

**Institutional design and Occupational ‘opportunity’:  
The case of shifting cultivators in Nagaland**

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## **Abstract**

Occupational opportunities are important for reducing poverty not only by generating income, but also by raising human capability to choose an appropriate living condition. The case of the shifting cultivators (locally known as *Jhumia*) in Nagaland is an interesting case in hand where the adaptability to alternative employment opportunities provided by various governmental schemes have been less than optimum (Darlong 2004). In fact, it is now common knowledge that *Jhum* replacing employment opportunities provided by the government have only met with limited success. This paper is based on primary field analysis in four districts of Nagaland. It takes the case of one such form of alternative opportunity, namely terrace cultivation where we explore the reason for limited success of this scheme among the shifting cultivators in Nagaland. In particular, this paper argues that the reason for the failures of this scheme is due to the divergences in the institutional structure (common property versus individual property) which informs the policies from the structure that have sustained *Jhum* in this area for ages. We show that the inability to accept new form of employment (or occupation) may lie in the difference in the institutional framework of the two modes of occupation. To conclude, we argue that short run policies are more successful when it calls for minimal change among people in the way they perceive the ‘environment’.

**Keywords:** Shifting Cultivators, Jhum, Terrace Cultivation, Institutional Structure, Property.

## **1. Introduction:**

Occupational opportunities are important for reducing poverty not only by generating income, but also by raising human capability to choose an appropriate living condition. Prevalence of poverty and unemployment has often been attributed to physical factors like infrastructural bottlenecks, lack of opportunities, social constraints like social division of labour, or individual constraints like lack of education and human capital. The case of the shifting cultivators (locally known as *Jhumia*) in Nagaland is an interesting case in hand. Although they have demonstrated high level of adaptive and innovative capability by

sustaining and enriching the oldest form of agricultural practice called shifting cultivation, their adaptive ability to conform to the requirement of alternative employment opportunities provided by various governmental schemes has been less than optimum (Darlong 2004). In fact, it is now common knowledge that *Jhum* replacing employment opportunities provided by the government have only met with limited success. This paper takes the case of one such form of cultivation, known as terrace cultivation. It then explores the reason for this limited success in that governmental attempt to provide employment to (erstwhile) shifting cultivators in large part of Nagaland. In particular, this paper argues that the reason for the failures of this scheme is the divergence in institutional structure, which informs the policies, and the structure that have sustained *Jhum* in this area for ages. The paper also argued that much of the difference between these two divergent institutional structure make it quite burdensome for local people to adjust to the norms and values of the policies promoted by the government since doing that demand a reorientation of their cognitive process regarding identification and recognition of new employment opportunity. Note that conventionally, the shifting cultivation has been practised as subsistence farming under a collective system of property rights. On the other hand, the alternative employment schemes often make individual efforts geared towards market based exchange. We argue that success of these schemes depend on how successfully people can adjust these differences in the institutional requirement, which are culturally and cognitively expressed.

The branch in economics, which has, of late, paid adequate attention to understanding the cognitive, institutional dimensions of economic behaviour seems to be the literature on evolutionary economics, and institutional economics. Scholar's points out that "opportunities" are not objectively given, but is rather constructed or identified by individuals through complex cognitively shaped institutional mechanisms. We draw upon the literature on cognitive and cultural underpinnings of institution to explain the diverse and unsatisfactory responses of *Jhumia* families in Nagaland to some of the employment schemes offered by the government. We take the specific scheme of terrace cultivation, proposed by the government to motivate people to shift from shifting cultivation. More importantly, our study is a field-based analysis, and it incorporates village survey in Mokokchung, Mon, Wokha, and Zunheboto districts of Nagaland. After a brief overview of the literature on institution and cognitive processes in the next section, we discuss the principal characteristics of shifting cultivation in section 3. Section 4 takes the case of terrace cultivation, and

compares the differences and similarities in the principal institutional-cognitive features of this scheme with those of shifting cultivation. Section 5 draws broad policy implications.

## **2. Conceptual framework:**

In economics, institution is perhaps most commonly understood as ‘humanly devised constraints that shape human behaviour’, (North 1990). North also distinguishes between formal and informal institutions, equating the former with official rules and the latter with social values and customs. Further, he points out it is the rigidities in informal institution, which offers stability in the overall institutional framework, by controlling the pace with which formal institutions can be changed.

Overall, institutions define the broad range of activities of human beings, while, at the same time, imposing a form upon these activities. In other words, institutions define the world of use and want to which we imperfectly accommodate our lives.<sup>1</sup> According to Parsons (1940), institutions define the normative patterns of what constitutes proper, legitimate, or expected mode of action or social relationship.

While all these definitions locate the permanency of human behaviour in social factors (constraints), there are some ways of understanding institutions, which also attempt to understand the cognitive underpinning of stability and permanency that institutions intend to provide. After all, institutions are also, as Veblen (1919) put it, “settled *habits of thought* common to the generality of man”<sup>2</sup>.

Schotter (1981), for instance, defines institutions as organisers of information. It is now well established that human beings are cognitively constrained in their calculative ability and explorations of alternatives and are only *bounded-by rational*.<sup>3</sup> An institution, in this context can serve as a framework to reduce uncertainties in human interaction and decision-making both by shaping expectations about the environment, as well as by reducing the amount of information that individuals have to use to solve a problem.<sup>4</sup> Ostrom (1986) indeed argues

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<sup>1</sup> See Hamilton 1932.

<sup>2</sup>Emphasis ours.

<sup>3</sup> See Simon 1956.

<sup>4</sup> See Sjostrand 1993.

that more an institution encodes expectations the more it reduces uncertainty and problems arising out of bounded rationality.<sup>5</sup>

Under the assumption of bounded rationality, past experience influences activities like goal formulation, opportunity identification, and interpretation of environment - all being dependent on existing knowledge and experience of the decision maker.

Recent research in cognitive science and social psychology has explained the process in detail. It is emphasized that human cognitive capacity is limited in so far as responding to incoming sensory experiences and information is concerned. As a result, human memory pays attention to new incoming information only in a discriminatory manner. During this process, the pieces of incoming information which can be associated with the pattern existing in the memory are favoured over the rest. Thus, incoming information are ignored when some similar pattern cannot be identified in the memory. This complex system of cognitive patterns are called cognitive frame (Anderson 1990). Therefore, associative cognitive cues are important to help enrich long-term memories. These associative cognitive cues play the central role in restricting or guiding the memory structure to interpret new information, and, therefore, the environment. In this sense, a cognitive frame is a schematic representation of an individual's perception of the environment built through prior learning and adaptation (Witt 2000).

Schemas represent categorical knowledge, pertaining to an object or an event, according to a 'slot' structure (Anderson 2000: 155). Values in these slots or attributes are often, assigned based on past experience with the event. Since prior learning and adaptation is a social process, these schemas or frames can be assumed to function as socially shaped filters (Witt 2001).<sup>6</sup>

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<sup>5</sup> For Ostrom, 'institutions' can be defined as the sets of working rules that are used to determine who is eligible to make decisions in some arena, what actions are allowed or constrained, what aggregation rules will be used, what procedures must be followed, what information must or must not be provided and what payoffs will be assigned to individuals dependent on their actions.

<sup>6</sup>Cognitive learning can be of two types, namely learning through own experiences and vicarious learning by observing others. Our conceptualization of past experience encapsulates both these forms of learning. For details on vicarious learning see Bandura (1986).

Subjectivity in perceiving and making sense of environment explains why past experience has a significant influence on learning, decision-making and economic behavior. Cognitive frames are, therefore, central to understand why individuals might stick to a particular mode of perceiving the environment, and are often unable to switch into another mode, even in the medium run and can be said to determine the regularity of human behaviour by designing appropriate institutional mechanism. Mantzavinos et al (2004) use the concept of 'shared mental models' (Denzau and North 1994) to emphasize on this point. Shared mental models are developed through interpersonal communications and cognitive learning. It is argued that shared mental models are the internal representations of values and norms, while the institutions are their external representations. Thus, institutions derive their importance in assuring a 'behavioural regularity' through various social and cognitive factors. The social factors shape the 'moral and ethical' aspects of individual behaviour. The cognitive factors, on the other hand, shape expectations and define the range of alternatives that human beings can deal with.<sup>7</sup> Both these factors are crucial for institutions to effectively manifest a 'behavioural *regularity*' in a population of individuals confronting same decision situations (Witt 1989).

For our analysis, we particularly focus on three sets of institutions, namely, (a) property, (b) labour relations and (c) money and market.

## **Property**

The concept of property and the related discourse is often argued to have a colonial origin, and is linked with the emergence of capitalism (Peters 1998). According to Peters (1998), it may be misleading to discuss the complex, non-exclusive patterns of access and use characteristic of pre-capitalist land tenure in terms of property relations. One therefore needs to bring the component of social relations while studying property under a dominant 'folk' view, generally persisting in the primitive or collectivist societies. This way, property relations in the collectivist societies can be approached not as relations between persons and things but as social relations between persons with respect to things.<sup>8</sup> These social relations could be a "bundle of rights" as outlined by Henry Maine in Ancient Law (1861) where a

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<sup>7</sup>This distinction, however, is artificial and done primarily for analytical convenience. In reality, they interact with each other.

<sup>8</sup>See Peters 1998; Hann 1998.

basic distinction is made between “rights in things and the rights in persons that people held by virtue of belonging to specific social groups and political communities”.<sup>9</sup> These rights are further emphasized by Gluckmann (1965) in understanding the mode of delegation in a political hierarchy, especially while working on land tenure system in Africa. According to him, the typical African king delegated rights to regional chiefs, who in turn delegated these rights to the village headman where the plots are allotted to the households for the settlement. Gluckmann referred it as an ‘**estate of production**’, which, by contrast, is understood as ‘**estates of administration**’ in the colonial (capitalist) discourse.

One important contribution towards devising a general analytical framework for understanding property regimes is by Franz and Keebet von Benda-Beckmann (1999). They apply the notion of layer not to the social structure of particular societies, as is done by Gluckmann, but to social organisation. The most overarching layer is designed by the norms of a cultural tradition (or ‘ideology’). This first layer is called ‘cultural -ideological’ layer. The second layer consists of political and legal regulations, which may come in a plurality of ways and specify, for example, the form in which objects are to be held and whether or not they can be alienated. This layer is called “legal – institutional” layer. Layer three consists of the ‘social relations’ of property. This layer includes, for example, the particular land use or inheritance patterns and the way they may be tied to particular forms of kinship. This layer also includes whether and how these uses and patterns will be more or less egalitarian. Finally, at the layer of ‘practices’ the actors may reinforce the patterns of the other layers or they may initiate changes. It emphasizes on the complexity and systemic embeddedness of property, which must be analysed at all four of these layers. Changes may proceed at differential rates at the different layers. Thus, it might be difficult or even impossible to reach at a precise date of time-period of a ‘global ‘transformation of the property regime’.

As is well known, a primitive or traditional society is often based on the philosophy of commons. Sustenance in these societies is based upon a common pool resource (CPR, hereafter) system. ‘Common-pool resource’ here refers to a natural or man-made resource system that is sufficiently large. Using these resources is based on a complex set of calculations of discount rates (Ostrom 2001). These calculations are often affected by the general norms, about honouring present commitment in a future date, shared by the members

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<sup>9</sup>Marcel Mauss’s study of *The Gift* (1990 [1925]), in which exchange was predicted upon transformations in the ways in which people relate to each other through things, in other words upon property.

in a particular society or a local community. Thus, a collectivist society may have different norms of behaviour than a society respecting individual property rights. While in the former kind of society, the behaviour is more de facto in nature, in the latter group of society it may be de jure. Kiser and Ostrom (1982), also highlight that property rules are nested, and embedded in social norms and individual cognitive factors, making it difficult to change such rights.

Changing the rules at any level will increase the uncertainty that individuals faces. As we have already argued rules provide stability of expectations, and efforts to change rules rapidly can reduce that stability. According to our discussion of cognitive factors, sudden and abrupt changes disturb the shared mental models or schema of individuals about the objective and mechanism of these rules.

### **Labour**

Karl Marx analysed the rule of labour in the context of capitalism where it is treated as a marketable commodity. Capitalism organises labour through the wage relationship. Wage relationship is, however, only one of the ways that labour can be organised in a productive way. On this, Eric Wolf (1999) argues that there are three main means of organising labour to extract value from those who produce it by their work: kinship, tribute, and capitalism. While kinship system mainly works on family labour, tributary system organises labour by force (see also Durrenberger 2005). Each of these processes defines a characteristic mode of production with its own characteristic forms of distribution and social relations. These ways of organising labour also has their own beliefs, values and practices that might make them appear inevitable and self-perpetuating. The schemas, or shared mental models they create are, therefore, quite rigid. It is evident from the attempt made by Durrenberger (2005) to locate these practices and understandings in culture. As discussed, kinship system is formed by the acts of engendering and sharing blood, living together and eating common food. This system is often more resilient than a capitalist system in sailing through 'bad periods' (say, bad harvest) since effort level is not necessarily determined by expected profit (Doeringer *et.al.*1986). The concept of wage is not common in this society, as community members themselves participate as the labour force in the agricultural field. Profit motive in this society is perceived as social capitals, which help in developing good relationship with the community members.

## Market and Money

Both market and money operate on an economic base. An economy's base is the social and material space that a community, or association of people, make in the world (Gudeman 2005). Comprising shared material interests, an economy connects members of a group to one another (Gudeman 2005). Quite often, economy is made synonymous with existence of market. However, ethnographers have extensively argued and showed that that, historically, economy includes more than market, or the market-like exchange of goods and services. This is not only true for pre-industrial societies, but also for industrialised modern societies (Patterson 2005). From an anthropological perspective, economy covers the acquisition, production, transfer, and use of things and services. For example, material things are produced and processed outside formal markets, and many transfers take place through practices such as social allotment and apportionment, inheritance, dowry, bride wealth, blood wealth, indenture and reciprocity, each mode, again, having a variety of expressions (Strathern and Stewart 2005; Yan 2005). According to Gudeman (2001), economy contains two realms: realms of community and realms of market or impersonal trade. Both these realms are found in all economies. The form of these realms, however, varies across time and space. These two faces of economy are of intertwined nature, often making it difficult to identify the border, which separates them (Achian and Demsetz 1973). Communities may be embedded in one another, or they may overlap, and differ in interests and internal structure. Nevertheless, communities are held together by shared interests that constitute their base and networks of relationships. These networks can be thick or thin sets of ties that vary in strength and importance.<sup>10</sup> Through such community connections, things are appropriated, created, and possessed which maintains the relationships. However, while, communities are more or less linked to economic processes, not all their performances are economic in nature.

Markets, in contrast, revolve on impersonal trade and exchange. However, these exchanges may be mixed with communal ties, as in case choosing trade partners or opting for open-ended contracts with people belonging to same ethnic group. But, in principle, the relations between people, and between them and things, are contractual in market trade. The forms and nature of contracts vary, often, across size of market. The trades taking place within a local market are surrounded by rules that may be tacit or customary, where often agreement is

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<sup>10</sup> Granovetter (1973) identifies networks as having strong and weak ties, and suggests that weak ties may lead to more rapid diffusion of information.

sealed by a handshake. But, when markets are large with anonymous participants, the rules usually are more explicit and the agreements are specified and written.

This brings us to the use of money in traditional societies. Although many such societies had 'money stuff', rather than the general-purpose money that serves as a uniform standard of exchange and use in market economics.<sup>11</sup> This is due to the reason that the economy (or what we say as 'pre-capitalist economy') in this society were *multicentric*, having two or more 'spheres of exchange'.<sup>12</sup> For Durkheim (1965), a traditional society has two circuits of social life. One, the everyday, short term, individuated and materialistic. The other circuit is the social, long term, collective and idealised, even spiritual. Market transactions fall into the first category and, according to Durkheim (1965); all societies seek to subordinate this sphere to the conditions of their own production, which is the realm of the second category (Polanyi 1944). But, the importance of money has increased many folds in western societies giving it the distinction of a social force all of its own. The rest of the world, however, apparently retains the ability to keep it in its secondary place (Hart 2005).

Briefly put, the discussion above conceptualises that institutions help develop stable pattern of behaviour by shaping moral, ethical aspect as well as shaping people's expectation and judgement about a decision situation. We also see that institutions related to property rights, labour relations and market can be identified as some of the key institutional aspects of human behaviour. In the next section we argue how the differences, mainly, in these three institutions have shaped people's response pattern to various governmental schemes in Nagaland that were framed to substitute *Jhum* cultivation.

### **3. *Jhum* cultivation and the associated institutional arrangement**

#### **3.1 *Jhum* cultivation: An over view of issues and structure:**

Shifting cultivation is the dominant land-use system and mainstay of economy for hill people in the south and Southeast Asia, including India's North-eastern region (Darlong, 2004). The

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<sup>11</sup>The word 'money' comes from Juno Moneta, whose temple in Rome was where coins were *minted*, and most European languages retain 'money' for coinage. Moneta was the goddess of memory and mother of the Muses. Her name was derived from the Latin verb *moneo*, whose first meaning is 'to remind, bring to one's recollection'. For the Romans, money, like the arts, was an instrument of collective memory that needed divine protection. As such, it was both a memento of the past and a sign of the future (Hart 2005).

<sup>12</sup>In contrast, capitalist (market) economies are by definition *unicentric*, because everything, even the factors of production, circulates in an economy unified by the market principle and the universal solvent, general-purpose money.

method of cultivation has been called by different names locally in different countries or states (Borthakur, 2002). For the Northeast India, it is locally known as '*Jhum*' meaning **cultivation in hill slopes by the use of hoe**, which is widely prevalent in all the states of the region (Dev Varman, 1971). *Jhum*, which or slash and burn agriculture is a traditional practice over generations. Though reliable figures about the exact extent of *Jhum* land and other related practices are not available, broad estimates indicate that out of the total area of 25.5 million ha of land in North-East, about 3 million ha is under settled agriculture and about 2.7 million ha is under *Jhum*. At any given time, roughly about one-sixth of the total *Jhum* land is under current *Jhum*. It is the tribal population, which practices shifting cultivation and it comprises 80% and more of the total population in the States of Arunachal Pradesh, Manipur, Mizoram, and Nagaland (Darlong 2004).

The basic principle of *Jhum* cultivation is the alternation of short crop phases (usually one or two years of cropping) with phases of natural (or slightly modified) vegetational fallow. It is argued that such a system systems can be called a temporally separated agro-forestry system, where mixed cropping is done during the cropping phase, and perennial shrubs and trees are confined to -the fallow regenerative phase of the forest. The duration of fallow cycle, therefore have important bearing on the sustainability of the system. Tiwari (2005) divides *Jhum* into four categories. They are –Traditional *Jhum*, (ii) Distorted *Jhum* (having shorter fallow cycle), (iii) Improved *Jhum* (cash crops), (iv) Modified *Jhum* (mainly the NEPED project). While extremely useful, this classification does not throw adequate light on innovative and adaptive behaviour of the indigenous communities. Indeed, the fascinating diversity observed in the method of *Jhum* cultivation across the north eastern states reflect that *Jhum* cultivation has not remained static over time, but have responded to the changing need of economy and environment through various adaptive and innovative changes (See Ramakrishnan 2001; Tiwari 2003)<sup>13</sup>.

Located in North-eastern part of India, this hilly state has 16 tribes and sub-tribes. Each tribe can be easily be distinguished by the colourful and intricately designed costumes, jewellery

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<sup>13</sup>In a pattern called alda in Nagaland the tribes cut but do not burn at the time of shifting cultivation. Thus the cut plants and undergrowth grow very quickly the next year with fresh leaves and thus prevent soil erosion and also preserve soil fertility. In many areas in Nagaland tree trunks are used across the slope so as to check the velocity of water. In some areas where the slopes are covered with grass and bamboo groves; pegs, bamboo pieces and grass are fixed across the slope to prevent soil erosion. Through the deposition of washed down soil along the tree trunk or bamboo and grass barriers, a sort of rudimentary terrace develops in the course of time.

and beads they adorn. Nagaland has special provisions provided under Article 371A of the Constitution of India. The provisions bars the application of all acts of Indian Parliament dealing with “religious or social practices of the Nagas; Naga customary law and procedure; administration of civil and criminal justice involving decisions according to Naga customary law; ownership and transfer of land and its resources unless approved by the state legislature to the entire state of Nagaland”. Nagaland is the state where the number of *Jhumia* families is the largest. About 72% of the population in the state depends on agriculture. *Jhum* covers about 37% of the State’s total geographical area and is followed by about 85% farming families in Nagaland.<sup>14</sup>

*Jhum* has evolved over years and its practice is rooted in customs, beliefs, and folklore. It influences the cultural ethos and social fabric of these agrarian societies. Besides, it is a complex agricultural system, which is well adapted under certain conditions, and it requires exhaustive comprehension of the environment to succeed. Briefly, it is a time-tested system of cultivation, drawing upon traditional knowledge and indigenous practices.<sup>15</sup> Some salient features of *Jhum* cultivations can be summarised as follows:

- *Jhum* lands are commonly owned and distributed by the Village Council, only for temporary occupation during *Jhum*. Agricultural lands, therefore, are neither privately owned nor meant for permanent holding.
- Unlike permanent or terrace cultivation shifting cultivation is almost entirely dependent on human labour. Numerous forms of co-operative labour arrangements exist to draw labour outside the family.
- Due to the dependence on family labour, the size of *Jhum* depends mainly on the number of able-bodied members in a *Jhumia* family. Marriage is an important source of procuring more working hands. Among the *Jhumias*, the institution of marriage requires the prospective groom to stay in his in-law’s house for a period of three to five years. It is an important source of labour supply.
- Fertiliser is natural, and derived from the slash and burn activities.
- One also observes the oldest form of division of labour, namely social division of labour (Polanyi 1944). Men participate in *Jhum* cutting operations and clearance of fields. Women take up the jobs of sowing, watching, and harvesting which spread over the longer part of the year.

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<sup>14</sup>Nagaland State Human Development Report 2004.

<sup>15</sup>NEPED and IIRR (1999)

- Mostly the economy of the shifting cultivators has been found to be self sufficient in nature. Usually there is little marketable surplus with the shifting cultivators. Their marketing facilities are limited and the extent of monetisation is restricted. The surplus produce is exchanged with traditional goods such as brass bells, beads and in some cases salt, utensils, dry fish, and clothes.

In a nutshell, the practice of *Jhum* can be regarded as the science of long-resident peoples, which differs considerably from group to group depending on locale where knowledge is built up through generations of living in close contact with the land.<sup>16</sup> “It is culturally bounded with ethos, which represents a hard epistemological core, reflecting upon unique mix of practices, methods, beliefs, institutional framework of communities, which defend and protect the scientific temper associated with the practice”.<sup>17</sup>

### **3.2 Policies towards *Jhum*:**

Ironically, however, policy makers since the British period have looked at *Jhum* as a prodigal child in the field of agriculture. Despite its deep-rooted history associated with local knowledge and customary values, the qualities embedded within are often underestimated in the policy framework of India since the days of British Raj. In the words of Baden Powell, a British policy-maker (in 1883) “..... this (*Jhum*) cultivation is so wasteful that somehow or the other it must be put to a stop, just like ‘seettee’ or any great evil. It consists of destroying a large and valuable capital (forest cover and environment) to produce a miserable and temporary return.”<sup>18</sup> The observation finally led a strong advocacy towards abolition of *Jhum*, which later found a place in the National Forest Policy of 1894.<sup>19</sup> The post independence India following the colonial legacy tried to maintain a policy, which was stereotype and often based on hard-core reductionist science. The overriding principle and spirit of policy intervention on *Jhum* cultivation had been to wean away the *Jhumias* to settled agriculture and to gradually reduce the areas under *Jhum*. Policymakers, governments, and analysts have often assumed that *Jhum* cultivation is universally unsustainable and destructive of forests and wildlife.

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<sup>16</sup> See Berkes (1993).

<sup>17</sup> See Ramakrishnan (1992).

<sup>18</sup> See Peel (1983).

<sup>19</sup> “A system of shifting cultivation ...costs more to the community than it is worth and can only be permitted under due regulation”

Timely intervention of efforts made through the work of Elwin<sup>20</sup>, Chaturvedi and others<sup>21</sup> also did not help much in opening up a humanist approach towards *Jhum*. Rather, it opened up a path for alternative models that could replace *Jhum*. The National Forest Policy, 1988 is one such document, which emphasised upon the alternative avenues of income, suitably harmonised with the right land-use practices. It was devised to discourage *Jhum* where efforts had been made for propagating “improved” agricultural practices like social forestry and energy plantations. Over time, what has changed in the policy arena is perhaps an increased attempt to make this replacement “participatory” in nature. When we compare the perspectives of the policy makers with that of the framers it becomes clear that factors like deforestation and *Jhum* are clearly not perceived by the latter as problems to be concerned about (see for instance Jodha 1997).

Studies by Jodha (1997), ICAR (1985), Maithani (2005) Have pointed out various reasons for the failures of certain employment schemes to meet the requirement of these people. Although factors like “trust”, “psychology” appear in their reasoning, the main emphases of these studies remain on physical factors along with the most commonly observed reason for any policy failure, namely, “bad implementation”. However, it is always difficult to ascertain the meaning of “good implementation”. Although some of these studies mention the role of socio-cultural factors in failures of these policies, the use of the expression ‘socio-cultural’ is often vague, and devoid of any clear theoretical underpinning. Recent literature suggests that culture is not a rigid framework, but rather loosely organised schematic structure, rooted in cognitive belief system of individuals. Thus, genesis of cultural change may also be assumed to lie in the way human cognitive system unfolds and works (DiMaggio 1997). We intend to posit our findings in this context to understand how various cognitively shaped institutional factors lead to the failures of these policies. We also examine the ways through which such cognitive dimensions change and explore their implications for acceptance of these policies.

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<sup>20</sup>Verrier Elwin, an expert in anthropology was appointed by Pt. Jawahar Lal Nehru as an advisor for tribal affairs in the North Eastern Frontier Agency (NEFA), present day Arunachal Pradesh in the early 1950s. Elwin emphasized upon the importance of local knowledge and tribal customs that is entrenched in *Jhum*.

<sup>21</sup>“The motion widely held that shifting cultivation was responsible in the main for large scale soil erosion need to be effectively dispelled. The correct approach to the problem lies in accepting it not as a necessary evil but recognising it as a way of life” (Chaturvedi and Uppal, 1953).

“It is a mistake to assume that shifting cultivation in itself is unscientific land use.... In most of the interior areas where communication is not developed and sufficient land suitable for terracing is not available, shifting cultivation alone can be done for the present and as such very effort should be made to improve the fertility of such land” (Sivaraman, 1953).

For examining the above said arguments, our study incorporated field survey in four districts of Nagaland, viz. Mokokchung, Mon, Wokha, and Zunheboto. We carried field survey in twelve villages in these four districts and the results were thoroughly analysed.

#### 4. Shifting cultivation and Terrace Cultivation: similarities and differences in “shared occupational frame”

In the following table we highlight some of the key differences between the, cognitively mediated institutional designs of shifting cultivation and terrace cultivation. In line with schema theory, these differences are structured in terms of a few important slots, which in our view, constitute the shared “occupational frame” or shared mental models of shifting cultivators.

**Table 2: Shifting cultivation vis-à-vis Terrace cultivation**

Slot		Shifting cultivation	Terrace cultivation
Nature of knowledge		Locally developed	Brought from outside
Type of land use		Temporary	Permanent
Nature of cropping		Many at a time	One/few at a time
Role of technology		Minimum, mostly human labour	Use of livestock, Mechanisation also present.
Labour arrangement/management		Family labour	Wage labour
Decision making	Land	Village council	
	Labour arrangement	Village council	Individual
	Nature of crops	Village council	Individual
Property rights of land		Community owned	Individual rights
Gender specific division of labour		Present	Absent
Links with social events		Present	Absent
Primary objective		Consumption/social exchange	Consumption/sale

We frame our discussion around the following aspects. (a) whether the knowledge required to carry out terrace cultivation is locally developed, and whether local people can undertake necessary innovative/adaptive steps, (b) whether the practice is embedded in local institutional norms and social framework, particularly with respect to property rights, labour relations and marketisation. We discuss each of them.

(a) Scope for local creativity:

It is Joseph Stiglitz (2002) who emphasised that people do not accept those policies, which fail to incorporate the intelligence and creativity of local people. In the farming community, one basic way to manifest such creativity is through local selection of seeds, and use of tools. In shifting cultivation, seed varieties and tools are locally generated, often using local body of traditional knowledge, and skills of the ancestors. More importantly, farmers first use any new seed variety in a small scale to verify their suitability with local conditions, before applying them in the large amount. This practice reduces the vulnerability in case of inappropriate selection. In the diffusion literature, Rogers (2003) points out that 'trialability' of an innovation enhance its scope of diffusion. In case of terrace cultivation seeds are brought from outside, as farmers do not have adequate local knowledge about these seeds. Also, the scope for 'trialability' is much less, if not absent, in terrace fields. In this uni-crop farming practice, farmers generally have use one kind of seed in large scale-therefore reducing the scope of trialability and increasing the vulnerability, in case of crop failure.

Similar problem arises in tools, as tools for terrace cultivation differ significantly from those used in *Jhum*. In *Jhum* the main tools are Henhoe (to clear soil debris during sowing of seeds), Sickle (cutting plants during harvesting), Machete (cutting hard species like trees), dibbling sticks and rack (for mixing ash in the soil). All these tools have been generated and modified time to time, by the local blacksmiths, using local knowledge. In contrast, in terrace cultivation, only sickle can be used. The other main tool is spade, the design of which has to be imported from other regions. Other tools have no function.

Thus, terrace cultivation severely limits the local farmers in applying their creativity and intelligence to augment this practice.

(b) Institutional norms of property labour and market:

Property rights of *Jhum* land are owned by the community. Depending on the structure of local governance, one observes some variation in this system also. For instance, in the communities of Ao, village council is the owner of *Jhum* lands, which then distributes it among the members of the village to carry out *Jhum*. In Konyaks, on the other hand, local kings (Angh) own the lands, and it is 'redistributed' among the members. With the completion of farming in one *Jhum* plot, ownership goes back to the community, and is again retained by the members when this plot is again selected shifting cultivation after keeping it fallow for some years. During shifting cultivation, the overall maintenance of the entire plot is done by the community members, including making common path, arrangements to protect the land from pests, birds, and animals etc. On the other hand, property rights for terrace cultivation require individual ownership of land, which is not given back after one year of cultivation. In fact, when a *Jhum* plot is discarded after one year of cultivation, the family undertaking terrace cultivation will have to continue to practice terrace in the same land. This creates problems and conflicts on the issues of ownership and labour. Obviously, the family will not get the help of community labour to cultivate and maintain the land, and as a result, they will have to hire wage labour, if family labour remains insufficient for the work. This practice leads to a conflict with the kinship system of labour. Moreover, the members, in such cases would often have to rely on migrant labourer, as local people do not have much knowledge about terrace cultivation anyway. As a result, the added dimension of fearing a dilution of their 'culture' catches up. Ownership wise, it becomes difficult to allot land to the same family in the present *Jhum* plot, as they retain the ownership of a piece of land in the discarded *Jhum* land.

Terrace cultivation is also a mono crop farming practice. As opposed to this, *Jhum* is a multi-cropping farming practice, where various crops and vegetables are cultivated at the same time. Doing *Jhum* therefore makes a family self-reliance in food and vegetables. As a result, market for vegetables do has not existed in these villages. In case of deficit, a family can borrow food grains from other families, which is returned whenever the former has a good crop. The kinship in labour arrangement and reciprocal exchange of food grains go hand in hand in strengthening the system of a non-market collectivist society. Practising mono cropping through terrace cultivation, on the other hand, makes everybody dependent on market, both for labour as well as for the final product. We have discussed that market works on the principles of impersonal exchange and contract. Also, market promotes individual entrepreneurial aspirations, reinforcing the need to have individual rights on properties so that

decision about the product, use of land as mortgage can be taken without the interference of the community.

Terrace cultivation also uses livestock for the purpose of cultivation. Naga communities, on the other hand, do not know the use of livestock as means of production.

## **5. Conclusion and broad policy implications**

We show that the inability to accept new form of employment (or occupation) may lie in the difference in the institutional framework of the two modes of occupation. The difference can be observed in the field of usability of local knowledge and intelligence of local people in augmenting the practice. Also, the institutions of property rights, labour relations and use of money/market requires major adjustment in order to successfully adopt the alternative occupational mode. Indeed, one area where terrace cultivation has been successful is the Angmai dominated area. It is argued that these areas have historically had a system of private property rights economic behaviour (see Haimendorf 2004: 88, George and Yhome 2008). We further argue that this difference is cognitively shaped. One may thus argue that the success of these employment opportunities is shaped by the ability to forge connection between various associated norms of the new occupation with the old one. This mechanism can provide an interesting insight to understand why people only accept 'changes' in a selective in the process of economic adjustment. Also, it shows that radical changes in policy should be preceded by steps to bring compatible institutional arrangement in place, which seems to be a slow process. Indeed, social norms and values are not completely rigid. In fact, their cognitive underpinning also suggests a mechanism of change in these social values. However, such changes are slow and gradual. In case of the Naga community, what has led to some acceptability of these schemes include modern church-state sponsored educational system. This system of education has, over time, propagated a taste for modernity and cultivated, very subtly, the individualistic aspirations people. As a result, young Naga people are increasingly showing their apathy to stay back in villages, take part in community services, and undertake shifting cultivation. Note that education begins at an early age, and influences the way new incoming information and sensory experiences are handled by the brain. Education, therefore, plays an important role on shaping human perception about environment. In terms of cognitive processes, what education teaches them is to process

information, and interprets an environmental problem differently, thus developing a shared frame or mental model about the choice of institution and path of economic emancipation.

To conclude, therefore, we argue that short run policies are more successful when it calls for minimal change among people in the way they perceive the 'environment'. In the long run, however, individuals can be encouraged to change their perception about an environment through mechanisms, which alter the way they handle information and develop connections in their cognitive system.

## References:

- Achian, A A and Demsetz, H (1973), 'The Property Rights Paradigm', *Journal of Economic History*, Vol. 23, 16-27.
- Bandura, A (1986), *Social Foundation of Thought and Action: A Social Cognitive Theory* (Englewood Cliffs: Prentice Hall).
- Berkes, F (1993), 'Traditional Ecological Knowledge in Perspective', in J T Inglir (ed.), *Traditional Ecological Knowledge: Concepts and Cases* (Ottawa: International Development Research Centre), 1-9.
- Borthakur, D N (2002), 'Shifting Cultivation in North-East India: An Approach Towards Control', in Bimal J Deb (ed.), *Development Priorities in North East India* (New Delhi: Concept Publishing Company).
- Chaturvedi, M D and Uppal, B N (1953), 'A study in shifting cultivation in Assam', (New Delhi: ICAR).
- Darlong, V T (2004), *To Jhum Or Not To Jhum - Policy Perspectives on Shifting Cultivation* (Guwahati: The Missing Link - Society for Environment & Communication).
- Dev Varman, S B K (1971), 'A Study over the Jhum and Jhumia Rehabilitation in the Union Territory of Tripura', (Directorate of Research, Government of Tripura, Agartala.).
- Doeringer, P B, Moss, P I , and Terkla, D G (1986), *The New England Fishing Economy: Jobs, Income, and Kinship* (Amherst: University of Massachusetts Press).
- Durkheim, E (1965), *The Elementary Forms of the Religious Life* (Glencoe: Free Press).
- Durkheim, E (1965), *The Elementary Forms of the Religious Life* (Glencoe: Free Press).
- Durrenberger, E P (2005), 'Labour', in James G Carrier (ed.), *A Handbook of Economic Anthropology* (Cheltenham, UK: Edward Elgar).
- Granovetter, M S (1973), 'The Strength of Weak Ties', *American Journal of Sociology*, Vol.78, 1360-80.

- Gudeman, S (2001), *The Anthropology of Economy* (Oxford: Blackwell).
- Gudeman, S (2005), 'Community and Economy: Economy's Base', in James G Carrier (ed.), *A Handbook of Economic Anthropology* (Cheltenham, UK: Edward Elgar).
- Haimendorf, C V F (2004), *The Naked Nagas: Head-hunters of Assam in Peace and War* (Guwahati: Spectrum Publications).
- Hamilton, W (1932), 'Institution', in E Seligman and A Johnson (eds.), *Encyclopaedia of the Social Sciences* (New York: Macmillan).
- Hann, C (2005), 'Property', in *A Handbook of Economic Anthropology* (eds.), James G Carrier, Cheltenham, UK: Edward Elgar.
- Hann, C M (ed.), (1998), *Property Relations: Renewing the Anthropological Tradition* (Cambridge: Cambridge University Press).
- Hart, K (2005), 'Money: One Anthropologist's View', in James G Carrier (ed.), *A Handbook of Economic Anthropology* (Cheltenham, UK: Edward Elgar).
- Jodha, N S (1997), 'Mountain Agriculture', in B Messerli and J D Ives (ed.) *Mountains of the World, A Global Priority*, The Parthenon Publishing Group, London pp. 313-35.
- Kiser, L L and Ostrom, E (1982), 'The Three Works of Action. A Metatheoretical Synthesis of Institutional Approaches', in E. Ostrom (ed.), *Strategies of Political Inquiry*, Beverly Hills: Sage, 179-222.
- Maine, H (1861), *Ancient Law* (London: Allen & Ulwin).
- Mauss, M (1990), *The Gift: The Form and Reason for Exchange in Archaic Societies* (London: Routledge).
- NEPED and IIRR (1999), 'Building Upon Traditional Agriculture in Nagaland, India', (NEPED and IIRR, Philippines).
- North, D C (1990), *Institutions, Institutional Change and Economic Performance* (Cambridge: Cambridge University Press).
- Ostrom, E (1986), 'An Agenda for the Study of Institutions', *Public Choice*, 48, 3-25
- Ostrom, E (2001), 'An Institutional Approach to the Study of Self-organization and Self-governance in CPR Situations', in U. Sankar (ed.), *Environmental Economics*, New Delhi: Oxford University Press.
- Parsons, T (1965), 'Motivation of Economic Activities', *Canadian Journal of Economics and Political Science*, Vol. 6, 187-203.
- Patterson, T C (2005), 'Distribution and Redistribution', in James G Carrier (ed.), *A Handbook of Economic Anthropology* (Cheltenham, UK: Edward Elgar).

- Peters, P E (1998), 'The Erosion of Commons and the Emergence of Property: Problems for Social Analysis', in R C Hunt and A Gilman (eds.), *Property in Economic Context* (Lanham, Md: University Press of America).
- Polanyi, K (1944), *The Great Transformation: The Political and Economic Origins of our Time* (New York: Holt, Rinehart & Winston).
- Ramakrishnan, P S (1992), 'Tropical Forest: Exploitation, Conservation and Management', *Impact of Science on Society*, Vol.42 (166), 149-62.
- Ramakrishnan, P S (2001), *Ecology and Sustainable Development* (New Delhi: National Book Trust of India).
- Rogers, E (2003), *Diffusion of Innovations* (5th edn.; New York: Cambridge University Press).
- Schotter, A (1981), *The Economic Theory of Social Institutions* (Cambridge: Cambridge University Press).
- Simon, H A (1956), 'Rational Choice and the Structure of the Environment', *Psychological Review*, Vol. 63, 129-38.
- Sjostrand, S E (1993), 'Institutions and Infrastructures of Human Interaction', in S E Sjostrand (ed.), *Institutional Change: Theory and Empirical Findings* (New York: Sharpe).
- Tiwari, B K (2003), 'Innovations in Shifting Cultivation, Land Use and Land Cover Change in Higher Elevations of Meghalaya, India', in P S Ramakrishnan, et al. (eds.), *Methodological Issues In Mountain Research - A Socio-ecological Systems Approach* (UNESCO).
- Tiwari, B K (2005), 'Shifting Agriculture in North-Eastern India: Some Insights in Spatiotemporal Patterns and Processes', *Workshop on Shifting Agriculture, Environmental Conservation and Sustainable Livelihoods of Marginal Mountain Societies* (Guwahati: NIRD).
- Veblen, T (1919), *The Place of Science in Modern Civilization and Other Essays* (New York: Huebsch).
- von Benda-Beckmann, F. and K.von Benda-Beckmann (1999), 'A functional analysis of property rights, with special reference to Indonesia', in *Property rights and economic development : land and natural resources in southeast Asia and Oceania* (eds.), T.van Meijil and F.von Bena-Beckmann, London: Kegan Paul International.
- Witt, U (1989), 'The Evolution of Economic Institutions as a Propagation Processes', *Public Choice*, Vol.35, 155-72.
- Wolf, E R (1999), *Envisioning Power* (Berkeley: University of California).

Appendix:

**Education policies: modern education: how thrust of modern education differs from traditional education with respect to *Jhum*/their traditional way of life etc.**

Naga system of education:

Being a traditional and primitive society, written form of any script was unknown to the Naga people. If they had any education, it was all informal. The mode of education prevalent in Nagaland was centred around the 'Morung'. This institution served Naga society for centuries and incorporated in its functioning time-honoured tribal values, life-centred learning and exposure to customary practices and experiences. Here, young men and women grew up under the supervision of the community elders. For the young men the Morungs were khel- or clan-based. The girls met in informal groups usually in the home of a respected senior woman. The youth, through community living and working together, also got to know each other in a natural way and forged relationships that extended from the personal to the social domain. This innovative approach to education, leadership building and societal training contributed much to Naga life, history and functioning.

The advent of Colonial Education – Missionaries Role

The phase of colonial education in Nagaland began in 1850s when for the first time the western Baptist Christian Missionaries made their entry in Naga Hills. The American missionaries were the pioneers in the field of education, literature, and medical services in the Naga Hills. They have established churches, schools and hospitals for the moral and material welfare of the Nagas. The missionaries learnt the important Naga dialects and translated the Bible, Christian hymns and other religious works into the Naga vernaculars using the Roman script. Spread of education as desired by administration was not the primary concern of the American Baptists. As they wanted only some amount of workable literacy among the hill men, the mission schools remained till the independence of India the chief agencies for imparting education to the Naga. Those who had received education were sent out of the villages to teach as well as preach the principles of the Christian religion. School work thus formed a very important part of the missionary programme.

### Impact of Modern Education in Naga society

The significance of the village organisations including *Putu Menden* began to decline with the advent of the British rule and spread of Christianity in Nagaland. Though the British administrators did a little interference in the local affairs of the Nagas, the new set of rules and administration, which were imposed on the Nagas by the British, attracted the Nagas towards them broadening their mind. Moreover, the Christianity made a deep dent in the Naga society and tried its level best to erode the customary practices of the Nagas making them more and more responsive to the new set of social organisations and religious faith. The new religion asked the Nagas believers to part with all their old culture and follow the new European or American culture in almost all aspects of life. The missionaries “condemned our (Nagas’) old culture as most sinful, godless and useless”.

The introduction of colonial education introduced their new generation with new values, no doubt, but at the cost of disruption of the indigenous system of learning and redirected them to the new pattern of modern education much more inclined towards secularism. According to Elwin (1969), the introduction of modern education has substantial influence on the socio-cultural life of the Nagas. New syllabus taught in the schools set up by the government and missionary people broadened the mental make-up and vision of the Naga people. The educated Nagas began to understand the differences as well as usefulness between tradition and modernity. The social system, in which they had been living since time immemorial, became useless to the Naga people under the light of new social system. They wanted to go for a new lifestyle which they are accustomed to. Their old habits and faith began to change fast.

The primitive technology of food production, dyeing, weaving and construction of houses also began to change. The Naga people keeping aside the local loom-made cloth began to prefer factory produced cloth. They began to discard those things and goods which were directly produced from the soil and replaced them with factory made goods. The wooden and bamboo cups and plates and other utensils were replaced by manufactured goods made from aluminium. Mentioning about changing cultural pattern of the Ao Naga, J.P.Mills writes, “Nowadays the breaking down of old customs under the influence of the American Baptist Mission and the establishment of the Fuller Technical school at Kohima, have led to the starting of a considerable number of small smithies in the Ao country”.