

Marketing Facilitation for Improving Livelihoods of Tribal Producers

International Journal of
Rural Management
10(2) 93–120
© 2014 Institute of Rural Management
SAGE Publications
Los Angeles, London,
New Delhi, Singapore,
Washington DC
DOI: 10.1177/0973005214546593
<http://irm.sagepub.com>

S. Bhavani Shankar

Assistant Professor

Indian Institute of Management Indore, Madhya Pradesh

E-mail: bhavanishankar@iimidr.ac.in



Abstract

Government regulations constrained tribals' integration with market economy and its benefits. Marketing facilitation institutions established by Government of India for minor forest produce trade had severe limitations. In this regard, an alternative to supplement or compliment government's work is necessary to improve tribal livelihoods. Non-government organizations (NGOs) which gained importance since seventh five-year plan were taking efforts for linking tribals to markets. Dhruva is one such NGO established in Gujarat state. Through orchard programme, it created alternative asset base for tribal producers and established production, processing and marketing facilities. It also created community-based organizations to sustain activities in the long run. This article, based on qualitative research, presents an analysis of Dhruva's efforts in integrating tribal producers with markets and changes taking place in their livelihoods.

Keywords

Marketing facilitation, interlocked markets, tribal producers, livelihoods

Introduction

Tribals in India secure their livelihoods from subsistence agriculture, collection and sale of minor forest produce (MFP) and wage employment (Phansalkar and Verma 2005). MFP sector accounts for 70 per cent of the total employment generated in forests (Das 2005). Government's regulations grant monopoly rights of collection and processing to private agencies and favour diversion of MFP to industries. They restrict tribals from storing, processing and transporting MFP, so tribals remain as mere collectors (Planning Commission 2005). Collection, procurement and marketing of MFP is plagued with problems such as scattered

sources, lack of credit support for tribals during collection period, shorter procurement periods and lack of storage facilities (Singh 1994).

Middlemen benefit from MFP procurement by offering low prices as they extend loans to tribals and use defective weights while measuring quantities purchased (Ganguly and Chaudhary 2003). Weekly markets do not help tribals with information on price commanded by MFP in larger markets (Sumita and Chaudhury 2003). Committee on the Welfare of Scheduled Castes and Scheduled Tribes (2004–2005) pointed out that in case of MFP lack of minimum support price mechanism similar to agricultural produce puts tribals at a disadvantage. Government of India initiated Large Size Multipurpose Cooperative Societies (LAMPS) aimed at reducing the influence of middlemen by (a) providing credit for consumption needs and production investments, (b) procuring and marketing tribal produce and (c) distributing consumer goods and agricultural inputs. However, LAMPS failed in delivering intended services and in reducing influence of middlemen (TRIFED 1990). It is because credit requirement among tribals varies seasonally for agriculture, consumption and social purposes. LAMPS are ill-equipped to serve such sudden spurt in demand for credit due to low working capital and absence of refinance facilities (Mahalingam 1991; Rajagopalan 2002). They also failed to encourage members in using collective input purchase and output marketing services (Saha and Sahu 2004).

To address these limitations, Tribal Cooperative Marketing Development Federation of India Limited (TRIFED), an apex body of State Tribal Development Cooperative Federations and State Forest Corporations was established. This move did not improve tribal livelihoods. As observed by the Committee on the Welfare of Scheduled Castes and Scheduled Tribes (2004–2005), TRIFED's services are limited due to location of zonal and regional offices in cities, shortage of staff limiting expansion, absence of proper pricing mechanism across states for MFP procurement and lack of recognition of many medicinal herbs and plants of value.

NGOs emerged to supplement or complement the government efforts. They gained importance in eighties in both industrialized and developing countries (Thomas 1992). During the seventh five-year plan period, Government of India recognized the importance of involving NGOs in implementation of development programmes (Singh 2002). Through their development programmes, NGOs can address the limitations of government's efforts in linking tribals to markets. This is because marketing can be used to benefit subsistence producers (e.g., tribals) as it identifies demand, defines markets and creates customers (Nurske 1971).

Some NGOs are taking up marketing facilitation in which they help tribal producers collectively produce for markets and purchase from markets. Value creation is achieved in all transactions by reducing costs and risks, raising benefits and returns or a combination of both (Kotler et al. 2013). To continue their marketing interventions in the long run, NGOs can establish community-based organizations (CBOs) owned and managed by tribals. In this background, this article is an attempt to understand and analyze (a) the role played by NGOs in

marketing facilitation, (b) the role of CBOs in helping production and marketing of products by tribals, (c) the role of CBOs in supporting purchase of goods and services by tribals and finally (d) the change in tribal livelihoods due to efforts of NGO/CBOs.

Beneficial Effects of Marketing

The role of marketing in socio-economic development is accepted in spite of the persisting debate whether marketing precedes or follows development (Hosley and Wee 1988). Marketing improves position of producers, as it can facilitate creation and distribution of values among market participants, through transactions and relationships. Creation and distribution of value inherently implies win-win for buyers and sellers (Sheth et al. 1988). Marketing assists in infrastructure development, enhances employment and personal income, contributes to reduction of risk by providing adequate and timely information, draws subsistence producers into the exchange economy with assured prices and mass market efficiencies and provides necessary organizational framework to coordinate production and consumption activities (Wilkie and Moore 1999). However, marketing needs to view people holistically as producers and consumers (Pandya 1988).

Middlemen involved in a value chain extract maximum benefit for themselves. This argument does not consider risks absorbed by middlemen due to low volumes (Holton, 'Marketing Structure', pp. 344–361 as cited in Kaynak 1982: 21). Middlemen help in signalling demand to producers, reduce inventory and transaction costs by improving efficiency (Staudt et al. 1976). As mentioned earlier, middlemen involved in MFP trade are not helping tribals realize benefits offered by markets. If an NGO wants to benefit tribals through marketing intervention, it has to set up CBOs to perform the role of middlemen effectively and efficiently. For promoting conditions beneficial to majority of people, marketing programmes have to recognize that local and regional institutions persist because they meet the real needs and take into account their strengths and weaknesses (Galbraith and Holton 1995; Mamdani 1972). Marketing facilitation activities will become sustainable with community involvement when the members' capacities are built in researching markets, negotiating with buyers, problem solving and conflict resolution (Bingen et al. 2003).

Research Design

Research Method

The study was aimed at finding evidence to the arguments of activist school that marketing leads to socio-economic development (Hosley and Wee 1988). Development due to marketing is largely the result of government efforts as it

establishes needed physical facilities, institutional facilities, market access, technology, behavioural factors and regulation (Klein and Nason 2001; Rao Tanniru 1976). Limitations of government in reaching rural and tribal areas prompted increased participation of NGOs in establishing necessary facilities. Unlike government, resource-constrained NGOs cannot establish facilitating factors all by themselves. They can be made available with synergistic efforts of government, markets, NGO and CBOs (Ferrand et al. 2004). As NGOs work at the grass-roots level, they can bring synergy among activities of all agencies mentioned to build market linkages. Researchers who attempted to document the marketing efforts of NGOs provided brief descriptions of the processes (Kindness and Gordon 2001; Menning 2000).

Viewing this it is imperative to explore the role played by NGOs in marketing facilitation activities done via (a) securing grants and subsidies from government, (b) obtaining funds, technology and market know-how from supporting institutions, for example, aid agencies, (c) establishing physical and institutional facilities and (d) establishing CBOs to facilitate market exchanges. Outcome of such marketing facilitation is expected to improve tribal livelihoods. For this study, marketing facilitation efforts of NGOs is the phenomenon and socio-economic conditions in which tribal producers live are the context. In the intervention area, clear demarcation of boundaries between phenomenon and context is not possible leading to selection of case study approach (Yin 1981).

Unit of Analysis

There are three units of analyses in the study. The first unit is NGO which is performing the four marketing facilitation tasks detailed before. The second unit is CBOs which are facilitating tribal–market interface. The third unit of analysis is the tribal households participating in the intervention where effects of marketing facilitation can be observed.

Conceptual Framework

The conceptual framework given in Figure 1 depicts the interactions of government, supporting institutions, NGO and CBO resulting in improvement of tribal livelihoods. These interactions are complex and mediated by NGO. The framework is divided into three levels, namely (a) institutional arrangements, (b) tribal–market interface and (c) change in livelihoods due to NGO intervention. To answer the research questions posed in the introduction, it is necessary for us to know what happens at each level and how it affects the next level. As mentioned in the introduction, research on tribals largely focused on marketing efforts of government. NGOs being dependent on government and supporting institutions, a separate framework was proposed to understand their marketing facilitation efforts.

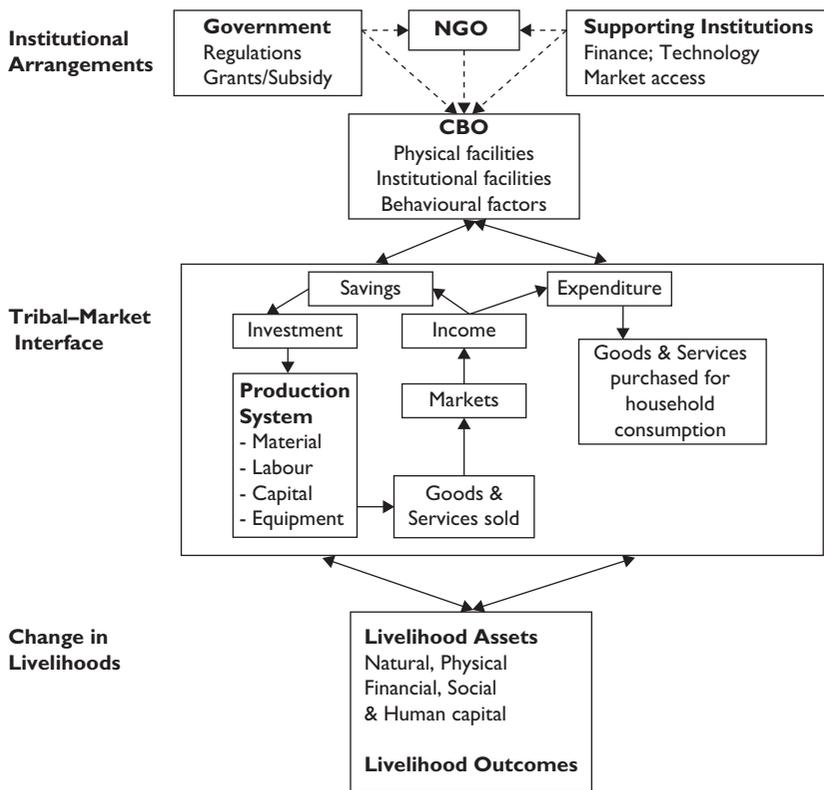


Figure 1. Marketing Facilitation and Livelihoods

Source: Author's own.

Institutional Arrangements: Tribals' transactions in weekly markets were limited to selling surplus agricultural produce or collected MFP and purchasing essential food items and utilities. Demand estimation and production for non-local markets require skills and resources. Such skills need to be imparted and resources need to be provided for helping tribal producers. It is possible through suitable institutional arrangements in which government, supporting institutions, that is, national or international aid agencies and NGO work together to channel their efforts either directly or through CBOs of tribals. Government may provide grants, subsidies and lay down regulations to support CBOs. Supporting institutions can extend finance, technology, market know-how and training to improve asset base of tribals. NGO can play a pivotal role in bringing synergy among these institutions. With such support, CBOs can establish physical and institutional facilities to bring necessary change in behaviour for sustaining the intervention.

Tribal–Market Interface: Markets signal demand for goods and services, facilitate exchange and value realization and provide an opportunity for demand fulfilment. However, CBOs of tribals need to assess the demand and fine-tune production or processing to fulfil the demand for better price realization. As most tribals are subsistence producers, CBOs need to make arrangements to induce capital in their production systems, improve the productivity, create market access, provide remunerative returns and create avenues for savings and reinvestments. It may help tribals in purchasing goods and services for consumption. In all these transactions, CBO has to create value by reducing costs and risks and improving benefits and returns.

Change in Livelihoods due to NGO Intervention: Establishment of a positive cycle in the activities of tribal–market interface will lead to improvement of (a) livelihood assets, that is, natural, physical, financial, human and social capitals and (b) livelihood outcomes, that is, economic and social outcomes among tribals. Marketing facilitation has a potential to create countervailing force to balance the existing power relations between tribals and traditional market players. This may result in unlocking of interlocked markets, that is, land, labour, input, output and credit in which tribals exist.

Operationalization

Data on institutional arrangements and tribal–market interface were captured through marketing facilitation factors (see Table 1). Extent of establishment of these factors is observed both at NGO and CBO levels. Change in livelihoods was captured through livelihood assets and outcomes (see Table 2).

Table 1. Marketing Facilitation Factors

Factors	Sub-factors
Technology transfer	Dissemination of agricultural and manufacturing technology Adaptation of technology to local conditions Adopting manpower training programmes to changes in technology
Physical facilities	Check dams, wells and other water harvesting structures Facilities for cleaning, grading, weighing, storing commodities Manufacturing facility Roads and transportation system Construction of market yard or outlets for sale
Institutional facilities	Output and input distributors Credit institutions Market-oriented manpower training programmes

(Table 1 Continued)

(Table 1 Continued)

Factors	Sub-factors
Market accessibility	Entrepreneurial and behavioural training programmes
	Member, patronage, domain centrality of cooperatives
	User benefit, user owner and user control of cooperatives
	Access for small producers in agriculture and manufacturing
Behavioural factors	Marketing information systems and marketing services
	Personal savings
	Attitude towards collective action/institutions
Regulations	Human skills and initiative
	Government regulations
	Grants and subsidies

Source: Adapted from Shepherd (2007), Ferrand et al. (2004) and Rao Tanniru (1976).

Table 2. Livelihood Assets and Outcomes

	Livelihood Assets
Natural capital	Land—own land and lease land
	Live stock
	Irrigation
Physical capital	Agriculture equipments—pump set, tractor, others
	Housing—thatched roof, tiled/sheet roof, concrete roof
	Transportation vehicles: carts, cycles, 2 wheelers, 4 wheelers
	Kitchen appliances: LPG/kerosene/wood
Financial capital	Entertainment: radio, television, record player
	Income from farming and livestock
	Income from intervention related production
	Income from wage labour on other's farm (cash or kind)
	Rural nonfarm wage or salary employment
	Rural nonfarm self-employment
	Rental income/expenditure on land lease
Human capital	Amount saved annually; amount saved by women
	Labour—agricultural, skilled, skilled wage labour
	Annual work days locally employed and migration
	Literacy—number of male and female
	Education—primary, secondary, intermediate, graduation, post-graduation and vocational training

(Table 2 Continued)

(Table 2 Continued)

Livelihood Assets	
Social capital	Membership in self-help groups
	Participation in meetings
	Social relationships
Livelihood Outcomes	
	Annual production of food and commodities
	Inputs for intervention related production
	Expenditure such as fuel and fodder
	Loan from banks; dependence on moneylender/trader reduced
	CBOs created

Source: Prepared from review of Ashley and Hussein (2000), Ellis (2000) and Frankenberger et al. (2000).

Sampling and Data Collection

This sub-section describes the selection process of units of analysis for the study, that is, NGO, cooperatives and tribal producers. NGOs supporting tribals in agriculture/horticulture from pre-production to final sale of products through brand were studied. Dharampur Utthan Vahini (Dhruva) established by Bharatiya Agro Industries Foundation (BAIF) in Valsad district of Gujarat was selected for the study based on following criteria: (a) presence in agriculture/horticulture, (b) external funding support, (c) package of services to enhance productivity such as land development, water resources, agricultural input supply and financial services, (d) post-production services including, procurement, processing, packaging and branding, (e) establishment of people's organizations, (f) business collaborations for market access and finally (g) number of beneficiaries (see Table 3). Dhruva implemented a marketing facilitation intervention named Wadi (Orchard) programme since 1985 in Gujarat. It developed orchards with mango and cashew nut trees in the waste lands available with tribals.

Dhruva worked in Navsari, Valsad and Dangs districts of South Gujarat where it established 12 cooperatives. Valsad district having 10 out of 12 cooperatives was selected. Dharampur and Kaprada are two dominant tribal blocks in which the 10 cooperatives were located. Of these 10 cooperatives, Dixal and Sutharpada cooperatives of Kaprada block and Pindval cooperative of Dharampur block were selected for data collection. The selection was based on criteria such as quantity of cashew and mango supplied, net profit, number of meetings, attendance in meetings, women membership, share capital, cooperative's activities, bank linkages and regularity of audits. Under each cooperative, three to four villages were selected based on the quantities of produce supplied. From each of the three cooperatives, 40 respondents were contacted for data

Table 3. Comparative Table of NGOs for Selection

S. No.	Criteria	CCD	Dhruva	PRADAN	Just Change	KSF
1	Agri-horticulture and allied sector	Medicinal herbs	Mango, cashew	Poultry	Organic tea	MFP
2	External funding support	Private funding	KFW, NABARD	IRDP	SRTT, others	SDDT Ford, others
3	Package of services to enhance productivity <ul style="list-style-type: none"> • Land development • Water resources • Agri-input supply • Financial services 	No No No Yes	Yes Yes Yes Yes	No No Yes Yes	No No No Yes	No No No Yes
4	End-to-end solutions, i.e., from post-production to selling products to consumers <ul style="list-style-type: none"> • Procurement • Processing • Packaging • Branding 	Yes Yes Yes No	Yes Yes Yes Vrindavan	Yes No No No	Yes Yes Yes Just Change	Yes Yes Yes Last forest
5	People's organization	Yes	Yes	Yes	Yes	Yes
6	Business collaborations for market access	Dabur	ITC, Amul, Sumul, More, Booker, Shops for Change	No	Just Change UK	Last forest (Network of NGOs)
7	Number of beneficiaries	2,200 families	30,216 families	2,405 members	400 SHGs approximately 4,000 members	500 tribal families in Nilgiris, 5,000 organic farmers in India

Source: Author's own compilation.

Notes: Covenant Centre for Development (CCD): Gram Mooligai Company Limited; Dhruva: Vasundhara Agri-Horti Producer Company Ltd.; PRADAN: Madhya Pradesh Women Poultry Producer Company Ltd.; Just Change: Just Change India Producer Company; and Keystone Foundation (KSF): Green Shops.

collection. Further to compare the effects of the marketing facilitation, control villages without intervention were selected. Total 40 respondents from three control villages were contacted for data collection. In all, data were collected from 156 respondents.

Data on institutional arrangements and tribal market interface were collected through qualitative interviews¹ of key Dhruva officials and employees of cooperatives. This helped in developing understanding from employee's perspective through their words and phrases (Yin 2011). To triangulate information collected from the qualitative interviews, secondary sources such as project proposals, progress reports, evaluation reports, annual reports, articles and online publications were used. Data on change in tribal livelihoods were collected using a sample survey of households with a questionnaire.

Vanguard of Awakening: Dhruva

Livelihoods of tribals in South Gujarat were no different from tribals in general. Degradation of forests and large scale soil erosion as a result destabilized livelihoods of tribals in the region. Farming, farm labour, fishing, forest work, processing and construction were the occupations available. These provided meagre wages and involved migration up to 8 months. In such scenario, tribals had no bargaining power with their employers. They could not get minimum wages, but received credit. As significant part of wages was consumed or used to pay off debts, there was little money left for agricultural investment. To counter food insecurity, home-brewed liquor was used, which created dependency. This led to a new set of individuals extending credit and selling alcohol. Thus, tribals got trapped in the interlocking arrangements leading to poverty.

BAIF through Dhruva introduced orchard programme after brainstorming with tribals. Each orchard was planted with 20 mango, 40 cashew and 600 forest trees on waste land of 0.40–0.60 hectare. Tribals with less than five acres of land, possessing land title, earning low income, having prior work experience in orchards, agreeing to keep orchard for 20 years under implementation agreement were selected. Orchard was developed as household's additional asset for income generation. Participating households were paid wages for tending plants up to 3 years. Through participatory rural appraisal skills, land, water, forest area, commons, check dam and lift irrigation sites were mapped. Dhruva employees prepared lists of participants and set up village development committees (VDCs) at village level. The programme was implemented in three phases, namely layout preparation and pit digging, improving survival rate of plants and plant pruning and care. Training programmes familiarized households with nuances of establishing orchard, steps to increase plant survival and post-production measures. Video compact discs demonstrating the procedures were prepared for regular viewing by households at a village common space. Annual meetings and exposure visits were organized to disseminate information.

Table 4. Costs Incurred in Orchard Programme

S. No.	Particulars	INR (millions)	Percentage
1	Orchard development	124.62	26.6
2	Soil conservation	26.25	5.6
3	Irrigation development	19.92	4.2
4	Buildings and equipment	2.79	0.6
5	Vehicles	6.04	1.3
6	Programme promotion surveys and training	7.58	1.6
7	Personnel	32.35	6.9
8	NABARD service charges	6.93	1.5
9	Monitoring and evaluation	2.25	0.5
10	Health promotion	9.28	2.0
11	Physical contingencies	35.70	7.6
12	Price paid to orchard produce	195.41	41.6
	Grand total	469.12	100

Source: Project Preparation Report, 1993, p. 69, Second Periodic Evaluation Study, Dhruva-BAIF.

Initially the intervention received funds from Council for Advancement of People's Action and Rural Technology (CAPART). After demonstrating positive results, BAIF scaled-up operations in the region from 1995 with Kreditanstalt für Wiederaufbau (KfW) funds. KfW provided funds for 15 years (1995–2010). It was implemented batch-wise with 6 years support per batch. A total of ₹469.12 million was spent during the implementation (see Table 4). Initially, orchard establishment and maintenance cost was estimated at ₹22,000, but the actual cost incurred was ₹19,270 making it possible to increase coverage (Shah 2005). Currently, it is spread in 439 villages of Valsad, Navsari and Dangs districts of Gujarat and Dadra Nagar Haveli. It covered 30,216 families and 11,232.08 hectares of land.

Marketing Facilitation by Dhruva

Marketing facilitation activities of Dhruva include end-to-end solutions from pre-production to marketing. Pre-production services include land development, water resources development, agro service centre to supply inputs and financial services. Production was continually supported with agriculture extension services to monitor growth for taking corrective measures. Post-harvest services include procurement, processing, grading, packaging and marketing (Figure 2). In the following sub-sections, efforts of Dhruva in establishing marketing facilitation factors are described.

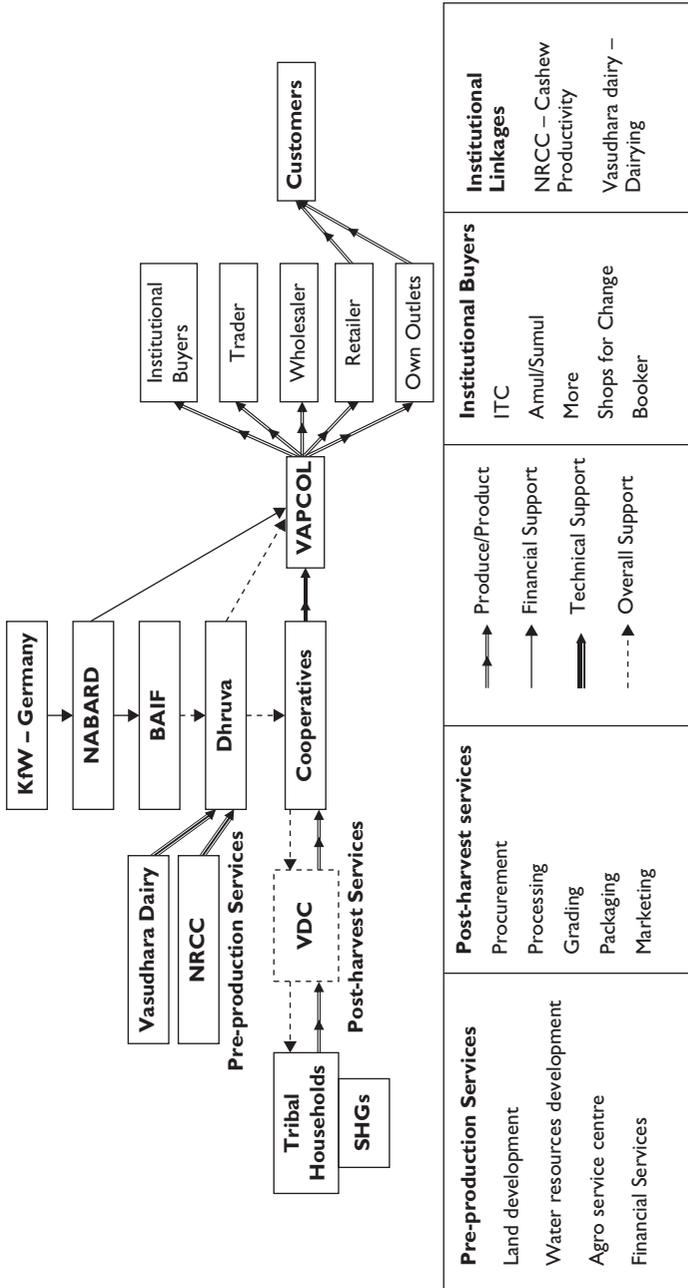


Figure 2. Marketing Facilitation by Dhruva

Source: Author's own.

Institutional Facilities

Dhruva established CBOs such as VDCs, cooperatives and producer company to facilitate activities of the orchard programme. VDC is the first contact point for producers and performs all labour-intensive activities. It helped in input supply, orchard plantation and care, procurement of produce, payments and information dissemination. Each of the 226 VDCs covering 194 villages has a nominated agent. For every kilogram of produce procured, the agent and VDC receive ₹1.50 and ₹0.50, respectively. Tribal households supply smaller quantities of produce to VDCs based on their cash needs and harvest. Due to this reason, pooling produce at village level helps minimize costs of these multiple transactions. Procurement of cashew nuts was done based on grades. Grade A consists of 160–175 nuts per kg, Grade B consists of 175–210 nuts per kg, Grade C consists of 211–240 nuts per kg and reject cashew consists of more than 240 nuts per kg. As cashew receives better price based on its grade, quality of raw nut needs to be ensured. Agent was penalized for purchasing cashew nuts in reject category. Producers were made aware of harvesting and sorting of mature kernels before selling. About 95 men and 129 women work on salaries and wages respectively in cooperatives. Women working for eight months a year in cashew processing unit are paid ₹12 per kg for cutting, ₹10 per kg for peeling and ₹60 per day for grading. A cluster of VDCs is forward integrated to form cooperatives.

Twelve cooperatives were established with processing facilities, office space and employee resting room. Cooperatives collect mangoes and cashew nuts procured through VDCs from March to May. A technical team fixes prices for raw nuts considering demand, processing and transportation costs. Information about prices is passed on to members through VDCs. Collection route is decided based on availability of raw cashew with VDCs. This keeps a tab on transportation cost, which was ₹4 per kg of cashew, but had been brought down to ₹1.5 per kg. Till 2010, cooperatives paid ₹40 per kg of cashew, but have increased to ₹45 to meet competition. About 50 per cent of mangoes used for pulp production are procured from state agricultural produce market committee. For pickle production, semi-processed mangoes are procured from VDCs in the range of 10–50 tonnes in a season. Produce payments less than ₹2,500 are paid in cash and anything beyond this was paid through cheque. Delayed payments are given 8 per cent per annum interest. Dhruva raised capital by issuing shares at ₹50 per share to members. In all, 58,981 shares have been issued for ₹3,054,050 in 2004. Details of profit and loss earned by each of the cooperative are provided in Table 5.

User benefit, user owner and user control are three principles for analyzing a cooperative performance (Frederick 1997). Among the 12 cooperatives, eight sell roof tiles, four have oil expelling units, nine have agro-service centres to supply agricultural inputs, 11 extend microfinance services, four sell vermicompost, three sell grafts and 11 extend agricultural extension services. These are value-added services helping to reduce costs and accrue benefits. Cooperatives are yet

Table 5. Progress of Cooperatives

S. No.	Name of Cooperative	Gross Profit from Trading A/c (₹)	Other Income (₹)	Administrative Expenses (₹)	Net Profit or Loss (₹)	Net Profit or Loss (%)
Navsari district						
1	Vasundhara	4,352,276.1				
Valsad district						
2	Gadi	164,940.0	5,624	155,924	14,640.0	0.82
3	Pindaval	276,290.0	32,771	118,051	191,010.0	10.75
4	Dhamani	105,252.0	8,449	139,148	-25,447	-1.43
5	Tutarkhed	452,583.5	11,037	122,649	340,971.5	19.19
6	Karjun	326,078.0	18,397	151,618	192,857.0	10.85
7	Mandava	673,603.0	1,530	162,532	512,601.0	28.84
8	Sutharpada	388,106.0	33,210	139,529	281,787.0	15.86
9	Dixal	282,425.3	5,256	152,459	135,222.8	7.61
10	Karchondh	202,049.0	35,847	135,380	102,516.0	5.77
11	Pendardevi	Information not available				
Dangs district						
12	Ambica-Dang	104,628.0	5,890	79,568	30,950.0	1.74
	Net amount	7,328,230.9	158,011	1,356,858	1,777,108	100.00

Source: Progress of cooperatives as on 30 September 2010, <http://www.dhruva.org.in/Agri%20Buisness.aspx> (accessed on 7 October 2013).

to start distribution of patronage to their members. Small quantities and limited transactions by members do not leave much scope for distribution of sizeable patronage. Most of the assets are created with KfW grant money and members contributed only ₹50 per share towards cooperative. Due to this, members may take time to feel ownership of their cooperatives. Members have voting rights, but they do not control processing due to its technical nature.

Member, patronage and domain centrality help in understanding the importance of cooperatives' activities for members (Shah 1994). Member centrality of a cooperative comes from the control it has over its member's economies. Centrality among the members of cooperatives varies depending on the income earned from the activity. For 48.2 per cent members who earn ₹1,000–2,000 per annum the centrality is low, for 28.4 per cent members who earn ₹2,000–5,000 per annum centrality is moderate and for 4.4 per cent members who earn ₹5,000–14,000 per annum by selling cashew and mango centrality is high. Efforts of tribal producers are necessary to improve incomes from their orchard. Members also earn from agriculture, wage employment and dairying. Patronage centrality of a cooperative emanates from its command over large share of the respective business. It was

high as cashew business in both blocks is concentrated in Dhruva project area. Domain centrality refers to the prominence of cooperative's business relative to the entire economy of its domain. Domain centrality of the cooperatives is moderate or low as the agricultural/horticultural economy of the two blocks is much bigger than economic activities influenced by cooperatives.

Cooperatives were forward integrated to Vasundhara² Agri-horti Producer Company Limited (VAPCOL) in 2004 which took care of marketing. VAPCOL's activities include financing procurement of raw produce by cooperatives, processing, sales, exports and any other services benefitting members. A cooperative needs to purchase minimum 10 shares of VAPCOL at ₹100 each. The 12 cooperatives purchased 1,980 shares contributing ₹1.98 lakhs till March 2011. The authorized share capital of VAPCOL by 2011 was ₹1 crore constituting 100,000 shares.

Technology Transfer

Agricultural extension services are provided to members through designated employee of cooperative. All producers were trained in tending orchards at the beginning of the programme in concerned village. Technical training was provided to tribals employed in cashew and mango processing units. Some of the processes are kept manual leading to employment generation for women. This increased confidence of tribals in terms of managing the processing unit on their own. The processing units were located in places where no other industrial units are available, so the pollution can be absorbed in the vicinity of the region. Collaboration with National Research Center for Cashew Nut (NRCC) was also helpful in improving productivity. Identified members from CBOs were given regular training in production, processing, administration and accounts.

Physical Facilities

Mango processing facility was established in VAPCOL with a capacity to process 600 tonnes per annum. This was done with a bank loan of ₹1.2 crores and the unit started operations in 2008. The unit produces pulp, juice, jam, squash and pickle. Individual cooperatives do not have facilities to process mangoes, so they supply raw mangoes or cut mangoes to VAPCOL unit. It has a marketing head, supported by a small group to take care of marketing.

Cashew nut processing takes place on regular basis and since 2009 salt and pepper cashew production was initiated. All 12 cooperatives have capacity to process 300–400 kg cashew nuts in a day. They operate for 8–11 months in a year depending on procurement. Raw cashew nuts are roasted, shelled, dried, cooled, peeled and graded. Processed cashew from cooperatives is supplied to a central facility for final grading and Veta packing. Workers were

trained in best processing practices and work schedule maintenance. Processes are standardized in all cooperatives with the help of food technologists. In cooperative with central processing unit, a pilot unit for extracting cashew nut shell liquid was established. The liquid is substitute for petrochemicals used in the manufacturing industry.

The area suffers from water shortages in spite of annual rainfall of 1,800 mm. Water harvesting structures were built to improve access to water. Soil erosion was also high due to deforestation. Soil and water conservation efforts were taken up to cover 35 villages with area of 11,374 hectares benefitting 9,259 households (Dhruva 2013).

Market Accessibility

Own outlets, wholesalers, retailers, traders and institutional buyers were the marketing channels used. Institutional buyers included Indian Tobacco Company (ITC), Anand Milk Union Limited (Amul) and Surat Milk Union Limited (Sumul). Retailers include More, Booker and Shops for Change.

Products: Cooperative processing units produce (a) pulp, juice, jam, squash and pickle from mango and (b) graded, salted and pepper cashews. Pickles were marketed in ₹1 per sachet to cater low-income consumers along with packs of 200 g and 400 g.

Pricing: Final consumer price is calculated based on production cost, weight loss, value-added tax, demand and profit percentage. Cashew processed by Dhruva received a small premium of ₹20 per kg from market and there is 20–25 per cent margin for pickles. Profit percentages range from 2 per cent to 25 per cent of the total cost incurred in producing that particular quantity. Manufacturing defects and unsold stock are main reasons for low profits. Wholesaler gets cashew, mango pickle and mango pulp at 78 per cent, 70 per cent and 70 per cent, respectively. Retailer gets cashew, mango pickle and mango pulp at 85 per cent, 78 per cent and 78 per cent, respectively. Margins offered depend on the movement of products. Refer Table 6 for prices of select products.

Place: Distributors share 80 per cent turnover in mango pickle, pulp, jam and squash and 10 per cent turnover in cashew. Traders share 70 per cent of cashew turnover. Dependence on traders can be reduced if Vrindavan (groove/forest) brand becomes popular. This would also help in charging stable prices, which is essential for sustenance of CBOs business. VAPCOL-owned outlets have a share of 10 per cent turnover of mango and cashew. Institutional buyers such as ITC, AMUL and SUMUL contribute 10 per cent of turnover. VAPCOL does not offer discounts or monetary benefits to channel partners. Distributors do not accept targets for mango pulp which is slow-moving, but prefer fast-moving pickle sachets. Refer Table 7 for sales data. VAPCOL covers five districts in Gujarat and exports to the Middle East.

Promotion: All products are sold under brand name Vrindavan. Due to low coverage and institutional sales, VAPCOL did not invest in mass media advertising.

Table 6. Prices of Products at Various Levels of Channel

Select SKUs	Pack (g)	Price (₹)		
		Distributor	Retailer	Consumer
Cashew nuts				
Diet nuts	18	15.60	17.00	20.00
Diet nuts spicy	40	27.30	29.75	35.00
W 210	100	62.40	68.00	80.00
W 240	100	62.40	68.00	80.00
W 320	100	58.50	63.75	75.00
W 400	100	54.60	59.50	70.00
Mango pickle				
	50	3.5	3.9	5
	200	14	15.6	20
	250	21	23.4	30
Sweet mango pickle				
	200	17.5	19.5	25
	250	24.5	27.3	35
Alphanso mango pulp	850	73.5	81.9	105
Kesar mango pulp	850	70	78	100

Source: VAPCOL records.

Table 7. Sales of Mango and Mango Products

S. No.	Year	Pickle	Pulp	Fresh Mango	Cashew
		(Tonne)	(Tonne)	(Tonne)	(Tonne)
1	1995–1996	38.6	3.4		NA
2	1996–1997	55.1	2.3		
3	1997–1998	90.5	5.1		
4	1998–1999	102	4.5		
5	1999–2000	105	7.5	NA	
6	2000–2001	166	18		4.8
7	2001–2002	151	25		9.5
8	2002–2003	230	39		24.6
9	2003–2004	280	40		NA
10	2004–2005	265	31	46	54
11	2005–2006	237.5	50	202	46.5
12	2006–2007	292	49.3	328	51
13	2007–2008	420.8	46.9	124	74.6
14	2008–2009	225	48.4	1,069	57.2
15	2009–2010	310	36.7	0	110.5

Source: Dhruva and VAPCOL internal records.

Note: Fresh mangoes sales started from 2004–2005 and cashew sales started from 2000–2001.

Below the line advertising, that is, sign boards, calendars, brochures, wall painting, fairs, exhibitions, website and word-of-mouth was used in promotion.

Behavioural Factors

With the creation of three-tier federated structure, Dhruva was able to orient people to take up responsible roles in the governance of CBOs. Regular meetings were held in the cooperatives for timely decision-making. Members were invited to annual meetings to discuss and share progress and vision of CBOs. Men and women were given equal partnership in the shares of cooperatives to create a sense of ownership. Conflict handling mechanism was put in place to ensure transparency. These efforts aimed at creating positive attitude towards CBOs thereby ensuring continuity of intervention by producers. Efforts were taken to discourage alcohol consumption, improve attendance in training programmes and village meetings. Saving habits were inculcated among women by organizing them into self-help groups (SHGs) and promoting income-generating activities.

Cooperatives instilled trust among members through transparency in procurement processes, competitive pricing for produce, regular payment, payment of price differential, profit redistribution, recognizing member's contributions and moderate employment. However, cooperatives still face default in produce supplies ranging from 5 to 25 per cent. This is because some tribals do not understand benefits offered by VDCs and cooperatives or require cash urgently. In some instances, VDCs either run out of cash or lack motivation to continue procurement. Most importantly, free supply of inputs for minimum 5 years made producers anticipate continuous support. Lack of funding beyond 2010 posed a challenge to cooperatives which cannot supply inputs. With hindsight, Dhruva could have collected token money for all the inputs to inculcate purchasing habit among tribals.

Regulations

Roads, electricity, water and transportation facilities were developed by government. Banks and public distribution system got established over the years. However, there was no government support in improving market accessibility and market information. Since 1995, National Bank for Agriculture and Rural Development (NABARD) facilitated transfer of funds from KfW and took up monitoring role. NABARD and India Tobacco Company (ITC) facilitated training of Dhruva employees by International Resources for Fairer Trade. Employees were trained in international standards for mango and ways to improve tribal producers' involvement in the programme. NABARD provided (i) ₹9.78 lakhs in 1999–2000 for processing unit expansion and (ii) ₹1.6 crores and ₹2 crores towards working capital for years 2008–2009, 2009–2010, respectively. It allocated ₹200 crores for replication of orchard programme in 14 states of India.

Change in Livelihood Assets

In this section, changes in tribal livelihoods due to orchard programme are described.

Development in Intervention and Control Villages

Total 11 villages in Dixal, Sutharpada and Pindval cooperatives established by Dhruva were selected for the study. Under these three cooperatives, 1,824.5 acres was brought under orchards with ₹3.10 crore benefitting 1,930 households. Soil conversation was taken up in 1,540 acres with ₹48 lakh benefitting 1,633 households. An amount of ₹1.30 crores was spent on water resources development. A sum of ₹1.28 lakhs was spent on organizing SHGs. Community health, credit and support to landless families received ₹30.49 lakhs. Members from 133 families received skills upgradation training costing ₹90,900.

Two villages from hilly area and one village from plains were selected for control group. The two villages in hilly area were once part of the orchard programme but left due to pest attack in 1996. The third village in plains is typical as its inhabitants follow a cult which prohibits taking help from NGOs. These villages have degraded forest and a seasonal rivulet which many cannot access due to difficult terrain.

Natural Capital

Group wells were constructed as part of intervention for irrigation, but control villages were using existing wells. Benefits of irrigation are reaped by 20 per cent and 17.3 per cent households in control and intervention villages, respectively. In terms of irrigating, 0.4 ha–0.82 ha land control village households fare better with 20 per cent than 14.7 per cent in intervention villages. Irrigating for 1.01 ha–1.82 ha land is available only to 2.6 per cent households of intervention villages. Agriculture extension services are available only in intervention villages and were received by 64 per cent households. Agro service centres were established in cooperatives for supplying necessary inputs. If we compare food sufficiency,³ households in intervention villages fare better. About 27.5 per cent and 22.5 per cent households are food sufficient for nine and 12 months respectively in intervention villages. In control villages, about 25.8 per cent and 17.5 per cent households are food sufficient for nine and 12 months, respectively.

Vasudhara dairy through Dhruva promoted dairying in the intervention villages since 1996. Under this veterinary services and other necessary support were extended (Hegde 2006). It also extended 50 per cent subsidy for purchasing milch animals. If we compare households having two milch animals in both groups, intervention households fare better with 15.5 per cent compared to only 5 per cent in control group. In case of draft animals also intervention villagers fare better.

About 21.55 per cent, 44.82 per cent and 8.61 per cent households possessed one, two and three draft animals, respectively. In contrast, 27.5 per cent, 22.5 per cent and 2.5 per cent control group households possessed one, two and three draft animals, respectively. Significantly, control group fares well in possession of goats with 70 per cent households compared to 38.8 per cent in intervention villages.

Physical Capital

Due to low levels of irrigation facilities few households in both groups had irrigation equipments. Pump sets are available with only 14 per cent households in intervention villages compared to 5 per cent in control villages. Only 1.67 per cent of households in intervention villages had generators. To improve conditions of housing cooperatives supplied roof tiles and loans for renovation. Houses are categorized as kutcha, semi-pucca and pucca houses.⁴ About 46.6 per cent intervention households live in kutcha houses compared to 50 per cent in control group. About 31.03 per cent intervention villagers live in semi-pucca houses compared to 50 per cent in control villagers. Pucca houses are only present with 22.4 per cent households in intervention villages.

Intervention village households fared well in possession of entertainment equipments. Radio is only available with 8.6 per cent households of intervention villages. About 12.5 per cent households in intervention villages possess television compared to only 2.5 per cent in control villages. Vehicles for transportation are scarce in both groups. Among intervention households 6.89 per cent had cycle, 12.06 per cent had motor cycle, 0.86 per cent had tractor and 2.59 per cent had jeep. Jeep owners were in transport business. Among control villages, members of only one household had cycle, motor cycle and tractor.

Human Capital

Villagers spend four months on subsistence agriculture. The other eight months are divided between orchard maintenance, work within village, fuel wood collection and migration for wage employment. Orchard maintenance is taken up regularly. During monsoons agricultural work is done within village whenever possible. Intervention village households were found to spend more time in fuel wood collection. Comparing both groups 66 per cent in intervention villages spend up to 20 days' time compared to 90 per cent in control villages. Further, 31.9 per cent intervention households spend between 20 and 40 days collecting fuel wood compared to only 10 per cent in control villages. This was done in spite of fuel wood trees grown in orchards. Reasons are the availability of tress in commons and the sale of trees planted in orchard.

If we look into migration for wage employment up to three months, about 66 per cent households migrate from intervention villages compared to only 29.5 per cent in control villages. Farmers from intervention villages complete their

kharif crops and migrate during rabi season as very small patch of land could be cultivated under irrigation. In this period, both groups migrate to villages in Vapi, Surat and Valsad for work in vineyards. In case of 3–6 months, only 3.4 per cent households of intervention villages migrate compared to 20 per cent in control group. Migration between 6 and 10 months was taken up by 15 per cent control group households compared to 2.6 households in intervention villages. Reason for lower level of migration by households in intervention villages was the availability of work in villages. Higher percentage of migration by control group is due to the loss of 40 per cent wages in the form of loan repayments to vineyard owners.

Households in intervention villages fare well in (a) male literacy with 46.7 per cent compared to 34.5 per cent in control group and (b) female literacy with 32.7 per cent compared to 20.5 per cent in control group. Compared to national average both groups fall behind.

Financial Capital

Income from farm work is a major source of cash for households in both groups. Households migrate to nearby towns to work in vineyards. Incomes earned through farm labour ranges from ₹6,000 to 38,400 per annum. If we compare incomes up to ₹12,000 per annum intervention households fare well. Moving beyond ₹12,000–38,400 per annum control group households dominate (see Table 8). However, control group members use 40 per cent of their income to repay debts to vineyard owners. Credit availability in intervention villages helps address such issue.

Income from non-farm work was available with 23.2 per cent and 12.5 per cent intervention and control village households, respectively. Income ranges ₹18,000–24,000 per annum and ₹48,000–60,000 per annum where intervention

Table 8. Incomes from Wage Labour

S. No.	Income (₹)	Wage from Farm Work Households Percentage		Wages from Non-farm Work Households Percentage	
		Intervention	Control	Intervention	Control
1	No income	31	17.5	76.78	87.5
2	0–6,000	35.3	25	10.3	2.5
3	6,000–12,000	19.8	17.5	2.6	2.5
4	12,000–18,000	9.5	17.5	2.6	2.5
5	18,000–24,000	3.5	7.5	3.4	2.5
6	24,000–30,000	0.9	7.5	0	0
7	30,000–36,000	0	7.5	2.6	2.5
8	48,000–60,000	0	0	1.72	0

Source: Primary data.

households are better off. In all other incomes ranges, there are no significant differences between groups (see Table 8). Incomes from dairying and orchards are available only to intervention households. In dairying annual income ranges between ₹9,600 and ₹67,200 and in orchards it is between ₹1,000 and ₹14,000. Income from dairy and orchard can increase with the availability of fodder and usage of fertilizers, respectively.

Social Capital

Women from 186 villages of the three districts were organized into 475 SHGs and were given training to promote income generation. For this purpose, SHGs saved ₹35.94 lakhs and obtained credit of ₹50.85 lakhs (Dhruva 2011). A total of ₹27.12 lakhs were earned from (a) sale of vermicompost, finger millet papad, leaf plate, fruit and vegetable grafts, fish, earthworm, bamboo toys, clothes and (b) procurement of cashew nuts. Setting up of tribal indigenous cuisine corner under name 'Nahari' was a significant step towards enterprise development (Dhruva 2010). SHGs repaid 74 per cent of the loan.

Among the sample villages, 62.9 per cent and 85 per cent households in intervention and control villages respectively were not part of SHG. In intervention villages, majority of SHGs saved in the range of ₹240–600 annually. Some exceptional groups saved ₹1,600 and ₹2,760. In contrast, only one SHG in control villages with six members saved ₹600 per annum but without any income-earning activity. In intervention villages, among 46 SHG members only 26 per cent are continuing their activities, 30 per cent stopped and 44 per cent did not take up due to work at home or lack of initiative. Seen in isolation, large portion of women in intervention villages has not been organized due to lack of suitable opportunities, specific skills, for example, arts or crafts, interest and awareness.

About 69.8 per cent and 35 per cent households in intervention and control villages respectively attended village meetings. Participatory Rural Appraisals (PRAs), regular meetings at village level, training programmes, exposure trips, VDCs, cooperatives, SHGs and annual interaction with experts inculcated a community spirit among cooperative members. Each of these activities or groups brings members together, provides them with opportunity to interact and learn from each other and from experts. They are also aimed at improving skills, awareness, income and social role of members. VDCs and cooperatives also act as a platform to raise issues and find solutions together as a community. Through regular interactions and collective work members are slowly realizing improvement in social relations. About 57.8 per cent expressed improvement in social relations in intervention villages compared to 40 per cent in control villages. Being member of cooperative helps not only in regular income from cashew and mango supply, but also in availing of small loans, support during marriages, use of draft animals for cultivation and any other exigencies. Being members of cooperatives enabled tribals to collectively purchase agricultural inputs, roof tiles, establish oil expelling units, avail credit and sell produce.

Livelihood Outcomes

Expenditure on Agriculture

Money spent on seeds, fertilizer, energy (electricity, diesel), pesticides, fodder, land and animal lease constitutes agricultural expenditure (see Table 9). About 37 per cent and 60 per cent of intervention and control villages respectively use last season's produce as seeds. This was done in case of cash crunch, unavailability of seeds and confidence in local variety. In the expense range of up to ₹600 per annum, there is little difference between groups. In the range of ₹600–1,200 per annum, intervention group leads with 27.8 per cent households compared to 10 per cent in control group. Intervention group farmers either had insufficient seeds or were sowing better variety of rice. In the expense range of ₹1,800–2,400 per annum and ₹4,800–5,400 per annum, only intervention households cultivating wheat and banana are present.

About 42.2 per cent intervention and 55 per cent control village households do not use fertilizer. In the expense range of up to ₹600 per annum, there is a slight difference between groups. However, in the range of ₹600–1,200 per annum, intervention group is better off with 12.06 per cent compared to 2.5 per cent households in control group. In expense range of ₹1,800–2,400 per annum and ₹4,800–5,400 per annum, there is one household each cultivating banana and wheat in intervention villages. Pesticide related expenditure is almost same in both groups up to ₹600 per annum and beyond that there is little difference. Cash crunch, pest resistant local varieties and farmer's willingness to lose some produce are reasons for lower spending.

About 8.63 per cent intervention households spend up to ₹600 per annum on energy. In the expense range of ₹600–1,200 per annum, there is little difference between groups. In ₹1,200–1,800 range, only 1.8 per cent households of intervention villages are present. Low expenditures can be attributed to subsistence agriculture. Fodder is purchased by 26 per cent and 2.5 per cent households of intervention and control villages respectively. Land and animal lease were not observed in control villages. Only 2.6 per cent households in intervention villages

Table 9. Expenditure on Agriculture

Amount (₹)	Seeds		Fertilizer		Energy		Pesticides	
	Dhruva	Control Group	Dhruva	Control Group	Dhruva	Control Group	Dhruva	Control Group
Up to 600	28.45	27.5	43.97	42.5	8.63	0	7.8	7.5
600–1,200	27.8	10	12.06	2.5	4.32	5	0.9	0
1,200–1,800	1.8	2.5	0	0	1.8	0	0	0
1,800–2,400	4.3	0	0.9	0	0	0	0	0
4,800–5,400	0.9	0	0.9	0	0	0	0	0

Source: Primary data.

lease land by spending ₹1,500 per annum and 1.7 per cent households lease draft animals spending ₹1,000 per season.

Loans Secured from Various Sources

Cooperatives: About 2.6 per cent households took ₹5,000, 8.6 per cent took ₹5,000–10,000 and 4.3 per cent households took ₹10,000–15,000 loan from cooperative for various purposes. Low off take of loans is due to limited agricultural opportunities and low credit absorption capacities of households.

Vasudhara Dairy: Loans were extended to promote dairying. Due to shortage of fodder only 16.4 per cent and 12.9 per cent households in intervention villages availed ₹12,000 and ₹16,000, respectively.

Bank: Accounts are held by 43.9 per cent and 10 per cent households in intervention and control villages, respectively. Among households of intervention villages, only 0.9 per cent each took loan of ₹10,000 and ₹12,000 and 1.7 per cent took ₹20,000 loan. In control group 2.5 per cent households each have taken ₹5,000 and ₹400,000 loan. The highest loan was for purchasing tractor, which is rented for money.

Moneylender: These loans are availed only in control villages by 47.5 per cent households. About 5 per cent took ₹2,000, 20 per cent took ₹2,000–3,000, 7.5 per cent ₹3,500–5,000, 2.5 per cent took ₹5,000–6,500, 7.5 per cent took ₹6,500–8,000 and 5 per cent households took ₹10,000 from moneylender or vineyard owner. About 40 per cent of wages are deducted in repayment. This interlocking of credit and agricultural labour markets leads to low incomes and low savings by households. Social systems in the three villages of control group are different. In one village households help each other, the second village has no such systems and in the third village select individuals running chit fund support each other. In contrast, credit through cooperatives, Vasudhara and banks helped intervention village households to break the interlocking of credit and labour markets.

Overall Change

Intervention villages now have pucca houses, small-scale enterprises, sanitation facilities, vegetation and slight improvement in village-level infrastructure. Improvements in the level of health awareness, skills to pursue self-employment, increment in two wheelers, reduction of distress migration and literacy can be observed. Dairying as additional source of income is slowly picking up with establishment of two village-level dairy cooperatives. Impressed with positive results of orchard programme, some families planted orchard in their farm lands. Some have established nurseries to supply plants. Bhajan Bhai Navla's trust running residential schools in Kaprada block, is contributing to improvement in literacy. Main roads and internal roads connecting villages also improved. Five per cent households in the intervention area are taking winter crops with irrigation.

Liquor addiction reducing due to precondition of Dhruva that orchard owner must stop drinking over a period. Hindu religious cults promoting vegetarianism and prohibition of alcohol were also helping the cause.

Conclusion

Orchard programme helped create asset base at the tribal household level by converting wasteland to fruit orchard. It had created VDCs at village level for procurement and input disbursal. At cluster level, cooperatives were established with processing facilities enabling tribal producers to continue production and processing. At federation level, VAPCOL takes care of marketing. Group wells have been constructed for improving irrigation whose effects are observed at household level. Food sufficiency was found to be better in case of nine and 12 months. Milch and draft animals are found to be higher. Agricultural equipments, radio, television and transportation vehicles are available with some households. Pucca houses are available only to intervention households. Literacy levels are slightly better than control group. Migration was taken up for lower number of days in intervention villages, due to local employment. Incomes from dairying and orchard are available only to intervention villagers. SHGs have been active in saving and income generation. Loan from moneylenders was not observed.

As part of the intervention, most of the inputs were given free of charge to members creating dependency. Due to this, when cooperatives were established they had no corpus to sustain activities. Share capital generated from members was not sufficient to create sense of ownership. Dhruva ensured development of managerial skills such as problem-solving and conflict-resolution among CBO employees. The intervention helped reduce information asymmetry by announcing procurement prices and sale price obtained in the market. By collectivizing and providing market interface, orchard programme reduced the risks of individual producers taking up production and marketing activities. It improved the position of tribal producers by creating and distributing value in all transactions moderated by CBOs. It helped in improving bargaining power of tribals, connected tribals' CBOs to industrial producers/retailers and enhanced returns from marketing both at the individual and organizational level. In essence, Dhruva has started the change process for tribal producers, and sustainability of the intervention remains in the hands of tribals.

Notes

1. Relationship between researcher and participant is not strictly scripted. Questions posed are open-ended and vary based on context and setting. The interview takes place in conversational mode where questions and answers flow in both directions.
2. In Sanskrit, *Vasundhara* means earth.

3. Food sufficiency was understood using household's estimation of number of months that year's produce would last.
4. Kutcha house is made of wood, mud, straw and dry leaves. Semi-pucca house is made of mud walls and tiled roof. Pucca house is made of wood, bricks, cement and iron rods.

References

- Ashley, C., and Hussein, K. 2000. 'Developing Methodologies for Livelihood Impact Assessment: Experience of the African Wildlife Foundation in East Africa,' Working Paper 129, Overseas Development Institute, UK. <http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/2750.pdf> (accessed on 12 August 2014).
- Bingen, J., A. Serrano and J. Howard. 2003. 'Linking Farmers to Markets: Different Approaches to Human Capital Development', *Food Policy*, 28 (24): 405–419.
- Committee on the Welfare of Scheduled Castes and Scheduled Tribes. 2004–2005. *Working of the Tribal Cooperative Marketing Development Federation Limited: SCST No 649*. New Delhi: Ministry of Tribal Affairs.
- Das, B.K. 2005. 'Role of NTFPs among Forest Villagers in a Protected Area of West Bengal', *Journal of Human Ecology*, 18 (2): 129–136. <http://www.krepublishers.com/02-Journals/JHE/JHE-18-0-000-000-2005-Web/JHE-18-2-000-000-2005-Abst-PDF/JHE-18-2-129-136-2005-1295-Das-B-Kanti/JHE-18-2-129-136-2005-1295-Das-B-Kanti-Full-Text.pdf> (accessed on 11 August 2014).
- Dhruva. 2010. *Details of SHG Activities, Dhruva Annual Report 2009–10*. BAIF.
- . 2011. Progress of Self-help Groups. <http://www.dhruva.org.in/Quality%20of%20Life.aspx> (accessed on 14 June 2011).
- . 2013. Households Benefitting from Watershed Construction. <http://www.dhruva.org.in/Watershed.aspx> (accessed on 7 October 2013).
- Ellis, F. 2000. 'Livelihoods, Diversification and Agrarian Change', in *Rural Livelihoods and Diversity in Developing Countries*. New York: Oxford University Press.
- Ferrand, D., A. Gibson and H. Scott. 2004. *Making Markets Work for Poor: An Objective and an Approach for Government and Development Agencies*, p. 12. South Africa: The ComMark Trust. http://webarchive.nationalarchives.gov.uk/+http://www.dfid.gov.uk/news/files/trade_news/adb-workshop-makingmarkets.pdf (accessed on 24 June 2014).
- Frankenberger, T.R., M. Drinkwater, and D. Maxwell. 2000. 'Operationalizing Household Livelihood Security: A Holistic Approach for Addressing Poverty and Vulnerability', CARE, United States of America, <http://pqdl.care.org/Practice/HLS%20-%20Operationalizing%20HLS%20-%20A%20Holistic%20Approach.pdf> (accessed on 15 November 2013).
- Frederick, D.A. 1997. *An Introduction to Cooperatives*, Cooperative Information Report 55. Rural Business-cooperative Service, U.S. Department of Agriculture. <http://www.rurdev.usda.gov/rbs/pub/cir55/cir55rpt.htm> (accessed on 13 December 2013).
- Galbraith, J.K. and R.H. Holton. 1995. *Marketing Efficiency in Puerto Rico*. Cambridge, MA: Harvard University Press.
- Ganguly, B.K. and K. Chaudhary. 2003. 'Forest Products of Bastar: A Story of Tribal Exploitation', *Economic and Political Weekly*, 38 (28), 12 July: 2985–2989.
- Hegde, N.C. 2006. 'Livestock Development for Sustainable Livelihood of Small Farmers', Souvenir of the 39th Annual General Meeting and 48th National Symposium on

- Energising Rural India—A Challenge to Livestock Industry, Compound Livestock Feed Manufacturer's Association, 26 August, pp. 50–63, Manesar, Haryana.
- Hosley, S. and C.H. Wee. 1988. 'Marketing and Economic Development: Focussing on the Less Developed Countries', *Journal of Macromarketing*, 8 (1): 43–53.
- Kaynak, E. 1982. 'General Features of Marketing in Less-developed Countries', in *Marketing in the Third World*, p. 21. New York: Praeger.
- Kindness, H. and A. Gordon. 2001. *Agricultural Marketing in Developing Countries: The Role of NGOs and CBOs*, Policy Series 13. Chatham, UK: National Resources Institute.
- Klein, Thomas A. and Robert W. Nason. 2001. 'Marketing and Development: Macromarketing Perspectives', in N. Bloom and Gregory T. Gundlach (eds), *Handbook of Marketing and Society*, pp. 263–297. Thousand Oaks, CA: SAGE Publications.
- Kotler, P., K.L. Keller, A. Koshy and M. Jha. 2013. 'Creating Customer Value and Customer Relationships', in *Marketing Management: A South Asian Perspective*, 14th ed. Delhi: Pearson.
- Mahalingam, S. 1991. 'Institutional Finance for Marketing of Agricultural Produce of Tribals: Key Issues and Challenges', *Agricultural Marketing*, 34 (3), October–December: 18–24.
- Mamdani, M. 1972. *The Myth of Population Control: Family, Caste and Class in an Indian Village*. New York: Monthly Review Press.
- Menning, G. 2000. 'SEWA Banascraft Project: A Case Study in Rural Marketing'. Paper presented in an International Conference titled Business Services for Small Enterprises in Asia: Developing Markets and Measuring Performance, 3–6 April, Hanoi, Vietnam.
- Nurske, R. 1971. 'The Theory of Development and the Idea of Balanced Growth', in A.B. Mountjoy (ed.), *Developing the Underdeveloped Countries*, pp. 115–128. New York: John Wiley and Sons, Inc.
- Pandya, Anil. 1988. 'Rethinking Marketing's Role in Development', Marketing and Economic Development: Issues and Opinions, Proceedings of the second international conference on marketing and development, Karl Marx University of Economic Sciences, 10–13 July, Budapest, Hungary.
- Phansalkar, J.S. and S. Verma. 2005. 'Contours of the Tribal Problematique', in *Mainstreaming the Margins: Water Centric Livelihood Strategies for Revitalizing Tribal Agriculture in Central India*, p. 26. New Delhi: Angus & Grapher.
- Planning Commission. 2005. *Report of the Task Group on Development of Scheduled Castes and Scheduled Tribes: On Selected Agenda of the National Common Minimum Programme*. Government of India, New Delhi: Planning Commission.
- Rajagopalan, S. 2002. 'Study on Tribal Cooperatives in India: A Situational Analysis Report with Recommendations for Future Action', INDISCO Programme, International Labour Organisation (ILO).
- Rao, R. Tanniru. 1976. 'Marketing and Economic Development', *Marketing and Management Digest*, 8 (1), January: 15–18.
- Saha, S.P. and S.K. Sahu. 2004. 'Role of LAMPS in Tribal Economy: A Study of Jharkhand', *Southern Economist*, 42 (20), 15 February: 16–20.
- Shah, D. 2005. 'Sustainable Tribal Development: Model Case of Wadi'. Occasional Paper 43, National Bank for Agriculture and Rural Development, Mumbai, India.
- Shah Tushaar. 1994. *Fertile Grounds: Why Do Cooperatives Thrive in Surat?* Field notes from Olpad Taluka.

- Shepherd, A.W. 2007. 'Approaches to Linking Producers to Markets'. Agricultural Management, Marketing and Finance Occasional Paper 13, Food and Agriculture Organisation of United Nations, Rome.
- Sheth, J., D. Gardner and D. Garrett. 1988. *Marketing Theory: Evolution and Evaluation*. New York: John Wiley.
- Singh, B. 1994. 'Marketing of Minor Forest Produce and Role of TRIFED in Marketing of Minor Forest Produce', *Agricultural Marketing*, XXXVII (1), April–June: 38–45.
- Singh, N. 2002. 'Institutionalisation of Rural Entrepreneurship through NGOs: Introspection from the Case Studies', *The Journal of Entrepreneurship*, 11 (1): 55–73.
- Staudt, T.A., D.A. Taylor and D.J. Bowersux. 1976. 'Marketing Channel Structure'. In *Managerial Introduction to Marketing*, 279–281. New Jersey: Prentice Hall.
- Sumita, S. and P.R. Choudhury. 2003. 'NFTP Certification: Possibilities Galore', *Community Forestry*, 3 (1), August: 24–28.
- Thomas, A. 1992. 'Non-governmental Organisations and the Limits to Empowerment', in M. Wuysts, M. Mackintosh and T. Hewitt (eds), *Development Policy and Public Action*, pp. 1–17. Oxford: Oxford University Press.
- TRIFED. 1990. 'Role of Cooperatives in Export of Minor Forest Produce', *The Cooperator*, XXVII (23), June: 601–606.
- Wilkie, W.L. and E.S. Moore. 1999. 'Marketing's Contributions to Society', *Journal of Marketing*, 63 (Special Millennium Issue): 141–152.
- Yin, Robert. 1981. 'The Case-study Crisis: Some Answers', *Administrative Science Quarterly*, 26 (1): 58–65.
- . 2011. 'Data Collection Methods', in *Qualitative Research from Start to Finish*. London: The Guilford Press.