

## Globalisation and its Impact on Agriculture: an Overview of Kohima District, Nagaland, India

Keneikhoto Yano\* and T. Lanusosang

Department of Geography, Nagaland University, Lumami, Nagaland (798 627), India

### Article History

Manuscript No. c29  
Received in 25<sup>th</sup> December 2012  
Received in revised form 31<sup>st</sup> August 2013  
Accepted in final form 25<sup>th</sup> November 2013

### Correspondence to

\*E-mail: keneikhotoyano@gmail.com

### Keywords

Globalization, indigenous knowledge, agricultural sustainability

### Abstract

Agriculture is the basis and key to socio-economic development of any society in the world. Each society, particularly of the tribal one has its well defined traditional agricultural practices. But the knowledge inherited by the tribal people for its management which is the product of over centuries of experience, skill and information being threatened at this age of globalisation. Kohima district of Nagaland state is the capital cosmopolitan city with a mixture of all the tribes of Nagaland including those from mainland India, however, Angami and Rengma Nagas are the dominants. It revealed that the traditional knowledge is deteriorating at an alarming rate due to the impact of globalisation. No doubt the one sided new technology and machinery tools have made the work much easier and faster but it has neglected the other sensitive side of the world which is the environment. The present study is thus an attempt to overview the vast indigenous knowledge, rich culture and traditions practised for the agricultural management and the reasons responsible for the loosening of the grip of agricultural sustainability in the region.

### 1. Introduction

Globalization is becoming an increasingly controversial topic as shown by recent protests around the world. Agriculture forms the basis for socio-economic development of most of the societies. Its traditional practices are down from generation to generation. But the knowledge inherited by the tribal people is at jeopardy because of the impact of globalisation. No doubt, the information technology has narrowed down the time involved in the diffusion of agricultural and biotechnology and is currently emerging as a potential factor in uprising the agricultural system. Industrialism and consumerism have turned man into a factor of production and nature a resource only to be exploited for meeting man's never ending greed.

Kohima, a hilly district of India's North-eastern state of Nagaland is located between 25°53'N-26°01'N latitude and 93°91'E-94°32'E longitude. It has a sub-tropical climatic condition. The main indigenous inhabitants of Kohima District are the Angami and the Rengma Nagas. Kohima being the capital city, it is a cosmopolitan city with a mixture of all the tribes of Nagaland as well as those from mainland India. The villages within the region of Kohima district are easily accessible as it is well connected with national and state highways. Here, attention has been paid in finding the impact of globalization on this traditional capital.

### 2. Materials and Methods

The study is mainly based on the primary and secondary sources of data. In the absence of in-depth study and recorded data about the region, extensive field study has been done to collect first hand information about the common traditional values which are still dearly uphold by the people. Secondary data include the articles from journals, books, research works, and reports. Intensive interviews of the elders from different villagers and government official from the region constitute a major part of the methodology adopted for the study.

### 3. Land Use and its Management

About 70% of the population of this state depends on agriculture, thus the contribution of agricultural sector seems very significant. Rice is the staple food and it occupies about 70% of the total area under cultivation and constitutes about 75% of the total food production in the state. Terrace cultivation is the main type of cultivation in the region under study. According to Hutton (1969: 72-73), the most striking difference between the Angamis and other Naga tribes is their cultivation of wet rice. While most of other Naga tribe do *jhum* cultivation, the Angamis are known for their terrace cultivation which depends chiefly on the rains. The people of the region are hard working where most of the work in the field is done with



their hands. The terrace cultivation can be best highlighted in the words of L.W. Shakespear (1914): *To a stranger suddenly arriving in the Angami country nothing strikes him with greater surprise and admiration than the beautiful terraced cultivation which meets the eye everywhere, on gentle hill-slopes, sides and bottoms of valleys, in fact, wherever the land can be utilized in this way. In preparation, upkeep, and irrigation, the greatest care is taken, far in excess of anything seen in the north-west Himalayas. The appearance of the countryside for miles south of Kohima, for instance, is such as to suggest the handiwork and labour of a far higher order of people than this wild Nagas. These terraced fields are often bordered with dwarf alder bushes, are carefully irrigated by an elaborate system of channels bringing water down from mountain streams, and luxuriant crops of rice are grown on them. To pass through the valley where the two powerful villages of Khonoma and Mezoma stand during late October when the crops are ripe is indeed a delight for the eye a veritable golden valley.*

This traditional system of practising terrace cultivation along the hill slope in steps formation is valuable account of scientific knowledge of the people since early times. Terrace fields are prized property of the tribal people. A person may use a *jhum* field for building a house or even be prepared to sell it, but the terrace field is never use for any purpose other than to cultivate. All types of land are valuable, but terrace fields are the most valuable and the social status of a person is directly related to the number and area of terrace fields he owns. The soil fertility remains almost constant without being deteriorated despite the fact that a particular plot of land is constantly under cultivation for years/ decades together. For, people traditionally use the manure of the droppings of their domestic animals such as, cows, pigs, etc. These are organically rich which rejuvenate the soil condition. Apart from these, leaves of tree and hays which are the leftover of the harvest are used to increase the soil fertility. Generally, the field nearby the village produces continuous supply of food throughout the season, thereby increasing the sustainability of agricultural products. Till today, the method and practices of terrace cultivation have not changed much except the application of artificial inputs like urea, and some small machinery tools which has been introduce recently.

Agro-forestry which is the deliberate growth and management of trees along with agricultural crops and livestock is another important livelihood pattern vastly practised among the people of the region which is ecologically, socially and economically sustainable. This system is well suited to the local agro-ecological condition, the specific subsistence and cash needs of farmers, their social and cultural context and the environmental conservation.

*Jhum* cultivation is another important practice of agricultural

activities among the Angamis and the Rengmas though relatively at a lesser degree than that of other Naga groups. It is interwoven into their culture and traditions like the rest of the Nagas. In *jhum* cultivation, the vegetation is slashed, burned, tilled and sown. After a year or two of culturing, the land is left fallow for 5-10 years so as to regain its fertility. This *jhum* continues even at present mainly because *jhumming* occupies a marginal place in the Angami agricultural economy. Bundling along the contours of the fields is build with the fallen branches of trees during the slashing time or with stones and mud to check the soil erosion along the slope of the cultivated field. Another important system of this cultivation is Alder based shifting cultivation, an indigenous innovation of soil fertility management and is commonly followed among the Angamis. Alder is a multipurpose tree (MPTS) and besides improving soil fertility for growing crops, it is used as timber, furniture and fuel wood. The value of alder tree was recognized by the tribal farmers long back and more than 200 years old trees can be seen in the area. Agricultural crops, together with alder trees forms a very remunerative agro-forestry system and the ability of the tree to develop and retain soil fertility has been fully utilized by the tribal farmers of Angami, The farmers are specialized and have perfected it to an excellent cultivation system in which they incorporate nitrogen fixing plant *Alnus nepalensis*. The system allows the soil to regenerate faster and *jhum* cycle is managed every four years. It is identified as one of the most promising bio-physically workable and socially acceptable indigenously innovated adoption towards fallow management. The naturally grown Alder trees are cut or pollarded at a height of about two metres from the ground to obtain a head of shoots. Thus, the *jhum* fields with extensive cultivation of Alder trees further increase the area of forest cover. The branches so cut are used or sold as fuel wood.

It is said that *jhumming* seriously affects the forests because it destroys vegetation and damages the resilience characteristic of the ecosystem. This happen in two ways: shortening of the *jhum* cycle, and the extension of *jhumming*. In the Angami area *jhum* fields have a fairly long fallow period. In fact, in the villages like Jakhama and Kigwema, they were left fallow for as many as twenty years because people did not need to cultivate them for the engage themselves in other means of occupation such as terrace cultivation or potato cultivation etc. during the fallow period or *jhum* cycle. Apart from these domestic animals such as, cows, pigs, dogs, cats, chicken, etc. are reared for different purposes and also for the sake of status. Home gardening is also an important agriculture activity among the people where they get fast and fresh product needed for consuming.

#### 4. Agriculture Management: Traditional Practice

Like any Naga tribal group or for that matter any tribal group of

the hills, the Angami and the Rengma are very deeply attached to nature and that their life is integrally interwoven with the environment. They are dependent on nature for every activity, and they always do whatever they have to do only in rhythm with the directives of nature.. With the rich nature surrounding them their traditional knowledge are also delicately rich and abundant.

For any agricultural work to be undertaken, the tribal people observed the movement of the wind, the flowering of different plants for different agricultural activities, the chirping of the birds, the movement of animals such as those migratory birds, etc. In fact, the tribal people have perfected the reading of lunar and solar position where majority of the agricultural activities are prepared basing on them. For instance, the sowing of any kind of seed is never done during the full moon night time as the seeds sown during this time never grow healthily. The seasons which are hectic with different agricultural activities are also gauged or ascertained from the movement and chirping of different birds. For example, the chirping of the cookoo birds heralds the rainy season, most suitable time for plantation of various crops. Moreover, whether there would be rainfall or not in a particular year can be predicted by observing the bamboo trees on upslope of the land i.e when the tip of the bamboo trees fall towards the west there is abundant rainfall in that particular year. Even the chirping of the birds is minutely observed by the people in order to know whether the production will be good or bad in a particular year. In fact, in some village of the Angamis a selected elder among the people sit all throughout the year reading the different activities of the environment and advise the villagers to do the different agricultural works in different times and season.

Storing of seeds for sowing in the coming year and the grains for consumption are persevered in traditional granaries finely knitted with bamboo which are bottle-shaped and is covered with a conical shaped led. Granaries are made in such a way that there is free flow of air. It helps maintain the potency of the seeds for the next use. The other seeds of vegetables, maize and even paddy selected to be sown in the next year are kept hanging in the kitchen or house and are amazingly preserved in good condition.

It may be appropriate to mention that the customary laws and the ethical values play an important part in shaping the agricultural sustainability. The tribal people of the region like other social groups have a set of customary laws and ethics that determine the life of the individuals and his societal behaviour as well. This makes the individuals accountable to the society for whatever they do and how they behave. In general, the mindset is, if I do this, what will my villagers and the society says? Wherever he goes, there is always the customary law behind him that guides him. Thus, the people of the region is

a community seeking one, for he knows that he belongs to the society and is impossible to stay away from other members of the society. The different customary laws and practices are either governed by or associated with taboos which have a bearing on their ethics. Their environmental ethics is like a lamp post which guides them in protecting their environment in the most sustainable way. Their food, shelter, firewood, works, etc. are all supplied to them by nature. So, their belief, customs, rituals, taboos and genna help them shape and organise their agricultural activities.

## **5. Impact of Globalisation**

The new institutional innovations that Globalisation has brought about in the society are market, trade and finance, communication and media, technology and science, migration and inter-cultural transactions. Globalization has led to a new trend of homogenization in development process all over the globe. Since the onset of the current era of economic liberalization, privatization and globalization (LPG), the areas inhabited by indigenous peoples have been put under the mercy of globalisation. Being mostly dependent on the nature for their living has made them sensitive and vulnerable to these changes. The sustainable subsistence livelihood of these people is now under threat with the free flow of global capital to these regions which is intent on exploring and exploiting their mineral resources.

Kohima district is well connected with the region of Assam on the one side and Manipur on the other. Thus, the region is easily accessible with the change occurring around. The changes do not remain external but enter the community itself through the internalisation of the dominant culture. The traditional tribal systems are based on the concept of nature in general and land in particular as community sustenance that has come down from the ancestors and is preserved for posterity. According to the study, it reveals that the traditional knowledge is deteriorating at an alarming rate due to the impact of globalisation. No doubt the one sided new technology and machinery tools have make the work much easier and faster but it has neglected the other sensitive side of the world which is the environment. Globalization and modernization which in a way encourage the creation of modern entertainment and recreational facilities do play a role in winning away the people from traditional practices ingrained in their culture. Oral transmission, without any written record, of those traditional values and knowledge is another main cause where the modern world is fast consuming it to the brink of extinction. Another vital factor that has led to the loosening of peoples' adherence to traditionally bound environmental is Christianity which emphasises spiritual life than the temporal one.

Due to the open market system the agriculture commodities



which flow into the market in a large quantity is in much more cheaper rate and is drowning the native commodities. Price of rice, vegetables and other food crops offered to the small producers remains very low. Instances not looking when the price of potatoes and vegetables in this hilly region dropped so low that farmers had to leave some of their crops unharnessed and those harvested crop also fail to reached the market. This brings loses to those poor farmer who solely depend on the agriculture income are force to find alternative source of income giving birth to a new problem of food security. A continuation of this process will only make us more and more dependent on food imports as the farmers are leaving their fields.

In the late 90's, the Government encouraged the people to grow cash crop such as coffee, ginger, turmeric, sugarcane but with no proper management and absence of industries to convert the raw materials into profitable product, the farmers who have participated into it have suffer a severe blow in their income. Moreover, the forest losses for the account in the process also affect the environment. Thus, the impact of globalisation on the agrarian sector of the region has worsened the plight of the farmer and also the environment at the same time. With the increasing demand of agriculture production, import demand is also expected to rise thus; the problem of food security arises in this age of globalisation.

The socio-economic forces of modernization and development have no doubt brought some benefits to the people of respective areas. The India-Canada Environment Facility (ICEF) is working in different project for the improvement of agricultural activities which they have funded. The Nagaland Environmental Protection and Economic Development Project (NEPED, 1994) is the first project in which these guidelines have been applied. Four separate teams assessed the project. They were the NEPED (Nagaland Environmental Protection and Economic Development) Project Operations Unit (POU), the Project Coordinating Unit (PCU), ICEF and a team of external evaluators. The main goal is sustainable management of the natural resource base for the benefit of the Nagaland people. The agriculture department and some research centres for agriculture are also bringing out some management activities recently such as improving the seeds quality, pest management and training ground for the production of bio-fertilizers, etc. On the other hand, it appears that the new acts and laws adopted by the government and which are being encouraged through various governmental programme seem to be not so fit to the environment.

## 6. Conclusion

Looking into the matter the studied area the loss of their traditional cultural practises will results in the loss of agriculture production, which definitely will question the food security of the region. We have to move towards a society in which man-nature relationship is not based on wants but on needs; and the unity and integrity of all life on the earth. We should keep in mind that environment is what we have inherited from tomorrow rather than from yesterday.

## 7. Related Literature

- Globalisation, identity and culture: Tribal issues in India. Available from <http://www.lscac.msu.ac.th/book/149.pdf>
- Indigenous control and sustainability of common resources in the hills of North East India. Available from <http://www.ibcperu.org/doc/isis/5184.pdf>
- Jha, P.N., 2001. Indian agriculture at the cross-roads and the strategies for technology development and technology dissemination for meeting the challenges in 21<sup>st</sup> century. In: Perumal, P., Modernizing Indian agriculture in 21<sup>st</sup> century; challenges, opportunities and strategies. Concept publishing company, 64-70
- Souza, A.D., 2001, Traditional System of Forest Conservation in North East India: The Angami Tribe of Nagaland, Published by North Eastern Social Research Centre, Guwahati. Printed at St. Joseph's Offset Press Sonaighuli, Guwahati, Assam (781 034), 35, 41-43.
- Yano, K., Lanusosang, T., 2011. Threat to environmental ethics; a case study of southern angami of Kohima, Nagaland. Presented at the National Seminar on Environmental Management and Developmental of North East India, NEICSSR held during 3<sup>rd</sup> and 4<sup>th</sup> June, 2011 at North Eastern Hill University, Shillong, Meghalaya (793 022), India.
- Yano, K., Longchar, M., Lanusosang, T., 2012. Livelihood pattern and its impact on environment (A case study of the indigenous people of Nagaland). Presented at international conference on Global Ecosystems, Biodiversity and environment sustainability in 21<sup>st</sup> century (ICGEBEnS) held during 15-17<sup>th</sup> February, 2012 at Assam University, Assam, India.