GIDR WORKING PAPER SERIES
No. 189 : December 2008

Co-operatives and Collective Action: Case of a Rubber Grower Co-operative in East Garo Hills in Meghalaya, North East India

P.K. Viswanathan

Gujarat Institute of Development Research

Working Paper No. 189

Co-operatives and Collective Action: Case of a Rubber Grower Co-operative in East Garo Hills in Meghalaya, North East India

P.K. Viswanathan

December 2008

Gujarat Institute of Development Research
Gota, Ahmedabad 380 060

Abstracts of all GIDR Working Papers are available on the Institute's website. Working Paper No 121 onwards can be downloaded from the site.

First Published December 2008
ISBN 81-89023-55-1
Price Rs. 35.00

Abstract

Growing evidences demonstrate that the mountainous societies in South and Southeast Asian countries are underway of dynamic agrarian transition in the context of market integration leading to emergence of market-responsive farm-livelihood systems. However, the livelihoods of these communities remain to be at stake and highly vulnerable to the market forces in the absence or failure of effective state support and institutional interventions facilitating mobilisation for collective action and thereby internalise the positive outcomes of market integration. Set in the broader perspective of effective role of community institutions in local mobilisation for collective action, this paper explores the case of a rubber grower cooperative in East Garo Hills in Meghalaya, North East India, which has been instrumental in mobilising the tribal communities for collective action and scaling up of rubber development programmes in the region. In doing so, the paper also brings out the importance of synergy between external institutional (state/ policy) interventions and local community institutions in facilitating the environment for effective collective action outcomes among the tribal communities, so as to achieve the broader socio-economic goals of tribal upliftment programmes mediated through rubber integrated livelihood systems in the NE region.

Keywords : Co-operatives, collective action, tribals, institutions, property rights

JEL Classification : J54, P32, P14, D23

Acknowledgements

The author wishes to thank Professor Ganesh P Shivakoti, Asian Institute of Technology, Bangkok for the useful comments on an earlier version. Discussions with Prof. Amalendu Guha were highly useful in the formative stages of the study. The support and co-operation provided by Sister Rose Kayathinkara and staff at the MMCS, Mendipathar are also gratefully acknowledged. Usual disclaimers apply.

Contents

List of Tables / Figures

Co-operatives and Collective Action: Case of a Rubber Grower Co-operative in East Garo Hills in Meghalaya, North East India

P.K. Viswanathan

1. Introduction

A search for institutional alternatives for mobilising the smallholder peasantry in general and pastoral communities in particular brings forth the growing prominence of the new generation co-operatives (NGCs) as instruments in mediating collective action to overcome the market imperfections. It is widely held that in the face of market imperfections and high transaction costs, the smallholders are unable to participate in the markets and thereby exploit the gains from commercialisation (Key and Janvry, 2000; Jayne, Zulu, and Nijhoff 2006; Bernard *et al.*, 2007). The NGCs in this regard can act as alternative institutions and the NGCS in a way, are structurally modified versions of the traditional co-operatives. The NGCs have emerged when the traditional agricultural co-operatives became redundant following the dynamic transformation in world agriculture, necessitating them to restructure by resorting to pluri-activism along with well defined property rights[1] and resolving externality and transaction costs problems (Cook, 1995; Cook and Iliopoulos, 2000; Sykuta and Cook, 2001). The NGCs while providing even the small and marginal farmers a stake to compete in the global market also enable them to keep with themselves a certain portion of their farm surplus through facilitating value added grading and processing activities (Stefanson and Fulton, 1997).

P.K. Viswanathan (viswam@gidr.ac.in) is Associate Professor, Gujarat Institute of Development Research, Ahmedabad.

[1] While the traditional agricultural co-operatives centred on commodity marketing, basically acting as clearing agents for the members' products (Stefanson, *et al.*, 1995), the NGCs offer specified equity-based delivery rights as well as well-defined property rights. With the new broadened framework, these local institutions help reach large numbers of small and marginal producers in scattered and remote locations, achieving economies of time in communicating with producers, and economies of scale in handling inputs and outputs involved in an improved agriculture (Uphoff, 1986: 115).

In view of their potential impacts, the case of NGCs has been receiving considerable scholarly attention in recent times with much work focused on the rural and agrarian cooperatives as instruments for collective action and capacity building in fragile environments[2] (Bendick and Egan 1995; Cook 1995; Stefanson and Fulton, 1997; Sykuta and Cook, 2001; Madane 2002; Cross and Buccola, 2004; Fabio and Cook, 2004; Phillips 2004; Develtere and Pollet, 2005; Giannakas and Fulton, 2005). Many, if not most, NGCs are formed in response to some type of market failure, to secure additional profits through value-added enterprises, or as community economic development (Cook 1995). NGCs in agriculture focus on value added characteristics and processing rather than mere supply of commodities. In the global context, NG Cooperatives are operational around wildlife meat, dry edible bean, cattle, corn, soy, and sugar beet processing. Besides, In addition, aquaculture, dairy products, straw particleboard, swine, fruits and vegetables, have been part of value-added cooperative activity (Downing, *et al.*, 2005).

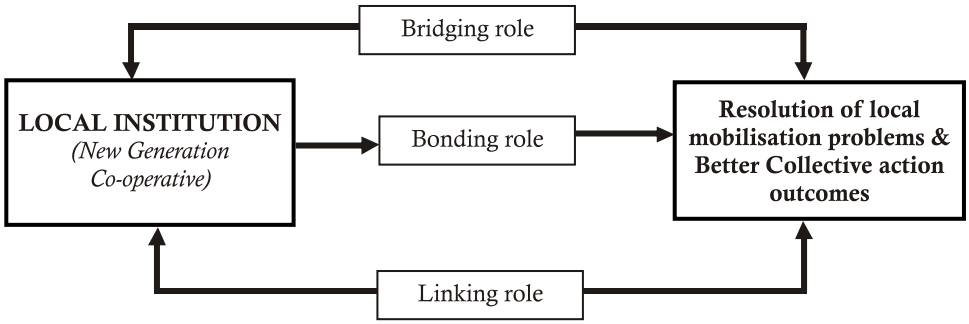
In the Indian context, studies are suggestive of the positive impacts of the NGCs on the local economies in terms of mobilisation and collective action as reported in the case of industrial co-operatives in Kerala (Heller 1997); milk producer co-operatives in Gujarat (Chandra and Tirupati, 2003) and farmer co-operatives in Andhra Pradesh (Patibandla and Sastry, 2004). Particularly, Patibandla and Sastry (2004) demonstrate that the new co-operative institutions act as effective means of breaking the interlocked factor (labour, capital and output) markets in the rural settings through facilitating collective action and co-operative behaviour.

An important conjecture emerge from the above is that the NGCs as local institutions have immense potential for mobilising communities for collective action through their 'bonding', 'bridging', and 'linking' functions (*see* Figure 1). Such interventions in turn, may have greater welfare implications in community life leading to higher levels of local participation for resolution of collective action problems and further scaling up of development interventions to produce multiple and enhanced benefits to the community.

---

[2] A study by Ketilson (2004) on aboriginal co-operatives in Canada reported particular benefits associated with the formation of co-operatives with respect to building/ strengthening of: a) physical infrastructure (physical capital); b) personal infrastructure (human capital); and c) social infrastructure (social capital) [Also see Bebbington 1997 & 2004, for a detailed review of the five forms of social capital].

Figure 1: New Generation Co-operatives: Institutional Roles and Collective Action Outcomes



1.1 Objectives of the Study

Against the theoretical and empirical perspectives on the effectiveness of local institutions in mobilising communities for collective action as discussed above, this paper examines the case of a prominent rubber grower co-operative in the East Garo (EG) Hills in Meghalaya, North East India, in fostering collective action and scaling up of smallholder rubber development programmes initiated by the Government of India. The case study pertains to the Mendipathar Multi-purpose Co-operative Society (referred as MMCS or the Society hereafter), located in Mendipathar village in EG Hills in Meghalaya.

The paper is formulated on three important objectives. First, it traces the specific socio-economic and institutional contexts within which the MMCS has emerged as an important stakeholder in the EG Hills. Second, it examines the strategic interventions made by the MMCS in the EG Hills having significant impact on mobilisation and collective action among the tribal communities. Third, it brings out the influence of the institutional roles played by the MMCS along with the socio-economic and demographic characteristics of the rubber growers in determining the collective action outcomes and further scaling up of rubber development programmes in the EG Hills.

The empirical analysis contained in the paper is based on a survey among the tribal rubber growers in the Mendipathar village in the EG Hills in Meghalaya. Information on the socio-economic and demographic profile and rubber farm management aspects have been gathered from 70 member

growers out of the total 216 registered members of the MMCS through key informant and household surveys and group interactions conducted during 2005. The information on the various activities of the MMCS has been gathered from the official documents as well as discussions with the officials of the society. A sample of 80 rubber smallholders with 40 growers each marketing their rubber through the state and private marketing channels have also been surveyed so as to bring out the contrasting scenarios of performance and effectiveness of the marketing interventions by the MMCS *vis-à-vis* the other two channels.

Rest of the paper is organised into four sections. Section I makes a brief account of the specific context within which the marketing interventions by the MMCS have become imperative in the EG Hills. It then examines the growth of the MMCS from a small marketing co-operative to a community development institution, followed by a brief description about the socio-economic, demographic and ethnic profile of the rubber growers in the study area. Section II deals with the strategic interventions by the MMCS and the resultant collective action outcomes among the rubber growers, as against the exploitative rubber trading practices persisted in the EG Hills. Section III examines the specific influence of the institutional roles played by the MMCS along with the socio-economic and demographic features of the member rubber growers in determining collective action outcomes in the study area. Section IV concludes the paper by reflecting on the significance of the institutional interventions by the MMCS in the EG Hills in the process of scaling up of sustainable rubber farming systems. It also highlights the importance of synergy between external institutional (state/ policy) interventions and local community institutions in creating a space for better collective action outcomes among the mountainous communities, so as to achieve the broader socio-economic goals underlying the rubber development programmes in the entire NER region initiated by the Government of India.

2. Situating MMCS in the Garo Hills Context

The Garo hills forms the western part of Meghalaya State, bounded on the north by Goalpara, Kamrup and Nowgong districts; on the east by Karbi Anglong and North Cachar Hills districts, all of Assam; and on the south and west by Bangladesh. Until 1972 when Meghalaya was formed as a separate state in the Indian Union, the Garo Hills along with Khasi Hills and Jaintia Hills were part of the Assam state. The Garo Hills has been further bifurcated into two in 1979, *viz.*, East Garo Hills, West Garo Hills. In 1992 the West Garo Hills has been divided into two to make the South Garo Hills. The Meghalaya State is thus divided into seven districts, viz., Jaintia Hills, East Garo Hills, West Garo Hills, East Khasi Hills, West Khasi Hills, Ri Bhoi, and South Garo Hills. An overwhelming majority of the population speak the Khasi language (49%), followed by Garo (31%) and Bengali (8%).

With low population density ranging between 54 and 241 persons per sq. km. (state average being 103 persons/ sq. km), the agrarian base of the tribal predominant state is characterised by abysmally low proportion of cropped area (12%) and persistent dependence on *Jhum* cultivation, ranging from 20 to 44 per cent across districts. Thus, the state has immense potential for agrarian expansion, as the proportion of uncultivated and fallow lands is as high as 38 per cent. Moreover, despite the relatively significant dependence on *Jhum*, the proportion of area involved in shifting cultivation was rather insignificant in all the districts (below 5%). This gives a clear indication as to the dynamic agrarian transition in the state, from the swidden systems based on 'full belly production'[3] model to a well settled way of agriculture[4]. This is also borne out by the fact that despite a relatively lower

[3] In the 'full belly' type of models, the shifting cultivator household's objective is to fulfill a fixed target level consumption while minimising work effort or maximizing leisure. This fixed target level of consumption is equal to the minimum amount of output that ensures just the adequate amount of nutrition for the family to sustain its full productive and reproductive activities at their current level, and also meet its social and ceremonial requirements (Das Gupta, 2002: 3556).

[4] Earlier studies had also clearly indicated the declining phase of shifting cultivation in Garo Hills and Meghalaya. While swidden farming systems was the main occupation of 95 per cent of the total population in 1951 (Vaghaiwalla, 1952), it further declined to 88 per cent by 1981 (Tayeng, 1981).

proportion of the total cropped area (12%), the cropping pattern in the state shows a blend of food crops (50%) and commercial crops (35%) and is more diversified in terms of crop combinations, which was an outcome of state interventions in various historic contexts[5].

2.1 Rural Market Dynamics

However, the efforts to restructure the tribal economies of the entire NE region often have limited success due to various socio-economic, political, cultural and institutional impediments[6] retarding the development and growth of the region and its integration with the surrounding mainland Indian states. One of the persisting problems encountered in the Garo Hills in particular was the exploitative rural markets, which have been prevalent ever since the pre-colonial times. Though evidences suggest that the communities in the Garo, Khasi and Jaintia Hills were very active in the periodic markets (Hats) at the interface of the hills and plains (Nair, 1986; Mohapatra, 1994), barter system was predominant especially in the Garo Hills[7] and the markets were controlled by the colonial powers to serve their

---

[5] The British introduced commercial cultivation of cotton as early as 1870s, followed by promotion of plantation crops like tea, coffee, rubber, corn, lac, orange, cinchona, eucalyptus, guinea grass, etc. Later, the Baptist missionaries brought coffee seeds from Burma, Manila hemp from the Philippines, cotton seeds and potatoes from America and pineapples from Sri Lanka. After Independence, the central and the respective state governments have implemented sedentarisation programmes for the *Jhumias,* which were mainly focused on the promotion of commercial cultivation of horticulture, tree crops, such as cocoa, coffee, tea, cinnamon and rubber. The Soil Conservation Department has also been implementing special *Jhum control programmes*, especially, terrace cultivation in the NE states, particularly, Meghalaya (Kar 1970; Majumdar 1980; Gassah 1984; Singh 1990; Sachdeva 2000; Saikia 2005; Viswanathan and Shivakoti, 2006).

[6] In the Garo Hills, the Soil Conservation Department introduced terraced cultivation to control soil erosion primarily caused by shifting cultivation. Though this was initially welcomed by the Garos (reluctantly with Government persuasion), it was abandoned soon, as terrace cultivation as an alternative to jhum was not acceptable to them and they feared that the former was detrimental to multicrops system as prevailed in the jhum areas (Gassah 1984: 67). Besides, the religious sentiments attached to jhum cultivation (as a ritual) has also acted as a social constraint, which prevented the British from tampering with the age old mode of production.

[7] The Garos were seen exchanging cow, pig, goat, fowl, cotton, rubber, timber, chilly and ginger for salt, fish (dry and fresh), tortoise, rice, extract of sugarcane (Battacharjee, 1984).

interests. This process continued under the zamindari system[8] as well, by which the communities were made economically dependent on the markets for commodities which they never produced. There were also no professional social groups of artisan or craftsmen, which hindered the process of local mobilisation and social formation in the Garo Hills. Thus, the market control by the zamindars, originally with the support of the Mughals and later of the East India Company, enabled them to extend their feudal holds over the entire Garo Hills and even the upland Garos were required to visit the markets and pay some duty in kind to the zamindars. The zamindars also derived profit by advancing money to Garos and thus securing to themselves an additional right of pre-emption to the produce of the hills (Bhattacharjee 1984: 198-199). Even the *Nokmas*[9] were reportedly submissive to the zamindars, which, in turn, had broken the kinship relations existed in the Garo society by reinforcing feudal relations with the latter having greater control over the village commons.

The exploitative market control has continued until the recent past with the emergence of new genre of zamindars comprising private traders, middlemen, petty retailers and moneylenders (locally known as 'Mahajans') dominating the rural agrarian transactions in the Garo Hills. One of the main reasons underlying the exploitative markets was the heavy indebtedness of the communities to the zamindari traders. Moreover, due to the geophysical conditions and lack of infrastructure facilities and absence of institutional arrangements including co-operatives, the rural markets were highly localized and hence, the market instruments such as pricing, backward and forward linkages, demand and supply of commodities have always turned to the disadvantage of the communities (Rajagopal, 2005).

---

[8] While Bengali zamindars controlled the market in the Garo Hills, trade in Khasi Hills was virtually the monopoly of the Marwari merchants (Nair, 1986: PE-65).

[9] *Nokma* (Gaon Bura, i.e., old man in the village) is the village head (chief) who is the custodian of the village commons and is the authority entrusted with the allocation of village lands for cultivation. As the kinship relations that existed among the tribals in the Garo Hills was a check on development of feudalism, the Zamindars of the colonial heritage have tried to bureaucratise the traditional institutions by recognizing the Nokmas as village chiefs, leading to a colonial reorientation of the Garo society (Bhattacharjee, 1984).

2.2 Entry of Rubber

Perhaps, natural rubber (NR) is the latest entrant in the state's agriculture sector to be entrapped by the exploitative trade practices. Notably, the NE region, including the Garo Hills, is underway of significant transformation with the introduction of commercial rubber development programme spearheaded by the Government of India through the Rubber Board[10] since the late 1980s. The status of rubber development in the NE region as of 2008 indicates that out of the total rubber planted area of 88865 ha, Meghalaya ranks third with a share of about 9 per cent, following Tripura (56%) and Assam (27%) and rest of the states, *viz.*, Nagaland, Manipur, Mizoram and Arunachal Pradesh account for 8.3 per cent. Out of the total rubber production of 37000 tonnes as reported from NE region, Meghalaya has the second highest position with a relative share of 17 per cent, after Tripura (63%), followed by Assam (15%) [Rubber Board, 2008].

The three Garo Hills districts together occupy more than 60 per cent of the total rubber planted area in Meghalaya with average holding size ranging from 0.56 ha in EG Hills to 0.52 ha in West Garo Hills and 0.46 ha in South Garo Hills. The initial responses towards adopting rubber was not very much encouraging among the tribal communities due to lack of awareness about the crop. However, the successful outcomes of regular rubber output and higher profitability of rubber[11] as achieved by the non-tribals in the vicinities have motivated the tribal communities to grow rubber.

---

[10] The Rubber Board is a statutory body constituted by the GOI, under the Rubber Act 1947, for the overall development of the rubber industry in the country. The exploratory surveys by the Rubber Board in the early 1960s have identified a vast land area of about 450,000 ha in the NER with potential for rubber cultivation (Mohanan *et al.*, 2003). The rubber development in the NE region has become imperative to meet the ever growing domestic demand for rubber alongside serious operational constraints for expansion in the traditional rubber growing regions of Kerala, Tamilnadu and Karnataka. More importantly, rubber expansion in the region is viewed as a development intervention so as to sedentarise the swidden based tribal communities (Viswanathan and Shivakoti, 2006).

[11] The profitability of rubber cultivation in the NE region is about Rs. 44000 per ha per annum as against Rs. 26000 per ha from the existing integrated farming systems comprising livestock, shifting cultivation, rice cultivation and horticulture (Viswanathan and Shivakoti, 2006).

The rubber produced mostly as sheet rubber is marketed through a three tier network of private traders operating as local level dealers, town level dealers, and terminal market dealers, who are rubber manufacturers or manufacturer-cum-exporters. The rubber marketing system is institutionalized in India including the NE states, through the licensing system[12] regulated by the Rubber Board, Government of India. In Meghalaya, there are 15 licensed dealers (Rubber Board, 2004). However, following the expansion in rubber area, there was a spurt in local trade in rubber with the entry of numerous unlicensed petty traders to take advantage of the lack of poor transport and infrastructure facilities in the Garo Hills. The local rubber dealers are mostly non-tribal traders cum moneylenders who have greater access to and control over the resources and the communities. As evident, there were serious imperfections in the local rubber production and marketing practices in Garo Hills due to the lack of knowledge about rubber processing and the absence of processing facilities. As the tribal communities were yet to come to terms with the entirety of rubber production process, including its market dynamics, the local dealers could buy rubber at cheaper prices from them in the pretext of 'high transaction costs' and thereby earn high marketing margins through the mere transaction of rubber from one end to the other. The prevailing rubber marketing practices based on `visual grading' further enabled the local dealers to exploit the tribals by offering lower prices for a `visually downgraded' produce.

The transactions of rubber and other agricultural produce were taking place in the weekly market located far away from the tribal settlements and the growers use to carry their produce as head loads in the absence of transportation facilities. Obviously, growers were ignorant of the actual price that a 'industrial raw-material' like rubber would fetch in the market. This resulted in extreme situations of exploitation and the growers were forced to sell rubber at 'throw away' prices. In fact, growers in the EG Hills were receiving only Rs. 12 per kg of rubber when the actual (officially notified) prices were Rs. 32-35 per kg during 1996-97. In most cases, the growers who carry their rubber as head loads found it difficult to carry the stock back home. Further, the cash requirements for buying essential food

[12] Licenses are issued to individuals as well as co-operatives to purchase and sell rubber initially for a period of three years, which is renewed for a consecutive period of five years on satisfactory performance. However, licenses are liable to be cancelled or suspended in cases when the dealers are found to be indulged in unfair trading practices.

items made them sell their rubber at the depressed prices. By contrast, prices of essentials, including rice, sugar, oil, clothes, etc were kept very high by the traders to their advantage in the pretext that these items had to be brought either from Tura in Meghalaya or Guwahati in Assam, both located at more than 100 km away from the EG Hills. Surprisingly, the households had to buy kerosene at Rs. 25 per litre when the actual price was only Rs. 11-12 per litre (MMCS, 2003). In view of these double edged exploitative trade practices along with widespread recourse to consumption loans, the tribals knowingly or unknowingly were hard-pressed and deprived of the envisaged social welfare goals intended by the rubber plantation development in the region. Though institutional mechanisms are in place to regulate the exploitative trade practices in the rubber markets through licensing as well as quality and price controls, often the local dynamics seem to outperform such state mediated institutional arrangements.

It was in this context that the MMCS was established (under the Meghalaya Co-operative Societies Act 1971) in 1997 in Mendipathar village in Resubelpara Development Block in the EG Hills. Initially, the objectives of the society were to effect an efficient system for marketing the agricultural produce especially, rubber and also empower the local communities through various development activities and interventions. The initial working capital of the MMCS was mobilized through a refundable share contribution from the Rubber Board and deposits from tribal members who voluntarily contributed Rs. 1.5 per kg of rubber sold to the society.

The growth of the MMCS was quite impressive as evident from the positive responses from the tribal communities, who never had thought of mobilising themselves to counter the economic deprivations they encountered. As evident from Table 1, the membership of the society had increased from 101 in 1998 to 244 by 2008 with a marked increase in share capital-cum-thrift deposit from Rs. 0.26 lakhs to Rs. 40.28 lakhs during the period. There was significant increase in the volume of rubber traded by the members in the Society over time, as evident from the value of rubber output traded from Rs. 7.42 lakhs in 1998 to Rs. 157 lakhs in 2006. Values of rubber traded were comparatively low during 2007 and 2008 due to lower prices. It is interesting to note that with the involvement of the Society in providing training to members in processing of rubber latex into rubber sheets had significant impacts as the almost 90 per cent of the rubber output traded

was in terms of higher grades of rubber, ie., RSS IV, fetching higher prices to the communities.

The Society acts as a catalyst between the rubber growers and the Rubber Board by assuming mediating roles of delivering the planting subsidies as well as supplying farm inputs required for rubber production. This enables the growers to get easy access to the institutional and extension supports provided by the Rubber Board through its Regional Office located far away in Guwahati in Assam. There was notable increase in the sale of farm inputs by the society from Rs. 0.11 lakhs (1998) to Rs. 8.31 (2008). The profit generated by the Society had also increased significantly from mere Rs. 0.14 lakhs in 1998 to almost Rs. 28 lakhs in 2008.

Table 1: Physical and Fiscal Performance of MMCS, East Garo Hills (1998 to 2008)

Indicators	1998	2000	2002	2004	2006	2007	2008
1. Membership (No.)	101	170	187	208	224	239	244
2. Share capital (Rs. lakhs)	0.26	1.25	0.85	18.82	24.57	30.49	40.28
3. Savings & deposits (Rs. lakhs)	0.11	4.85	6.92	14.30	25.00	27.01	37.21
4. Value of rubber traded (Rs. lakhs)	7.42	20.39	152.12	119.88	157.23	139.24	125.30
5. Share of RSS IV (%)	56.47	72.21	76.23	83.92	79.69	65.73	59.14
6. Share of RSS V (%)	24.78	14.92	14.36	13.97	15.12	22.83	30.85
7. Sale of farm inputs (Rs. lakhs)	0.01	1.07	2.77	4.26	8.63	8.55	8.31
8. Profit generated (Rs. lakhs)	0.14	1.36	4.54	5.05	6.22	17.34	27.58

Source: MMCS (2008).

The growth of the MMCS as an important stakeholder in the rubber sector in NE region has been evident from the fact that the volume of rubber traded by the Society constituted almost 20 per cent of the total value of rubber output produced in the region. With a widened horizon of activities from the conventional role of a mere marketing co-operative, the MMCS has grown to the status of NGC with a wide ranging portfolios of activities

aimed at empowerment of the tribal communities in the EG Hills in Meghalaya as further evident from Table 2.

Table 2: Expansion and Diversification of Activities by the MMCS, Garo Hills

No	Year	Description of activities
1	1997	Started as a Rubber Marketing Society
2	1999	MMCS was registered under Meghalaya Co-operative Societies act (1971) with refundable share contribution from the Rubber Board
3	1999	Started training programmes in rubber development and processing for tribal farmers
4	2000	Acquired vehicle for collection and transportation of rubber from interior villages, removing the hurdles in physically carrying rubber and other farm produce –enabled the farmers reduce transaction costs
5	2001	Started youth guidance programme and vocational training enabling unemployed youth to engage in activities, viz., crafts, tailoring, poultry farming, rubber planting, horticulture, mushroom cultivation, animal husbandry, setting up rubber nursery, etc
6	2002	Constructed warehouse for storage of rubber collected from the producers
7	2002	Started public distribution system through fair price shops for sale of foodgrains/ wheat, kerosene, etc at affordable prices [earlier, kerosene was available in the open market at Rs. 20-30/ litre, which was brought down to Rs. 11/ litre with this intervention]
8	2003	Formation of SHGs – formed 124 self-sustaining SHGs in 40 villages. The total corpus fund with these SHGs was Rs. 2.92 million in 2008. These SHGs are free from moneylenders and financial intermediaries as they have sufficient money to rotate among themselves
9	2003	Started new rubber marketing centre at Dandakol village to help the producers sell their rubber and other farm produce. This saved them from regular travels of 25-40 kms earlier to sell their produce at MMCS
10	2004	Formed second rubber marketing centre at Pangsudan village, 25 km away from MMCS to reach out to interior villages for collection of rubber and other produce
11	2004	Started poultry farms addressing the scarcity of chicken and eggs in the region. Started sales of coconut and arecanut seedlings with support from Co-Operative Department, Govt. of Meghalaya

table contd...

No	Year	Description of activities
12	2004	Launched support services - mini-truck for transportation of produce, water pump for irrigation facilities, rice/wheat grinding mills, smoke house for drying rubber sheets, etc under the NCDC-ICDP loan/ grant schemes
13	2005	Started turmeric processing- Garo Hills produce turmeric in large quantities which was fetching only Rs. 3-4 a kg to the tribals and was marketed to Kolkata for processing. The processed turmeric powder in turn was available at Rs. 100/kg in the local markets. The MMCS started turmeric processing and selling turmeric at Rs. 55/kg, benefiting both producers and consumers
14	2006	Farm support services: a) purchased 2 power tillers for helping members prepare their lands for growing food crops; and b) new land for establishing poultry farms, rubber nursery and dairy development
15	2007	MMCS signed a contract with Social Welfare Department, Govt. of Meghalaya, to supply foodstuffs under the ICDS. It thus supplies various kinds of nutritious food to the ICDS centres of Kharkutta and Resubelpara blocks

Source: MMCS, 2008

Table 2 enlists the variety of activities enunciated by the MMCS during the last 10 years of its existence. These activities depict the amount of enthusiasm shown by the tribal communities to act collectively so as to achieve the larger goals of social development, which was virtually non-existent in the Garo Hills. It may be observed that even prior to establishment of the marketing society in the name of MMCS, the lead member of the Society had helped about 500 families in 21 villages in Mendipathar to plant rubber with the financial assistance from the Rubber Board during 1986 to 1990.

Besides promoting fair trade and marketing practices, the MMCS also pays attention towards improving literacy levels, eradicate malaria, avert exploitation of money lenders, create awareness about the environmental degradation caused by poor agricultural/ unsustainable land management practices, etc. Arguably, the outcomes as described above are certainly reflective of the 'bonding', 'bridging', and 'linking' functions performed by the MMCS in the Garo Hills context. In view of the exemplary performance of the Society in various fronts of social development as described above, the MMCS has been bestowed with the Co-operative Excellence Award in 2007 by the NCDC.

3. Profile of Tribal Rubber Growers in Garo Hills

It is important to understand the ethnic, socio-economic and demographic profile of the tribal rubber growers, as such attributes might have some bearing on their perceptions on collective action and participation in the various activities of the MMCS as described. A sub-sample of 70 growers (out of 244) has been considered in this study for a detailed analysis of the demographic and socio-economic status and the specific aspects of rubber farming and marketing practices and the collective action behaviour in the study area. Table 3 provides a summary of the demographic, socio-economic profile and ethnic status of the sample grower households.

Table 3: Demographic/Socio-economic Profile of Member Rubber Grower Households

Household characteristics (n=70)	Marak	Sangma	Rabha	Momin	Others[$]	Overall (%)
1. Proportion in the sample (%)	36.8	41.8	7.1	8.6	5.7	100.0
2. Average age (years)	36.9	37.8	39.7	44.1	42.0	40.2
3. Experience in rubber farming (years)	10.3	9.4	6.9	7.7	4.8	7.9
4. Average years of schooling	8.6	9.6	10.1	9.4	6.9	8.9
5. Family size (No./ household)	5.9	5.8	5.7	5.5	5.4	5.7
6. Economically active members (%)	62.1	63.5	47.0	64.7	53.5	58.9
7. Female participation in rubber (%)	46.6	44.7	40.8	42.0	41.8	43.6
8. Children doing education (No./family)	2.2	2.1	3.0	2.2	2.5	2.3
9. Avg. size of total land operated (ha.)	3.5	3.2	3.0	2.8	2.1	2.9
10. Avg. size of rubber holding (ha.)	1.7	1.4	1.3	1.3	1.2	1.4
11. Avg. size of paddy land (ha.)	1.3	0.9	1.5	0.7	0.6	0.9
12. Use of hired labour for tapping (%)	38.5	42.3	53.8	57.5	56.6	48.8

Note: $ Others include clans such as Shira, Basumatari, etc.
Source: Survey (2005).

As evident, growers belonging to Sangma and Marak[13] clans together constitute 79 per cent of the sample growers. Growers belonging to Sangma

[13] Originally, there were only two major clans in the Garo Hills, viz., Sangma and Marak. Later on, the clans, such as Momin, Areng and Shira were formed out of the two original clans (Sangma, 1984: 133).

and Marak clans are relatively young and are more experienced in rubber farming compared to rest of the tribes. The communities have almost similar educational status except the other clans represented by Shira and Basumatari. The average family size is 5.67 with Marak and Sangma tribes reporting close to six members. While the proportion of economically active population is higher among the Momin (65%), Sangma (64%) and Marak (62%) tribes, female participation in rubber farming is almost similar across communities with higher proportion reported from Marak and Sangma clans. Seemingly, the importance attached to education is reasonably high as evident from the school enrolment ratio of above two children per family across groups. The uniform educational status of the communities including children education is an outcome of the increased access to educational facilities available in the EG Hills, mostly offered by the Christian Missionaries[14].

Though individual property rights exist in the study area, access to new land for growing crops requires the formal approval by the *Nokma*, who is the custodian of the village commons. The dynamics of land ownership brings out that Maraks and Sangmas dominate in terms of access to land as evident from the average size of total land operated (3.5 ha and 3.2 ha respectively) and the rubber holdings (1.7 ha and 1.4 ha respectively). In majority of cases, the growers possess more than one rubber holding, as the land allocation by *Nokma* for growing rubber is determined based on the number of working hands per household. Though land is allotted free of charge for growing rubber, development of rent seeking tendencies among the *Nokmas* is also widely reported in view of the growing demand for land to grow rubber due to its profitability in relation to other crops, including shifting cultivation. Since rubber is a new cropping system, the growers are yet to come to terms with rubber tapping and processing activities, which requires skill. This is evident from the relatively higher use of hired labour for tapping and processing especially among the Momin (57%), Rabha (54%) and other (56.6%) clans compared to Marak (38%) and Sangma (42%).

[14] The Christian missionaries were the pioneers in the spread of education and healthcare activities in most of the Khasi, Garo and Jaintia Hills in Meghalaya (Lyngdoh 1999).

4. Interventions by MMCS in East Garo Hills

There are differences in views that mobilisation of communities for collective action becomes easier when the community in question is homogenous without major ethnic and economic divisions (D'Silva and Pai, 2003). On the one hand, this suggests that the outcomes of collective action in mountainous societies will be negative as the communities differ in terms of ethnic groups, languages, customs and traditions, access to property rights, socio-economic status, etc. Conversely, it is also argued that collective action in tribal communities will be of significant scale, as there are no 'natural hierarchies' combined with little or no differences in access to natural capital (village commons), education, income or life style. Such cohesive social structure in the absence of socio-economic hierarchies would have better outcomes in terms of mobilisation and collective action.

While such diverging perspectives continue to exist, it appears that local mobilisation for collective action has been completely absent in the Garo Hills earlier, as evident from the dynamics of the market, including the control of rubber market by the money lender-cum- trading class. Given this, any new development leading to creation of a local institution in the Garo Hills is to be understood as an outcome of interventions by an external agent. Williamson's (2002) theory of contracts also underlies the role of an external agent in fostering local institutions that reduce information imperfections and transaction costs for individuals to get together and form into co-operatives. This is more so when the local people fail to form as a collective either because of high transaction costs or because their myopic 'prisoners dilemma' behaviour that constraints them from realising the benefits of collective action. The effective role of an external agent has also been highlighted in most cases of successful co-operatives, especially in the Indian context like the Amul in Gujarat (Patibandla and Sastry, 2004). It is also observed that the external agent with almost altruistic motives undertakes the initial transaction costs of organising low income groups into a co-operative, which sets the stage for mobilisation and collective action.

Viewed from this perspective, the emergence of the MMCS in the EG Hills may also be considered as an outcome of intervention by an external

agent/ institution, as it was started by a social development organisation[15], which had been engaged in various development activities in the Garo Hills over the past three decades. Establishment of an efficient and fair marketing system was the prime objective of the MMCS as the tribal communities have been deprived in terms of depressed prices for their produce, especially, rubber against soaring prices for household consumables they buy. As at the national level where rubber trading involved three important links in the supply chain, rubber marketing in the EG Hills also involved three stages of transaction. Accordingly, tribal rubber growers at the bottom of the supply chain used to sell their sheet rubber to the local market dominated by the private dealers/ money lenders. The local dealer sells the stock to the town dealers located in Tura or Guwahati, who finally sells it in the terminal markets in Kolkata, where majority of the rubber product manufacturers/ exporters (both tyre and non-tyre) are located.

Being the responsible agency engaged in rubber development in the NE region, the Rubber Board by itself offers marketing services through a network of rubber producers' (growers) societies[16] (RPS/ RGS) at the local level. The MMCS, thus, has become the third player, besides the private dealers and the RGS operated by the Rubber Board, all making a competitive environment in the rubber market in the EG Hills. In order to make a definite margin from marketing transactions, the private dealers follow a strategy of buying rubber as ungraded sheets, which renders them a margin of Rs. 2-4 per kg of rubber purchased from tribals. Whereas, the RGS procure ungraded rubber from the growers relatively at a higher price than the private dealer as the motive of

---

[15] The MMCS was formed by Sr. Rose Kayathinkara, a social development activist belonging to the Medical Mission Sisters, who came to the Garo Hills in 1977. Historically, Christian missionary activities originated in the Garo and Khasi Hills when David Scott first introduced it in the Garo Hills as early as in 1822. Between 1867 and 1877, successive missionaries, including American Baptist Mission worked in the Garo Hills with Goalpara (in Assam) as the mission station. Later, the Roman Catholic Mission set up their mission station at Tura, Meghalaya in 1933, followed by activities of Seventh Day Adventists and Medical Mission Sisters (Sangma 1984; Karna 1999; Nuh 1999).

[16] The Rubber Producers/ Growers Societies (RPS/RGS) are small voluntary associations of small growers registered under the Charitable Societies Act in 1986. This concept has got wider acceptance among the rubber growers and at present there are over 2200 RPSs in the entire country. The RPSs function as SHGs at village level (in a radius of 2-5 kms) and acts as a facilitator between the Rubber Board and the growers (Rubber Board, 2006).

the RGS is to help the latter realize the maximum prices. However, selling rubber to the RGS involved some transaction costs to the growers, including transportation and cost for processing latex into sheet rubber, as majority of the growers do not have the processing facilities[17]. More importantly, local dynamics in terms of dominance of specific community/clan interests was also widely reported affecting the fair marketing practices of the RGS in the EG Hills.

It was in this context that the strategic interventions by the MMCS assumes importance in terms of its institutional roles providing tangible benefits to the member growers in relation to the other two players in the local rubber market. As an external agent striving to create a positive impact on mobilisation and collective action among the rubber growers, the MMCS made a strategic intervention by introducing the 'graded rubber procurement'[18] system in the EG Hills. This turned highly beneficial for the growers as they were ensured (for the first time) of higher returns for their transactions with higher grades of rubber (RSS IV and RSS V) fetching them higher prices. Thus, while marketing of rubber through the private dealer and the RGS channels resulted in 'zero sum game' for the growers, the transactions through the MMCS turned out to be a 'win-win' outcome for the growers and the MMCS. In an attempt to ensure reasonable marketing margins especially at times of uncertainties, the private dealers fix up higher transaction costs which was passed on to the growers (with no/ weak bargaining power), leading to lower farm gate price realisation. Thus, for the rubber growers in the EG Hills, co-operating with the MMCS worked out to be the best choice, as they are able to get premium prices for higher grades of rubber with zero or negligible transaction costs.

Results of the comparative assessment of the income gains of MMCS member growers from marketing transactions *vis a vis* the growers marketed rubber through the private and the RGS channels are shown in Table 4. To make the comparative analysis empirically more convincing, a cross section

[17] Processing of rubber latex into sheet rubber requires an additional investment of Rs. 12000 to Rs. 15000 per rubber roller, though the Rubber Board provides subsidy for the same. Size of rubber holdings being small producing only small quantities of output, the growers do not invest in the machinery. Instead, they either pay a sum to the growers owning the machine for processing, or sell the rubber latex to the RGS where they are members.

[18] New generation marketing co-operatives try to provide more favourable prices for members by grading, processing and/or transporting products in common or by storing and selling when the price is most advantageous (Uphoff, 1986: 128).

of 40 growers each representing the private and the RGS marketing channels in the EG Hills, has also been considered here along with the 70 MMCS member growers.

As is evident from Table 4, the MMCS member growers reported significant gains from the rubber marketing compared to the other two groups. This has been due to the price margins received by the MMCS members for the higher grade of rubber (RSS IV) they sold. As a result, the MMCS member growers were able to get higher net income per unit area of rubber cultivated, despite the lower productivity (1032 kg./ha) and higher operational costs (Rs. 18655 per ha) incurred by them in comparison to the growers marketed rubber through the RGS and private trading channels. While the RGS and the private dealers procured all rubber output as 'ungraded sheets', the MMCS procured rubber by grading the sheets based on quality of the sheet rubber. Accordingly, about 67 per cent of the total rubber procured by the MMCS was RSS IV grade and 28 per cent was RSS V grade which enabled the growers to realise higher price margins as compared to the other two channels.

Table 4: Comparative Costs of Marketing Transactions and Income Gains of Rubber Growers in the EG Hills

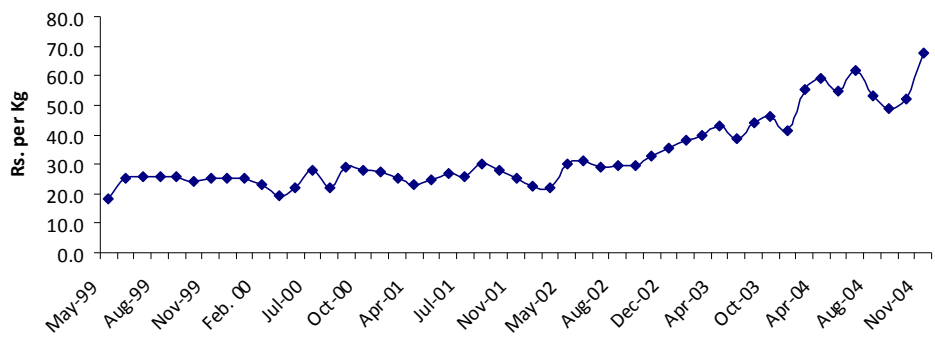
Rubber production/ marketing	MMCS (n=70)	RGS (n=40)	Private (n=40)
1. Rubber tapped area (ha.)	1.09	1.81	1.45
2. Rubber yield (Kg./ha)	1032	1116	1207
3. Value of rubber (Rs./ha)	65375	52951	50901
4. Cost of cultivation$ (Rs./ha)	18655	11232	10526
5. Net income (Rs./ha)	46720	41719	40375
6. Volume of RSS IV traded (Kg.)	734 (67)	Nil	Nil
7. Volume of RSS V traded (Kg.)	306 (28)	Nil	Nil
8. All grades of rubber traded (Kg.)	1095	1919	1476
9. Price realized for RSS IV (Rs./Kg)	56	Nil	Nil
10. Price realized for RSS V (Rs./Kg)	54	Nil	Nil
11. Price realized (ungraded rubber) (Rs./Kg)	55	52	50

Note: Figures in parentheses represent the respective shares in total rubber traded.
$: Cost of cultivation is taken as a simple measure assuming that the opportunity cost of alternative land uses, viz., fallow or shifting cultivation is negligible in the EG Hills.

Source: Survey (2005).

Table 4 also underlies the dynamics in the rubber market in the NE states in general and EG Hills in particular, where in, the state mediated institutional process becomes ineffective in implementing a fair trading system and thereby to ensure reasonable prices to the rubber growers. Notably, an important outcome of the market interventions by the MMCS seems to be the declining influence of transaction costs in upsetting rubber prices in the EG Hills, leading to a higher price realisation to the growers on par with the prices prevailing in the traditional rubber growing regions, especially in Kerala. In fact, rubber price offered by the MMCS has been found to be almost synchronizing with the prices in Kottayam market[19]. For instance, a closer look at the trends in monthly average rubber prices prevailed in Kottayam and the price offered by the MMCS for the three year period, June 2002 to June 2005 revealed that the price realised by a grower in the EG Hills as a proportion of Kottayam price has increased from 79 per cent (2002) to 94 per cent (2005). In absolute terms also, the price differences of RSS IV between the two markets has narrowed from Rs. 4.92 per kg (2002) to Rs. 3.54 per kg (2005). Notably, due to the increasing demand for rubber in the international markets, there was significant increase in rubber prices as offered by the MMCS to its member growers as evident from Figure 2.

Figure 2: Trends in Rubber Prices realised by the MMCS member growers



[19] Rubber price in India is always expressed with reference to the prices in the Kottayam market in central Kerala on account of two reasons. First, Kottayam is the dominant rubber growing district in India. Second, major buyers, particularly, tyre manufacturers have established godowns in the district in view of better infrastructure facilities like roads, communications and banking. Though Kochi (formerly Cochin) is still a terminal market, it follows the Kottayam prices for trading as the tyre manufacturers procure rubber from Kottayam market. Rubber price reported in Kottayam market is also considered to be the maximum realisable prices, which is also compared with international prices.

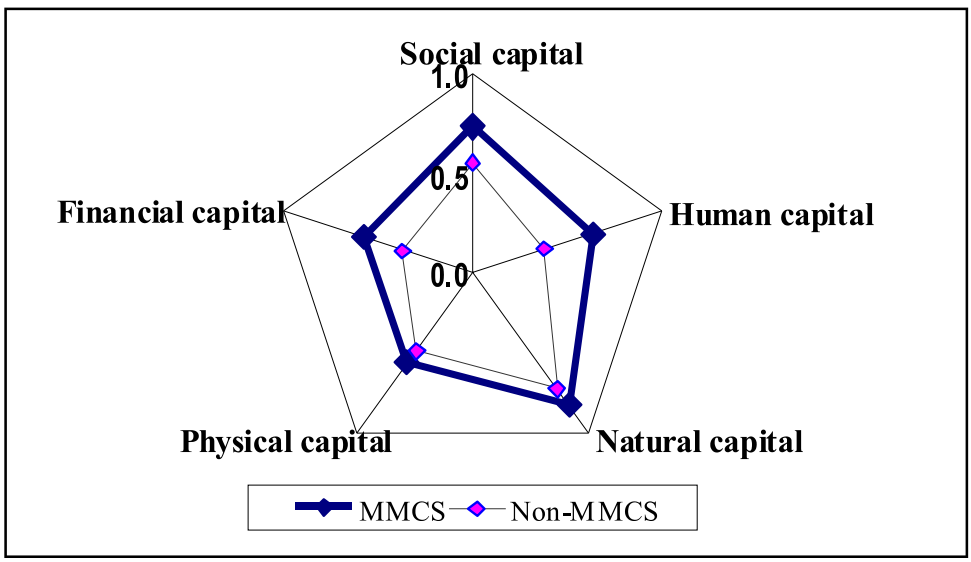
Having examined that marketing of rubber through the MMCS turns out to be the 'best solution' for the growers among the three channels in the present context, it is important to consider how sustainable would be the beneficial outcomes of interventions by the MMCS. This is because, in an effort to capture the growing rubber market in the EG Hills, it is more likely that the private dealers and the RGS may come out with counter strategies by introducing grading system in rubber procurement and even offering higher prices than the MMCS. This may be detrimental to the MMCS, thus questioning its social relevance with implications on the continued participation and collective action among the tribals in the EG Hills. Seemingly, such concerns are misplaced as the MMCS has already broadened its horizon by diversifying activities in terms of formation of SHGs, women empowerment, organizing unemployed youth for group rubber planting, training for skill development in rubber, promotion of rubber integrated farming systems, etc as already discussed (see Table 2).

5. What Determines Collective Action Outcomes among the Rubber Producers?

Thus, it becomes evident that the institutional roles played by the MMCS have been instrumental in mobilising the indigenous rubber growers against the exploitative trading practices prevailed in the EG Hills since long. Studies on responses of indigenous communities to external development interventions have demonstrated that for interventions to be effective, they must be legitimate in the eyes of the community. For interventions to be legitimate, they must be coherent with the communities' beliefs and aspirations about the societal outcomes of such interventions (Haley 2004). These considerations become crucial in the specific context of the EG Hills to determine the social relevance of the MMCS and the collective action outcomes of its interventions. Given that the development process in the entire NE region including the EG Hills is thwarted by various institutionalized forms of insurgency activism, any external intervention (like that by the MMCS) would be highly opposed by the socially and politically strong militant groups and activists, if the interventions are antagonistic to the cultural and development ethos of the tribal communities. In this regard, it may be noted that the positive responses as shown by the tribals by increasingly participating in the activities of the MMCS amply demonstrate the legitimacy of its interventions and their long term beneficial outcomes to the communities.

Nevertheless, for collective action to be more sustainable in the EG Hills, it is also necessary that the institutional interventions go further beyond mitigating the prevailing market imperfections. Reportedly, the MMCS has also been effective in mediating and thus creating an environment for successful scaling up of rubber development programmes in the EG Hills. Through its increased nexus between the tribal communities and the Rubber Board as well as the complementing nature of interventions aimed at the empowerment of rubber growers (linking and bonding social capital), the MMCS has been quite successful in mobilising about 1700 tribal families in the EG Hills towards adoption of rubber cultivation and other integrated farm livelihood systems. Besides, the 124 SHGs formed by the MMCS have already made significant inroads into more than 40 villages in the EG Hills. More precisely, the institutional roles played by the MMCS have also been effective in terms of betterment of livelihoods of the tribal communities with improved access to the five forms of capital assets, as is evident from the higher values of the livelihood assets in relation to the non-members in the neighbourhood (Figure 3).

Figure 3: Livelihood Asset Pentagon of Rubber Growers: MMCS *vs.* Non-MMCS



The various components of the five types of capital assets as shown in Figure 3 have been derived as index values[20] on a scale of 0 to 1, with highest values indicating greater strength of the livelihood assets possessed by the MMCS members vis a vis others. Accordingly, it may be noted that the MMCS members are highly placed in terms of access to all forms of livelihood assets, *viz.*, natural capital (0.83), social capital (0.74), human capital (0.64), financial capital (0.58) and physical capital (0.57), all signifying the highly effective institutional roles played by the MMCS with better collective action outcomes.

The above points may be further elaborated in terms of determining the influence of specific institutional roles of MMCS in fostering collective action behaviour among the tribal rubber growers in the EG Hills. It is presumed that the institutional roles played by the MMCS along with the socio-economic status of the communities could explain the process of collective action as observed in the EG Hills. To determine the influence of the institutional as well as the socio-economic and demographic factors on the process of collective action, we use a multiple regression analysis covering the 70 member growers attached to the MMCS. Since the process of collective action is a broader concept and varies by context, we follow an operational definition for collective action here, as: *'the active participation of rubber growers in the SHG activities and various community development programmes initiated by the MMCS other than rubber marketing*'. The regression model takes the following form:

[20] The human capital included indices of: a) experience in rubber farming; b) educational status of the head of household; c) family labour availability; d) gender participation in rubber farming; e) childrens' education; and f) annual household expenditure on healthcare. Natural capital included indices of: a) rubber area operated; b) quality of land; and c) access to safe drinking water. Physical capital was measured using index of market access and the access to rubber processing facility. Financial capital included indices of: a) income sources other than rubber farming (wages, salaries, farm-off farm income); b) savings; and c) value of household assets. Social capital has been measured using indices for: a) access to R&D and institutional support (subsidy for rubber planting, subsidy for inputs, plant protection, etc); b) access to training in rubber tapping and processing; c) access to extension activities; and d) access to local development institutions, co-operatives/ SHGs, etc (Viswanathan, 2006).

$$Z = \alpha + \sum_{i=1}^{n} \beta_i Xi + \varepsilon_i$$

Where:

Z = Collective action (1 = Participation in MMCS activities; 0 = no participation)

βi = i^{th} regression coefficient

Xi = i^{th} explanatory variable (X_1, X_2, X_3, ……X_8)

α = Constant

εi = Error term

The explanatory variables used in the model include the institutional variables and the socio-economic and demographic features of the MMCS member growers. The institutional variables represent the growers' access to institutional support and extension activities provided by the Rubber Board via the MMCS. The explanatory variables are:

X_1 = Family size (number)

X_2 = Economically active population in the household (%)

X_3 = Distance between rubber holding and MMCS (kms.)

X_4 = Income from rubber cultivation (Rs. Per ha)

X_5 = Share of Grade IV rubber in total rubber sold (%)

X_6 = Share of rubber area in total land operated (%)

X_7 = Access to institutional support (planting subsidy, extension services) from the Rubber Board via MMCS (1 = Yes, 0 = otherwise)

X_8 = Training in rubber tapping & processing by MMCS (1=Yes, 0= otherwise)

The results of the analysis are presented in Table 5. The Table shows that the institutional roles played by the MMCS (represented by X_7 and X_8) along with the socio-economic factors prominently explain the collective action behaviour of the tribal rubber growers in the EG Hills. Among the socio-economic factors, the higher share of Grade IV rubber in the total volume (X_5) as well as the higher share of rubber area in total land operated

(X_6) have shown greater influence in determining the collective action behaviour. More importantly, the distance between rubber holding and the market operated by MMCS (X_3) does not seem to be a disincentive for collective action, in view of the efficient outreach facilities provided by the society even to the remote areas. Other important variables having significant influence on collective action include the presence of economically active population (X_2) and the income from rubber cultivation (X_4).

Table 5: Determinants of Collective Action Behaviour of Rubber Growers

Explanatory variables		Regression Coefficients	T' statistic
Constant		-0.629	-3.208
X_1 = Family size		0.098*	1.736
X_2 = Economically active population		0.161**	3.224
X_3 = Distance between grower's house and the MMCS		0.109**	2.143
X_4 = Income from rubber cultivation		0.142*	3.102
X_5 = Percentage share of Grade IV rubber in total rubber output		0.180**	4.401
X_6 = Percentage share of rubber area in total land operated		0.121*	3.229
X_7 = Institutional support received from Rubber Board via MMCS		0.194**	3.159
X_8 = Training in rubber tapping received from MMCS		0.183**	1.928
No. of observations = 70	Adjusted R Square = 0.866	DW statistics = 2.163	

Note: **Significance at 0.01 level and *Significance at 0.05 level.

Thus, the institutional roles played by the MMCS along with the socio-economic attributes of the growers determined the collective action behaviour of the communities in the EG Hills. The institutional roles played by the MMCS become highly important in view of the remoteness of the rubber holdings from the extension offices of the Rubber Board as well as the lack of awareness among the communities about the scientific aspects of rubber farm management.

6. Concluding Observations

The paper brings out an illustrative case study of institutional roles played by a rubber grower co-operative in mobilising the tribal communities for collective action in the EG Hills in Meghalaya, North East India. As the study amply demonstrates, the strategic market interventions by the MMCS, which was the antecedent of diverse community development programmes later on, have been instrumental in imparting economic dynamism in the EG Hills in particular with greater demonstration and linkage effects for scaling up of rubber development programmes in the entire NE region. However, though the interventions by the MMCS have been effective in curbing the age-old exploitative trade practices, including removal of imperfections in the rubber market in the EG Hills, rubber trading continues to be controlled by external and non-tribal actors in most of the rubber growing regions in the NE states. In this respect, the successful community development outcomes as emerge from the interventions by the MMCS in the EG Hills need to be properly assessed and integrated with the policy framework and institutional development agenda of the NE states targeted at the sustainable development of the rubber sector. Given the pace of ongoing rubber development programmes in the NE states and their potential impacts on the socio-economic status of the tribal communities, it is all the more important to create synergy between external institutional (state/ policy) interventions and local institutions in mobilising the communities for collective action and enhancement of social capital so as to achieve sustainable development outcomes.

It is also important to strengthen the loosely organised RGSs in the NE region along the lines of the MMCS so as to develop a holistic perspective on rubber farming system with proper integration of the existing farm livelihood systems, *viz.*, livestock, poultry, fishery, food crops, etc. which would also help sustaining the livelihoods of the communities with positive outcomes for mobilisation and collective action. The rubber grower co-operatives also need to broaden their domain of activities from mere 'marketing agents' to industrial co-operatives involved in value added rubber processing and manufacturing activities, the benefits of which would flow to the communities in terms of increased employment opportunities and improved socio-economic status.

References

Bhattacharjee, J.B. (1984), Pattern of Economic Change in Garo Society, In: Gassah, L.S. (Ed.) (1984): *Garo Hills: Land & The People*, Omsons Publications, Gauhati, pp. 196-215.

Bebbington, A (1997), Social Capital and Rural Intensification: Local Organizations and Islands of Sustainability in the Rural Andes, *Geographical Journal*, 163:2.

Bebbington, Anthony (2004), Social capital and development studies 1: critique, debate, progress?, *Progress in Development Studies*, 4 (4): 343-349.

Bendick, M and M.L. Egan, (1995), Worker Ownership and Participation Enhances Economic Development in Low-Opportunity Communities, *Journal of Community Practice*, 2(1): 61-85.

Bernard, Tanguy, Eleni Gabre-Madhin and Alemayehu Seyoum Taffesse (2007), Smallholders' Commercialization through Cooperatives: A Diagnostic for Ethiopia, *IFPRI Discussion Paper 00722*, International Food Policy Research Institute, Washington DC, October 2007, 33p. http://www.ifpri.org/sites/default/files/publications/ifpridp00722.pdf

Chandra, P and D. Tirupati (2003), Managing complex networks in emerging markets: the story of AMUL, *Working Paper 2002-5-1*, Indian Institute of Management, Ahmedabad.

Cook, Michael, L. (1995), The Future of U.S. Agricultural Co-operatives: A Neo-Institutional Approach, *American Journal of Agricultural Economics*, 77 (1995): 1153-59.

Cook, M.L and Iliopoulos, C. (2000), Ill-defined property rights in collective action: the case of US agricultural cooperatives, in: C. Menard (Ed), *Institutions, Contracts and Organizations: Perspectives from New Institutional Economics*, Cheltenham: Edward Elgar.

Cross, R. and Buccola, S. (2004), Adapting Cooperative Structure to the New Global Environment, *American Journal of Agricultural Economics*, 86 (5): 1254-1261.

Das Gupta, Malabika (2002), Objective Function in Economic Models of Decisions on Production: Evidence from Swiddeners of Tripura, *Economic and Political Weekly*, 37 (34): 3556-3559 (August 24-30).

Devaltere, P. and Pollet, I. (2005), *Co-operatives and Fair Trade*, Higher Institute for Labour Studies, February, 26p. (www.hiva.be).

Downing, Mark, Timothy A. Volkb, Dean A. Schmidt (2005), Development of new generation cooperatives in agriculture for renewable energy research, development, and demonstration projects, *Biomass and Bioenergy*, 28 (5): 425–434

D'Silva Emmanuel and Sudha Pai (2003), Social Capital and Collective Action: Development Outcomes in Forest Protection and Watershed Development, *Economic and Political Weekly*, April 5, pp. 1404-1415.

Fabio, R. C. and Cook, M.L. (2004), Understanding New Cooperative Models: An Ownership-Control Rights Typology, *Review of Agricultural Economics*, 26(3): 348-360.

Gassah, L.S. (Ed.)(1984), *Garo Hills: Land & The People*, Omsons Publications, Gauhati, 235p.

Giannakas, K. and Fulton, M. (2005), Process Innovation Activity in a Mixed Oligopoly: The Role of Co-operatives, *American Journal of Agricultural Economics*, 87 (2) (May 2005): 406-422.

Haley, Sharman (2004), Institutional Assets for Negotiating the Terms of Development: Indigenous Collective Action and Oil in Ecuador and Alaska, *Economic Development and Cultural Change*, 53 (1): 191-213.

Heller, P. (1997), Social Capital as a Product of Class Mobilisation and State Intervention: Industrial Workers in Kerala, India, in: P. Evans (Ed.), *State-Society Synergy*, Berkeley, CA: University of California Press.

Jayne, T., B. Zulu, and J. Nijhoff (2006), Stabilizing food markets in Eastern and Southern Africa, *Food Policy* 31(4): 328-341.

Kar, P.C. (1970), *British Annexation of Garo Hills*, Calcutta, 1970.

Karna, M.N. (1999), Ethnic Identity and Socio-Economic Processes in North-Eastern India, In: Kailash S. Aggarwal (Ed.), *Dynamics of Identity and Intergroup Relations in North East India*, Indian Institute of Advanced Study, Shimla, pp. 29-38.

Ketilson, Lou Hammond (2004), Aboriginal Co-operatives in Canada, *Review of International Co-operation*, 97 (1): 38-47.

Key, N., E. Sadoulet, A. de Janvry (2000), Transaction costs and agricultural household supply response, *American Journal of Agricultural Economics* 82: 1273–1279.

Lyngdoh, M. (1999), Ethnicity, Religion and Language: A Case Study of the Khasis of Meghalaya, In: Kailash S. Aggarwal (Ed.), *Dynamics of Identity and Intergroup Relations in North East India*, Indian Institute of Advanced Study, Shimla, pp. 215-229.

Madane, M (2002), Co-operative rejuvenation Through Self-help Groups and other Alternatives, *Review of International Co-operation*, 95 (1): 104-114.

Majumdar, D.N (1980), Shifting Cultivation: Is it a way of life? An analysis of Garo Data, In: *Shifting Cultivation in North East India*, NEICSSR, Shillong, pp. 14-18.

MMCS (2003), *Co-operatives and SHGs as an alternative to Globalization: A Brief Note*, Mendipathar Multipurpose Co-operative Society (MMCS) Ltd., Mendipathar, Meghalaya, 28p.

MMCS (2005), *Origin and background of MMCS with Indicators of Growth*, Mendipathar Multipurpose Co-operative Society (MMCS) Ltd., Mendipathar, Meghalaya, 20p.

MMCS (2008), *Further Development of the Society since 2004*, Mendipathar Multipurpose Co-operative Society (MMCS) Ltd., Mendipathar, Meghalaya, 12p.

Mohanan, K.G., Krishnakumar, A.K. and Lalithakumari, E. (2003), "An Overview of Rubber Plantation Development in North-East India", in: C. Kuruvilla Jacob (Ed.), *Global Competitiveness of Indian Rubber Plantation Industry, Rubber Planters Conference, India 2002*, Full Text of Papers, Rubber Research Institute of India, pp. 359-368.

Mohapatra, A.C. (1994), Locational Pattern of Markets in Pre and Early British Period in North-East India (Khasi, Jaintia and Garo Hills), In: J.B. Bhattacharjee (Ed.): *Studies in the Economic History of North East India*, Har Anand Publications, New Delhi, pp. 160-168.

Nair, M.K.S (1986), Constraints on the Development of Land Market in Meghalaya, *Economic and Political Weekly*, 21 (27): PE-60- PE-67.

Nuh, V.K. (1999), North-East India: Sharing Personal Convictions, In: Kailash S. Aggarwal (Ed.), *Dynamics of Identity and Intergroup Relations in North East India*, Indian Institute of Advanced Study, Shimla, pp. 203-214.

Patibandla, M. and Sastry, T. (2004), Capitalism and Cooperation: Cooperative Institutions in a Developing Economy, *Economic and Political Weekly*, 39 (July): 2997-3004.

Phillips, R (2004), Artful Business: Using the Arts for Community Economic Development, *Community Development Journal*, 39 (2): 112-22.

Rajagopal, R. (2005), Rural Marketing System in the North Eastern States: Problems, Diagnosis and Strategy Perspective, *Socio Economic Research Reports*, 72, Planning Commission, Government of India, 190p.

Rubber Board (2004), *Indian Rubber Statistics*, Vol. 27, Rubber Board, Government of India, Kottayam, India, 71p.

Rubber Board (2006), *Rubber Growers Companion*, Rubber Board, Government of India, Kottayam, Kerala, 114p.

Rubber Board (2008), Rubber Statistical News, Rubber Board, Government of India, Kottayam, Kerala, August.

Sachdeva, Gulshan (2000), *Economy of the North-East: Policy, Present Conditions and Future Possibilities*, Konark Publishers Pvt. Ltd., New Delhi, 248p.

Saikia, Arupjyoti (2005), *Jungles, Reserves, Wildlife: A History of Forests in Assam*, Wildlife Areas Development and Welfare Trust, Assam, Guwahati, 372p.

Sangma, Milton (1984), *History and Culture of the Garos*, In: Gassah, L.S. (ed.), Garo Hills, Land & People, Omsons Publications, Gauhati, pp. 121-144.

Singh, L.P (1990), The North East: A Symposium on the Problem of a Neglected People and Region, *Seminar*, No. 366, February, 1990, pp. 12-18.

Stefanson, B. and Fulton, M. (1997), *New Generation Co-operatives Responding to Changes in Agriculture*, September, Saskatoon, Canada: Centre for the Study of Co-operatives, University of Saskatchewan.

Stefanson, B., Fulton, M., and Harris, A. (1995), *New Generation Co-operatives: Rebuilding Rural Economies*, September, Saskatoon, Canada: Centre for the Study of Co-operatives, University of Saskatchewan.

Sykuta, M. and Cook, M.L. (2001), A New Institutional Economics Approach to Contracts and Co-operatives, Contracting and Organizations Research Initiative (CORI), *Working Paper* No. 01-04, 17p.

Tayeng, J (1981), *Census of India 1981 Series 14-Meghalaya, Paper –I of 1981 Supplement provisional population totals*, Directorate of Census Operations, Ri Khasi Press, Shillong.

Uphoff, Norman (1986), Local *Institutional Development: An Analytical Source Book with Cases*, Kumarian Press, Connecticut, 420p.

Vaghaiwalla, R.D. (1952), *Census 1951: Assam Garo Hills District Census Handbook*, Government Printing Press, Shillong.

Viswanathan, P.K. (2006), *A Comparative Study of Smallholder Rubber and Rubber integrated Farm Livelihood Systems in India and Thailand*, Report of the postdoctoral research submitted to the Asian Institute of Technology, Bangkok, Thailand, January 2006, 108p.

Viswanathan, P.K. and Ganesh P. Shivakoti (2006), Economic Integration of Tribal Societies in the Post-reforms Era: Perspectives on Rubber Based Farming Systems in North East India, *North East India Studies,* Vol. 1, No. 2, December.

Williamson, O.E. (2002), The Theory of the Firm as Governance Structure: From Choice to Contracts, *The Journal of Economic Perspectives*, 16: 171-195.

THE GIDR WORKING PAPER SERIES (No. 140 onwards)

140*. Uma Rani, "Economic Growth, Labour Markets and Gender in Japan", July 2003. Rs. 45.

141*. R. Parthasarathy and Jharna Pathak, "The Guiding Visible Hand of Participatory Approaches to Irrigation Management ", August 2003. Rs. 30.

142*. Keshab Das, "Competition and Response in Small Firm Clusters: Two Cases from Western India", September 2003. Rs. 30.

143. B.L. Kumar, "Target Free Approach for Family Welfare in Gujarat: A Review of Policy and Its Implementation", October 2003. Rs. 40.

144*. Amita Shah, "Economic Rationale, Subsidy and Cost Sharing for Watershed Projects: Imperatives for Institutions and Market Development", March 2004. Rs. 35.

145. B.L. Kumar, "Tribal Education in Gujarat: An Evaluation of Educational Incentive Schemes", June 2004. Rs. 45.

146*. R. Parthasarathy, "Objects and Accomplishments of Participatory Irrigation Management Programme in India: An Open Pair of Scissors", July 2004. Rs. 40.

147. R. Parthasarathy, "Decentralisation Trajectories with Multiple Institutions: The Case of PIM Programme in India", August 2004. Rs. 30.

148*. Amita Shah, "Linking Conservation with Livelihood: Lessons from Management of Gir-Protected Area in Western India", September 2004. Rs. 40.

149. B.L. Kumar, "Primary Health Care in Gujarat: Evidence on Utilization, Mismatches and Wastage", October 2004. Rs. 40.

150. B.L. Kumar, "Schools and Schooling in Tribal Gujarat: The Quality Dimension", November 2004. Rs. 35.

151*. N. Lalitha, "A Review of the Pharmaceutical Industry of Canada", December 2004. Rs. 35.

152. Satyajeet Nanda, "Micro Determinants of Human Fertility: Study of Selected Physiological and Behavioural Variables in SC and ST Population", January 2005. Rs. 35.

153*. Jaya Prakash Pradhan, "Outward Foreign Direct Investment from India: Recent Trends and Patterns", February 2005. Rs. 35.

154*. Puttaswamaiah S., "Drinking Water Supply: Environmental Problems, Causes, Impacts and Remedies – Experiences from Karnataka", March 2005. Rs. 35.

155*. Keshab Das and Pritee Sharma, "Potable Water for the Rural Poor in Arid Rajasthan: Traditional Water Harvesting as an Option", March 2005. Rs. 30.

156. Jaya Prakash Pradhan and Vinoj Abraham, "Attracting Export-Oriented FDI: Can India Win the Race?", April 2005. Rs. 30.

157*. Jaya Prakash Pradhan and Puttaswamaiah S., "Trends and Patterns of Technology Acquisition in Indian Organized Manufacturing: An Inter-industry Exploration", May 2005. Rs. 50.

158*. Keshab Das and Ruchi Gupta, "Management by Participation? Village Institutions and Drinking Water Supply in Gujarat", June 2005. Rs. 30. (OS)

159*. Keshab Das, "Industrial Clusters in India: Perspectives and Issues for Research", July 2005. Rs. 30. (OS)

160. Jeemol Unni and Uma Rani, "Home-based Work in India: A Disappearing Continuum of Dependence?", August 2005. Rs. 35. (OS)

161*. N. Lalitha, "Essential Drugs in Government Healthcare: Emerging Model of Procurement and Supply", September 2005. Rs. 35. (OS)

162*. Puttaswamaiah S., Ian Manns and Amita Shah, "Promoting Sustainable Agriculture: Experiences from India and Canada", October 2005. Rs. 35. (OS)

163. Amalendu Jyotishi, "Transcending Sustainability beyond CBA: Conceptual Insights from Empirical Study on Shifting Cultivation in Orissa", November 2005. Rs. 30. (OS)

164. Sashi Sivramkrishna and Amalendu Jyotishi, "Monopsonistic Exploitation in Contract Farming: Articulating a Strategy for Grower Cooperation", December 2005. Rs. 30. (OS)

165. Keshab Das, "Infrastructure and Growth in a Regional Context: Indian States since the 1980s", December 2005. Rs. 30. (OS)

166. Leela Visaria, Alka Barua and Ramkrishna Mistry, "Medical Abortion: Some Exploratory Findings from Gujarat", January 2006. Rs. 35.

167*. Manoj Alagarajan and P.M. Kulkarni, "Trends in Religious Differentials in Fertility, Kerala, India: An Analysis of Birth Interval", February 2006. Rs. 30. (OS)

168*. N. Lalitha and Diana Joseph, "Patents and Biopharmaceuticals in India: Emerging Issues", March 2006. Rs. 35.

169. Sashi Sivramkrishna and Amalendu Jyotishi, "Hobbes, Coase and Baliraja: Equity and Equality in Surface Water Distribution", April 2006. Rs. 30.

170. Amita Shah, "Changing Interface Between Agriculture and Livestock: A Study of Livelihood Options under Dry Land Farming Systems in Gujarat", May 2006. Rs. 35.

171*. Keshab Das, "Micro and Small Enterprises during Reforms: Policy and Concerns", July 2006. Rs. 25.

172*. Keshab Das, "Electricity and Rural Development Linkage", August 2006. Rs. 30.

173. Keshab Das, "Traditional Water Harvesting for Domestic Use: Potential and Relevance of Village Tanks in Gujarat's Desert Region", November 2006. Rs. 30.

174*. Samira Guennif and N. Lalitha, "TRIPS Plus Agreements and Issues in Access to Medicines in Developing Countries", May 2007. Rs. 30.

175*. N. Lalitha, "Government Intervention and Prices of Medicines: Lessons from Tamil Nadu", July 2007. Rs. 30.

176*. Amita Shah and Jignasu Yagnik, "Estimates of BPL-households in Rural Gujarat: Measurement, Spatial Pattern and Policy Imperatives", August 2007. Rs. 35.

177*. P.K. Viswanathan, "Critical Issues Facing China's Rubber Industry in the Era of Economic Integration: An Analysis in Retrospect and Prospect", September 2007. Rs. 35.

178. Rudra Narayan Mishra, "Nutritional Deprivation among Indian Pre-school Children: Does Rural-Urban Disparity Matter?", October 2007. Rs. 35.

179*. Amita Shah, "Patterns, Processes of Reproduction, and Policy Imperatives for Poverty in Remote Rural Areas: A Case Study of Southern Orissa in India", November 2007. Rs. 40.

180*. N. Lalitha and Samira Guennif, "A Status Paper on the Pharmaceutical Industry in France", December 2007. Rs. 30.

181*. Keshab Das, "Micro, Small and Medium Enterprises in India: Unfair Fare", January 2008. Rs. 40.

182. Bharat Ramaswami, Carl E. Pray and N. Lalitha, "The Limits of Intellectual Property Rights: Lessons from the Spread of Illegal Transgenic Cotton Seeds in India", February 2008. Rs. 45.

183. Keshab Das, "Drinking Water and Sanitation in Rural Madhya Pradesh: Recent Initiatives and Issues", April 2008. Rs. 40.

184. N. Lalitha, "Doha Declaration and Compulsory License for Access to Medicines", June 2008. Rs. 40.

185*. Keshab Das and Aswini Kumar Mishra, "Horizontal Equity and the Thirteenth Finance Commission: Issues and Ponderables", July 2008. Rs. 35.

186*. Jeemol Unni, "Are Gender Differentials in Educational Capabilities Mediated through Institutions of Caste and Religion in India?", September 2008. Rs. 40.

187*. Amita Shah and Sajitha O.G., "Poverty and Livelihood among Tribals in Gujarat: Status, Opportunities, and Strategies", October 2008. Rs. 45.

188*. S. Visalakshi, "Role of Critical Infrastructure and incentives in the Commercialisation of Biotechnology in India: An Analysis", November 2008. Rs. 40.

---

* Also published elsewhere IP In Print OS Out of Stock

About GIDR

The Gujarat Institute of Development Research (GIDR), established in 1970, is a premier social science research institute recognised and supported by the Indian Council of Social Science Research (ICSSR) of the Government of India, and the Government of Gujarat.

The major areas of research at the institute are the following:

- **Natural Resource Management :** Research under this area relates to the major development interventions like watershed development, participatory irrigation management, joint forest management, protected area management and fisheries development. Studies have focused mainly on aspects of economic viability, equity and institutional mechanisms.

- **Human Development :** The main focus of research under this area has been on population, employment, poverty and issues in the social sector, broadly relating to the quality of life, education, health, family welfare, social infrastructure, migration, informalisation of labour and social security.

- **Industry, Infrastructure and Trade :** Some of the themes pursued under this area include regional industrialization, small enterprise development, industrial clusters, intellectual property regimes, knowledge-based industries, trade and development and basic infrastructure.

Much of the research directly informs national and regional policies. The institute also undertakes collaborative research and has a network with governments, academic institutions, international organisations and NGOs. A foray into specialized teaching and training has just been made.

Gujarat Institute of Development Research

Gota, Ahmedabad - 380 060. Gujarat, India
Tel: 91-2717-232623/366/368
Fax: 91-2717-242365
Email: gidr@gidr.ac.in
Website: www.gidr.ac.in