

## **Ru-Tag-NE**

The Rural Technology Action Group (RuTAG) is a mission, conceptualized, initiated and sponsored by Dr. R Chidambaram, Principal Scientific Adviser (PSA) to the Government of India. It aims at improving the rural economy through appropriate S & T interventions in the traditional methods of production. The eight states of the North East, viz., Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and Sikkim, the communities of each have their own traditional life style and crafts and enterprises, mainly based on the locally available resources, like, cane and bamboo, handicrafts and utility products, rearing of silk worm and production of yarns and fabrics and pottery to name a few. The people in the region, in general, are accustomed to local resource based development and thereby raise their economy and improve their quality of life at the same time. The economy at the rural level will get a significant boost if the existing technologies of production can be improved in terms of efficiency and productivity and consideration of optimization of cost and energy. While there are many Government and non-Government Organizations and institutions working for the same objectives, the modus operandi of RuTAG mission is to bring all such groups or stake holders together to proactively work for the development of the region so that people can derive the benefits of Research & Development in various scientific fields. To address some of such issues to upgrade rural systems in terms of efficiency/ productivity which will help in boosting the rural economy of the North Eastern Region, a centre of RuTAG was established in the year 2006 under the administrative control of IIT Guwahati in its campus located at North Guwahati. Since its establishment, RuTAG-NE has been working towards attaining its cherished goal by providing S&T interventions in the rural sector of the region for such systems that have already been developed to a stage of functionality and are identified for further development. For example, the traditional process of Eri Silk production is time consuming and laborious. RuTAG-NE has developed a machine which can accomplish a day's work in an hour or so. The machine has been field tested, and a group of artisans and communities are still working on improvement of these machines further. RuTAG-NE has successfully set up a pilot project on production of plain Muga Silk fabric with power loom at the Export Promotion Industrial Park (EPIP) at Amingaon, Guwahati. Muga Silk is supposed to be one of the costliest fabrics in the world obtained from Antheraea assamensis, and it is found only in Assam. The golden fabric of Muga is in high demand in foreign countries, like, Japan for making Kimonos. The establishment of the pilot project is a major achievement of RuTAG-NE. RuTAG-NE has also designed and developed a few accessory machines of power loom, like Pirn Winding Machine, Hank to Bobbin Winding Machine and Sectional Warping Machine, which are of lower cost in comparison to what are available in the market, and are now in use in weaving clusters in Sualkushi. Besides, a group of women of Shanti Sadhana Ashram, an NGO of Guwahati, was trained in the production of cost effective sanitary napkin at Gandhi Gram Trust, Dindigul district, Tamilnadu during January-February 2007. The necessary support and coordination for organizing this program was obtained from RuTAG Tamilnadu at IIT Madras, Tamilnadu. The Ashram has been regularly producing and marketing napkins for customers of local population. A major concern of Yak and cattle rearing in the high altitude region in Arunachal Pradesh is the scarcity of fodder during the freezing winter season. Although there is abundance of fodder in the summer rainy season, farmers cannot preserve the same due to nonexistence of adequate storage facility. The National Research Centre on Yak (ICAR) at Dirang in Arunachal Pradesh and NRC on Mithun in Nagaland have acquired a large machine, one each, at Dirang, Arunachal Pradesh and Jharnapani, Nagaland, for Production of compressed feed block fortified with micro nutrients to supplement the feed for Yaks and Mithun respectively during the lean season. This machine has been designed by IARI, New Delhi. It costs around Rs 8-9 lakhs. This is rather too costly for the farmers, and moreover, its maintenance is also difficult. RuTAG-NE has developed a relatively smaller machine as a model which can meet the requirement of groups of farming community/private farms at



affordable cost. The machine developed by RuTAG- NE has scope for further improvement, and it is user friendly at the same time. It has potential scope for use in other regions, particularly in places like Ladakh, Jammu and Kashmir and other Himalayan regions. Another problem which has been plaguing a sizable population of Dhemaji and a few other districts of Assam is the excess of arsenic in drinking water. The element is believed to be a major threat to health of the people of the affected areas. RuTAG-NE has installed Sono-3-filters designed by a group of scientists of Bangladesh and West Bengal, in five potential areas of the district, and has demonstrated the technique of filtration of water contaminated with arsenic in such localities. The Darrangiri banana market in Goalpara District, Assam is considered to be one of the largest banana markets in Asia. The farmers and traders carry bunches of banana on ordinary bicycle to the market from the adjoining areas of Assam and Meghalaya. RuTAG-NE has modified the design of the bicycle, and has developed a more robust and user friendly bicycle for carrying more number of bananas bunches. The vendors can now save additional Rs 150 per day on such a bicycle, and they can also drive the bicycle along with the banana bunches. RuTAG-NE has formed a good network of S&T groups, NGOs, and institutions and Government/ development agencies as well to identify new problem areas and provide necessary S&T interface and interactions. The contributions of the NGOs, ashrams and other collaborators/ stake holders with RuTAG-NE have been significant.

### 1. Coordination with S&T Institutions

RuTAG-NE has created synergy with the following organizations of the region Assam Textile Institute, Guwahati National Institute of Technology, Silchar Central Silk Board, Guwahati CMERT. Jorhat National Innovation Foundation India DCTSC, Sualkushi BARC, Bombay Assam Engineering College, Guwahati SCSTE, Meghalaya National Research Centre on Yak, Dirang, Arunachal Pradesh National Research Centre on Mithun, Jaharnapani, Nagaland North East Hill University, Shillong Meghalaya Rajiv Gandhi Indian Institute of Management, Shillong, Meghalaya Manipur University, Imphal, Manipur Nagaland University, Kohima, Nagaland Mizoram University, Aizwal, Mizoram North Eastern Regional Institute for Science and Technology, Nirjuli, Arunachal Pradesh North Eastern Institute for Science and Technology, Jorhat

### 2. NGO's Enlisted

Sristi Science and Technology Development Mission, Nagaon, Assam Adarsha Sonali Atma Sahayak Got, Assam Shanti Sadhana Ashram, Guwahati Tamulpur Anchalik Gramdan Sangha (TAGS), Kumarikata, Assam Polygon Foundation (N.E), Guwahati Bethany Society, Tura, Shillong Akruti, Tripura Mushroom Development Foundation, Guwahati, Assam Kasturba Trust, Tripura



N B Institute for Rural Technology, Tripura Global Care Mission, Aizwal, Mizoram Regional Research & Training Centre on Indian Traditional Treatment, Golaghat, Assam WWWf-India, Arunachal Pradesh Bharat Jan Vigyan Jatha, Assam Assam Mahila Samata Society, Guwahati Assam Science Congress Association Society for Socio Economic Awarness and Environment Protection, Nagaon ASOMI. Assam Adhar. Assam Amik Matai Society, Tezu, Arunachal Pradesh MIPOGRASS, Aizwal, Mizoram SRISTI, Guwahati, Assam Deshabandhu Club, Assam Gramin Vikash Mancha, Nalbari, Assam Ajagar Social Circle, Asaam Grameen Sahara, Assam Mizoram Science Society, Mizoram Tamey Tanang Memorial Society, Arunachal Pradesh Manas Ever Welfare Society, Assam Pangchen Lumpo Muchat Community, Arunachal Pradesh We Care Foundation, Guwahati, Assam North East Women Entrepreneurs Association, Dibrugarh, Assam Man & Wild, Bijoy Nagar, Kamrup, Assam Panchaajayna Gramya Bikash Kendra, Dhing, Nagaon, Assam Ajagar Social Circle, Goalpara, Assam Pancharatna, Nalbari, Assam Social Welfare Organization, Assam

### Activities: Year 2013-2014:

DESIGN & DEVELOPMENT:

#### Objectives:

RuTAG-NE has been developing continuously a network of S&T groups, Government agencies and NGOs with a goal to provide R&D interventions in rural sector of NE region of the country for such systems that have already been developed to a stage of functionality and identified for further development.

The aim of RuTAG-NE is to upgrade rural systems to most effective levels for boosting the rural economy.

RuTAG-NE would identify new problem areas in rural sector and provide R&D interventions whenever necessary.

#### Approach:

RuTAG has been networking with various S&T oriented NGO/Industry, financial Institutions and R&D groups to identify, formulate suitable project proposals to be funded under RuTAG grant if the expenses involved is small for funding by various agencies and further monitor progress of projects funded under initiative.



 Scope of S & T intervention in supari business for economic up liftmen of rural women NGO/Institution Associated: Assam Mahila Samata Society

Objectives:-

• To improve the tools and equipment of cutting supariso that the production is optimized to its maximum Introduction:

Dried betel nut selling is a popular business in the districts of Dhubri, Goalpara and Barpeta. It has become a family business for many people and the each of the family members including children are involved in cutting the dried betel nut, locally called supari, into small pieces with the help of a sakta (cutter). The presently used tool (sakta) for cutting supai is a traditional method. This requires more time and the output is very low, hence the efficiency is very poor.



[2] Development of Solar Assisted Aerator for fish farmers of NE India NGO/Institution Associated:

### Ajagar Social Circle, Goalpara, Assam

Most of the present day aerators used in fish ponds are located in the rural areas where these are either operated by diesel pump or electricity. Electrically operated aerators mounted with 2 HP motor when runs for about 4-5 hours a day in the wee hours are adds additional rupee in the cost of production which otherwise should remain at low level. Unlike fishing boats operated in coastal waters, fish farmers who run diesel operated aerators do not receive any subsidized diesel from Govt. and with the increase in fuel price hike, the operating cost of such aerators have gone high.



**Unnat Bharat Abhiyan** 



### Workshop cum demonstrations of Potters Wheel

- On 26th October SWABHIMAN The Power of Society in association with RuTAG-NE organized a workshop in Purnakundum village of Nalbari
- 40 local artisans participated in the workshop







# Gramya Prayukti: Technology for Improving Rural Life

(3 days exhibition organized by RuTAG-NE)

- Besides our own participation RuTAG-East, RuTAG-Tamilnadu, NIF India and 5 NGOs of the region participated in the exhibition
- 40 technologies were displayed
- Modified Bicycle of RuTAG-NE was the centre of attraction of the exhibition
- Highly appreciated by local and national media
- More than 100 entrepreneurs shown their interest to work with us









# **Demonstration of Pottery Wheel**

In association with SWABHIMAN The society of Power RuTAG-NE has organized one demonstration program in Dharam deka suwali high school, parchim pakua, Bahjani Nalbari on 1st March, 2015









- Three day training program in Purnakundum Village of Nalbari
- Demonstration at Nagarbera, 130 Km from Guwahati
- Demonstartion at Kumrikata, Nalbari
- Eight more cluster has been identified in and around Nalbari districts.

\*\*Modifications of potter's wheel to suit local artisans of North East is on progress

### Technology transfer to Eri cluster

One new technique for extraction of knitting yarn, with the objective of developing diversified products from Eri cocoon developed by Mr. Dulal Choudhary has been in different places of Assam

