Impact Of Rubber Plantation Based Economic-Rehabilitation Programme On Shifting Cultivators In Dhalai District Of Tripura

Geography

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ABSTRACT
The paper assess the impact of rubber plantation based economic-rehabilitation programme on households having rubber plantation (HHRP) erstwhile shifting cultivators (jhumias) and compared with households not having rubber plantation (HNHRP), applying Sustainable Livelihoods Approach (SLA) to analyse the five capital assets viz. human, natural, physical, finance and social gathered through household survey. Range equalization method was adopted to elucidate the five capitals. Physical and financial capitals have great influence on enhancing the livelihood of HHRP than HNHRP whereas social capital the least for both households. HHRP slightly lack in natural and human capitals than HNHRP, as access to land for shifting cultivation (jhum) of HHRP have drastically decline due to land allotted for rubber cultivation and decline in traditional skills but resulted in increasing modern skills associated with rubber plantation. High income of HHRP from rubber plantation has strengthened copping strategies than HNHRP.

Introduction

In Tripura, rubber trees were introduced in 1963 by the State Forest Department for soil conservation initiative. With establishment of Tripura Forest Development and Plantation Corporation Limited (TFDPC Ltd.) in 1976, the first rubber based rehabilitation project was implemented at warrangbari in west Tripura district. Different rubber developing agencies was then established like Tripura Rehabilitation Plantation Corporation Limited (TRPC Ltd.) in 1983, Tripura Block Plantation Project (TBPP) undertaken by Rubber Board and Department of Tribal Welfare in 1992-93, office of the Tripura Tribal Area Autonomous District Council (TTAADC) and Sub-divisional Magistrates (SDM) in 1998, for further initiating rubber development based rehabilitation programme. Tripura is now the 'Second Rubber Capital of India' next to Kerala (Viswanathan and Bhowmik, 2014). In Tripura, rubber plantation has been considered successful in economic-rehabilitation of the erstwhile jhumias and landless families mostly indigenous tribes (Bhowmik, 2006; Raghavan, 2009), however, as per Gupta (1990) the programme seems not much hopeful in the long run as jhumias lack in technical knowledge for maintaining rubber plantation; in addition, Benami (unauthorized) transfers of rubber plantation to the non-tribal's are reported (Maithani, 2005). Therefore, the main objective is to examine whether the programme implemented genuinely enhance livelihood of the HHRP.

Material and Method

Dhalai district was selected for the study, as it is the most backward district, have big concentration of STs population and STs jhumias and least in HDI among the districts of Tripura (GOT, 2007).

Of the 4 sub-divisions, except Gandacherra (rubber plantation introduced recently), from Kamalpur, Longtarai valley and Ambassa, 4 rubber plantation centers or villages i.e. Kachucherra village (22 HHRP and 24 HNHRP), Kathalcherra village (32 HHRP and 19 HNHRP), Kanchancherra village (26 HHRP and 22 HNHRP) and Bagmara village (13 each for HHRP and HNHRP) managed by TRPC Ltd. was surveyed. Information related to five capitals (of the SLA framework developed by Department for International Development in 1999) for both the households was collected applying random stratified sampling technique and using semi-structure schedules, conducted during 2012. Thus, total of 171 households surveyed (93 HHRP and 78 HNHRP inhabiting the same locality).
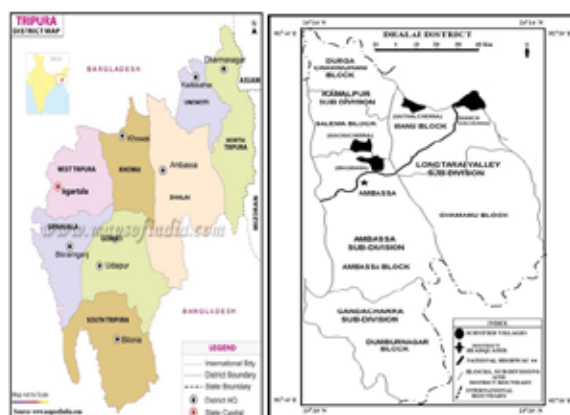

Fig. 1: Location map of the study area

Range equalization method (UNDP method of HDI) (Ghosh et al, 2006) was adopted for measuring the indicators of the five capitals. First, the values of every indicator of the five capitals are acquired into percentage values. Second, the scale-free aggregate indices ranging 0 to 1 of each indicator of the five capitals are obtained with higher value suggesting greater strength. This is done by subtracting the minimum percentage value from each indicator and then dividing it by the indicator-range i.e. maximum percentage value subtracted by minimum percentage value, for each indicator of the five capitals.

Formulae: $Svi = (Actual\ Xi – Min\ Xi) / (Max\ Xi – Min\ Xi)$, where, Xi is percentage value of an indicator, Min is minimum, Max is maximum and Svi is scale free value. The scale free values of each indicator are obtained then add and divided by the total strength of indicator to obtain the composite index (score value). Here, scale-free values are obtained so that while using composite index there is no biased toward the highest indicator values.

Formulae: $Ci = Svi\ EXi / NXi$, where, Svi EXi is added scale free value of indicators, NXi is number of indicator and Ci is composite index. Applying the formulae, scale free values of each indicator and score values of the five capitals are obtained.

Livelihood Assessment

To analyse the livelihood status of HHRP and HNHRP, the indicators and score values is compared (table 1). Human capital of both the households are moderately sustainable with HNHRP (0.47) slightly higher in score value than HHRP (0.37), as traditional skills (83.3 %) are still retained among HNHRP whereas it has decline (71 %) among the HHRP and instead modern skills (87.1 %) has increased mainly associated with rubber plantation

such as tapping, processing, maintaining the plantation etc. with helped from TRPC Ltd. Difference is least in working population and literacy rate of both the households.

In case of natural capital as well both the households are moderately sustainable but score value of HHRP (0.40) is lower than HNHRP (0.57) due to low access to land for jhum cultivation (22.6 %). HHRP have gained in landholding size as they have been allotted land i.e. 1.5 hectares (ha) of that 1 ha for rubber plantation and 0.5 ha for homestead (GOT, 2012), however, it varies from place to place on availability of land (*see note 2*). No such unauthorized transfers of rubber plantation land to others are reported in the study localities.

Physical capital show huge difference in score value, as HHRP found highly sustainable (0.74) due to 100 % each access to post offices and banks, schools and electricity whereas HNHRP moderately sustainable (0.58). Though blacktop road, market, medical centres, safe drinking water sources and electricity are access by both the households but HHRP have better accessibility than HNHRP.

The score value of HHRP (0.44) show moderately sustainable whereas HNHRP (0.23) unsustainable in financial capital. When compared, 46.2 % of HHRP earned Rs 1.50 to 2 lakhs per annum, from selling sheet rubber (where 58 % earned Rs 10,000 to 15,000 per month, *see note 3*), from employed as processors of sheet rubber and other sources like shop, active business in daily or weekly market, transport sectors etc. In case of HNHRP, 85.9 % earned below Rs 1 lakh per annum as most household earned from wage labourers in agricultural fields, vendor (vegetable and forest products etc.), from rubber plantation as tapper and latex collector and few employed in processing sheet rubber etc. benefiting the HNHRP as well.

The people of the surveyed localities have a strong inbuilt in social capital as they are closely tied on the basis of kinship. This bonding enabled them to take decision on adopting rubber plantation and achieved socio-economic success, therefore, in social capital, indicators facilities from rubber plantation scheme has been excluded for HHRP as it received 100 % facilities from TRPC Ltd. The social capital of both the households are moderately sustainable, and though HHRP have high access to institution or organization and self help group but the score value show slight difference i.e. 0.26 (HHRP) and 0.28 (HNHRP). Here, other indicators taken are not available, thus, appropriate strategies are of necessity priority of the state government.

Table 1
Five capitals of HHRP and HNHRP

Indicators	HHRP (n=93)	HNHRP (n=78)
	(%)	(%)
Human Capital		
Working population	68.6	65.7
Literacy rate	64.7	64.3
Traditional skills	71	83.3
Modern skills	87.1	48.7
Human capital index (score value)	0.37 (2)	0.47 (2)
Natural Capital		
Ownership and Size of landholding in hectares		
below 1	0	73.1
1 – 1.5	48.4	16.7
1.5 – 2	38.7	7.7
2 and above	12.9	1.3

Quality of land		
gentle slope	48.4	46.2
high slope	51.6	53.8
Land for jhum cultivation	22.6	100
Forest resources	95.7	100
Natural capital index (score value)	0.40 (2)	0.57 (2)
Physical Capital		
Blacktop road	72	64.1
Market within 5 km	88.2	75.6
Post offices and banks	100	100
Medical centres within the hamlet/locality/para	42.3	37.6
Safe drinking water sources	92.5	50
Schools	100	100
Electricity	100	97.4
Physical capital index (score value)	0.74 (1)	0.58 (2)
Financial Capital (Annual income)		
Below 1,00,0000	0	1
1,00,000 – 1,50,000	4.3	7.7
1,50,000 – 2,00,000	46.2	3.8
2,00,000 – 2,50,000	39.8	2.6
above 2,50,000	9.7	0
Financial capital index (score value)	0.44 (2)	0.23 (3)
Social Capital (here, excluding facilities from rubber plantation scheme are taken)		
Institutions or organisation provided by the state government	15.1	13
Technology/Research and Development (RD) facilities	0	0
Local development institutions	0	0
Cooperative organisations	0	0
Self Help Groups (SHGs)	43	34.6
Social capital index (score value)	0.26 (3)	0.28 (3)

Source: Field survey, 2012 (score values computed by the researcher)

Note1: figures in parentheses indicate the hypothetical scores of sustainability of the assets. Accordingly, 1 represent 0.67 - 1 score value (highly sustainable), 2 represent 0.34 - 0.66 score value (moderately sustainable) and 3 represent 0 - 0.33 score value (unsustainable).

Note 2: 93.5 % of HHRP has rubber plantation on 1 hectare (ha) of land, 4.3 % on 1.5 ha and 2.2 % on 1.9 ha.

Note 3: 58 % of HHRP earned Rs 10,000 to 15,000 per month, 37.7 % (Rs 15,000 to 20,000 per month) and 4.3 % (Rs 5,000 to 10,000 per month).

To understand the strength and weakness, the score values of five capitals of HHRP and HNHRP is diagrammatically represented by livelihood asset pentagon (fig.2).
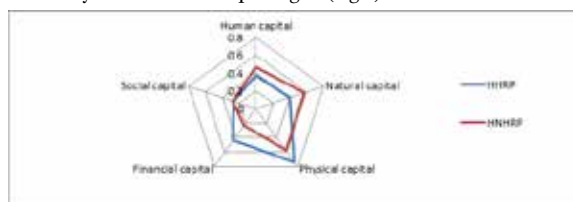

Fig. 2: Livelihood assets pentagon of HHRP and HNHRP

HHRP have better-off in physical and financial capitals (huge difference) than HNHRP whereas human and natural capitals are better-off among HNHRP than HHRP. Physical capital is found higher for both households whereas lack in social capital. The programme implemented have drastically reduced jhum cultivation due to land allotted for rubber cultivation (natural capital) resulted in gaining modern skills and decline in traditional skills (human capital) accompanied with improved infrastructure (physical capital) and high income (financial capital) together with strong social bonding have enhanced the overall livelihood status of the HHRP.

Conclusion and Recommendation

Rubber plantation have definitely reduced poverty, brought about revolutionary changes in the socio-economic conditions of the erstwhile poor jhumias and landless families (now HHRP) and mainly strengthening their coping strategies to counter certain crisis and shock. Now build hope for many others socially disadvantaged section of population; therefore, different agencies along with state administration upgrade the programme but should involve more above mentioned section of population into the programme. In northeast India states, apart from Assam and Tripura, rubber plantation has no much of a success story, thus, the like rubber plantation based economic-rehabilitation programme (modification if needed) can be initiated as it would bring underway to dynamic agrarian transition from jhum cultivation, create sustainable livelihood and contribute in achieving overall development benefiting all sections of society.

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