. Under the circumstances, it hardly needs argument that the nation and the region must capitalize on the traditional knowledge and wisdom that is available in the north east. □

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# Electronic Development Fund to promote Innovation and R&D

*Ajay Kumar*



***The creation of EDF by the government will act as a signal to the industry, entrepreneurs, students and others that it is a focus industry of the government***

**T**HE DEVELOPMENT of Electronics System Design and Manufacturing (ESDM) sector is both important and essential due to economic and strategic reasons. The domestic production in ESDM is projected to reach USD 100 Billion by 2020 at present levels. This can be expanded to USD 400 Billion by 2020. This can lead to generation of significant employment opportunities. The sector can employ nearly 27.8 million people, directly and indirectly. On the other hand, if the current trends are projected, the trade imbalance may reach USD 323 Billion by 2020. India has acquired over time, a reliable and trusted brand in software and software services sector and also in semi-conductor chip design. The ESDM industry can leverage this brand. As software applications and embedded software are integral part of most electronics products, India's strengths in its software sector can be niche for development of the ESDM sector in India.

The strategic reasons to develop the ESDM sector in the country are even more pressing. Electronics permeates in all sectors of economy and therefore has great strategic importance. Compromised electronic hardware with malware or other snooping features can have serious strategic implications for defense and security. Similarly, civil applications, say telecom, railways, civil aviation, power supply, etc., can be brought to a halt through malware. The strategic implications command immediate development of domestic ESDM capacities in the sector. For a country of the size of India, it is inevitable that domestic capabilities are developed up to the chip level so as to be in a position to address such risks.

## **R&D and Innovation-Must for Electronics**

A major characteristic of the ESDM sector is the velocity of technology change which is the fastest in mankind's history. The half-life of technologies has been continuously reducing. For some products the product life has been even less than six months as new products cannibalise earlier

The author is Joint Secretary, Department of Electronics and IT, Ministry of Communications and IT, Government of India.

versions. The mobile handsets and its metamorphosis in last decade is an example of how technology has changed at a furious pace in the sector. The famous Moore's law has held for over four decades, demonstrating the kind of innovation that has been happening in the sector.

Semiconductor wafer fabrication, the fundamental manufacturing process for all electronics demonstrates the importance of R&D and innovation in the sector. Intellectual Property (IP) is possibly the most critical determinant of success for any chip company. Strength of the IP position of a foundry can lead to a drastic competitive advantage and significant gains in market share. TSMC's, the largest semiconductor wafer foundry in the world, had a total IP product offering of 2,914 in 2010, Global Foundries had 1321. A study by ISA-Keystone in 2011 postulates that larger IP offering by semiconductor wafer foundries leads to greater market share and revenue.

Not only in semiconductor chip, but in product design also, innovation is a key differentiator. The Apple iPhone and iPad are typical examples. Convergence of devices, applications and technologies is also happening through innovation.

To be able to compete in this globally integrated sector, or even to survive in this sector, it is essential that a strong and vibrant R&D and innovation eco-system be created in the country. The good news is that India is emerging as a strong player in the semiconductor chip design and product design industry. According to a study by

ISA-Ernst and Young, the VLSI design, board/hardware design and embedded software development, was estimated at USD 6.5 Billion in 2009 and is expected to log a compound annual growth rate of 17.3 percent over the next three years to reach USD 10.6 billion in 2012. Further that the top 25 global semiconductor companies now have a presence in India through their captive centers, working in cutting edge technology nodes. The number of MNC employees working at their respective R&D centres in India has increased from 16,000 in 2000 to 180,000 in 2009, growing at a Compound Annual Growth Rate (CAGR) of 30.9 percent. This number is further expected to grow at a CAGR of 10 percent to reach 319,000 in 2015. Out of the total India engineering R&D spends of USD 7.9 Billion, investment in the semiconductor space is estimated at nearly 19 percent of the total. The number of patents filed by India operations of companies such as Texas Instruments, ST Microelectronics, Intel and Broadcom Corporation between 2005 and 2009 is 181, 120, 54 and 51, respectively. On the other hand, China also had approximately 16,000 MNC personnel employed at R&D centers in 2000. This has increased to 130,000 in 2009, growing at a CAGR of approximately 26 percent. Thus, India is ahead of China in terms of the R&D initiatives that multinational companies in the country are adopting. The downside is that even though India is responsible for a significant part of the R&D being done, the actual IP is owned by global companies and thereby the economic benefits accruing from the IP wealth accrue

to the countries where these companies hold the IPs.

Though significant growth of R&D and design work happens in India, the real value is not derived in the country. The availability of risk capital from the banks/venture capital (VC) companies/other financing institutions is limited, if any. The venture funds in India seem to focus on infrastructure and IT/ITeS service companies and not on R&D, innovation and IP creation. The home grown VLSI and chip design units do not have a favourable ecosystem in which they can thrive as yet. Lack of angel funds to support innovative ideas and unavailability of a local semiconductor wafer fab where new chips can be prototyped and fine tuned are big limitations in this direction.

### **Recommendation of the High Level Committee**

A High Level Committee comprising of Dr. V Krishnamurthy, Chairman, National Manufacturing Competitiveness Council (NMCC), Dr. Sam Pitroda, Adviser to the Prime Minister for Public Infrastructure, Information and Innovation, among others had submitted a report to the Prime Minister in 2010, to fast-track the growth of the Electronics System Design and Manufacturing (ESDM) sector. The Committee made five key recommendations in their report. One of the five recommendations specifically related to promotion of R&D and innovation in the sector. The relevant extract of the report is as follows.

“There is an urgent need for intervention to promote and

develop innovation, R&D, Indian IPR and manufacturing within the country for electronic products, which include telecom products, especially those having security implications. It is proposed to create a dedicated 'Electronic Development Fund' with an initial corpus of Rs. 5,000 crore for Innovations, R&D, IPR and product development and promotion of electronics equipment manufacturing. This fund would also support seed, angel and venture funding. The fund may be leveraged to acquire foreign companies so as to shift the production of products currently imported in large volumes, into the country. Some of the PSUs which are well positioned may take a lead role and venture into such acquisitions. The fund would be managed professionally and accessible to both Government and private sector."

"To take up a major programme for design and fabrication of an Indian Microprocessor. This would have multiple benefits such as (i) elimination/reduction of licence fee/royalty paid by the country for using foreign microprocessor core (ii) develop systems for critical installation with enhanced security. While the development of microprocessor is likely to cost around Rs. 1000 crores, the detailed costing for the complete ecosystem needs to be worked out, which is expected to be around Rs.5000 crores."

### **National Policy on Electronics and R&D and Innovation**

The draft National Policy on Electronics 2011 was released

recently. It reflects the Government emphasis on development of R&D and innovation capabilities in this sector. The goals and targets of the Policy underline this thrust. The relevant goals are extracted below.

To become a global leader in creating Intellectual Property (IP) in the ESDM sector by increasing fund flow for R&D, seed capital and venture capital for start-ups in the ESDM and nanoelectronics sectors.

Furthermore, creating an Electronic Development Fund (EDF) to promote Innovation and IP and R&D, commercialization of products, etc. to facilitate IP development by Indian industry, academic and R&D institutions is recognized as a key strategy for achieving the aforesaid goal. The Policy also envisages that the EDF will be a "Fund of Funds" which will participate in "Daughter Funds" for various innovation and manufacturing stages. It also states that all Daughter Funds are to be professionally managed.

### **Approach of XII Plan**

The draft approach to the Twelfth Plan points out that the R&D expenditure in the country is only about 0.9 percent of GDP, of which about three- fourth is in the public sector and only one fourth is in the private sector which is simply not adequate. The total expenditure in R&D is required to be increased to 2 percent of GDP by the end of the Twelfth Plan. This could consist of about 1 percent in the public sector and 1 percent in the corporate sector, including PSUs. It

recognizes that the current practices and policies for promoting R&D and innovation do not promote this objective sufficiently. It states, "we also need to migrate from defensive decision syndrome to trust based decision logic and from risk averse to risk prepared social behaviour".

It is necessary to create a framework that takes into account the entire life cycle of ideas beginning with discovery/creation to commercialization, extension and value addition. It is success in this area alone that can stimulate appropriate innovation across the wider system. Significant changes will have to be brought in current interaction of publicly owned S&T establishment with industry, both in public and private sector. This should result in a significant enhancement of the private sector R&D expenditure, which is presently estimated at around 25 percent of national R&D expenditure to at least 50 percent in the Twelfth Plan.

The important elements which may play the catalytic role in achieving this outcome are: first, leveraging the Government grants and other forms of financing, to secure private financial flows and support around a demand driven R&D development path. Industry, both public and private, would also need to be incentivized to invest at least 2 percent of their sales turnover in R&D. The second is developing a workable protocol for facilitating interaction amongst these players. This would cover a range of issues, from the nature of testing to that of the regulatory framework and the facilitation of



foreign direct investment (FDI) in related R&D activity.

### **The Yozma Programme in Israel**

There are important lessons which the proposed Electronic Development Fund can derive from the Yozma programme of Israel. Yozma created a solid base for a competitive Venture Capital (VC) industry with critical mass in Israel. It also created a network which enabled entrepreneurs in Israel to learn from foreign limited partners; and to acquire a network of international contacts. Yozma was started as a \$100M Government owned Venture Capital fund (with the same name) oriented to two functions: a) fund of funds- investment in 10 private VC funds ('Yozma Funds'-\$80M); and b) direct investments in high tech companies-\$20M (through the Government –owned 'Yozma Venture Fund'). The result was establishment of domestic, private VC industry that invested in young Israeli high tech startups ('early phase investments') with the support of government and with the involvement of reputable foreign financial institutions (generally a foreign private equity or venture capital company). Each Yozma fund was managed by an independent, Israeli VC Management Company. It would have to engage one such foreign institution together with a well-established Israeli financial institution. This emphasizes the point that the Yozma program favoured entry of professional managers or of individuals with VC-related abilities. Moreover, the insistence on formal organizations

as a pre-condition to become a Yozma fund, suggests that its initiators understood the significant role of institutions in the process of learning, generating capabilities and reputation. In an approved fund that fulfilled these conditions, the Government would invest 40 percent (up to \$8M) of the funds raised. Thus \$100M of Government Funds would draw \$150M of private sector funds (domestic and foreign). These "sibling" funds were the backbone of a now vibrant community that invested in excess of \$1 billion in Israel in 1999. Yozma did not simply provide capital and risk sharing incentives to investors-- as was common in other Government VC support programs; its main incentive was in the 'upside'-- each Yozma fund had a call option on Government shares, at cost (plus 5-7 percent interest) for a period of five years.

The Yozma programme invested primarily into start-ups / early stage companies. The Yozma funds invested in over 200 startup companies." Also, immigrants played a key role in development of technology and combined with Israel's strategic relationship with the US and its own military technology development programme, led to the formation of a successful combination.

The Israel experience suggests that in this innovation driven sector, we need to look for new paradigms for creating IP.

### **Venture Funds in India**

There are 159 Venture Funds registered with IVCA, of which there is only one, a very small fund viz. Webel Venture Capital with

corpus of Rs. 6 crore focussing on promoting electronic and IT industry in West Bengal. SIDBI Venture Capital Ltd had one fund focussing exclusively on IT which is fully invested and substantially disinvested. There are very few funds focussing on seed and start up stage funding on R&D and innovation in general and practically none in the ESDM domain. Some of the large funds provide money for large start ups, but these are not for innovators rather than for established promoters seeking to promote new ventures. There are only about 15 funds having an aggregate capacity to provide around Rs. 1000 crore for seed and start-ups put together out of the total venture capital corpus of Rs. 45000 crore available for investment. The actual amounts invested in seed or start ups was only about Rs. 2000 crore till date and as per our understanding even out of this a substantial amount has gone into much larger start-ups. While immediate information regarding investments in ESDM is not available, anecdotally it is understood that the investment figures would be miniscule.

### **Basic Principles of proposed Electronic Development Fund**

The Electronic Development Fund (EDF) needs to ensure that the ESDM industry has incentive compatibility to innovate and create an ecosystem for an IP driven ESDM sector in the country. For this purpose, it is essential that risk capital is made available for R&D and innovation in a professional manner. Two inherent features of this model is that funding is made available to both public

sector and private sector and that the decision to fund a particular R&D and innovation project is handled by experts familiar with the domain. It is also proposed that the Government support should leverage and mobilize private equity flow into the R&D and innovation segment in the ESDM sector, a step towards achieving the goal of 2 percent spend on R&D in the country.

The venture capital investment with an incentive for private sponsor's performance, as demonstrated by the Yozma programme, has proved successful. In addition, policy level interventions of the government like tax pass-through status, enabling creation of required social and educational infrastructure, duty free import of capital equipment and reduced borrowing costs for investee companies may also contribute significantly to chances of success.

To mitigate the risks, it is important for government to be at arm's-length from the day-to-day Fund Management and Operations, as such intervention in other countries has been counterproductive. However, government may guide overall direction of fund flow through the high level guidance to each daughter fund and by suitably specifying the requirements at the time of creating a daughter fund. A corollary to this would be a need for auditing of the daughter funds as per established industry norms in this regard.

Based on the recommendation of the High Level Committee, the corpus of the "Electronic Development Fund" could be Rs. 10,000 crore. Individual daughter

funds could be of sizes of Rs 100 to 500 crores with the Government participation in each fund between 25 percent to 75 percent depending on the nature of daughter fund. The remaining fund would be subscribed by private VCs. A daughter fund may specialize in activities such as:

- i R&D, Innovation and product development
- ii Commercialization of R&D, including "Incubation" funds
- iii Seed, early and growth stage Technology support would be provided both for innovation and product development with technologies developed in India as well as IP and technology acquisition from abroad, including related to defence, space, atomic energy and such other critical applications
- iv Facilities support for will be provided, including creation of incubation facilities, creation of testing and other common infrastructure, and creation of mechanism for technical, financial, legal, and infrastructural advisory services.
- v. Manufacturing

### **Assessing the Size of EDF**

Apart from the recommendation of the High Level Committee, there is also a macro-economic calculation which may be relevant for determining the size of the proposed EDF. The Indian electronics industry needs to reach a size of USD 400 Billion. Without interventions, it is expected that the industry would reach about USD 100 Billion. Therefore, the proposed intervention is expected to help the industry leap frog from

USD 100 Billion to USD 400 billion. It is relevant to mention, the proposed intervention is one of the initiatives which addresses the R&D and innovation pillar for the ESDM sector. In order to get Rs. 13,50,000 crore (approximately USD 300 Billion), increase in the industry, it is necessary to invest about Rs. 3,50,000 crore in various facilities considering an turnover to fixed asset ratio of about 4:1. In order to invest Rs. 3,50,000 crore, one needs to have long term debt of Rs. 2,50,000 crore and equity of about Rs. 1,00,000 crore (assuming a debt equity of 2.5 during the period, but the debt equity on financing will be on an average at 1.25:1 but since the project will be raising at least 2 rounds of financing, the total debt (raised in the next 6-8 years) to the total equity invested may yet be 2.5:1. It is likely that about 80 percent of the equity will be pumped in by the private sector (both Indian and foreign) as the industry enters the virtuous spiral. Hence, it is likely that the deficit would be in the initial phase of the expansion of the electronics industry and equity of about Rs. 20000 crore should be able to bridge the gap. It is projected that approximately one half of the gap (i.e. Rs. 10000 crore) would be filled in by start-ups and other incubated companies seeking support from various daughter Funds of EDF and that an equivalent amount would be leveraged from other private and public sector participants.

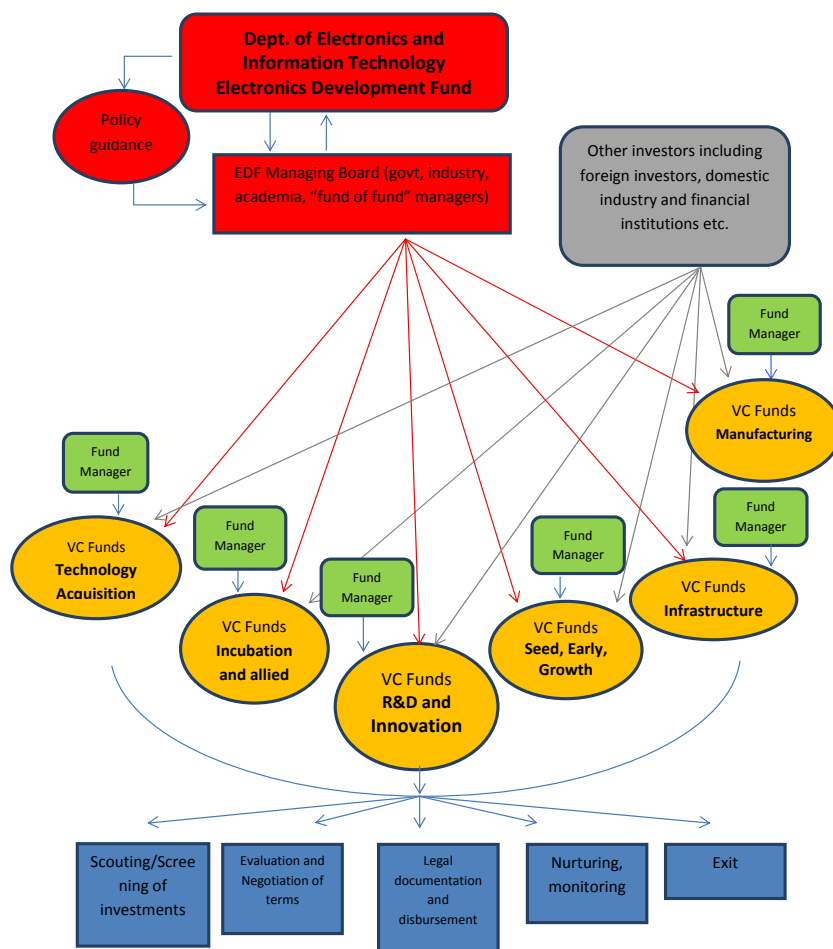
### **Governance Structure for EDF**

A body having representatives of government, academia and industry may be constituted to

manage the EDF. This could be called the EDF Managing Board or such other appropriate name. The EDF Managing board would have representatives from Government, Industry, Academia and Fund Manager Representatives. A professional management agency managing the EDF would be engaged and it would service the EDF Managing Board as its Member Secretary. The structure of EDF would be as below:

EDF would require to be invested into smaller “daughter funds”, which would leverage EDF’s capital to raise investment from other investors, to enlarge the pool of investible funds. These “daughter funds” would need to be registered with the Securities Exchange Board of India (SEBI) which is the regulator for venture capital funds in the country. The funds are typically structured as trusts, with an asset management company (AMC) providing investment advice. Basically, the AMC carries out all activities of screening investment proposals, negotiation of terms, execution of legal documents with the investee companies, disbursement of funds, monitoring, mentoring and other advice to the investee companies aimed at building up the investee companies. After staying invested for a typical period of 5 years, the fund manager (AMC) looks to exit the investments. Those funds which are registered with SEBI are eligible for tax pass-through status.

Since significant funding is expected from venture capitalists, who may be foreign, it is proposed that such investments may be permitted for investments in



all daughter funds as domestic investments except in those daughter funds which are set up specifically to fund areas of strategic interest to India. However, in such funds, where foreign funds are permitted to invest as domestic funds, it may be mandated that IPR generated through these funds would reside in India and that majority Directors of the Fund would be Indian nationals.

### Conclusion

The creation of EDF by the government will act as a signal to the industry, entrepreneurs, students and others that it is a focus industry of the government and therefore, as a self-fulfilling prophecy, sets

in motion the components of the ecosystem towards a virtuous spiral till the spiral becomes self-sustaining. It is one of the important catalysts just like policy which stimulates the system. It also has a much lower implied cost compared to subsidy (no return, adverse selection), waiver of taxes (distortion of economy and laundering, encouraging no trail phenomenon), and other artificial stimulants. The fund also engages government with the private sector through appropriate intermediaries and enhances the responsiveness of all participants to the national needs in a profitable and sustained manner. □

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# Tribal Crafts of North-East Frontier

**I**T IS the unsophisticated and primitive outlook of the tribesmen of NEFA which is reflected in their arts and crafts. Look at the painted masks and toys, wood-carvings and canework and the infinite varieties of woollen and cotton textiles and you will be impressed by the beauty of the motifs and workmanship. Social customs and religious beliefs play an important part in tribal arts and crafts. For instance, masks are used by men in tribal dances. Carving on wood, particularly of human figures, in the rnorungs (village dormitories) owes its origin to old ritual practices, most of which are now extinct.

Not all the tribal crafts flourish in any given area. Each tribe or place has its speciality. Weaving is followed throughout the central region, covering Kameng, Subansiri, Siang and Lohit divisions. Masks are usually made by the Sherdukpens, Monpas and the Membas who live in western Kameng and the northern frontier. The finest specimens of wood-carving come from the Noctes, Wanchos and Konyaks who live in Tirap, the southernmost of the NEFA divisions. They include figures of warriors with guns, of dogs and tigers and elephants.

The tribes of NEFA have an innate sense of form and colour. The excellent patterns or the combination

of contrasting colours they introduce in cotton textiles would baffle the high-paid designers of modern fashion houses. The masks and other figures carved out from a single piece of wood are marked by vitality and strength. Cane belts and caps used by certain tribes reveal technical perfection. The ornaments are of the most ingenious patterns. No wonder the unsophisticated designs are now being increasingly copied by the more sophisticated craftsman to meet the market demand for novelty. Thus does the old keep becoming ever new. □

*Excerpts from the September 29, 1963 issue of YOJANA)*

# The Parijata Outside My Window

G.N.Acharyan

JUST beyond the low window of my room is a Parijata tree. It has been there for over a quarter century. It is a tough tree; it has to be. Nobody bothers to water it. In Bombay, where water is scarce, and the tax on it, when available, is high, few people can afford to water their plants. Trees wilt and seem to be dying in the scorching heat of May and June. But plant life is obstinate. Now, with the rainfall for the season already exceeding 220 centimeters, they have brightened, and put on rich, lovely, green foliage. The Parijata has to be tough for another reason too. Its tiny, white flower with its pink stem is favoured of the gods. It is high on the list of flowers usable in Hindu worship. The commonest way of picking the Parijata is for people to violently shake the tree and let the flowers fall down. It is an ancient and therefore venerated habit. A Parijata tree in full bloom is a pleasing sight. The flower has also a gentle, pervasive fragrance. It would, therefore, seem unreasonable to hate the tree. But I

do hate the one in my compound. I feel it has reduced my life span by a good many years. The reason for this is the habit I have mentioned, of people coming and shaking it, and so disturbing my sleep. Flower stealing is a common habit. All flowers are fair game, but those permissible in worship, more so. There seems to be an idea that everybody is free to go to any compound and pick flowers.

Though I have called it stealing the people who pick flowers do not seem to be conscious of guilt. They don't come quietly and surreptitiously, look before and after, take their picking and run. They come in groups; they talk, argue and sometimes intone devotional verses. This and the process of shaking the Parijata tree goes on from early dawn till late morning till, in fact, the tree can be seen to be denuded of all flowers. And it goes on till the end of winter. The fact that their action causes trouble to others does not seem to be a appeal to them. Though touched

with religious sentiment, because the flowers are picked for worship, this predatory habit of raiding trees in anybody's compound is utterly destructive.

I remember some years ago, in Britain, a woman who had plucked a daffodil from a park was not only fined five pounds, but held in custody for a night. It was mentioned in Parliament because of the heavy Punishment. The Home Secretary justified deterrent action as many flowers had been picked from that garden.

We have not reached a stage where such ruthless, steps are practicable. But it is well to remember that all appeals to grow more trees are futile as long as prevailing public attitudes are not corrected. That calls for a long and persistent, if tedious, process of public education. □

*Excerpts from the May 12, 1963 issue of YOJANA)*

# Accelerating Agricultural Growth in Nagaland

*Amrit Patel*  
*Gopal Kalkoti*



*Focus of agricultural growth is value addition, promoting agri-business, creating more employment opportunity in rural areas that can reduce migration to urban centres*

**N**AGALAND COMPRISING eleven districts is an agrarian State. Agriculture closely links tribal people with the nature. It provides livelihood to around 70 percent population. It has climate ranging from sub-tropical to temperate with an annual rainfall varying between 1600- 2500 mm. It has total cultivable area of 7,21,924 hectares of which 70 percent is in the hilly region upto 2500 meters and the rest 30 percent in the foot hills symbolizing as the *Rice Bowl* of the State. Rice is the staple food for most of the people and occupies about 70 percent of the total cultivated area contributing to about 75 percent of total food grain output in the state. Maize is cultivated largely for pig feed and also for consumption in some part of the State where rice cultivation is not conducive. About 90 percent land belongs to individuals and the land is divided into small sizes and scattered in different locations. This paper briefly reviews the Government's initiatives to accelerate agricultural

growth, performance since 1961-62 to 2010-11, areas of concern and suggests redoubling research and development efforts during the Twelfth Plan.

Farmers practice four diversified forms of traditional agriculture, viz. [i] the Jhum (Shifting Cultivation) System [ii] Terrace Rice Cultivation (TRC) [iii] Firewood Reserve Forests and [iv] Home Gardens. The jhum cultivation is a traditional method of cultivation pursued by farmers. The jhum cycle normally ranges between six and ten years depending upon the area held by farmers. Area under jhum cultivation was 90,940 hectares as compared with 83,330 hectares under TRC in 2009.

There are four distinct agro climatic zones, viz. [a] High hills [b] Low hills [c] Foot hills and [d] Plain areas, each having specific cropping patterns. By and large rice is the principal crop grown in all zones, mostly as single crop and sometimes with other crops viz. maize, millets and vegetables. Farmers raise a number of crops, viz. [i] Cereals [rice,

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maize, sorghum, millets, wheat, barley, oat]; [ii] Pulses [arhar, urad, cowpea, beans, rajmah, horse gram, pea, lentil, black gram ]; [iii] Oil seeds [groundnut, soybean, castor, sesamum, sunflower, rapeseed, mustard]; and [iv] Commercial crops [sugarcane, cotton, jute, mesta, potato, tea, tapioca, colocossia ] during the Kharif and Rabi season. While 90 percent of cereals and commercial crops are raised during the Kharif season about 55 percent of pulses and oil seed crops are raised during the Rabi season. The productivity of crops grown in Kharif is higher than that in Rabi.

Through home-gardens farmers, particularly women, secure perennially fresh vegetables for the household consumption. With increasing demand and assured source of income area and production under home-garden has shown improvement in recent years. Now home-gardens are no more only a traditional agriculture system for subsistence but also a source of income generation for the household.

**Government's Initiatives:** Acknowledging the significance of agriculture the Government of Nagaland in close collaboration with the Government of India

has been implementing several programmes to develop agriculture with the objectives of enhancing farm productivity and output; increasing income to improve livelihoods of rural poor; guaranteeing food security of poor; rural employment generation; conservation of germplasm of local varieties; and strengthening of human capabilities to effectively implement programmes. These programmes focus, *inter alia*, on agricultural research, irrigation development and farm mechanization, crop-specific development programmes, inputs delivery and marketing services.

**Table 1 Area, Production & Yield of Cereals, Pulses, Oil Seeds & Commercial Crops**  
[Area in '000 hectares, Production in '000 metric tons and Yield in Kg/ha]

	1961-62			2000-01			2010-11		
	Kharif	Rabi	Total	Kharif	Rabi	Total	Kharif	Rabi	Total
Cereals Area	84.75	00.00	84.75	198.00	06.50	204.50	254.07	10.33	264.40
Production	62.48	00.00	62.48	294.50	12.20	306.70	512.38	19.48	531.86
Yield	737	00.00	737	1487	1876	1499	2016	1885	2011
Pulses Area	01.25	01.29	02.54	12.00	13.50	25.50	15.43	19.00	34.43
Production	00.52	00.54	01.06	11.55	12.50	24.05	17.03	19.43	36.46
Yield	417	416	417	962	925	943	1103	1022	1058
Sub-Total Area	86.00	01.29	87.29	210.00	20.00	230.00	269.50	29.33	298.83
Production	63.00	00.54	63.54	306.05	24.70	330.75	529.41	38.91	568.32
Yield	732	418	728	1457	1235	1438	1965	1326	1901
Oil Seeds Area	00.58	01.16	01.74	25.25	22.50	47.75	31.23	34.61	65.84
Production	00.27	00.43	00.70	27.15	16.10	43.25	34.90	32.63	67.53
Yield	465	370	402	1075	715	905	1117	942	1025
Commercial Area	03.90	00.90	04.80	04.99	01.47	06.46	25.90	03.50	29.40
Production	39.66	01.61	41.27	75.10	11.30	86.40	348.76	43.41	392.17
Yield	10169	1788	8598	15050	7687	13374	13465	12402	13339
Total Area	90.48	03.35	93.83	240.24	43.97	284.21	326.63	67.44	394.07
Production	102.93	02.58	105.51	408.30	52.10	460.40	913.07	114.95	1028.02
Yield	1137	770	1124	1699	1184	1619	2795	1704	2608

Department of Agriculture, Government of Nagaland

Data presented in Table 1 exhibit that area, production and yield have, with few exceptions, increased significantly from 1961-62 to 2010-11 and moderately from 2000-01 to 2010-11.



Important programs include [i] Rashtriya Krishi Vikas Yojana [ii] research and development through State Agricultural Research Station [iii] formation of cropping zones [iv] pulses, oil seeds, maize and organic farming development [v] sustainable development based on commercial cropping system [vi] Nagaland Agricultural Marketing Board [vii] National Watershed Development Project for Rainfed Areas [viii] farm mechanization and [ix] Human Resource Development through integrated extension training center.

**Performance:** Farmers' awareness and willingness to respond and participate in the development process resulted into following achievements. Area, production and productivity of crops from 1961-62 to 2010-11 under cereals, pulses, oil seeds and commercial crops have witnessed significant increases.

- Between 1961-62 and 2010-11 while *area* under all crops significantly increased from 93,830 to 3,94,070 hectares [420 percent] and *production*

of crops from 1,05,510 to 10,28,020 metric tons [974.3 percent] *yield* per hectare improved from 1,124 to 2,608 [232 percent].

- The *share of area* under kharif crops in the total was 96.4 percent almost at par with the *share of production* of kharif crops at 97.5 percent in 1961-62. However, in 2010-11 share of kharif production [88.8 percent] in the total was significantly higher than the share of area under kharif crops [82.9 percent] in the total
- In 1961-62 area and production of *food grains* accounted for 93 percent and 60.2 percent of the total. However, in 2010-11 the *share of area* under food grains declined significantly [75.8 percent] whereas the share of food grains *production* in the total marginally declined [55.3 percent]. More importantly between 1961-62 and 2010-11 while *area* under food grains increased by 342.3 percent, food grains *production* shot up

by 794.4 percent and yield by 161.1 percent

- The *share of oil seeds* crops in terms of area [1.8 percent] and production [0.6 percent] in the total in 1961-62 went up to 16.7 percent and 6.6 percent respectively in the total in 2010-11.
- While share of *area* under *commercial crops* in the total increased significantly from 5.1 percent in 1961-62 to 7.5 percent in 2010-11, their share of production, however, remained stagnant at 39.1 percent and 38.1 percent respectively.
- *Area* under *all crops in rabi season* sharply shot up from 3,350 hectares in 1961-62 to 67,440 hectares [2013 percent] and *production* from 2,580 metric tons [4455 percent] in 2010-11. Consequently *yield* of crops also improved from 770 kg/ha to 1,704 kg/ha [221 percent] respectively.
- *Cereals* which did not find place during the rabi season till

**Table 2 Area under different cropping systems during 2003 to 2009**

Year	Paddy		Maize	Pulses Oilseeds	Sub- total	Commer cial crops	Other Cereals	Total
	Jhum	TRC						
2003percent share	88500 [26.10]	67500 [19.91]	45140 [13.31]	91270 [26.92]	292410 [86.24]	14660 [04.32]	32000 [09.44]	339070 [100.00]
2004	87100	66900	46400	93180	293580	21530	27880	342990
2005	88150	68250	51600	98347	306347	22590	26200	355137
2006	99980	64700	57170	107710	329560	55100	57530	442190
2007	97420	68580	63640	106040	335680	17800	14650	368130
2008	95780	73200	64400	96650	330030	30620	20300	380950
2009	90940	83330	66420	97710	338400	43350	6110	387860
Average	92553	70351	56396	98701	318001	29379	26381	373761
% share	24.76	18.82	15.09	26.41	85.08	07.86	07.06	100.00

Directorate of Economics and Statistics, Government of Nagaland

1970s covered 2,700 hectares in 1980-81 and increased to 6,500 hectares [240.7 percent] in 2000-01 and 10,330 hectares [382.6 percent] in 2010-11. The cereal production improved significantly from 4,000 metric tons to 12,200 metric tons [305 percent] and 19,480 metric tons [487 percent] respectively. The yield of rabi cereals increased from 1,481 kg/ha to 1,876 kg/ha and 1,885 kg/ha respectively.

- In 2009, out of the total geographical area of 16,57,900 hectares, the gross area under total agriculture was 3,87,860 [23.39 percent].
- Between 2003 and 2009, share of average area under jhum paddy, pulses & oil seeds, and other cereals in the total declined from the level in 2003 whereas share of average area under maize and commercial crops increased.
- Between 2003 and 2009, average area as compared to the level in 2003 under Jhum and TRC paddy marginally improved to 104.58 percent and

104.22 percent respectively, followed by significant rise in average area under pulses & oil seeds [108.14 percent], total agriculture [110.23 percent] and maize [124.93 percent] and phenomenally under commercial crops [200.40 percent] but it significantly declined to 82.23 percent under other cereals. Area under jhum paddy and TRC paddy rose to meet with the demand of the population increase [from 18,06,844 in 2002 to 24,34,897 in 2010]. Area under maize significantly increased in view of farmers' response to produce maize on a commercial scale because of its high demand in the market.

- Commercial crops demonstrated shift in terms of their share [7.86 percent] in the total area as well as increase in percentage [200.40 percent] between the level in 2003 and average of seven years.
- Between 2003 and 2009 while the yield of Jhum paddy per hectare increased from 1450

kg to 1930 kg [133.10 percent] yield of TRC paddy increased from 1810 kg to 2340 kg [129.28 percent]. The increase is attributed to selection of higher yielding variety from among the land races available within the village by discarding low yielding ones and better management practices.

- Government's efforts in 2005-06 under the programme "*Year of the Farmers*" significantly boosted area under all categories of crops except TRC paddy during the said year.
- The cropping pattern has been gradually witnessing a shift from mono-cropping to mixed and multiple cropping.
- Average area, production and yield of Jhum paddy during 2003-09 increased to 104.58 percent, 119.27 percent and 113.72 percent from the level in 2003 whereas projected Jhumia population increased to 116.66 percent. Despite area held per person declined to 87.5 percent milled rice

**Table 3 Area, Production and Yield of Jhum Paddy during 2003 to 2009**

Year	Jhum Paddy			Jhumia Population	Per Person	
	Area hectares	Production Metric tons	Yield Kg/ha		Area hectares	Milled Rice Kg
2003	88500	128000	1450	1102176	0.08	58.07
2004	87100	133500	1530	1158361	0.08	57.62
2005	88150	134100	1520	1217411	0.07	55.06
2006	99980	160000	1600	1279471	0.08	62.53
2007	97420	166460	1710	1344695	0.07	61.90
2008	95780	171080	1790	1413244	0.07	60.53
2009	90940	175510	1930	1485287	0.06	59.08
Average	92553	152664	1649	1285806	0.07	59.25
percent increase	104.58	119.27	113.72	116.66	[-87.5]	102.03

Directorate of Economics and Statistics, Government of Nagaland

per person marginally rose to 102.03 percent.

- The area and production per hectare under terrace rice cultivation (TRC) is increasing across the State. Perhaps because of the increase in TRC, the shortfall of rice from jhum is somewhat mitigated. Innovative uses of TRC, such as cultivating winter crops of cabbage, tomato and potato cultivation and incorporating fishes and snails as supplementary activities are generating income for the farming families

**Compound Annual Growth Rate:** CAGR of critical parameters viz. Net State Domestic Product, Per Capita, Agriculture, Crops, and Livestock in respect of Nagaland State, North Eastern Region and India during the decade 1993-94 to 2004-05 revealed leading position of the State as is evident from the Table 4.

**Compound Annual Growth Rate :** Compound Annual Growth Rate of cereals, commercial crops, all crops and kharif crops in terms of area and production from 2000-01 to 2010-11 was higher than that from 1961-62 to 2000-01 whereas it was lower for pulses, oil seeds and rabi crops. For food grains CAGR was higher in respect of production but marginally lower in case of area. Increase in yield was higher only for all crops and kharif crops during 2000-01 to 2010-11 than that during 1961-62 to 2000-01 as compared to rest.

**Correlation Studies:** Attempt was made to assess whether there was any relationship between increasing in area and increasing production under kharif and rabi seasons for cereals, pulses, food grains, oil seeds, commercial crops and all crops in 1961-62, 1970-71, 1980-81, 1990-91, 2000-01 and 2010-11. Results presented in the

Table 6 showed *strong positive relationship* between increasing area and production in respect of these crops.

**Rice:** The productivity of rice is lower than the average productivity of rice in the North Eastern Region. Rice cultivation is dependent upon rains and is commonly cultivated under two systems viz. jhumming [shifting cultivation] and terrace cultivation. Traditional rice varieties contribute to around 70 percent of total rice production and improved varieties from foot hills contribute to remaining 30 percent. Traditional rice varieties grown in altitude ranging from 300-2500 meters thrive well under low management practices but do not respond to modern technology. The traditional varieties are generally tall and medium to long duration. They are mostly poor to medium yielders but are relatively more resistant to pests and diseases and tolerant

**Table 4 CAGR of NSDP, Per Capita, Agriculture, Crops and Livestock [1993-94 to 2004-05]**

	NSDP	Per Capita	Agriculture	Crops	Livestock
Nagaland	8.18	2.8	6.63	12.57	6.63
NER	4.21	2.32	2.99	03.12	2.37
India	5.95	4.01	2.48	02.09	3.51

Directorate of Economics and Statistics, Government of Nagaland

**Table 5 Compound Annual Growth Rate of Area & Production and Percentage Increase in Yield [1961-62 to 2000-01 & 2000-01 to 2010-11]**

	1961-62 to 2000-01			2000-01 to 2010-11		
	Area	Production	Yield	Area	Production	Yield
Cereals	2.20	4.06	101.8	2.36	5.13	34.1
Pulses	6.09	8.33	126.1	2.77	3.86	12.2
Food Grains	2.52	4.32	97.5	2.41	5.04	32.2
Oil Seeds	8.86	11.15	125.1	2.96	4.13	13.2
Commercial	0.76	1.91	55.5	14.77	14.74	[-0.3]
All Crops	2.88	3.85	44.0	3.02	7.58	61.1
Kharif	2.54	3.60	49.4	2.83	7.59	64.5
Rabi	6.82	8.01	53.8	3.97	7.46	43.9



**Table 6 Correlation Values between Area and Production of Crops**

Crops	Value	Crops	Value
Cereal crops	0.831676532	Oil seeds	0.982790363
Pulses crops	0.96980913	Commercial crops	0.976246421
Food grains	0.84707632	All crops	0.957966976

to cold and stress environment. The State Agriculture Research Station (SARS) has identified 867 traditional varieties which broadly fall in three categories viz. to Glutinous Rice, Brown Rice and Aromatic Rice. While per hectare yield of Glutinous rice is 1500 to 2000 kg, Brown rice and Aromatic rice yields 1600 to 2500 kg each. Under optimum management and provision of adequate nutrients and pesticides the yield of improved varieties introduced during 1990s is significantly higher than that of traditional varieties, such as 5300 kg/ha for SARS-1 and 3000 kg/ha for SARS-6.

There are two types of terrace rice cultivation. Dry Terrace where irrigation is given only during the growing period of paddy from June to October and ponded water is drained out and allowed to remain dry from November till June because water sources are not perennial. Wet Terraces are where water is impounded throughout the year with irrigation. In Wet Terraces several cultural operations that are given to Dry Terraces are averted. They also have a better yield than that of Dry Terraces. In the past Dry Terrace was considered inferior to Wet Terrace in terms of monetary gains. However, with the road communication facilities reaching almost every village, now Dry Terraces have been used in growing cash crops [mostly

potatoes and tomatoes] during winter effectively utilizing residual moisture from paddy cultivation. Therefore, the value of Dry Terraces has increased.

**Irrigation:** Annual rainfall varies between 1500 mm and 2500 mm. However, excessive runoff, due to hilly terrain, does not allow its optimum utilization. Primarily the irrigation system depends on rainfall and springs. Total irrigation potential of 1, 65,000 hectares has been created of which only 49,000 hectares [29.7 percent] has been harnessed. Mostly crops are irrigated through diversion channels leading directly to farms and occasionally through creating storage structures and using pipelines.

#### **Areas of Concern**

**Agricultural vulnerability:** According to studies by Ravindarnath *et al* on estimated agricultural vulnerability using rainfall data, area under rainfed crops, rural population density, net sown area, area under high yielding crop varieties, amount of fertilizers and manure used, groundwater availability, mean crop yields, etc. for the year 2010, out of the eight districts six [Tuensang, Wokha, Mon, Mokokchung, Phek and Zunheboto] districts fall in the *highly vulnerable to moderately vulnerable* category. For climate impacted scenario, the district

Tuensang continues to be very highly Vulnerable.

**Water:** Agriculture is mainly dependent on rainfall. However, because of hilly terrain there is severe surface runoff leading to [i] low rate of water absorption into the soil and [ii] heavy loss of plant nutrients that are essentially required for crop-growth. This phenomenon impacts adversely on crop productivity. During pre-monsoon and monsoon period more than 80 percent of the total rainfall is received. Most of this water, however, flows quickly and drains out into the streams as surface runoff. Small quantity of rainfall gets stored in few farm ponds constructed on the hill terraces but high seepage rate does not allow the ponds to hold the water for longer period. Scanty rains are received during post monsoon and winter season which is also the season for cultivating rabi crops. During rabi season crops are not irrigated because of inadequate storage structures for storing the rain water being received during rainy season. The Department of Irrigation and Flood Control has been implementing program to create irrigation potential which, however, is not adequately utilized due to lack of leveled land and farmers' pursuing mono-cropping pattern. Erratic and heavy rains often lead to landslide and damage irrigation structures/infrastructure which are not restored on time due to lack of sufficient funds.

**Soil Degradation:** According to the National Bureau of Soil Survey & Land Use Planning [2000], 60 percent of the total geographical area of the state was affected by different types of land degradation. Soil erosion was the serious and major problem which is followed by soil acidity and nutrients loss. Heavy rainfall causes soil erosion which in turn makes productive soil acidic affecting the quality of the soil. This also leads to reduced availability of Phosphorus to the plants that inhibits the growth of rice plant. Soils in Tuensang and Kohima districts are normally low in potash levels adversely affecting quality of grains. Soils of the state based on internal drainage are classified into *excessively* drained and *somewhat excessively* drained. According to the Department of Soil and water conservation, huge acreages are affected by both these types of problems. Based on nature of soil erosion significant acreages experience soil erosion ranging from moderately steep to severe.

**Jhum cultivation:** Above 52 percent of land is under Jhum cultivation and this traditional practice accounts for 70 percent of soil loss, degradation of land and deterioration of water resources. According to the ICAR in absence of effective soil conservation measures the soil loss under jhum cultivation area was estimated between 40 tons and 90 tons per hectares in 2008. Besides, other adverse effects of Jhum cultivation include, *inter alia*, [i] polluting the air [ii] problem in phosphorus fixation in the soil [iii] reduction in water table and soil moisture [iv] increased floods in the foot hills

[v] increased sedimentation load in rivers

**Low productivity:** Factors responsible for low productivity include, *inter alia*, [i] incidence of natural calamities and degradation of prime agricultural land. The natural calamities include landslides, higher incidence of floods near river belts, high wind velocity and recurrent droughts. [ii] grossly inadequate institutional infrastructure to provide support services to facilitate a large number of small farmers to adopt scientific methods of cultivation, post-harvest management, marketing services and transport.

**Strategy:** The State has the potential for transforming traditional agriculture to commercial agriculture, making Nagaland a leading State in sustainable rain-fed farming and promoting organic agriculture. In this context, the Government seeks to promote technically sound, economically viable, environmentally non-degrading, socially acceptable and sustainable development of agriculture in the state through optimum utilization of resources, such as the land, water and genetic endowment, among others. In the process, focus of agricultural growth is value addition, promoting agri-business, creating more employment opportunity in rural areas that can reduce migration to urban centres. Field studies and interaction with the farmers necessitate following strategic actions to accomplish the goals envisioned in the Vision 2020 document.

#### **Research**

- It is necessary to establish

conclusively that the jhum cultivation being pursued is not environmentally unfriendly [as the forest regeneration during the fallow period helps fix more carbon than is lost during the burn period] and integrate traditional agricultural practices with sustainable commercial agriculture. Researches need to address jhum cropping period, fallow period and land that are not put to cultivation to help tide over the shortfall of rice requirement per jhumiya annually.

- The ICAR, Medziphema and SARS, Yisemyong engaged in conserving, propagating and improving the species in the NER can exploit local germplasm comprising 867 traditional varieties in the State through judicious selection and modern breeding techniques including hybridization, irradiation and biotechnology to evolve varieties of rice resistant to higher temperatures, water stress, high concentration of Co<sub>2</sub> and that can sustain in a low light intensity, besides responding favourably to optimum use of fertilizers, water and agronomic practices.
- According to SARS the yield of Mehuru is 3000 to 3500 kg/ha, Ngobano 3000 to 3700 kg/ha and Nagaland Special 2050 to 3000 kg/ha as compared to average 2340 kg/ha yield of TRC rice. Thus plant breeding efforts need to evolve varieties yielding 3000 kg/ha.

#### **Productivity improvement:**

Research and development efforts need to focus on making tiny land

holdings of marginal and small farmers viable and sustainable that can increase the farm productivity, output and profitability through introduction of innovations and novel approaches, viz. organizing SHGs of farmers, formation of Farmers' Cooperative Societies, formation of Tribal Multi-purpose Societies integrating institutional credit with supplies [inputs] and services [technology and marketing]. This should, *inter alia*, include [i] lead to self-sufficiency and marketable surplus production [ii] cultivation of short duration HYV crops leaving paddy fields free for rabi crops by October in flood-free plains valleys, and the application of lime to remove soil acidity [iii] HYV Boro paddy cultivation in flood low-lying / flood prone areas [iv] cultivation of Ahu (summer) and Boro paddy in the flood prone areas [v] production of HYV seeds locally by innovative farmers.

**Organic Farming:** The Government expects the state to lead in organic farming. In this effort intensive research would be necessary to study impact of climate change on all aspects of crop growth and productivity of crops at marginal farmers' level while pursuing organic farming on a larger scale and identify suitable bio control measures in collaboration with the Department of bio technology.

**Seed Production and Certification:** Currently the Government is procuring the seeds of high yielding varieties from outside the State and distributing to farmers for sowing. The Government policy is to not only evolve high yielding

varieties of crops but also to produce the required quantity of quality seeds in the State itself. For this purpose, there is a need to establish institutional framework for seed development, production, multiplication, testing, standardization, certification, quality control, storage, procurement, transport and distribution. An effective system to address these requirements will need to be put in place, qualified staff recruited and innovative farmers identified as seed growers and trained in all respects. A Seed Regulatory and Development Authority manned by professional will have to be appointed. Establishment of seed banks at strategic locations in each district will help farmers secure quality seeds on time at reasonable price.

**Infrastructure support:** In Nagaland, 90 percent land belongs to individuals and the land is divided into small sizes and scattered in different locations. Farmers continue using seeds of traditional varieties that are poor yielders. Availability of institutional credit is 20 percent of national average. Farmers lack proper appreciation about the importance of scientific technology that can increase productivity, production and profitability of crop farming. Existing institutional infrastructure support should be significantly strengthened to make available standard quality seeds of high yielding varieties, fertilizers, pesticides, farm tools, institutional credit on time at reasonable prices along with scientific method of cultivation and marketing services.

**Irrigation:** Create irrigation potential by conserving rain water which is being drained out to rivers by constructing irrigation structures and expanding minor irrigation program that includes [i] digging shallow wells for a command area of 1-2 hectares [ii] deep tube wells in plain areas of Dimapur [iii] shallow Dug Wells for drinking water purpose [iv] reservoir/irrigation tank for conservation of spring water and store rainwater for irrigation purpose [v] surface lift irrigation for irrigating fields located at higher level that cannot be irrigated by flow irrigation [vi] sprinkler/drip Irrigation for irrigating rabi cash crops/horticultural crops that require minimum water during the acute scarcity [vii] construction of diversion structures by identifying potential irrigation projects to augment irrigation facilities. Simultaneously, bridge the gap between the irrigation potential created and its utilization.

In order to reduce water seepage it is necessary to facilitate farmers to undertake farm ponds improvement program on a much larger scale to reduce seepage significantly and increase water retention capacity of these small farm ponds so that water can be retained for longer period and available for irrigating rabi crops. For this farmers need to be financially incentivized and technically trained.

**Soil health:** For improving health of the soil, regular soil testing at farmers field levels is necessary and based on soil test reports suitable soil amendment programs are to be undertaken to minimize incidence of soil acidity.



**Institutional strengthening:** ICAR and SARS need to be organizationally and financially strengthened to undertake research involving farmers and identifying their needs. They should intensify research on designing small farm implements to meet needs of hills and small farmers. KVKs and department of agriculture should be effectively linked with ICAR and SARS to empower farmers including women-farmers, share knowledge and disseminate the proven yield enhancing technology developed by ICAR and SARS among farmers during the year 2012-13 aggressively to yield expected results during the Twelfth Plan. KVKs should act as a change agent to transfer technology, 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 redesigned to match emerging local needs. Field staff should be regularly trained to update their knowledge and

understanding of new agricultural technology and impact of climate change in agriculture. They need to be exposed to successful pilot studies and their capacity built that can help inspire confidence among farmers to adopt new technology.

**Credit agencies:** Since banks have a significant role as a catalyst to accelerate the process of agricultural development in the State 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 programme 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 the State rather than one-fits-all for the country as a whole. State Government 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.

**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.

**Refining cropping system:** Micro-planning to boost agricultural development in each of the four agro-climate zones based, *inter alia*, on research of land, soil, water, climate, markets, agro-processing, soil and water conservation involving minimum 200 farmers in each zone is necessary. □

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# YOJANA

## Forthcoming Issues

January 2013  
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### January

Good Governance: (Special Issue)

### February

Empowering the Gram Sabha

# J&K WINDOW

## KASHMIR UNIVERSITY LAUNCHES COURSE ON TOURISM

**B**uoyed by record tourist footfall, Kashmir University has launched a Masters programme in Travel and Hospitality to churn out trained professionals for the tourism industry, which has the potential to become one of the largest employers in Jammu & Kashmir. “In spite of having tremendous potential, Kashmir has failed to get its share in tourism. One of the major reasons for this is the lack of trained and professional manpower,” said Prof Shabir Ahmad, Dean, Faculty of Commerce and Management. “The aim of the programme is to bridge this gap, to produce trained professional for the tourism industry.”

The course was in the pipeline for the past three years but it was only after the state hosted a record number of tourists for the second consecutive year — the number was 1.2 million last year, the highest since 1987, and is likely to cross 1.6 million this year — that the university decided to go ahead. Though one of the oldest industries of Kashmir, there is dearth of trained professionals in tourism, which is expanding beyond the traditional regions now.

“Till now, tourism was limited to the golden triangle of Gulmarg, Pahalgam and Srinagar. But it is expanding now,” said Riyaz Qureshi, a faculty member at the department. “As such there is more need of trained professionals in the industry.” The programme, Qureshi said, would, in the long run, also help streamline tourism policy, which is currently formulated by “non-professionals who disregard several important aspects of tourism”.

“There is more focus on sustained and eco-friendly development especially at tourist destinations,” he said. “We can’t take a tourism policy of one state and replicate it in Kashmir. It has been happening here. We need professionals from the valley who know the cultural and ecological sensitivities of the place and keep them in mind while formulating such a policy.”

The University, meanwhile, has also launched another two-year course, Masters in Craft Management and Entrepreneurship, the first such course in India. □

## TECHNICAL TRAINING AND SCHEMES FOR KASHMIRI YOUTH

**A** projected honey output of over 500 tonnes, 7,500 beekeepers and growing, with 29,850 bee colonies between them. Beekeeping has been catching on in Jammu and Kashmir, with production having jumped from 300 tonnes in 2010 to 597 last year. It’s a trend that also creates job avenues for the unemployed, say officials, pointing out that many educated youths are among those setting up bee colonies in the countryside because of its promise. Honey has not only a local market but also demanded nationally and internationally. In the last six years, 1,067 tonnes was exported out of the valley.

Beekeeping had once fallen into decline. “In 1988, a local bee became the victim of a disease, which caused the death of all colonies throughout Kashmir. It contributed to the decline of the beekeeping culture in the valley, and thousands left this business,” said Farooq Ahmed Shah, who has been rearing bees for five decades. Shah, who never gave up, has 100 bee colonies and earns about Rs 2,60,000 with a season’s produce. An Italian bee resistant to that disease was introduced but Shah says the local bee coped better with the conditions.

What attracted fresh beekeepers, mostly the young, was the introduction of subsidies, schemes and technical training. “We provide beehives and bee colonies on a 50 percent subsidy,” said G M Rather, chief agriculture officer. “There are various schemes and the subsidy is given on hives, medicines, honey extracting equipment, besides free knowhow.” The state’s apiculture department keeps 100 bee colonies for demonstration to beneficiaries, besides holding disease awareness programmes. “The bee colonies are for the people who come here; we train them in beekeeping. Last year we produced one quintal of honey within the department,” said Imtiyaz Ahmed, a beekeeper in the department. □

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YE-215/2012



# Entrepreneurship Development - Key to Socio Economic Growth

*Sunil Kr Saikia*



***To sustain entrepreneurial growth, it is necessary, not only to develop infrastructure alone, but also to give due importance on training and other support for sustaining the tempo of entrepreneurship***

**D**EVELOPING THE spirit of entrepreneurship among youth though challenging is considered to be a panacea for the looming problem of unemployment in any economy. Entrepreneurship development, therefore offers both a challenge and a solution to the problem. The paper tries to look into the different aspects of entrepreneurship and how the growth in entrepreneurship can lead the socio-economic growth of the North Eastern Region with special reference to the state of Nagaland.

## **Introduction**

Entrepreneurship plays an important role in economic development of a country or a state. It is considered to be a panacea for creating wealth, generating employment and providing new and better goods and services. Developing the spirit of entrepreneurship among the youth in present days context is considered to be very important in our country, because government cannot provide jobs for all kind of unemployed youth and the corporate sector can also provide limited jobs

only to the best and that too without any job security. Moreover, it is also difficult to get an ideal job as per the interest of the person concerned. While job opportunities are limited today, at the same time developing economies can be a professional entrepreneurs' paradise, provided they know the right techniques on how to develop their own competencies and to grasp the opportunities available for them. Entrepreneurship development, therefore offers both a challenge and a solution to such a task. It also helps to improve the backwardness of the people, to eradicate regional imbalances, to utilize natural and human resources optimally and to generate more employment opportunities. It is a dynamic process for creating wealth by assuming risk of business and receiving the resulting rewards of personal and monetary satisfaction.

## **Entrepreneurship Development in India**

In India, Small Industry Extension Training Institute (popularly known as SIET Institute, Hyderabad), had first introduced the efforts for developing entrepreneurship in the country in the year 1962 in collaboration

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with Harvard University. Dr. David MacLelland, Professor of Harvard University who developed his Trait Model concept in 1961 was invited to India to experiment and apply the concept in India. He along with SIET Institute went on to first apply the concept through training and research in a remote place called Kakinada in Andhra Pradesh and later in Tamil Nadu (*Prof. D. Nagayya, Entrepreneurship Development in North East, Edited by Dr. D.D. Mali, 2000*). Since 1962 to till now, many Institutions in India have adopted the concept with or without modifications from time to time. The well known and experienced Institutions like MSME-NI (Hyderabad formerly known as SIET Institute/NISIET), EDI (Ahmedabad), NIESBUD, New Delhi (both the organizations were started in 1983), IIE (Guwahati-1994) etc have also been applying some new approaches on trial and error basis.

The post liberalisation industrial and economic scenario in India makes it imperative that a more dynamic and pragmatic approach be adopted to create first generation entrepreneurs on a large scale in the various parts of the country. Such entrepreneurs must be compatible as per international standard. The youths located in the urban areas, however, can avail many facilities offered by many organizations and institutions, but reaching out to the rural youth is a big task and it can be possible by involving various institutions and organizations of repute including involving some local level institutions/agencies. In this respect, the national level institutions like NI-MSME (Hyderabad), EDI (Ahmedabad), NIESBUD (Noida) and IIE (Guwahati) are involved

in developing an entrepreneurial culture by conducting Entrepreneurship Development Programmes (EDPs) or similar programmes in their own campus as well as across the urban and rural areas. Various State level entrepreneurship development institutions like CED/IED have also been involved in developing entrepreneurship both in urban and rural areas. Universities, Institutions in India have also introduced the entrepreneurship concept in their academic curriculums in the beginning of the twentieth century.

In India, at present more than 2000 institutions, organizations, forums and associations have been imparting various courses on developing entrepreneurship. In addition, almost all the universities and other institutions in India like management, engineering, commerce etc have introduced entrepreneurship development in their academic curriculums. The dimensions and focus areas have also been widened like general entrepreneurship development, development of entrepreneurship for rural youth, women entrepreneurship, agri-entrepreneurship, techno-entrepreneurship, sustainable entrepreneurship, corporate entrepreneurship (intrapreneurship), global entrepreneurship etc. In addition some Institutions like EDI, NIESBUD, EMPI Business School, Nursejee Monjee Institute of Management etc have also introduced a few full time courses on entrepreneurship development, rural entrepreneurship etc.

### **Developing Entrepreneurship in North East**

In the North Eastern Region,

the concept of developing entrepreneurship was first introduced in Assam in the year 1973 when Government of Assam under the Chief Ministership of Late Sarat Chandra Sinha introduced a scheme called 'Half a Million Job' and which was entrusted to a new organisation called the Entrepreneurial Motivation Training Centre (popularly known as EMTC) under the State Planning Board. The Government of Assam also requested SIET Institute, Hyderabad to be associated with EMTC mainly on training and research in the field of entrepreneurship development. Nine EMTCs branches were set up in different places of Assam. Similarly in the year 1973, the North Eastern Industrial Consultancy Organisation (NEITCO) was created by development financial institutions and banks and it started its operation from Guwahati. One of the functions of NEITCO was organizing training programmes on entrepreneurship development. In 1979, the SIET Institute, Hyderabad set-up its NER Centre at Guwahati. This SIET Institute became NISIET (NER Centre) in 1984 and the Indian Institute of Entrepreneurship (IIE) in 1994. In 1987, development financial institutions and banks created another organization called the North Eastern Consultancy Organisation (NECON) with its headquarter at Imphal (Manipur). Entrepreneurship development is one of the activities of NECON. In addition, organization like Micro, Small and Medium Enterprises Development Institute (MSME-DI), National Small Industries Corporation (NSIC), Khadi and Village Industries Commission (KVIC) have been operating in the region for developing entrepreneurship as well as

micro and small enterprises. Other organizations like NIRD, RGVN, CAPART, and a number of NGOs, Industry Associations/ Forums etc have been engaged in developing entrepreneurship and small enterprises in the region. Similarly, some state level organizations like Directorate of Industries & Commerce including its District Industries and Commerce Centres (DICC), Directorate of Rural Development (DRDA), State Industrial Development Corporations (SIDCs) like ASIDC and AIDC (Assam), NIDC (Nagaland), TIDC (Tripura), MIDC (Meghalaya), MANIDCO (Manipur), APSFDC (Arunachal Pradesh), SIDICO (Sikkim) etc and also the State Institute of Rural Development (SIRDs), State level Handloom and Handicrafts Development Corporations like NHHDC (Nagaland), AGMC (Assam), MHHDC (Meghalaya), MHHDC (Manipur), SHHDC (Sikkim), THHDC (Tripura) etc are involved for developing entrepreneurship and enterprises in their respective areas and states.

In the North Eastern Region, a large number of other promotional, developmental and financial institutions/organisations like KVIC, DC (Handicrafts), NSIC, NERAMAC, NEHHDC, Spices Board, Central Silk Board, Tea Board, Coffee Board, Coconut Development Board, Rubber Board, Coir Board, APEDA, MPEDA, NHB, TRIFED, NIRD etc have been organizing a number of training programmes, research studies etc for the development of entrepreneurship in the region. Similarly, financial institutions like SFCs, SIDBI, IDBI, NABARD, NEDFi and Commercial Banks etc have also been set up (or opened

their branches/regional offices) in the North-Eastern Region to help the local entrepreneurs. A number of committees, forums, associations like FINER, NESIA, NEWEA, NECCI, ICC, CII, ASSIA, MEA, etc have also organized seminars, workshops, training etc and have forwarded their recommendations to the central and state governments on various issues from time to time for developing entrepreneurship in the region. In spite of all these efforts, the results are still slow and not very encouraging as it should have been. However, there are many other reasons like geographical isolation, limited infrastructural facilities, lack of finance, lack of techno-economic information, stiff competition from outside, high manufacturing cost etc which are also contributing to the slow growth of industries in the region. But of all, the dearth of entrepreneurship is regarded as one of the most important factors for the slow growth of industries in the region. Some of the institutions in the region have also been trying to develop the entrepreneurship culture by slightly changing the techniques and approaches on trial and error methods. The results are yet to be seen. The summary figures of MSME in North-East and All India is shown in Table-1.

### **Entrepreneurship Development in Nagaland**

Nagaland, one of the eight states of North East India is a hill economy marked by agriculture as the mainstay of all economic activities with a small proportion of the populace engaged in the rearing of livestock, weaving, black smithy, handloom and handicrafts. The State is predominantly rural with 82.26 percent of the population living

in villages. Over the last decade, while the share of the primary sector has declined, the share of the tertiary sectors has seen a steady increase. This is owing to the fact that besides agriculture, it is retail trade and public administration which is generating the maximum employment opportunities for the unemployed in the state. According to live employment exchange registers of the state, more than 66,000 youths are presently unemployed. This is only a fraction of total unemployed in the state which is presently around 6.5 percent. Though unemployment rate in Nagaland is steadily increasing self employment rate has remained high. Employment figures in Nagaland (released by NSSO) indicated that in the rural sector, as much as 60 percent i.e. 596 per 1000 distribution of household by household type are self employed in agriculture. While in the urban sector about 44 percent of the population accounted for regular wage earners but about 43 percent of the population were self employed.

In terms of self employment in the rural areas, 565 per thousand are involved in the agriculture sector and 8 per thousand in non-agriculture sector. In the urban areas self-employment accounts for 305 per thousand households. Self employment based options in urban areas relate mostly to simple bakery, fast food, confectionary, restaurant, hotel, resort, car rental, tourism, stone crushing and other diverse merchandising business largely in the service sector. This covers repair and servicing of a wide range of objects starting from house hold implements, mobile repairing, photography, car repairing and servicing etc and also



**Table-1**  
**MSME in North East & All India**

Name of the state	Total No. of MSME	Fixed Investment (Rs.in Crores)	Production (Rs. in Crores)	Employment
Arunachal Pradesh	1,411	34.17	69	4,330
Assam	2,19,092	1,287.39	4,907	4,87,871
Manipur	25,283	403.67	703	1,53,715
Meghalaya	54,101	164.45	481	75,607
Mizoram	12,529	139.89	207	28,622
Nagaland	15,623	378.55	650	66,466
Sikkim	415	12.60	44	1,580
Tripura	27,448	329.27	461	62,861
Total in NER	3,56,002	2,749.99	7,412	8,81,052
Total in All India	118.50 lakhs	1,78,699.00	4,18,263	282.57 lakhs

Figure relating to the year 2004-05

Figures have been collected by the author from various sources & pertaining to the last decade

covering even hi-tech computers and other complex electronic gadgets. It also includes typical modern services such as developing website, software development, computer accounting, DTP etc and also tasks related to booking tickets, payment of bills and arranging for licenses and permissions etc. In the manufacturing areas, a beginning has been made by setting up of small units like still fabrication, wooden carpentry and furniture making, handicrafts, scrap rubberized items etc. Though self-employment has been the driving force in overall economic development of the state, but lack of entrepreneurial attitude has not resulted in full utilization of the inherent potential of the youths of the state. Recent developments show youths coming forward with knowledge and acumen. This has resulted in development of Trading business (11 percent), Hotel and Restaurant Business (3 percent), Transport business (2 percent), Construction (1 percent), Manufacturing (1 percent). These

enterprises employ 18 percent of the total workforce of the state.

According to the Planning Department of Nagaland, during last two years (2010-11 and 2011-12) nearly 3,000 Naga youth were sent out for training in different vocations. Government of Nagaland is supporting these trainees with the idea that after returning these persons would start their own business units. To supplement these trainees the state government has also drawn up special package for Rs.10 Crores to assist the entrepreneurs as a part of the capacity development initiative.

Though Nagaland's young demographic profile has made the State favourably placed in terms of manpower availability, but for the State's dismal performance in the manufacturing sector, it has failed to build up its capacity to absorb the vibrant workforce. The severity of the unemployment problem, therefore, is also on the rise in the State. Coupled with high rate of pass outs from universities

and colleges and compounded by lack of adequate employment opportunities, the problem of educated unemployment and its resultant effects is growing exponentially. Needless to say, industrialisation is an integral part of any development. However, the remoteness of the State along with poor infrastructure like road linkages and acute shortage of power along with customary land laws that restrict the transfer of land to outside investors continue to deter industrialisation in the State. Despite the prevailing constraints, efforts at industrialisation continue in the State. The Paper Mill in Tuli has been revived after being sick for more than 15 years. The commissioning of the Nagaland Pulp & Paper Company Ltd. (NPPC), Tuli, with an enhanced capacity from 100 metric tonnes to 200 metric tonnes per day is expected to generate both direct and indirect employment. There has also been creation of infrastructure for the growth of industries and service enterprises in the state like

the Industrial Growth Centre and the Export Promotion Industrial Park. With a view to promote and develop bamboo and its potentials as a major economic activity in the State, both as a resource and as an enterprise, the Government of Nagaland has adopted the Nagaland Bamboo Policy in March 2004.

The handicrafts and handloom sector, the traditional self-employment avenues in the state has vast employment and livelihood potential for growth due to availability of abundant skilled labour and raw materials, as well as the rich cultural traditions of its people. Organised efforts and methodical interventions for holistic upliftment of the sector for a competitive reach in the world market can pave the way for larger sustainable self-employment and also give a boost to the gross state domestic product.

To take up entrepreneurship development in a more streamlined manner, the Government of Nagaland has initiated a series of capacity building measures. This included declaring of the year 2010-11 as the 'Year of Entrepreneurs' in Nagaland recognising the fact that Nagaland has been a consumerist society and that it was time to start production through micro, small and medium enterprises – i.e. the MSME sector to achieve self-sufficiency in the State. To make this initiative successful, the Government of Nagaland partnered with Indian Institute of Entrepreneurship (IIE) and Nagaland Entrepreneurs Association. IIE was mandated with training up of 1,000 Naga youths during the period so that they may take up entrepreneurship as career.

Even prior to the declaration

of the 'Year of Entrepreneur' in Nagaland, efforts at developing the MSME sector were put into. Institutions like the Indian Institute of Entrepreneurship (IIE) had come up with a DC-MSME cluster on cane and bamboo in Dimapur, (Nagaland) in the year 2005-06. At the start of the endeavour there were only eighteen volunteers ready to join and form a part of the cluster but with the passage of time, the membership steadily increased and the total strength of the cluster counted at eighty-two by the time IIE made an exit. The cluster later spread across a spatial area of 100 sq km covering the districts of Dimapur, Kohima, Longleng, Mon, Mokokchung, Jalukie, Phek and Zunheboto. The cluster could successfully provide handholding support to a number of artisans in the cane and bamboo sector by guiding them and providing with credit and market linkages and product upgradation and diversification.

Yet another area approach programme under the SIDBI called the Rural Industries Programme (RIP) has been implemented in Dimapur, Nagaland. Under the programme, IIE has so far grounded around 97 MSME unites, out of which 87 with Bank Finance and 10 with proprietor's finance. Around 900 beneficiaries have been trained so far under this programme. Under different capacity building programmes like Entrepreneurship and Skill Development Programme (ESDP), Entrepreneurship Development Programme (EDP) and other targeted programmes, IIE could train 1,247 participants during the FY 2011-12 by conducting a total of 40 such training programmes. There are other organizations like Directorate

of Industries and Commerce, Khadi and Village Industries Commission (KVIC), Nagaland Khadi and Village Industries Board (NKVIB), Nagaland Industrial Development Corporation (NIDC), Nagaland Mineral Development Corporation (NMDC), North Eastern Consultancy Organisation (NECON), Nagaland Handloom and Handicrafts Development Corporation (NHHDC), National Small Industries Corporation (NSIC), North Eastern Agricultural Marketing Corporation (NERAMAC) and financial organization like SIDBI, NEDFi, NABARD, RGVN, SBI etc have also put their efforts to develop entrepreneurship culture in the state and help the local youth through various ways and means i.e. by providing relevant information, guidance, hand holding support, finance, training, marketing etc.

The State of Nagaland is slowly but surely into the path of developing the entrepreneurship culture since the declaration of the 'Year of Entrepreneur'. Entrepreneurship thus plays an important role for creation of self-employment and generation of employment in an area like Nagaland. It also helps in utilising local resources, improving backwardness of the people, eradicating regional imbalances and finally developing an area as well the entire country economically, socially and financially. To sustain entrepreneurial growth, it is necessary, not only to develop infrastructure alone, but also to give due importance on training and other support for sustaining the tempo of entrepreneurship. □

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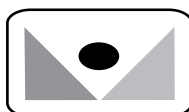
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# Random Reflections

*A K Shiva Kumar*



*The progress of society should be judged by how well society treats its children – and in the case of India, its young girls. Progress cannot and should not be judged by improvements in the physical conditions of living*

**I**T IS a particularly good moment to reflect on child rights as India celebrates the child rights week.

Child rights, like human rights, are universal (i.e., applicable to all) and inalienable (i.e., they can never be taken away). They are also indivisible (i.e., all rights – political, civil, social, cultural and economic – are equally important), interdependent and interrelated. In other words, the fulfillment of one right typically depends, wholly or partially, upon the fulfillment of other rights. For instance, the fulfillment of the right to education would depend upon the assurance of the right to health, the right to development and so on. Inherent to any discussion of child rights are also the ideas of equality and non-discrimination, participation and inclusion, as well accountability and rule of law. Article 2 of the Convention on the Rights of the Child, ratified by India in 1992, states that “States Parties shall respect and ensure the rights set forth in the present Convention to each child within their jurisdiction without discrimination of any kind, irrespective of the child’s or his or her parent’s or legal guardian’s race, colour, sex, language, religion,

political or other opinion, national, ethnic or social origin, property, disability, birth or other status”. A review of India’s achievements with respect to the fulfillment of child rights points to a mixed picture of gains and gaps. While progress has been recorded along many fronts, several gaps persist in the assurance of child rights. India, for instance, has a long way to go in improving the nutritional status of children, ramping up the quality of elementary education, and ending discrimination against girls and children belonging to socially disadvantaged groups. In this article, I reflect on three issues concerning child rights.

## **A common misunderstanding**

The fulfillment of child rights has to begin with a common understanding of the rights framework. The first step is to acknowledge that child rights exist whether or not they are legally recognized. For example, India’s Child Labour (Prohibition and Regulation) Act was enacted only in 1986. This does not mean that the rights of children who were compelled to work were not violated before 1986. Similarly, the rights of girls who were forced to get married before the age of 18

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were being violated even before 2006 when the Prohibition of Child marriage Act was passed. In other words, it is important for any society to recognize child rights even if laws that guarantee legal protection to children are not there. Recognizing child rights as legal rights helps. But it is not easy to enforce laws that protect and promote the rights of children. For example, according to the National Family Health Survey-3 of 2006-06, close to 46 percent of girls in India got married below the legal age of 18. The proportion was as high as 64 percent in Bihar. The failure to assure children of their rights could be attributed to several factors including the absence of political commitment, insufficient financial resources and inherent flaws in enforcement machinery. So if rights cannot be assured, does it make sense to recognize them as rights? Amartya Sen points out that this is not the right question to ask. Neither is it the right way of approaching child rights. He reminds us that we need to distinguish between a non-existing right and an unrealized right. He argues that recognizing a right opens up the possibility and the obligation for society to do something, however long it might take. He refers to this as 'the social role of human rights in translating an ethical value into practical action aimed at promoting that ethic.' We could see the confusion during the discussions surrounding the national food security bill. Opponents objected to the 'right to food' on the grounds that financial resources as well as sufficient foodgrains were not available. But this does not answer the more fundamental question: should people have a universal right to subsidized food in the first place?

We heard similar arguments before The Right of Children to Free and Compulsory Education Act or Right to Education Act (RTE) was passed by the Indian Parliament in August 2009. How can India make elementary education a fundamental right of children when the country does not have the financial resources to assure quality education to all children? Clearly, this is not the argument to make. We all know that fulfillment of the RTE Act might take decades. However, the Act has certainly put India on the right track. And every effort is being made by different stakeholders to mobilize support for the Act. In other words, every nation should give full recognition to child rights regardless of whether or not it has sufficient resources to assure its fulfillment.

### Measuring child deprivation

Several efforts have been made to assess levels of child deprivation. This is an important exercise to conduct. Everyone knows that children by themselves cannot ensure fulfillment of their rights; they are dependent on the actions of adults to a very large extent. Hence, the failure to assure children their rights is a betrayal of trust. Child deprivation has consequences not only for children themselves, but nations too end up paying a heavy price for the neglect. The 'costs of inaction', namely the failure to protect and promote the interests of children, can be quite significant and catastrophic for societies. Nations stand to lose considerably from the reduced skills and productivity, poor health conditions, dependence on welfare programmes, lack of social cohesion and the costs of judicial and social protection systems.

What is the best way to measure child deprivation? This is not an easy question to answer. The

UNICEF Innocenti Research Centre has constructed a new 14-item Child Deprivation Index using data from a sample of more than 125,000 households across 29 European countries presented in the European Union Statistics on Income and Living Conditions. The 14 items in the index encompass the ability of households to afford the following: (i) three meals a day; (ii) at least one meal a day with meat, chicken or fish (or a vegetarian equivalent); (iii) fresh fruit and vegetables every day; (iv) books suitable for the child's age and knowledge level (not including schoolbooks); (v) outdoor leisure equipment (bicycle, roller-skates, etc.); (vi) regular leisure activities (swimming, playing an instrument, participating in youth organizations, etc.); (vii) indoor games (at least one per child, including educational baby toys, building blocks, board games, computer games, etc.); (viii) money to participate in school trips and events; (ix) a quiet place with enough room and light to do homework; (x) an internet connection; (xi) some new clothes (not all second-hand); (xii) two pairs of properly fitting shoes (including at least one pair of all-weather shoes); (xiii) the opportunity, from time to time, to invite friends home to play and eat; and (xiv) the opportunity to celebrate special occasions such as birthdays, name days, religious events, etc.). The study finds that around 85 percent of the almost 85 million children (aged 1 to 16) in 29 European countries have at least 13 of the 14 items in the deprivation index and are therefore 'not deprived'. At the same time, the percentage of children who lack two or more of the 14 items because the household in which they live cannot afford to provide them varies from less than 2 percent in Iceland, Sweden

and Norway to over 30 percent in Portugal, Latvia, Hungary, Bulgaria and Romania. The index is certainly not a comprehensive measure of the deprivations in the lives of children. Nevertheless, it does illustrate the need for developing context-specific innovative measures that can track different dimensions of child deprivation over time as a marker of progress. Being innovative in measuring the fulfillment of child rights is the need of the hour.

### The plight of young girls

There are several instances where the rights of young girls are violated. For instance, most young women have very little say in matters of marriage. Many of them are forced to get married at a very young age – often as children below the age of 18. And it is not a happy situation for them. A recently conducted youth survey that sampled around 51,000 young people in the age group of 15-29 across six Indian states (Andhra Pradesh, Bihar, Jharkhand, Maharashtra, Rajasthan and Tamil Nadu) reveals the sorry state of affairs. It is distressing to find that close to 47 percent of young women were either scared or unhappy on the day of their wedding. It is not difficult to identify the reasons. The survey reveals that:

- 35 percent of young men got married to girls who were below the legal age of 18
- 40 percent of parents agreed that girls should not be allowed to decide about their own marriage
- 54 percent of parents did not even ask for their son's opinion about when to get married
- 64 percent of young men were meeting their spouse for the first time on the day of the wedding

- 81 percent of young men did not get a chance to meet or speak to their fiancée alone before the marriage

The practice of dowry also makes the situation very uncomfortable for young women. The youth survey revealed that almost 72 percent of young men and 78 percent of young women reported that they received or gave dowry – a practice that is banned under the Dowry Prohibition Act of 1961.

There are also good reasons for young girls to be scared on their wedding day. Apart from the fact that at such a young age, they have to virtually sever ties with the parental home and move into the husband's home (and, in many cases, become responsible for taking care of the house including in-laws), the attitude of young men towards girls is unnerving. The youth survey reveals that:

- 25 percent of young men admitted to having slapped their wives
- 49 percent of young men agree that girls who dress provocatively deserve to be teased
- 54 percent of young men believe that wife beating is justified in at least one of the four reasons – husband suspects wife has been unfaithful, wife goes out without telling husband, wife disagrees with husband's opinion, wife refuses to have sexual relations with husband

Young girls and women who exercise their rights have other reasons to fear. There have been periodic reports in the media about the plight of young girls who exercise their freedoms. Severe punishment and even death are common. The Delhi High Court

recently sentenced five members of a family to death for the torture and “brutal” murder of a young couple from Delhi in a so-called “honour killing” two years ago. Clearly, the progress of society should be judged by how well society treats its children – and in the case of India, its young girls. Progress cannot and should not be judged by improvements in the physical conditions of living.

### Concluding comments

Many cities and even rural parts of India are witnessing remarkable physical transformation – thanks to improvements in infrastructure, better connectivity, and enhanced provision of basic amenities needed for decent living. These have contributed to raising the standards of living, reducing physical drudgery and making daily living more comfortable. But the link between better living standards and freedoms for children is not obvious or automatic. To that extent, therefore, the progress should be judged by assessing the extent to which child rights are being fulfilled. However, the challenge of fulfilling child rights is complex. The State and society are at times even reluctant to recognize the rights of children. Even when laws are promulgated, the enforcement of laws is constrained by a shortage of financial and human resources. However, this is only part of the problem. More fundamentally, the fulfillment of child rights requires major shifts in social norms and values. Only by enabling children to tap into their full potential can we secure peace and progress for all its citizens. Accelerating the expansion of opportunities for children is the need of the hour. The signs of change are visible but the sense of urgency is not. □

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# DO YOU KNOW?

## WHAT IS FDI?

### Q.1. What is the objective of FDI?

It is the intent and objective of the Government of India to attract and promote foreign direct investment in order to supplement domestic capital, technology and skills, for accelerated economic growth. Foreign Direct Investment, as distinguished from portfolio investment, has the connotation of establishing a 'lasting interest' in an enterprise that is resident in an economy other than that of the investor.

The Government has put in place a policy framework on Foreign Direct Investment, which is transparent, predictable and easily comprehensible. This framework is embodied in the Circular on Consolidated FDI Policy, which may be updated every year, to capture and keep pace with the regulatory changes, effected in the interregnum. The Department of Industrial Policy and Promotion (DIPP), Ministry of Commerce & Industry, Government of India makes policy pronouncements on FDI.

### Q. 2. Who can invest in India?

A non-resident entity (other than a citizen of Pakistan or an entity incorporated in Pakistan) can invest in India, subject to the FDI Policy. A citizen of Bangladesh or an entity incorporated in Bangladesh can invest only under the Government route.

NRIs resident in Nepal and Bhutan as well as citizens of Nepal and Bhutan are permitted to invest in the capital of Indian companies on repatriation basis, subject to the condition that the amount of consideration for such investment shall be paid only by way of inward remittance in free

foreign exchange through normal banking channels.

### Q. 3. How will FDI in retail sector benefit?

- Entry of global retail giants is likely to see new investment,
- In the short run, it has the potential to add 3-4 million new jobs
- Another 4-6 million jobs could be created in logistics, contract labour, house-keeping and security
- Expected to help develop logistics, cold chains, warehouses
- Government revenues could get an additional \$ 24-30 billion through various taxes,
- Help reduce wastage of vegetables and other perishables and help in taming inflation,
- For Consumers it could mean savings of 5-10%
- May help farmers get 10-30% higher remuneration
- Add to economic growth

### Q. 4. What do the new rules say? What is single Brand retail?

- Government has allowed 100% FDI in single-brand retail
- The foreign investor should be the owner of the brand
- Products to be sold should be of a 'single brand' only
- Products should be sold under the same brand name in one or more countries other than India
- Sourcing of 30 percent of the value of goods purchased will be done from India preferably from small and medium units, village and cottage industries, artisans and craftsmen
- Quantum of sourcing to be self certified, to be checked by statutory auditors.

- Retail trading, in any form, through e-commerce not allowed.

### Q. 5. What is Multi-Brand retail?

- Government allows 51% FDI in multi-brand retail
- Minimum amount to be brought in as FDI by the foreign investor would be \$100 million
- At least 50% of total FDI to be invested in back-end infrastructure in three years
- At least 30% of the value of procurement of manufactured/processed products shall be sourced from Indian small industries which have a total investment in plant and machinery not exceeding \$1 million
- Retail sales outlets may be set up only in cities with a population of more than 10 lakh as per 2011 census and may cover an area of 10 Km around the municipal/urban limits of such cities
- Retail trading in any forms, by means of e-commerce would not be allowed
- Fresh farm produce, including fruits, vegetables, flowers, grains, pulses, fresh poultry, fishery and meat products may be unbranded
- Government will have the first right to procure farm products

### Q.6 Why foreign retailers want to enter India?

- Large market, rising disposable incomes and spending power
- The estimated size of the Indian retail market is about \$450 billion.

(Compiled by Irshad Ali, Editor, Employment News) □

# IAS 2013

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by

Prof. MAJID HUSAIN

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# Looking at Nagaland through MDG Lenses

*Subhashree Sanyal*



***Developmental gaps needs to be bridged which can be done through the three sector partnerships- government, corporate and civil societies***

**N**AGALAND IS a vibrant hill state Located in the extreme North Eastern End of India, bounded by Myanmar in the East; Assam in the West; Arunachal Pradesh and a part of Assam in the North with Manipur in the south. It offers rich incomparable traditional and cultural heritage. According to the Census of 2011, Nagaland has a total population of 1,980,602 people with 1,025,707 males and 954,895 females. The sex ratio is 931 and the density of population is 119 per square kilometre. Nagaland has also recorded a decadal growth rate of minus 0.47 which is a record in the history of this country. The State consists of 11 Administrative Districts, inhabited by 16 major tribes along with other sub-tribes. Each tribe is distinct in character from the other in terms of customs, language and dress.

The economy of Nagaland mostly consists of Agriculturalist and around 75 percent of the population lives in the rural areas. About one-third of this rural population can be considered to be below the poverty line. Among the people living in urban areas one-fifth of them are below the poverty line. The economy of Nagaland is primarily forest-based and agricultural. It has very rich forest resources. Nagaland is also rich in mineral resources including coal, limestone,

iron, nickel, cobalt, chromium, and marble. The approximate reserve of lime stone is 1000 million tonnes and substantial reserves of marble and decorative stone, petroleum and natural gas, nickel, cobalt and chromium are available in the state. But these mineral resources are yet to be explored and exploited. About 68 percent of working population is dependent on agriculture.

The first Human Development Report was published for Nagaland in 2004 and it has been seen that Nagaland has fared well compared to other states in the country. The HDI of the state was estimated to be as high as 0.62 compared to the National average of 0.472 in 2001. The state's high GDP, Education and Health levels contribute to this estimate.

A glance at Nagaland from the perspectives of MDG would help analyze where Nagaland stands in India's development map and the current overall status of progress of the state.

## **Goal 1: Eradication of extreme poverty and hunger**

New official estimates for 2009-10 released by the Planning Commission of India (PCI) revealed that poverty level in Nagaland saw the highest rise among the other states in the country. As per the estimates, Nagaland saw the highest rise of 12.1 percentage

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points in poverty between 2004-05 and 2009-10, followed by Manipur (9.2 percentage points), Mizoram (5.7 percentage points), Assam (3.5 percentage points) and Meghalaya (1 percentage point).

It further suggests that Nagaland has 20.9 per cent (4.1 lakh) population living below poverty line in 2009-10 respectively, as against 37.9 per cent (9 lakh), 15.4 per cent (4.1 lakh) and 8.8 per cent (1.7 lakh) population in 2004-05 respectively.

Nagaland has its rich tribal culture, a lot of focus on indigenous livelihood, self-employment generation programmes, handicrafts will help improve the situation of the population in the state. Nagaland has a suitable soil condition for bamboo and with little interest and care given to the “wonder plant”-bamboo, it would be enough to eliminate poverty in the society. Bamboo cultivation and its products would help tap vast resources useful for the Naga population specially generating their own livelihood. The state government has been investing in a lot of income generation activities to combat the situations of unemployment and poverty.

### **Goal 2: Achieve Universal Primary Education**

Literacy rate in Nagaland has seen upward trend and is 80.11 percent as per 2011 population census. Of that, male literacy stands at 83.29 percent while female literacy is at 76.69 percent. In 2001, literacy rate in Nagaland stood at 66.59 percent of which male and female were 76.04 percent and 56.87 percent literate respectively. In actual numbers, total literates in Nagaland stands at 1,357,579 of which males were 731,796 and females were 625,783. Average Literacy rate in Nagaland for Urban regions was 90.21 percent in which males were 92.11 percent literate while female literacy stood at 88.10 percent. Total literates in

urban region of Nagaland were 452,780. In rural areas of Nagaland, literacy rate for males and female stood at 79.49 percent and 72.01 percent. Average literacy rate in Nagaland for rural areas was 75.86 percent. Total literates in rural areas were 904,799. The total number of literates has gone up from 1,132,323 in 2001 to 1,357,579 in 2011 [Census, 2011].

At present there is one Central University and a number of private colleges and state universities facilitating higher education across the state. The total budget of the Department of Higher Education during 2009-10 is Rs.3862.48 lakhs. Nagaland, there are 51 Colleges, out of which 38 are under private management. The state with grants, scholarships and different schemes is making formidable progress in this direction.

### **Goal 3: Promote Gender Equity and empowerment**

Nagaland has consistently maintained a GDI of 0.7 and above in comparison to the national average of 0.6. This is mainly because of the Naga culture of equal care for the girl child. Naga tribal values and practices have provided a unique framework of gender relations and access to health and nutrition. The contributing factors to the notable GDI in Nagaland are education and the improving opportunity for livelihood. The population of females is 9, 54,895 compared to 10, 25,707.

The Gender Development Index of Nagaland is 0.420 as against 0.623 for HDI. The Nagaland State Human Development Report highlights the inter-district disparity in human development attainments. Among the eight districts in Nagaland, Dimapur with a HDI value of 0.733 ranks highest whereas Mon with a HDI value of 0.450 ranks the lowest. With regard to the gender related development index (GDI), Kohima

ranks the highest whereas Mon has the least GDI value. For the Human Poverty Index, while Mokochung has the lowest value, Mon again has the highest levels of human poverty. In fact, the districts of Mon and Tuensang are consistently ranked eighth and seventh on all the three indices, highlighting the need for concerted strategies for these districts. The cultural implications impact on the gender equity factor of Nagaland which is different from rest of the country.

### **Goal 4: Reduce Child Mortality**

Health indicators in Nagaland revealed that central and state government expenditure on health has increased to 1.4 percent of GDP in 2011-12 from less than 1 percent at the beginning of the 11th Plan. Nagaland fare better when compared with the national average. It is interesting to note that in Nagaland, in spite of the fact that the percentages of pregnant mothers who go for antenatal checkup, mothers who deliver babies in health centers/hospitals, and children, who are fully immunized, are all poor; Infant Mortality Rate (IMR) is two times lower than the national figure. IMR for Nagaland is 23 (No. of infant deaths per 1000 live births) against the national average of 47 as per Sample Registration System bulletin, December 2011.

The National Family Health Survey third round (NFHS III) which was carried out in 2005-06, it was observed that in Nagaland, children deaths are related to the educational status of the mothers. From the study it has been seen that children die due to lack of education of mothers for pregnancy care, child birth care and no idea of spacing in child birth. Women sometimes lack elementary knowledge

Though there is awareness about vaccination and immunization programmes in Nagaland, lack of concern for health care among the population becomes the major cause of infant deaths.



## **Goal 5: Improve Maternal Mortality**

Health Infrastructure and skilled personnel play a very important role in ensuring availability of Health Services in any region. The percentage of people who received anti-natal care is 1.9. There has been 11.6 percent births through safe institutional delivery in Nagaland and is slowly improving.

Cultural factors play an important role, the idea of matriarchal lineage, Christianity and prevailing western culture especially in the tribal dominated states helps the overall the North Eastern Region fares well in terms of sex-ratios, lower maternal mortality and fewer teenage pregnancies. Use of preventive methods for family planning is poorly institutionalized in this region. As per the recent Census data of 2011, 49 percent married women use contraceptives which is progressive and still improving.

Therefore maternal mortality results due to lack of care of pregnant mothers especially in rural areas of the state.

## **Goal 6: Combat HIV/AIDS malaria and other diseases**

The battle against HIV/AIDS in the tiny state of Nagaland is far from over as though the prevalence rate has officially dropped to 0.78 percent since December 2010 from that of 1.27 percent till October 2010, disturbing trends have emerged that suggest that the number of people infected with HIV may actually be on the rise

The total number of persons detected with HIV/AIDS in Nagaland till December 31, 2011, stands at 12,440 with Dimapur district accounting more than 4,000 cases. The total number of unregistered HIV/AIDS cases is anybody's guess as stigma and discrimination against persons infected with HIV/AIDS still continues. And while HIV infection through drug injection has climbed down to 3.5 percent, transmission through sexual route has gone up to

89 percent in Nagaland. Efforts are being made by the state aids control society for promoting safe sex practices and also reducing usage of syringes by drug users.

## **Goal 7: Ensure Environment Sustainability**

The topography of Nagaland is mainly hilly. According to Environment Sustainability Index, the state stands 4 on ESI Scale. The impact on Human Health and Disaster is 0.60 which is much lower compared to other states. The land use and agriculture stands on an average of 0.69 on ESI Scale. Report states that Nagaland stands highest on the ESI Scale as of 2011.

The greater part of Nagaland is hilly and rugged terrain. Though the vegetation cover is dwindling, still there are many areas which are inaccessible. The stretch of land bordering Assam is flat and low lying. Anthropogenic activities which include *Jhum* cultivation, deforestation and reckless burning of forest land are a matter of concern for environmental degradation and soil erosion. Natural damage to the environment is also a major factor of concern as the land is hilly and rugged, and the adverse climatic conditions of very cold winters, hot summers and heavy rains have very serious bearings on the soil.

There are different hazards which Nagaland is prone to, mainly Earthquake, Landslide and Cloudburst. Efforts should be made by the state to construct their structures [both government and private] with expertise. Land use need to be planned to prevent landslides and flood. 30 percent area of Nagaland is known as rice bowl state. Commerical crops include Sugarcane, Jute and Potato.

## **Goal 8: Develop a global partnership for development**

Nagaland is predominantly governed by its indigenous culture. There is a need to bring holistic development across the region. Having a rich resource base the

state can promote tourism and open up gates for investments in this sector. The uniqueness of culture can be a bargain point for global partnerships and development. Development of infrastructure, roads, easy communication services, health care, sanitation and ensuring safe drinking water is the need of the hour. Therefore state with the partnership of Civil Society Organizations and other development authorities like DoNER and NEC can bring about global partnership and progress in the state. More encouragement towards promotion of local culture, livelihood generation and unique products which can be an attraction for global partnerships and also turn bring income generation to the state.

## **Commentary**

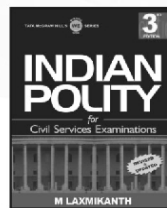
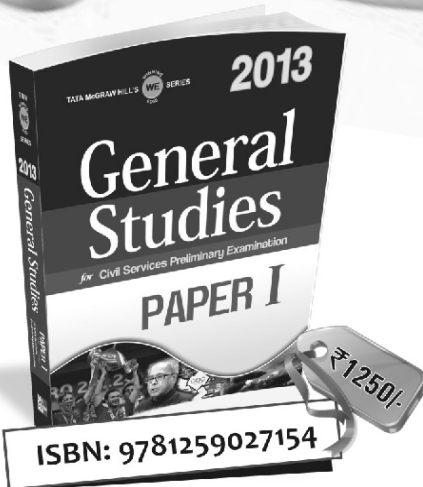
Nagaland is blessed with abundant natural resource, mixed cultivation and a very strong indigenous culture. The state is lagging behind in terms development and infrastructure primarily. Though the government is focusing on development of North Eastern Region there is a special need to explore need based intervention in the state. All government programmes and policies implemented in the state need fruitful implementation. Expertise to build roads, housing should be brought in to the state. The state is already ahead in terms of health and education compared to others in North Eastern India and this can be further accentuated to achieve a higher HDI. Developmental gaps needs to be bridged which can be done through the three sector partnerships- government, corporate and civil societies. Indigenous culture and products need to be promoted. Youth may be involved to acts as catalysts and agents to social change. A holistic developmental approach is the need of the hour to promote a better HDI, invite tourism and accentuate the achievement of millennium commitments. □

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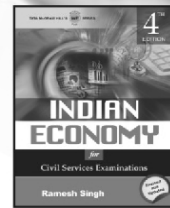
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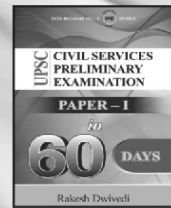
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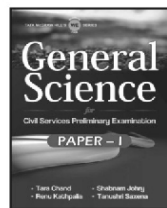
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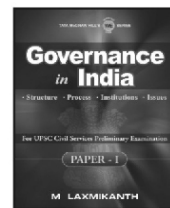
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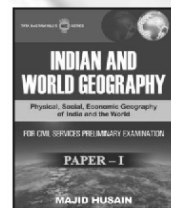
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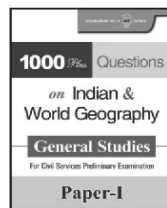
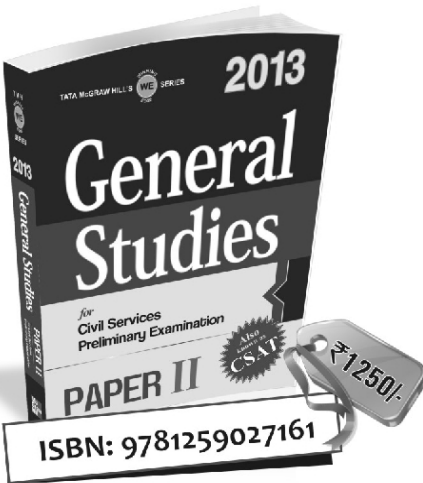
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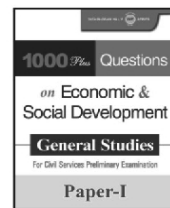
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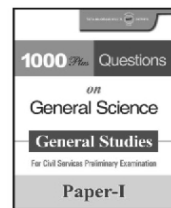
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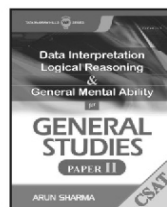
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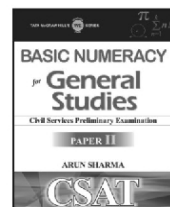
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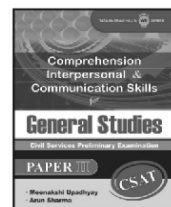
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YE-221/2012

# Nagaland : An Emerging Tourism Destination

*Sandeep Banerjee*



***Greater human resource development and more trained manpower is the need of the day in the Tourism sector of the state. In the same vein, despite the good strides that has had been taken, more quality infrastructure also needs to come up to lure better and quality tourists into the state***

**N**AGALAND, A narrow strip of mountain territory lies east of Assam and West of Myanmar. One of the smallest states of India, it has its North Eastern neighbours, Arunachal Pradesh and Manipur to its north and south respectively. Nature could not have been kinder to this predominantly tribal state, sometimes referred to as 'Switzerland of the East'. Blessed with great valleys, meandering streams, high mountains, deep gorges and a rich verdant variety of flora and fauna, it is shaped perfectly for a breathtaking experience for any visitor who comes attracted to this exquisite landscape. The state has a population of less than 2 million people yet these few people are composed of a unique amalgamation of 16 different tribes having their distinct ethnic and cultural identities.

Each tribe have their own unique language, unique customs and traditions which are quite distinct from other parts of India and so adds to the charm and mystique of the place. Dimapur, the business

hub and the only rail head in Nagaland finds mention in the epic Mahabharata. Bhima is believed to have visited Dimapur and married Hirimba, belonging to the great Kachari dynasty. So Dimapur is one of the most ancient sites of Magalithic culture.

The capital city of Kohima is a beautiful hill station and has the historic World War II war cemetery.

Though having potential of being a heavenly tourist destination, the state remained a virgin territory for a long time due to the extremity of its location, the inhospitable terrain, lack of infrastructure and the 'disturbed area' tag attached. Not enough measures had been taken to promote tourism in the region. People were restrained to visiting this state because of preconceived notions. However stunning and beautiful the place may be but devoid of proper promotion and the flair to the market the uniqueness cannot at once bloom like magic.

But after remaining under the shadow of mutual distrust,

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misunderstanding and endless strife for a long time, Nagaland has slowly but surely trudged back to normalcy. And with it, the states potential as a tourist destination and the interest to promote the same is also gaining momentum.

The troublesome years of the past has also been bit of a blessing in disguise as it has preserved the beauty, natural wealth and the overall sanity of the place. Today as India's North East is making rapid economic progress and is trying to carve out a corridor into South East Asia, the state of Nagaland is also standing on a threshold of economic boom. Among all other Industries that the Central and the State Government's are trying to promote, sustainable tourism is gaining the upper hand, for it is the only way for progress and eco friendliness to walk hand in hand. If, for the traveller, there are a plethora of places to discover and so much culture and exoticism to experience, at the same time for the investor there is a imminent 'gold rush' waiting to happen, given Nagaland's tourism potential..... all it needs is a bit of vision on the part of the entrepreneur. Of late, the Government of Nagaland is making every effort to promote tourism and the Directorate of Tourism, the nodal agency for promotion of tourism, is no more a vestigial organ as it was considered a few years back. Rather the Directorate has become very pro-active, particularly in trying to lure in prospective investors and waiting with open arms to welcome them by providing all support and incentives to them. Besides the Directorate

is today playing the pivotal role in implementing programmes of infrastructure development, strengthening promotional and marketing efforts and in generating Tourism awareness amongst the masses. The Directorate has already constructed a number of Tourist lodges and Tourist Rest Houses across the state to make it more attractive and comfortable for tourists.

The Government of Nagaland is promoting the State as an ideal destination for Cultural, Ethnic, Adventure and Nature tourism. Plans are on to develop amusement parks, ropeways, large resorts and hotels in order to prepare the right infrastructure for all kind of tourists. At present the State Government is also making all out efforts to promote a rural tourism model exploiting the unique cultural heritage of the State. The Government has designed a unique model whereby villagers generate their own income through the communitisation of assets. Under the guidance of the Village Tourism Board, the villagers sustain their own villages and generate revenue through tourism. The threefold objective of this model is to conserve and promote natural resources of Nagaland, promote its cultural heritage and promote Eco and Adventure Tourism. All this is presently underway and being achieved through regular seminars/ workshops and various other HRD efforts.

Once he enters a village, the 'Tribal Code of Honour' provides hospitality and protection to the tourist, who by default turns into

a guest and friend of the whole village. Warmth of the whole village fraternity ensures that no harm or hurdle befalls the guest. In fact the guest can even participate in the cultural and traditional activities of the villagers as also cooking, using local produce, besides enjoying culinary skills of the host. In fact this model has already caught the fancy and imagination of some of the foreign tourists who visit Nagaland. Under this model the State Government has been promoting a number of villages as a favoured destination for rural tourism. The Ao villages of Longkhum and Ungma as also Dzulekie, Poilwa and other villages enroute to the beautiful and stunning Dzoukou valley in the Southern Angami region fall in this category. Nearer to the state capital Kohima, is the village of Khonoma, noted for valour and courage. The terraced fields which produces twenty types of paddy at different elevations, present a fantastic view. The Khonoma Gate relates the story of British infiltration into Naga Hills.

The people of these villages are planning, running and managing the infrastructure setup as well as catering to the tourists as a step towards the process of decentralisation and communitisation of the Tourism sector. Three pilgrimage centres namely Vankhosung ( in Wokha district), Inpur and Mulungimsen ( both in Mokokchung district) have also been promoted with the setting up of necessary infrastructure.

The State Tourism Policy of Nagaland came into force in the year 2001 for planned development



of Tourism in the state. Foreign Tourists required Restricted Area Permit (RAP)/ Protected Area Permit (PAP) to visit the state.

Under the State Tourism Policy the procedure to obtain RAP was first simplified and ultimately on January 1st, 2011, it was withdrawn completely. The new rules only require foreigners to register themselves at the Local Foreign Registration Office of the district they visit within 24 hours of their arrival. The citizens of Pakistan, Bangladesh and China, however, still need RAP/PAP to visit the state. The lifting of RAP/PAP and the measures carried out to boost tourism under the Tourism Policy of 2001 has definitely worked with the state slowly but surely seeing a gradual increment of tourists every year, even though the Inner Line Permit (ILP) regime for domestic tourists for visiting interior Nagaland is still in force. However, NGO's like the Shillong based Impulse Network and concerned citizens of the state while happy that the relaxation of norms and opening up of the tourism sector has boosted tourists flow but at the same time they are also wary and concerned regarding the issue of safe and responsible tourism without any exploitation of the local populace and other associated problems that it may trigger like prostitution and drug trafficking, if not handled and controlled properly, particularly in a tribal state like Nagaland, the majority of whose citizen are average village folks cocooned in a world of their own.

They advocate that the Code of Conduct clause for tourists can

be adopted and incorporated in the existing Tourism Policy of the State to send out a strong message as also enhance the image of the state as a frontline tourist destination.

Today the best example of tourist inflow, both foreign and domestic, into Nagaland, can be witnessed during the annual Hornbill Festival. Festivals dance and music abound in the lives of the Nagas. Every tribe has its own colourful Festival, held at a particular time of the year, that sees feasting and dancing, attired in resplendent garb unique to each tribe, to their own tribal songs and rhythmic music that is produced out of indigenous local musical instruments. To name a few, the Moatsu Festival of the Ao's in spring, the Sekrenyeni Festival of the Angami Nagas in end February, the Monyu Festival of the Phoms celebrated in the month of April and the Tokhu Emong of the Lothas in early November are getting popular amongst tourists. The State Government as well as the Directorate of Tourism is also trying to catch on this fervour to develop a tourism calendar of the state to lure the visitors by the many colourful Festivals of the state. However, only those tourists having leisure and time on their hand can afford to visit the interior of the State to taste the various Festivals that abound in Nagaland. But for the general tourist who come on compact tours, the State in what can be called a masterstroke, the State Government decided to showcase a capsule of Naga culture to the world in a seven day annual event that came to become famous as the Hornbill Festival of the State, named after the rare Great Indian Hornbill bird unique to Nagaland.

The first edition of the Festival was held in 2000 and in little more than a decade it is today the front runner amongst the festive attraction of the whole North Eastern region, attracting a bevy of domestic as well as foreign tourists. The Festival starts every year from the 1st of December, the day Nagaland became the 16th state of the Indian Union in 1963. It is held at the Naga Heritage village of Kisama, some 12 kms away from the state capital Kohima. The last edition in 2001 saw about a lakh visitors that included both domestic and foreign tourists. Tourists came to witness the Festival from as far as England, Poland, Israel, Japan, Thailand, USA, Italy, Germany, Ireland, Austria, Holland, Belgium, Hawaii, Myanmar, Vietnam and Laos. Apart from showcasing the culture, dance forms, music, beauty and traditional games and customs of Nagaland, the Hornbill Festival also brings under its celebration the dances and music of all other states of the North East region. So apart from tourist centric significance, the Festival also is high on value today in forging a spirit of togetherness and unity amongst the various tribes of the state as also the various states of the North East at large, something that is felt so necessary in today's socio-political, cultural as well as economic context.

The breathtaking beauty of its landscape, its varied flora and fauna as well as avian life, the history of its people and the rich diversity of its ethnic tribes and their rich heritage of ancient tradition and lifestyles, its festivals, many dance forms, lilting music and variety

of handicrafts, make Nagaland a holiday wonderful that's begging to be discovered afresh. It is botanically one of the richest spots in the world. The diverse natural vegetation supports myriad species of animal life and rare medicinal plants, many of which are still to be documented. Nagaland is home to around 360 different types of orchids. This land of floral diversity boasts of the tallest Rhododendron tree in the world as listed in the Guinness Book of Records. Aptly so, the State Government has capitalised on this floral richness to start the 'Rhododendron trails' and the 'Orchid trails' with local guides who are familiar with jungle ways, as an eco-tourism activity. Being a trekkers paradise, in particularly trekking hotspots like the Dzoukou valley, the Directorate of Tourism

provides for trekking equipments and tents to the trekkers who want to explore the beautiful landscape on foot. All these efforts are today contributing in providing a steady flow of tourists to the state.


The Tourism Department has launched its own website and has also launched a strong publicity and propaganda campaign to sell and promote Nagaland as the favoured tourist destination of this Century. The Union Tourism Ministry has also rendered great help by promoting Nagaland alongwith other states of North East continuously in the print, online and electronic media. Nagaland today avails and immensely benefits from the opportunity to set up pavilions in the major tourism Fairs held across the country and even abroad.

But for even better results, greater human resource development and more trained manpower is felt as the need of the day in the Tourism sector of the state. In the same vein, despite the good strides that has had been taken, more quality infrastructure also needs to come up to lure better and quality tourists into the state.

For long, the very mention of Nagaland brought a picture of unrest and turmoil to mind. But definite winds of change are blowing across this North Eastern state. Bygones are best put in the realm of oblivion. Today Nagaland is looking ahead. Today Nagaland beckons..... it is an open invitation to explore its throbbing beauty and romance its many thrills. □

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YE-2162012

# Kelkar Committee on Fiscal Consolidation

*G Srinivasan*



***On the fiscal deficit, the roadmap lays stress on bringing it down from 5.3 percent projected at 2012-13 to three percent of GDP by 2016-17, the final year of the Twelfth Five Year Plan***

**T**HE GOVERNMENT has taken the initiative of fighting the fiscal deficit reduction battle by unveiling a medium-term road map with the Union Finance Minister Mr P. Chidambaram announcing on October 29 his unequivocal commitment for fiscal consolidation as “the top of the list” on the agenda to bring the economy back on the rails of the high growth path. India today is faced with the twin deficit, the current account deficit and the fiscal deficit. The second quarter review of monetary policy by the apex bank also highlighted the dangerous repercussions of the twin deficit on the economy if left unattended urgently.

The government is resolute to address the twin challenges of current account deficit (CAD) and fiscal deficit. In 2011-12 the CAD climbed to \$78.2 billion or 4.2 percent of gross domestic product (GDP). Now the Finance Ministry in consultation with the RBI has projected a CAD of \$70.3

billion in 2012-13 or 3.7 percent of GDP with the government fully being sure of financing fully the CAD through capital inflows, a substantial part of it would be in the form of foreign direct investments, foreign institutional investments, thanks to a raft of reform measures announced in mid-September and through external commercial borrowings.

On the fiscal deficit, the roadmap lays stress on bringing it down from 5.3 percent projected at 2012-13 to three percent of GDP by 2016-17, the final year of the Twelfth Five Year Plan. Though this roadmap is a bit stretched one than the ones given by the 13th Finance Commission and the Kelkar Committee Report on fiscal consolidation which projected the pruning of fiscal deficit to three percent of GDP by 2014-15. Nevertheless the fact remains that the government is determined enough to make its efforts bear fruit on the fiscal consolidation programme in the medium-term. It would also not be out of context to note that the country’s fiscal

The author is a Delhi-based Senior Journalist.

deficit in the first half of the current fiscal stood at 65.7 percent of the budgeted amount, thanks to higher revenues and better management of expenditures. The Finance Ministry has also put in place stringent expenditure monitoring measures to contain expenditure, including a mandatory cut of 10 percent in non-plan expenditures.

It would be germane to go back to the report of the Kelkar Committee. It was appointed by the Government to come out with a credible fiscal deficit reduction programme when there was the avalanche of accusations that the government remained unconcerned in the crucial domain of policy implementation in launching the second generation of economic reforms. Hence in the middle of September this year, the government shed its earlier reticence by unveiling a series of economic and policy reforms. Designed to re-establish its credentials as the original architect of India's economic and trade policy liberalisation, the welter of activities by the government were purported to rev up the economy and to guard itself against the ire of foreign institutional investors. The Government also lost little time to release a report to justify its seriousness over the growing fiscal deficit problem. Chaired by the distinguished economist Dr Vijay Kelkar with Indira Rajaraman and Sanjiv Misra as members, the report outlining a roadmap for fiscal consolidation in a medium-term framework stirred up a hornets' nest by focussing on slashing fuel and food subsidies, besides

recommending the rationalization of plan expenditures.

In a foreword to the report Dr Kelkar stated that "while proposing a frontal attack on inequitable subsidies, we have kept in mind the need for maintaining the sinews of growth as well as social protection needs of disadvantaged sections of our society". But the concomitant recommendations in the report do not countenance any credible strategy to balance these two crucial issues. This is particularly at odds with the ruling dispensation's avowed objective to pitch for inclusive growth to ensure that the benefits of reforms do not bypass the vulnerable sections and the really needy.

Describing the economy as being poised on the edge of a fiscal precipice, akin to the one it encountered in 1991, the Committee said a careful scrutiny of the fiscal trends hitherto in the current year suggests "a likely fiscal deficit of around 6.1 percent which is far higher than the budget estimate of 5.1 percent of GDP, if immediate mid-year corrective actions are not taken". It said while runaway fiscal deficits, leading to unsustainable levels of public debt, could trigger diverse forms of macro-economic imbalances varying with the means through which the deficit is financed, the current account deficit (CAD) was already high at 4.2 percent of GDP in 2011-12 and could worsen further. The Reserve Bank of India too in its latest annual report bemoaned that "the wide fiscal deficit along with the wide CAD is symptomatic of macro-economic deterioration. These

have also dented India's relative attractiveness in the eyes of global investors and prompted some sovereign rating agencies to put India on a watch list for a possible sovereign rating downgrade".

The rationale for a credible and effective fiscal consolidation postulated by the Committee is predicated on three major grounds: (i) the economy is in the state of high fiscal stress, with a 'do-nothing' approach likely to result in a Central government fiscal deficit of 6.1 percent of GDP in 2012-13; this could result from a likely shortfall in gross tax revenues by around Rs 60,000 crore and higher than budgeted expenditures on subsidies, by about Rs 70,000 crore; (ii) this fiscal stress is also compounding the problem of twin deficits, with the current account deficit at 4.2 percent of GDP last year and possibly at 4.3 percent of GDP this year, at a time when the global market and capital flows are exceedingly fragile and where financing of this magnitude is creating huge risks for macroeconomic and external stability and (iii) the gross borrowing requirement, already high, is likely to exceed last year's level by a large margin (5.8 percent of GDP versus 5.4 percent of GDP last year), leading to crowding out of private sector financing for investment. Foreign exchange reserves are falling and the currency is especially vulnerable, the report cautioned adding that "the combination is reminiscent of the situation last seen in 1990-91".

Stating that India is clearly an outlier in terms of major fiscal



indicators in cross-country benchmarking, the report also warned that currently the country has the “least room for counter-cyclical fiscal policy response if conditions take a turn for the worse in global markets”. Interestingly, the Committee’s contention that yet another strategic consideration demands that as a responsible nuclear power, India pursues “a responsible fiscal policy” smacks of stoking up unnecessary fears. This is particularly so when big nuclear powers like the United States and some major European countries suffer the worst fiscal crisis at this juncture than seldom before and frown upon any austerity measures to rein in deficit or lower borrowing ceilings!

Referring to subsidies, it said subsidy on diesel was a major contributor to fiscal slippage in recent years. Hence it advocates a minimum objective to eliminate half of the diesel per unit subsidy during this year itself by March 31, 2012 and the balance over the next fiscal year. At the recent Petro Tech Conference held in the national capital President Pranab Mukherjee underscored the need to align domestic fuel prices with global ones, the Union Finance Minister Mr Chidambaram voiced serious concern over the country’s growing oil subsidy, stating that subsidies on petroleum products are clearly “not sustainable and we must devise ways and means of correcting the price distortions”.

The Kelkar Committee said policy goal should be to eliminate the LPG subsidy by 2014-15 by reducing it by 25 percent this year with the remaining 75 percent reduction over the next two years. For kerosene, the aim is to reduce the subsidy by one-third by 2014-15.

In fertiliser subsidy, it proposed an immediate revision in the price of urea not only to prune the high subsidy but also cut down the unsustainable imbalance in the current consumption pattern of fertiliser. On food subsidy, it plumped for an increase in the central issue price (CIP) supplied through public distribution system, though it suggests that the increase may be targeted to shield poorer sections of the society by limiting the price increases to consumers above the poverty line (APL). Alongside it also favoured more efficient foodgrain delivery operations in the medium term.

On prioritization of plan expenditure and efficient use of available resources, it suggests reallocations across schemes so that substantial savings can be ensured. However, it hastens to note that these cuts are made “without in any way affecting benefits to malnourished children and lactating and pregnant mothers and employment generation which protect the most vulnerable segments of the Indian population”. It specifically sought the Planning Commission

to improve its monitoring systems and keep “a very careful watch on the downstream deployment of its expenditures”.

All these measures coupled with disinvestment of minority government equity stakes in private entities such as the holdings in HZL and BALCO and monetizing government’s unutilised and under-utilized land resources to finance infrastructure needs in urban areas and raising the tax-GDP ratio from 10.3 percent in 2012-13 to 11.1 percent in 2014-15 would help in the tough battle of bringing down fiscal deficit to a manageable level. But the moot point is that with some of the measures requiring political consensus or legislative imprimatur, the government is in an unenviable predicament. With a series of entitlement-schemes such as MNREGA and social protection programmes to implement, resorting to measures like pruning subsidies or raising food grains price or slashing plan outlays on pet projects would be quite unthinkable to the UPA as the results would be too difficult to handle. But the way the government went about subsequently that it is determined to stay on course in implementing reforms, the chances are that the twin deficit currently besetting the economy would be brought down substantially and growth impulses galvanized in the short to medium-term. □

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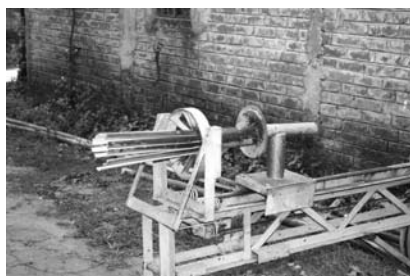
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YE-212/2012

## Mechanical Innovations for Commercial Applications



***Uddhab is of  
the view that  
every human  
being has a  
hidden scientific  
inclination,  
which requires  
nurturing***

**U**DDHAB BHARALI (48) is a serial innovator who has designed and prototyped an entire range of mechanical innovations since his first innovations in 1987. He has innovated around eighty-five engineering devices for different purposes. Out of these thirteen have found commercial applications, albeit most being individual custom orders from different parts of the country. As of today, he has set up a research workshop in his idyllic hometown of North Lakhimpur. It is a small town, on the banks of the Brahmaputra river and in the foothills of the Himalayas, surrounded by lush tea gardens on gentle slopes. He has set up a workshop to help local communities and industries solve their technological needs.

### **Innovator's profile**

Born in a middle class family in North Lakhimpur District of Assam, Uddhab completed his schooling from Lakhimpur. After that his interest in making machines prompted him to take admission in the Jorhat Engineering College. Unfortunately he had to leave the course after three months because of the recurrent problems due to Assam Agitation. He then thought of doing the same course via correspondence and took admission in an engineering college in Chennai. Unfortunately,

this time also he could not complete the course and only had time to complete the AMIE due to the sudden death of his father. He was called back as his family was neck-deep in debts. However, he used his flair for developing machines to repay his father's debts by starting a polythene film making industry in 1988 to cater to the demand from the surrounding tea estates. Instead of buying the "Polythene Making Machine", which then costed around four Lakh rupees, he designed and developed the same machine at a cost of only sixty seven thousand rupees. The success of this machine gave Bharali the confidence to develop more machines. After repaying his father's debts, in 1995 Sri. Uddhab Bharali got a contract for looking after the machineries used in a hydropower project in Arunachal Pradesh at a place near the China Border, where people usually didn't prefer to work. After three years he had to come back to his hometown due to the death of his elder brother.

At present, Bharali's extended family comprises his wife and a five year-old son, his widowed mother, widowed sister-in-law, three young sisters and a younger brother. Bharali, a positive thinking person, also plans to get his widowed sister-in-law married as, according to him, everyone has the right to live his or her life to the full content of his/her heart.

Besides innovating new machines, Bharali likes to read

books on medicine and also has an informal degree in Homeopathy.

### The innovations

Since he first developed the Polythene making machine in 1988, Bharali has developed a number of machines, which he considers as his main assets that have and will always help in his time of need. Some of these machines are:

**Pomegranate De-seeder:** It separates the outer cover and thin inner membrane without damaging the seeds. It has a capacity of deseeding 50-55 kg of pomegranate fruits per hour. The machine has been exported to Turkey and USA.

**Arecanut Peeler:** Annoyed by the injuries caused while peeling the areca nuts manually, he developed an areca nut peeling machine with a capacity of peeling 100-120 nuts per minute. **Cassava peeler:** It is a portable electric machine that can process up to five kg of cassava per minute. NIF facilitated the technology licensing on non-exclusive basis to a Guwahati based entrepreneur. One unit has even been sold to a customer based in Kenya.

**Bamboo processing machines:** Bamboo processing by hand is a time consuming and difficult process. Bharali has developed an assembly of machines that can perform operations like splitting long lengths of bamboo, sizing, surface finishing, polishing etc. These units have been installed with the help of NIF in a CFC (Common Facility Centre) of the NERCRMP (North Eastern Region Community Resource Management Project) at North Cachar hills in Assam.

Bharali has also developed *remi* recortication machine, garlic peeling machine, tobacco leaf cutter, paddy thresher, cane stripping machine, brass utensil polishing machine, *Jatropha* de-seeder, mechanized weeding machine, passion fruit juice extractor, trench digger, chopper for cattle and fisheries feed and portable *dheki*.

For many of his innovations, the innovator was supported under the Micro Venture Innovation Fund scheme (MVIF) at NIF. Facilitated by NIF, the innovator was also supported from the TePP scheme at DSIR, Government of India.

### Product application and dispersion

Apart from having his innovations like the pomegranate-deseeding machine being sold to customers in countries like Turkey and USA, Uddhab has had a lot of distinction to his name.

Presently, he has been made a Resource Scholar by the Indian Institute of Entrepreneurship in their recent venture "Technology intervention in academic Education". Uddhab received a mention in MIT Journal for his innovation of the pomegranate-deseeding machine. He is also acting as a technical consultant to RUTAG (Rural Technology Action Group) for the development of *Endi* technology in IIT, Guwahati. Central Silk board has also sought his help to redesign a sophisticated version of *Muga* reeling machine. He has also designed as tea pulveriser & passion fruit gel extractor for NERCRMP (North Eastern Region Community Resource Management Project). Financial institutions like NEDFI also want his skill with a proposal for developing bamboo mat making machine. On request from several NGOs of the NE region he has also come up with several low cost manual bamboo craft machineries.

In April 2009 he came up with a root-slicing machine for ASHRAMS Biotech Pvt Ltd, an herbal medicinal farm in West Bengal.

### Strategy and Vision

Uddhab is of the view that every human being has a hidden scientific inclination, which requires nurturing. He thus selects youths having potential for learning,

irrespective of their academic qualifications. He selects eight youths per batch and trains them on various machine technologies. The training is imparted for a period of three months on a condition that each trainee has to be able to draw at least INR 800/- as salary per month from him to be qualified as a skilled workman. He provides food and lodging completely free. In addition to free food and lodging he also pays a stipend of INR 300 per month to meet their pocket expenses. He provides free medicine to each trainee and his or her family members as an incentive to create a pull for other potential youths for training. He conceived the idea of costless word-of-mouth marketing of his training programme since he cannot afford any marketing budget.

Uddhab says that his greatest achievement and contribution to mankind would be the successful commissioning of a mechanized toilet for the handicapped.

Uddhab has two dreams; one is to set up an unconventional orphanage in his hometown, which will produce technical experts. He has designed the training module in such a way that he will devote time in empowering these orphans only in technical know-how so that they become employable in the least amount of time. Once they start earning money, they will be able to acquire knowledge on other important subjects like history, mathematics, sociology etc.

His second dream is that of an industrial village which will have a multi-specialty skill development centre as well as a common facility where each person can bring in raw materials and get the intermediate product as per requirement. He also wants to enable senior citizens to learn scientific skills to become self-dependent when it is no more assured that younger children would take care of them in old age. □

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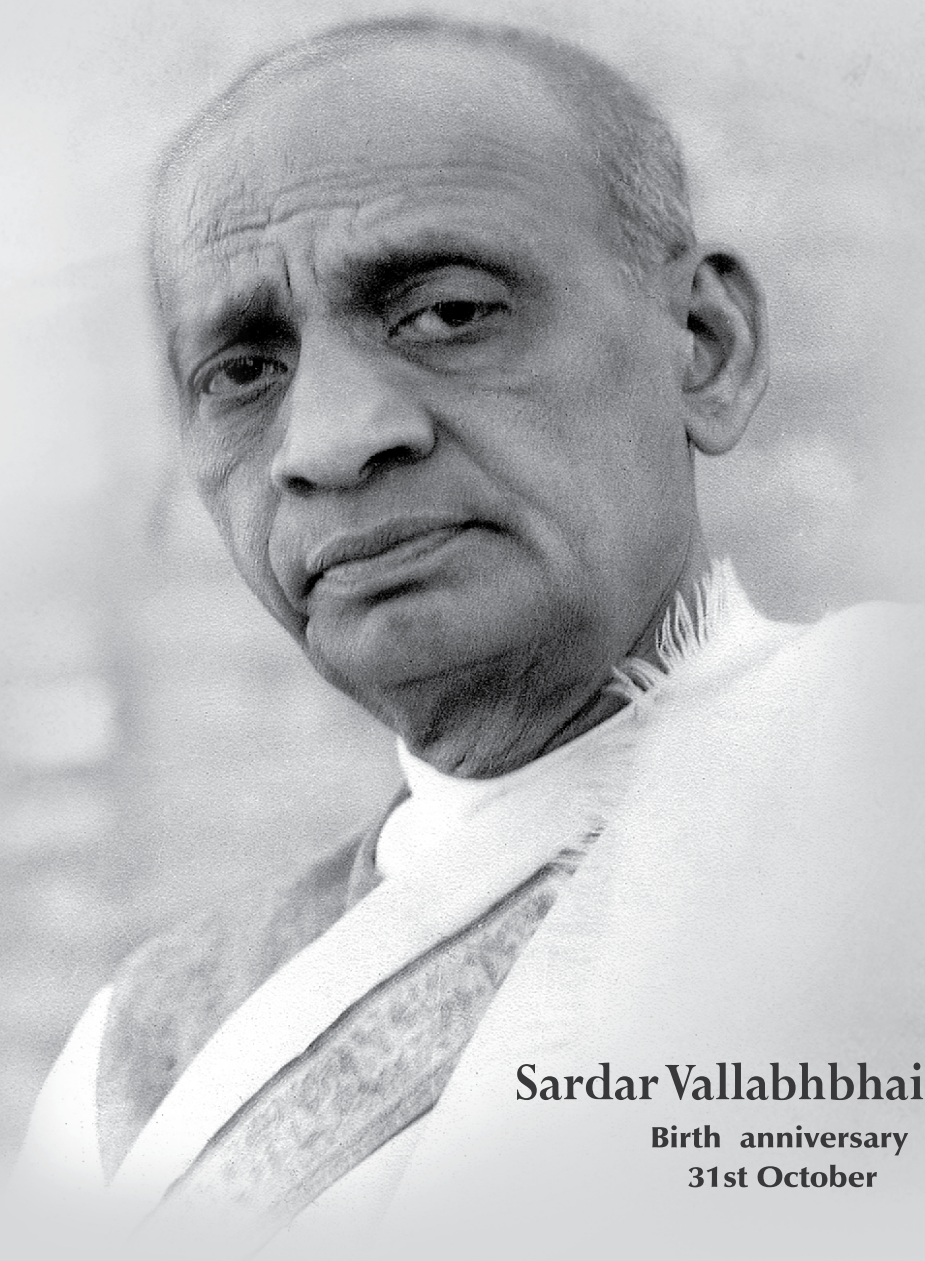




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**“We have to shed mutual  
bickerings, shed the difference  
of being high or low and develop  
the sense of equality...”**

*Sardar Vallabhbhai Patel*



**Sardar Vallabhbhai Patel**

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YE-219/2012

# Nagaland—A Land of Festivals

*Amitabha Ray*



*Festivals perhaps serve as a conduit of recreation and respite in the daily life of Naga people, which is otherwise a bit hard owing harsh weather conditions in this farflung region of our country*

**C**OME DECEMBER. Be in Nagaland or rather in Kohima. To be very precise, it is Kisama Village which is about 12 Km. from Kohima. Now you have reached the Hornbill Festival.

Hornbill Festival was launched by Government of Nagaland in the first year of new millenium. Since then the Government controlled festival is being organized in the first week of December every year. Though, the weeklong festival unites one and all in Nagaland and take a shape of fair, people from all corners of the state, neighbouring states and abroad gather together to enjoy the colourful performances, crafts, sports, food fairs, games and ceremonies. Traditional arts like hand-paintings, wood carvings and sculptures are also displayed in this festival. In addition, one can enjoy flower shows, cultural medley, songs and dances, fashion shows, beauty contest, traditional archery, Naga wrestling, indigenous games and musical concert. Unusual events like climbing greased bamboo pole and Naga King Chili eating contest evolve great response. Finally, herbal medicine stalls in the fair draw large crowd.

After enjoying the symphony of traditional tribal cultures of different tribes and sub-tribes of Nagaland, if you have interest in historical artifacts, visit the Kohima War Cemetery. This cemetery is a tribute to the soldiers who laid down their lives during World War II. The dead bodies of around 1100 British and 330 Indian soldiers were buried here.

The widely publicized Hornbill Festival is a bit sophisticated compared to rituals in traditional festivals of Nagaland. It does not follow the rituals that are elaborate or spontaneous like festivals celebrated in the villages. Specifically, festival in particular times of the year when the entire village participate in the rituals. Here, the rituals are more compact as to make it look simpler and acceptable to spectators from outside the state. The programmes are performed with a great deal of zest and pride. A particular village that performs at the festival might get the next chance for about 40 to 50 years and some even longer. Each tribe is represented by a particular village each year. The bigger tribes like the 'Ao' and 'Angami', have many villages and a particular village has to wait a long time for its turn to perform again at Kisama.

The author is Deputy Adviser in the Planning Commission.

Nagaland is known as the land of festivals. Each of the 16 major tribes and many sub-tribes in the State has its own way of maintaining its distinctive cultural traditions and customs through various forms of performing arts, which are an integral part of all Naga Festivals. Over 80 percent of population of the state is directly dependent on agriculture and most of these festivals evolve around agriculture. In this blissful setting, endowed with abundant natural beauty, Naga people enjoy the blessings of nature with a rare gusto striking onlookers with awe and admiration. The festival of Nagas have major traits that can be identified with qualities of Christianity. However, the local flavour, traditions and sentiments are not comprised at all.

Aoleng Monyu is celebrated by the Konyak tribe of Mou district to observe the traditional post-sowing festival period. This six days long festival is celebrated in the month of *Aoleng Lee* (March-April). Here prayers are performed to deities Youngwan and Kaahshih for health, harvest, safety and progeny and local delicacies i.e. pound, chop and brew rice, meat and beer are served. Fishing, hunting, and sports to singing, dancing and feasting are regular phenomena. In earlier times, Aoleng Monyu was also an occasion for settling engagements and marriages.

Bushu is an eight day long festival observed in last week of January by the Kachari tribe in Dimapur district. To the Kachari, Bushu is music for the soul. Kacharis celebrate Bushu with a lot of singing, dancing and merry making are also part of the festival and showing respect to the elders as ritual. A *Muree*, bagpiper like local flute, is played throughout the festival.

The Zeme and Liangmai tribe generally known as Zeliang of

Peren district observe the post-sowing festival, Meleing in Chega-N-Khia during March and October every year. With the chanting of the village priest the festival starts with lighting a fire as a symbol of protection to the women and children from enemies and wild beasts. Villagers take the holy fire to their houses and to cook their own food. During this festival, the women enjoy a recess from their daily routine of weaving and household work. The festival also gives opportunity for family get-together, exchange of gifts, arranging community feast, hosting drinking parties and other cultural activities. Besides the young unmarried men as a traditional practice go for invading the forest to show their gallantry to their girlfriends.

Metum-Neo festival is observed in two districts i.e. Tuensang and Kiphire by the Yimchungru tribe. The harvest festival starts on August 8 and continuous for five days. As per local belief, the rice beer-loving god Arimpuh wants his followers to take a five day break from harvesting millets. After an announcement by the priest that the festival is on, the healthiest animal is sacrificed. Portions of meat are distributed among the villagers. Other than seeking prosperity, it is the time to forget enmity and propagate friendship through a series of community activities through sports, singing, dancing etc.

The Kuki tribe of Peren District believe the demons rule the underworld and it is better to keep Kuki Dhilha the demon in good humour. During January they observe the Mimkuut festival to appease the demon. Festival starts and ends with the sacrifice of the two white fowls. Before the onset, they clean the village, fields, water sources etc. During the festival

the youth living in the common dormitory known as *Phan*, must have to catch hold of a Mithun from the forest for the grand feast during the festival.

The 'Ao' tribe of Mokokchung district celebrate Moatsu as a post-sowing festival during May for six days. Tug-of-War sport is arranged to mark the activities of 'stretching of paddy'. In fact, Moatsu means better harvest in the days to come. During the festival the Aos try to appease their god Lijaba by sacrificing pigs and cattle. The cooked meat and rice beer are served by the women to the dancing youth who move around the village to expel the evil. Village head delivers his advices on the issues that need to be addressed in near future. Circulation of government policies through Moatsu altar is a recent addition.

During September every year the Sangtam tribe of Tuensang/Kiphire district observe a six days long harvesting festival known as Mongmong. 'Six' is a sacred number for the Sangtam community. A baby boy is named after six days of his birth. During the festival one *baberu* (priest) announces a dummy festival for the spirits of the dead and another *baberu* declares the actual Mongmong for the living ones. The actual celebrations starts after observing Musuyangtap, a custom to pay obeisance to three stones in the kitchen harth representing god Lijaba.

Monyu is a post-sowing new year festival observed in the first six days of a peril of every year by the Phom tribe of Longleng district. Monyu means affection and respect to the women and provides an opportunity for the male members of the family to show their affection to their married daughters and sisters by giving them the best rice beer and specially prepared food. The festival ends with the elderly

people exchanging meat and jugs of rice beers.

The Chang Tribe of Tuensang district celebrates Nakyulum in mid-July every year to get rid of darkness. The oldest man of the village takes the lead to decorate the community dormitory and distribution of millet cakes among the children.

Nazhu a sowing festival is observed during February for ten days by the Pochury tribe of Phek district. Nazhu is all about the spiritual connection between the living and the dead and between the people and their unseen protector. Besides, Nazhu promotes a bonding within the community. Apart from other functions, selection of partners by the unmarried youth is also a component of the Nazhu festival.

The Rengma tribe of Kohima district celebrates Ngada as a post-harvest festival during November every year. Rengmas believe that Ngada is the mother of all festivals. The mother of each household tastes the newly harvested grains to mark its opening. Besides, there is an old system of distributing different limbs of slaughtered animals among the different female relations of the family. Food and local mild beer called Zunye are offered on the graves of the dead. The centre of the festival is Ngada Kenyundzon where all the men folk are to be dressed in their war and ceremonial costumes and have to visit all the community dormitories of the village. On the other hand, the women are also in their best dresses follow closely behind the men folk carrying baskets filled with meat and rice beer.

Sekrenyi is a ten day long harvesting festival being celebrated by the Angami tribe of Kohima district. The official festival day is February 25. In Angami philosophy, a human body is a combination of *Umo* (physical) and *Euphu* (meta-

physical). So the human body warrants periodic purification. Water is the best cleansing agent. The festival starts with ceremonial cleansing bath by the male members of the community in the sacred well. Drops of sacred water are sprinkled on two new shawls – one white and another black which are to be worn by the young men during the festival as a part of the ritual. Women are not allowed to touch the purification well but they have to clean their own houses before the festival.

Like Sekrenyi festival of the Angami, the Chakhesang tribe of Phek district observe Sukryunyi a ten day long harvesting festival in mid-January. Here a specific day reserved for the mothers to perform purification of their daughters by the water of sacred well. The hunted animals and birds are slung on tall bamboo poles outside the main clan houses. Such a display indicates prosperity of the village and the victory over enemies in the year ahead. The rituals as usual give away to social feasting for promotion of better interaction within the community.

The Lotha tribe of Wokha district celebrates Tokhu Emong, a nine day long post-harvest festival during first week of November. Pieces of meat, preferably in multiples of three are gifted to friends and kin to express closeness. Boiled rice, cooked liver and rice beer are placed on the grave of the deceased for his or her soul. Unlike other festivals Tokhu Emong is a festival of resting and it bars villagers from any activities like hunting, fishing indulging in trade and travel.

Tsokum is an eight day long harvest festival celebrated by the Khamniungan tribe of Tuensang district. Worship and sacrificial offerings to the spirit is a part of the festival. Formation of a new *Jhum* field is also commenced

during Tsokum. By rule, the host cannot divulge their proposed *Jhum* land to friends or members of their community. The festival is an occasion to infuse social discipline for promoting culture of sharing of resources. An interesting part of this festival is that some time is set aside for discussions on village administration and storytelling through which elders pass on traditional messages to the youngsters. During the festival the importance of the remembering the dead are ritually observed.

The Sumi tribe of Zunheboto district believes that Tuluni is the best occasion to spot the accomplished warriors and show pomp. A seven day long post-harvest festival is celebrated in July through offering meat to the elders for strengthening family ties. Wealthy people also offer gifts and meat to their labourers or people living at the bottom of society during the festival. During the festival, the physical and mental aptitudes of the young men are tested. Women have to demonstrate their health condition for the matrimonial prospects.

Festivals of Nagaland are age old. They were able to survive the harsh, hostile past. Even, the transition from so called animism to mainstream religion have not diluted the essence of these festivals. In today's internet based virtual world, the different communities of Nagaland still maintain the traditional rituals to pay their homage to nature. This is surprising as most of them practice Christianity and are reasonably exposed to western culture. Festivals perhaps serve as a conduit of recreation and respite in the daily life of Naga people, which is otherwise a bit hard owing harsh weather conditions in this farflung region of our country. ▣

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# An Untiring “Selfless” Journey to Success

*Suresh Dharmapuri*



*Her story once again reiterates the point that grit and determination can bring change not only in one's own life but also bring changes in the society*

**D**ESIRES AND goals make one to take as many flights one can to reach the top. He/she will cross many hurdles as it comes in the way to reaching the destination. If one overcomes failures and disappointments and moves ahead with courage he/she will meet success.

The life of Ananthlakshmi, an Asst. Project Manager with Andhra Pradesh rural Development, is one such example how she could overcome tragedies and difficulties in her life and build a career and skill development self but also contributed for social development of the needy and illiterate women in her society.

Ananthalakshmi was into family life when her husband died leaving her to vagaries of nature. Ananthalakshmi, who studied till 6<sup>th</sup> standard didn't know what was next in her life. Seven months later she gave birth to a girl child. Future for her was at stake when help came from her aunt Mangamma, a teacher, who prompted her to continue education by taking up odd jobs. The young widow Ananthalakshmi decided to follow advice of her aunt and joined a residential school at Vijayawada

which is 100 Km from her native village in West Godavari district. Opportunities knock at the door but it is for individual to utilize them. Despite societal pressures, she pursued her education and passed the Matriculation in first attempt. This was a first step towards success for Ananthalakshmi.

Her aunt found her a job and in 1980 Ananthalakshmi joined as an Anganwadi worker in a tribal hamlet Vetticheluvula of Maredumalli village in East Godavari district, the rice bowl of Andhra Pradesh. Ananthalakshmi was drawing a meagre salary of Rs 120/- then and lived a hand to mouth life looking after the infant. The job steered her towards success and she never had to look back. She worked hard day and night and performed duties with dedication and commitment and brought changes in the lives of tribal women in the hamlet. In the meantime she also worked hard to build her career and took up departmental examinations and passed. In 1995 she was transferred to Chinnagaddu. During the same time she was promoted and posted in District Rural Development department and her salary hiked to Rs 1100/- Her selfless and untiring work for the self-help groups gave recognition not only officially but

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among the groups too. She soon got promotion as Extension Officer and served at various places in the district.

Ananthalexmi never had a difficult time in her service as she received support from all quarters and people who stood by her initiatives and for the services she rendered.

Presently, Ananthalexmi is Asst Project Manager at Ravulapalem Mandal in the same district. Her salary is around Rs 24,000/- "I never expected something like this will happen in my life" Ananthalexmi says while expressing content in her life. I had to struggle a lot and take a very hard path to reach this level. Those were the days where women used to be at home and taking up jobs was something not acceptable by the society. Thankfully I got lot of support from the men folk at office and at the field level too, she recalls.

Ananthalexmi not only achieved something in life while building her career and life she brought changes in the lives of many SHG women too. She not only built her career and became financially independent but also brought change around in the individuals' life. She now has around 1700 groups under her. She was instrumental in getting loans to her groups through banks to the tune of Rs 10 crore. Also she helped SHG women to set-up small scale sweet-making shops, mango pulp village industry and also dairy products. Women who were dependent on the earnings of spouses now became self-reliant. These women, from below poor, poor and middle-class families, who had no source of income to eke out livelihood were given training after identifying individual skills and interests. Later financial assistance was provided to these groups through banks and

financial institutions. Thanks to Ananthalexmi who identified these women and extended help through government agencies. There are many such women who were benefited by Ananthalexmi's efforts who have been emancipated from misery of life.

Durga Bhawani group formed by MA Laxmi in Uchchili, Atrayapuram mandal, East Godavari Dist is one such example. Laxmi the leader of the group thanks the efforts of Ananthalexmi who got them benefits through different agencies. The group is involved in making Pickles and sweets preparation—"Pootha Rekulu"- a popular sweet cake in Coastal districts of Andhra Pradesh--made from rice powder and sugar. The group started with a minimum investment --its turn over now runs in lakhs of rupees. Similarly, Veerabrahmam group from Ravullapalem is involved in selling fruits and vegetable in the market area. The leader of the group D Nagami says "we never expected our lives will be so successful. Thanks to the help offered by the Government though the virtual help came from Ananthalexmi". Some of the members in the group have individual business too like grocery shops, Nagamani added.

Another leader of the Jeevana Jyothi group in Atryepuram --Satyaveni while recalling her travails of family before she met Ananthalexmi, said initially she had no confidence of living a life independently. But after seeing some of her neighbours in village realized that she can also do something when somebody lends a hand. She then formed a group of 10 women and entered into mango pulp business with help of financial support from bank and from saving from their earnings. The East Godavari district is famous for mango pulp business

and is exported to many countries. Each SHG group comprising 10 or 15 members form a revolving fund. Each member from group contributes an amount which in turn is deposited in the bank. The bank lends Rs 50,000 at the first instance and depending on the credibility of repayment of the group the bank offers loans upto Rs 5 lakh. Ananthalexmi was equally quick to take responsibility of ensuring repayment of loans by groups. During the period 2011-12 in Ravulapalem mandal she ensured sanction of loans through banks to the tune of Rs 17.78 crore to 1670 groups. The loans were issued for various small-time business/ trade for the SHG women. She made a niche for herself among the SHG groups.

Awards and honours for Ananthalexmi has become a routine affair. She was applauded by one and all for her services. In 2003 August 15th she was awarded Best Extension Officer award, for 2002-2003 she has been given away best performance award by the Department. In 1998 on Independence Day she received an award from the Collector for her meritorious services and she received appreciation award from CIRDAP, Government of Bangladesh. In 2011 on August 15<sup>th</sup> she received meritorious award for her best services.

Ananthalexmi's wants to dedicate her life to serve the society. She decided to work with an orphanage post retirement. Ananthalexmi's story is mix of career, skill and social development. Her story once again reiterates the point that grit and determination can bring change not only in one's own life but also bring changes in the society. □

# White Revolution in Nagaland

**B Singh**



***With the establishment of the Milk Union, marketing needs of the dairy farmers based in rural areas have been addressed significantly***

**W**HITE REVOLUTION has made huge inroads in Northeastern state of Nagaland. Nagas are fast taking to milk products. Thanks to the co-operative movement which has brought milk in the land of exotic meat delicacy preparation.

The Dimapur District Co-operative Milk Producers Union Limited (DDCPUL), which sells milk product under the brand name Dimul is catering to dairy requirement of the Dimpur and other prominent bordering towns of Upper Assam like Jorhat, Sibsagar, Golaghat. The DDCPUL, which is the district level cooperative society, has under it several registered societies. The product portfolio of the union includes toned milk, lassi, misti dahi (sweetened curd) and ice-cream.

Dimul has a network of retail outlets. Over 350 retail outlets are spread across Assam and Nagaland. Dimul involves around 1911 producers. Out of which Scheduled Tribes constitute 90 percent, comprising 1724 farmers and SC/OBC constitute 10 percent with 187 farmers, woman members 443 (23 percent). The Union has organized 13 woman dairy cooperative societies and 5 of them are functional.

The project was promoted by the Department of Veterinary and Animal Husbandry, Government of Nagaland during 1985-86 initially under Operation Flood II and thereafter under Integrated Dairy Development Programme of Government of India. Dimul was registered during May, 1984 with Kohima district as its area of operation. The Union was earlier known by the name Kohima District Cooperative Milk Producers' Union Ltd.

The name had to be changed to Dimapur District Cooperative Milk Producers' Union Ltd. known by the brand name DIMUL following the bifurcation of Kohima District into Kohima and Dimapur districts during the year 1997. Presently, the area of operation of the Milk Union falls in Dimapur district. Initially, the Union had a chilling centre of capacity 2.0 TLPD.

Subsequently, during the year 1997 a new dairy of capacity 10 TLPD was set up under Integrated Dairy Development Project (IDDP) by the Government of India. Besides liquid milk (toned milk), the dairy has facilities to produce 600 kg of Dahi 3000 litres of Lassi and 300 Kg of ice cream per day.

Till the year 2001-02, the Union had a nominated Board with the majority of members drawn from government departments and with

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Minister of Veterinary & Animal Husbandry as Chairman.

During 2001-02, the Minister relinquished his post and paved the way for holding elections and having a farmer Chairman as the Chairman of the Union. There are now 8 farmer representatives including two women chairpersons in the Board and only 5 nominated official members. The Chief Executive Officer is the administrative head of the union.

Dr Mhasizokho, CEO of Dimul said that during the year 2011-12 the Union procured 12.63 lakhs litres of milk and marketed 15.10 lakhs litres during the same year. As on 31st March 2012, the Union has recorded a sales turnover of Rs. 852.24 Lakhs with an increase of 37 percent over the previous year figure of Rs. 621 Lakhs.

Those who have seen the organization growing said initially the response was not very encouraging. At that time people here had preference for powdered milk. However there has been remarkable change with people becoming aware about products.

With the establishment of the Milk Union, marketing needs of the dairy farmers based in rural areas have been addressed significantly. Individual dairy farmers have come together to form village level Primary Dairy Cooperative Societies. The Union provides logistic technical support to the affiliated societies which include milk testing equipments, animal health care and vaccination, artificial Insemination, Fodder cultivation, balanced cattle feed.

Various training programme such as society Secretary-cum-accounts, Artificial Insemination worker, dairy animal management, Farmers Orientation, Clean milk production, Fertility camps etc. are provided to societies with a view to professionalize the day to day activities of the societies.

The CEO added the Union also caters to the liquid milk requirement

of various military and paramilitary establishments in the state. The milk and milk products are also made available and sold at outlets of North East Frontier Railways at Dimapur, Lumding and Hojai Railway stations. Every morning and evening, the farmers bring milk to the collection centres which are then tested for the quality, which in turn determines the price.

The milk thus collected is then ferried in milk cans through milk vans traversing through difficult terrains twice daily. The farmers who were earlier exploited unfairly in terms of price and payment schedule by private milk vendors are now assured of a ready market and remunerative price at regular interval of 15 days.

Several people from the state visit different cities of India and there they have tasted different varieties of the milk products. This too has contributed to the positive change. CEO added, "Consumers have become more aware and dairy movement has become a settled fact in the state".

A delegation of senior officials from the government of Nagaland visited National Dairy Development Board (NDDB) in 2007. Sensing the potential now even Gujarat Cooperative Milk Marketing Federation Ltd (GCMMF) which owns Amul brand of milk and dairy products is planning to set up a unit in Northeast India to increase its penetration in seven states of Northeast.

R.S. Sodhi, Managing Director of GCMMF during his visit to region said, "Northeast India accounts for Rs 35 to Rs 40 Crore business monthly. The market here is growing at the rate of 20 percent. This year we are targeting sales turnover of over Rs 50 Crore per month."

He added that Northeast India is milk deficit. "We are planning to have a production base in Northeast and for this we will organise the farmers in co-operative society

mode. In West Bengal when we started operation there was skepticism that required volume of milk will not be available there.

However we are getting 2 lakh litres of good quality milk and have 3 units in West Bengal. Northeast also has lot of potential."

Amul has 45 plants out of which at least 13 to 14 are outside Gujarat. Amul has 50 depots across the country of which 7 are in Northeast.

In an International Market Analysis Research and Consulting Group (IMARC) study, the research found that dairy market is one of the most lucrative markets in India and demand for milk is likely to double by the year 2016.

Chief Ministers of Northeastern states during the consultation with Planning Commission on the approach paper of the 12th plan have underlined, "Given the situation, immediate emphasis is needed to be placed on rapid growth in allied sectors like sericulture, dairy, livestock, horticulture and agro-processing. This would absorb surplus labour from agriculture and would raise productivity in agriculture and result in higher per capita income."

Financial institution, North Eastern Development Finance Corporation Limited (NEDFi) has commissioned a study of dairy industry in North Eastern region to examine the techno-economic viability of taking up dairy development projects in different locations of the region, to provide basic information together with the location specific data on project parameters to prospective entrepreneurs, investors, financial institutions, government agencies etc. regarding business opportunities in the dairy sector in different States of the region. The Study would also provide above information in such a way that these would form the basis for preparation of DPR by Domestic and International Investors. □

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