Content list available at http://epubs.icar.org.in, www.kiran.nic.in; ISSN: 0970-6429

Indian Journal of Hill Farming

June 2019, Volume 32, Issue 1, Page 169-175

Transition and Well-Being Status of *Konyak Naga* Tribe Dependent on Shifting Cultivation: An Empirical Case Study

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ARTICLE INFO

Article history:
Received 16 September 2018
Revision Received 26 March 2019
Accepted 6 June 2019

Key words:
Hill tribe, Nagaland, Shifting cultivation, Transition, Well-being

ABSTRACT

This study is focused on the livelihood transition and happiness status among *Konyak Naga* tribe whose living primarily depends on Shifting Cultivation (SC) in Mon, a remote Hill district of Nagaland. Using a resilience approach, 50 tribal households were interviewed with the help of structured interview schedule. The findings reveal transition in terms of an aversion of *Konyakn* youths to SC, declining dependency on SC and devotion to fare share (36%) of total expenditure on children's education and clothing. Further, increased access to mobile phone, presence of mass media is triggering material aspirations among the community. The average monthly income of respondent households was found to be about ₹ 13, 450 and 82.23% of this was contributed by agriculture and allied activities. Higher inclination was observed towards settled cultivation with high value horticultural crops, however, lack of market access and technological gap coupled with poor reach of agricultural extension services are impeding start-up. The study reveals that well-being of 83% respondent households was found to be moderate or inconsistent. They are experiencing difficulties as on date and also expected to continue with it in the near future. Hence, planning and implementation of policies focused towards welfare and livelihood diversification need to be revisited to enhance overall well-being of the ethnic minorities who rely on SC for their livelihood.

1. Introduction

Naga farmers adopt an age-old traditional cultivation system called shifting cultivation (*Jhum*), where a land is selected for cultivation for one or two years and thereafter left it abandoned for several years. About 73% Nagaland's people are dependent on agriculture and most of them are involved in shifting cultivation, because of compulsion of its natural hilly topography and traditional way of cultivation (Kuotsuo 2014). It is a known fact that shifting cultivation has negative impact on soil health and ecosystem, about 61% of the total households of Nagaland state practice shifting cultivation in about 1.00 lakh hectares of land annually thereby exposing about 5.65% of the total geographical area of the state to soil erosion hazards (Anon 2016). *Jhuming* is one of the key drivers of degradation of forest ecosystem in Nagaland, and also often the most suitable form of agriculture for the agro-climatic condition and steep terrain cultivation like Nagaland. However, in recent years, due to shortening of *jhum* cycle which is insufficient for regeneration, the yield has been successively declined over time and families that were once secure for food now cannot meet their requirements.

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The meta analysis of van Vliet *et al.* (2012) established that the region has undergone to significant decline in shifting cultivation (SC) and the drivers are economic structures, market development, population growth and policies (particularly SC management policies). The driving forces behind this transition in the state are entwined with several rehabilitation schemes that have been implemented by the State and Central Governments to control shifting cultivation such as Watershed Development Projects, Soil conservation schemes, SC Control Projects, Sustainable Land and Eco System Management (SLEM) programme in shifting cultivations area of Nagaland for livelihood and ecological security supported by the World Bank, UNDP, and FAO and state-level agencies *etc.* In this context, electronic media is playing important role, especially radio, television and mobile phone and extended reach of mass media by the outreach is triggering change. Mass media is a channel, where there is no direct involvement of individual. The target is to bring changes in their knowledge, attitude, belief, value system and opinion. The desired changes in psychological aspects must be through soft means rather than coercive means. As a result of this, sporadic positive changes were observed in SC systems as reported by numerous scholars (Rathore and Bhatt 2008; Bhan 2009; Krug 2009; Rathore *et al.,* 2010; Kuotsuo *et al.,* 2014). Inevitably, the community itself has been witnessing a gradual structural change in recent years. Whether the transition process has had any consequence on well-being of tribal communities practicing SC? Are these interventions and changes contributing to overall well-being (objective & subjective) of tribal communities? Such study assumes significance as in North-east India wherein, more than 4, 43,000 families most of them indigenous, are dependent on SC for their livelihood and an estimated 1466 thousand hectares (Anon 2009) of land are under shifting cultivation. Literatures are scanty about well-being of people practicing shifting cultivation. Hence, the present study was undertaken to empirically examine the socio-economic status, household income and expenditure pattern, information access, preferred diversification choice, challenges and status of overall well-being of the tribal communities whose livelihood currently depends upon SC.

2.Materials and Methods

The present study was conducted during 2016-17 in Mon district located in the remotest part of Nagaland, North East India. This remote district has a low human population density of 140 people per Km2 (Census of India, 2011) and a relatively high forest cover of about 68% (FSI 2017). It is one of the three most resource poor district in Nagaland currently receiving funds from the Indian government under the Backward Regions Grant Fund Program since 2006 (Anon 2014). The main occupation of the people of this district is agriculture with nearly 90% of the work force engaged in it. The Mon district of Nagaland administratively divided in 6 Rural Development Blocks. The *Konyaks* are the largest of the 16 tribes inhabiting Nagaland**.** Fifty respondents randomly selected form 6 village clusters of Mon Sadar Block. Diversification preference was measured using 5-point Likert scale and challenges were assessed using 3-point Likert scale developed for the study. Cantril Self-Anchoring Scale (Cantril 1965) was used to measure respondents' subjective well-being as it measures well-being nearer to the end of the range indicating assessments of life or life appraisal (Diener *et al.,* 2009). Further, the grouping pattern formed by Gallup (2009) was adopted for interpretation of results. Wherever applicable, results are interpreted through use of statistics e.g. frequency distribution, percentage, mean and standard deviation with standard error.

3. Results and Discussion

3.1 Socio-economic well-being determinants of the respondents

The data in Table 1 depicts that an average age of the respondents engaged in SC were found to be about 54 years who belonged to old age (68%) and majority of them (78%) had medium family size *i.e.* about 6 members per family. Out of total respondents, half of them had only primary level of education whereas, one quarter was found illiterate as well as an equal proportion had education up to high school level. Majority of the respondents (60%) had small land holdings and fifty per cent respondents had dependency of 50 to 75% on shifting cultivation. Findings pertaining to socio-economic profile (Table 1) of the respondents clearly demonstrate transition in youths that they are reluctant towards SC, only middle and old age members in household are involved in SC. Further, majority of the respondents belongs to average age of 54 years and these age groups (between 35 and 65) are considered less happy compared to adolescents and elderly people as observed by Helliwell (2003).

Table 1. Status of socio-economic well-being determinants among the respondents (n=50)

Variables	Frequency	Percentage	Mean	Standard Deviation (SD)	CV (%)
Age					
Young (18-35) yrs	0	0	53.8	7.98	14
Middle (36-50) yrs	16	32			
Old (Above 50 yrs)	34	68			
Educational attainment					
Illiterate	12	24			
Primary	25	50			
High school and above	13	26			
Family size					
Small (<4)	2	4	6.52	1.85	28
Medium (4-8)	39	78			
Large (>8)	9	18			
Land holdings (ha)					
ii) Small (1 to <2)	30	60			
iii) Semi-medium (2 to <4)	20	40			
Extent of dependence on S C (%)					
Up to 25%	2	4.00			
25- 50%	22	44.00			
50- 75%	25	50.00			
75- 100%	1	2.00			

Table 2. Average monthly income and expenditure of respondents' households

Income (₹)	Mean	SD	SE	CV (%)
a) Primary	11060 (82.23%)	2690.95	1564.12	24
a) Secondary	2390 (17.77%)	2744.74	338.00	115
Average income	13450			
Expenditure				
a) Food	2132 (37.85%)	999.89	301.51	47
b) Non-Food				
i. Education	1028 (18.25%)	905.63	145.41	88
ii. Clothing	991 (17.59%)	393.79	140.15	40
iii. Religious ceremony	550 (9.76%)	334.57	77.78	61
iv. Festival	555 (9.85%)	372.83	78.49	67
v. Expenditure on livestock	106 (1.88%)	221.69	14.99	209
vi. Maintenance/repairing of house	191 (3.39%)	273.22	27.04	143
vii. Health & travelling	80 (1.42%)	340.47	11.31	426

Figure in parenthesis indicates the percentage of total income/expenditure

3.2 Households' income and expenditure pattern of respondents

Table 2 shows the average monthly income and expenditure in respondents' household of the selected locale. The results revealed that at the base year (2016), the average monthly income of the households was found to be about ₹13, 450 with deviation of ₹3296.95 in the sampled district wherein, agriculture and allied activities contributed about 82% of total monthly income. It is clear from Table 2 that expenditure on education (37.16%) take away more than one third of respondents household budget followed by food items (33.71%). Significant proportion of non-food expenditure was on clothing (10.10%) and religious ceremony (9.37%) and rest of the expenditure was on livestock, festival, health & travelling and other miscellaneous consumer services. The SD and SE value of average monthly income of sampled households was found to be very high, which means that there exists high variability in income distribution and expenditure pattern among the respondents.

Figure 1. Non-farm employment opportunities among the respondents

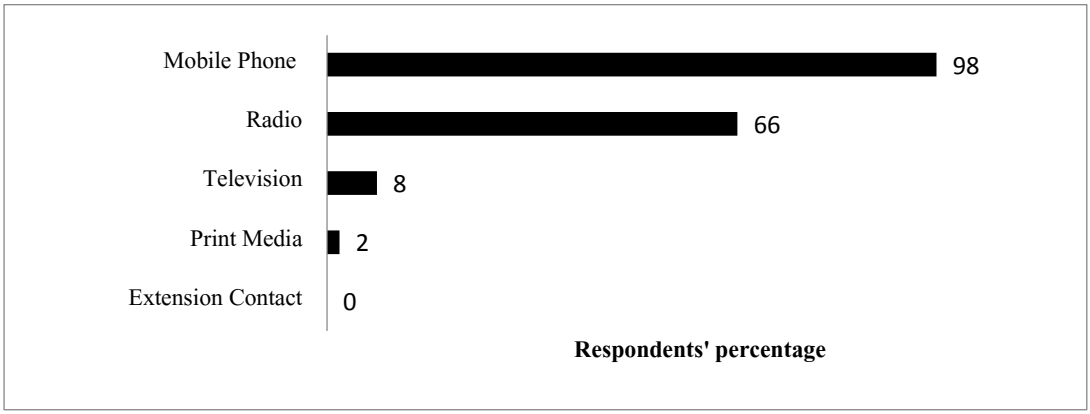

Figure 2. Access to mass media and mobile phone by the respondents

3.4 Non-farm employment opportunities among the respondents

Figure 1 reveals that majority (54%) of the respondents could avail non-farm employment opportunities to augment or to supplement agricultural income mainly through labour market program (MGNREGA). of total respondents 42% were engaged as wage labourers whereas, a small segment of the respondents reported having occupation such as vegetable vendor. The findings indicate limited diversified opportunity in non-farm livelihood options and validate the results on income that reveals only about 18% of total income contributed by secondary occupation.

3.5 Access to mass media and mobile phone by hill tribes

Figure 2 reveals the mass media exposure, access to cosmopolite sources of information by the respondents. It is clear from the table that almost all (98%) the respondents had access/use to mobile in the remote hilly district followed by Radio (66%).Possession of television by the respondents was found to be very poor (8%) and negligible mobile phone and print media. None of the respondents had indicated to access public supported agricultural extension/advisory services in the study area. Usage of print media was poor in spite of higher literacy among the respondents possibly due to relatively higher cost involved in procuring printed resources like books and newspapers. One plausible reason for relatively higher usage of Radio is it serve as entertainment medium apart for informative when compared to print media. Near full penetration of mobile phones provides an opportunity to development departments to leverage ICT for reaching out to far-flung tribal hamlets.

3. 6 Agricultural diversification preferences

Based on thorough review of relevant literature, a list of technological options, recommended by different scientific establishments for better management of SC was prepared and placed before the respondents. Focused group discussions were also conducted with key stakeholders to validate the response of the respondents.

Table 3 reveals that integrated farming system (x =2.80), low cost bamboo poly house with high value crops (x =2.74) and fruits orchard (x = 3.94) were identified by the respondents as top three choices for agricultural diversification in SC area and ranked I, II and III respectively. Other strategies like small scale food processing unit (pickle jam/jelly, Ready To Serve (RTS) beverage, squash, candy *etc.*), vegetable cultivation and agro forestry could be viable options for agricultural diversification and contribute to enhancing income in SC area as reported by the respondents. The reasons for preferences are easily comprehensible on the fact that the given tribal settings are endowed with vast natural resources with supporting climatic and edaphic factors which are conducive for fruit orchards, spices production and vegetable cultivation in the area.

Table 3. Agricultural diversification preferences of hill tribes

Items	Average score	Standard deviation	Rank
Integrated farming system	2.80	1.87	1
Low cost bamboo poly house with high value crops	2.74	1.83	2
Fruits orchard	2.68	1.75	3
Small scale primary processing unit	2.68	1.77	3
Vegetables cultivation	2.60	1.65	4
Agro-forestry	2.54	1.59	5

3.7 Constraints towards settled cultivation & livelihood diversification

Figure 3 reveals that among several bottlenecks, lack of market access (x =2.63), Lack of high yielding crop varieties well suited on SC land (x =2.44) and absence of agricultural extension/advisory services (x =2.30) emerged as the most important challenges that hinders the different options of livelihood diversification. Further, unavailability of credit facilities and lack of organic weed management techniques were other important impediments as expressed by the respondents towards diversification of their livelihood and income enhancement.

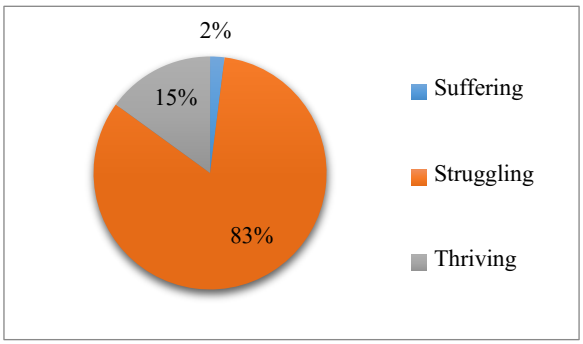

Figure 4. Status of subjective wellbeing of respondents

3. 8 Subjective well-being of the respondents

In regard to subjective well-being of the respondents, maximum (83%) of them were found as moderate or inconsistent. They are either struggling in the present, or expecting more struggle in coming future.

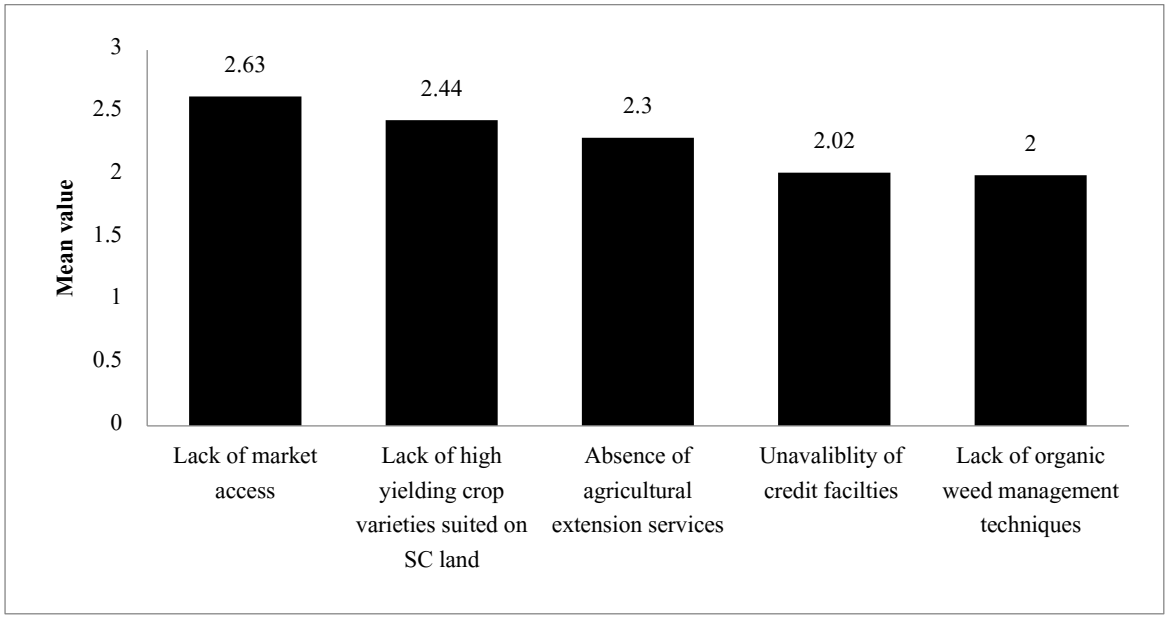

Figure 3. Constraints faced by hill tribes in settled cultivation & livelihood diversification

They are more likely to drink& smoke and are less likely to eat healthy food. However, about 15% reported well-being that is strong, consistent, and progressing. These respondents have positive views of their present life situation and they look for betterment of their quality of life in next five years. Negligible (2%) proportion of respondents perceived well-being that is at high risk. They have inadequate access to basic amenities of life *e.g.* food, shelter and clothing. These respondents have given poor ratings of their present life situation (below 4 in a scale of 10). They are less optimistic about their well-being in next five years (below 4 in a scale of 10).

Individual subjective well-being is directly influenced by relative social environment of community as established by review of literature (Lohmann 2015). An individual aspires well-being and satisfies through his income in addition desires to have aspired levels. For any reason the aspirations are not met out, the subjective well-being faces lot of internal pressure. Such phenomenon is referred as "Satisfaction treadmill". Modern media has pivotal role to play under such circumstances particularly television influences material aspirations. Accordingly individual prepares to achieve income and satisfaction (Hyll and Schneider 2013). In addition to TV the primary circle of individual *i.e.* family, friends, and working colleagues are primary sources of income comparison. The usage of conventional information technologies (Radio, TV) and modern ICT tool (mobile phone) among the respondents was much elevated (Figure 2) which influenced their opinion about quality of life indirectly and phenomenon of "satisfaction treadmill" can be observed in community.

Conclusion

The study observes that significant socio-economic and technological changes are leveraging transition and is impacting lives of hill tribes practicing SC. In such a situation, majority of them are experiencing difficulties in deriving livelihood from SC though the perceived desirable goal of transition for development in any society is to bring equality with happiness. Government-led initiatives for livelihood diversifications are finding favours with the educated youth; however, concerns are being raised as to whether it is widening the rich-poor divide. The emerging heterogeneity in present level of income and well-being among the members of the community warrant immediate intervention to ensure inclusiveness and growth. Adopting multi-pronged strategy with institutional and policy reforms in development approaches based on sound planning may usher in well-being among the *Konyak Naga* community, dependent on shifting cultivation.

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