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# Role of third sector in development of drought prone region: Insights from Kachchh, Gujarat

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The multiple, geo-physical, socio-cultural and agro-economic diversities of Kachchh pose a complex mix of opportunities and challenges in determining a livelihood base for the people. The opportunities refer to diverse resource base consisting of large land mass, mineral deposits and long coast line besides an enterprising community and strong social capital built through generations of migratory links outside the region. Some of the major challenges facing the region, however, are frequent drought, severe scarcity of water along with increasing salinity; inappropriate management, aggravating the initial disadvantages with respect to natural resources; and physical remoteness. Third sector assumed importance in Kachchh after the devastating earthquake that shook the entire Gujarat, Kachchh being the epicentre. NGOs, Civil society groups, religious institutions, community organisations played a very crucial role in the rehabilitation process. Keeping that momentum going, many NGOs shifted their focus to livelihood, education, health and basic infrastructure issues in Kachchh afterwards. Oxfam (GB) being one of such funding agency, focused on livelihood issues with the help of various grass-root NGOs. In this context, the present study attempts to identify the role of third sector in addressing some of the aforementioned issues. Analysis of the study is based on a baseline survey of about 2600 households conducted in twenty-six villages of Kachchh district.

**Key words:** Third sector, drought-prone regions, development, livelihood, Kachchh, India.

## INTRODUCTION

Geographical regions prone to drought are characterised by economic backwardness. Access to even basic essentials like drinking water, sanitation, health and education is extremely poor. The intervention of third sector especially in the drought prone regions of Western India is notable. But the issue in hand is whether there is a match or a mismatch in the requirements of the people living in the drought prone regions and what the third sector targets and provides to such population. The multiple, geo-physical, socio-cultural and agro-economic diversities of Kachchh pose a complex mix of opportunities and challenges in determining a livelihood base for the people in Kachchh. The opportunities refer to a diverse resource base consisting of large land mass,

mineral and long coast line besides an enterprising community and strong social capital built through generations of migratory links outside the region. Some of the major challenges facing the region, however, are severe scarcity of water along with increasing salinity; inappropriate management, aggravating the initial disadvantages with respect to natural resources; and physical remoteness. In this backdrop, Oxfam, an NGO working in India has initiated an intervention for livelihood augmentation in three 'Talukas' in the district. For this purpose a baseline study was undertaken (Jyotishi et al., 2006) to provide a systematic account of the various aspects pertaining to the livelihood base of people in the study region in Kachchh. In this paper we attempt to highlight some of the findings of the baseline survey that calls for a basis for design as well as intervention by third sector players in the drought prone region in general and specifically Kachchh.

The present study also discusses important aspects influencing people's livelihood base in the light of an integrated framework, that draws upon the inter linkages

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**Table 1.** Taluka-wise distribution of total households listed and sample households.

Taluka	Total households	No. of villages
Rapar	1623	10
Abdasa	302	5
Lakhpat	672	11
Total	2597	26

between resources, markets and institutions. This contains analysis of resources and people's access thereof, livelihood options adopted by different categories of households, existing development initiatives and benefits received, existing market as well as institutional support, employment and food security, and coping mechanism during droughts.

### Objectives of the study

The broad objective of this study is to develop our conceptual schema of understanding the livelihood issues in drought prone region. The objective stems from the harsh reality of frequent drought that serves the livelihood of the people. This being the case, a large number of people evolve their livelihood strategy outside agriculture. Even if, importance of agriculture and allied activities are not discarded the dependency on various other activities including depending on service sector as well as the government sponsored drought relief programmes are sought after. Migration, therefore, becomes an undeniable phenomenon, forcing people to go to the industrial and trading centres. This requires an objective analysis of the issues in hand. Therefore, the specific objectives of the study are:

- 1) Understanding the role of third sector in various development initiatives and understanding the strengths and weaknesses to identify the gaps.
- 2) Mapping the existing livelihood strategies adopted by various communities both in normal years as well as during drought years in the context of Kachchh.

### METHODOLOGY

In consultation with Oxfam, an NGO involved in development initiatives in Kachchh, 26 villages from three talukas were selected for the study. There were 10 villages from Rapar, 5 from Abdasa and 11 from Lakhpat. They constituted 7% of the total villages of the three 'talukas'. Study villages consisted of 2597 households that could be covered during the baseline survey (Table 1). The baseline survey included questions relating to basic household characteristics including education

health and drinking water facilities, their asset and livelihood patterns, livelihood strategies and situations and coping mechanism during the drought years. Our analysis captures the baseline information that are indicative for livelihood purpose in a semi-arid ecosystem prone to droughts.

### Third sector in the context of development

The role of third sector in the developmental activities in meeting the social services in both the developed and less developed countries is gaining immense attention. The sector which is also called the non-profit sector in the US encompasses all organizations which are neither for profit, nor the government agencies. It is therefore referred to the universe inbetween the state and the private sector for profit and therefore called the third sector. In the US the non-profit organizations refer to all organizations that qualify for tax exemption and tax deductible donations. In other countries, however they would be known by other names like 'non-governmental' organizations, not-for profit organization or community organizations or voluntary organizations. Community organizations are more popular in rural England where people are engaged in the activities of common interests of community or participation of one-to-one acts of community self help is also referred to as the fourth sector (Williams, 2004). The fundamental principle encompassing these organizations is that there is no single owner to this firm who is entitled to receive the profits earned by the firm in terms of dividends or capital gains. The organizations however, would earn profits but these are to be used for further activities of the organization (James, 1990). Theories on development of this sector highlight the market failure or the state failure in providing public services as the reason for its emergence. With the tide of liberalisation and globalisation there emerged the role of third sector largely to meet what is called the "crisis of the welfare state".

Another opinion narrates that non-profits tend to arise in response to the information asymmetry or the contract failure facing the consumers. Non-profits are very often preferred for profitable firms for the reason that there is less of opportunism encompassing the production activity in the non-profit sector as compared to the profit sector

since those who control the firms cannot profit directly from opportunism (Hansmen, 1990). One of the most often cited reasons for its emergence is the excess of demand and differentiated demand. This sector providing the services of health, education, livelihood and other services has historically originated from the religious groups or ideologically motivated organizations. There has been enough academic debate to analyse as to what are the goods that are to be produced by the non-profit sector and what are the ones to be left to the state (Ackerman, 1986). One set of arguments states that those set of commodities are to be left to the state where the consumers do not have enough information on the quality of the product where there are less chances to be cheated by downgrading the quality of the product. This holds good largely to primary education and health where the consumers are neither aware nor equipped with the parameters to check the quality of the services provided. The potential donors would therefore be more satisfied to donate funds for non-profits where the funds are more likely diverted for the intended purpose. Another line of theory however refutes the aforementioned argument and highlights the non-distribution constraint associated with the non-profit organizations. Where there is a lack of private incentive the efficiency in production would be a question (James, 1990).

### **Strengths and weaknesses of third sector vis-à-vis the state**

On discussing the strengths and weaknesses of the NGOs vis-a vis the state Obiyan (2005) opines that NGOs are credited with many advantages in relation to the state. The reasons attributed are these organizations are closer to people and poor friendly, cost effective, flexible and innovative, advantage of small size, more local in nature which gives an edge to NGOs to provide the services to the desired. Unlike the state, which is obliged with wide range of objectives, NGOs are better focussed with the immediate needs of the poor. The espoused superiority of the third sector is not just in relation to the state but also to that of the market. Another advantage of NGOs that is cited by Obiyan is popular participation. NGOs are known for providing space for the people for popular participation and decision-making where people get meaningfully involved in the programme. One more area is that of impact and effectiveness of running the program where the NGOs outperform the state. Fowler (1995) appears optimistic that certain characteristics of NGOs may mitigate any endemic corruption in the sector. These include: a) the attractive remuneration relative to the civil service; b) the opportunity for rent-seeking is limited by their lack of statutory power; and (c) the relative small scale of NGO operations lend the sector to greater transparency and control, while the NGO value-orientation may check

widespread corruption. Finance and donor dependence is the first weak area for NGOs. Generally NGOs rely quite heavily on multiple donors who are at times located within the country or even outside the country leading to multiple accountability. This, on the other hand may not allow the NGOs to articulate independent development approaches. Moreover, the demands for strict accountability by external donor agencies may not allow to switch the funds to alternative uses which is felt essential for the local functioning of the NGOs.

It is also seen that NGOs with strong political objectives may turn out to be more ideologically inclined. Another source of weakness is institutional deficiencies. Given the small scale of operations of NGOs, lack of technical expertise and managerial effectiveness, poor resource mobilization and delivery mechanism are seen of late in many NGOs.

### **Government policy towards the non-profit sector**

Simon (1990) in Anheier and Wolfgang (1990) discuss as to what should be the role of government in facilitating effective participation of the third sector in development activities. He raises questions like as to what role are appropriate for the non-profit sector to perform, what method should the state use to encourage the non-profit sector to perform such roles and finally, what regulatory controls should be placed on the relationship of non profit organisations (NPOs) with the government and business sectors and with charitable donors. The reasons cited in support of NGOs include the lower cost of production in the provision of services, which may be due to the ability of the non-profit sector to attract cheap voluntary labour, or the ability of the non profits to enforce internal cross subsidization of one class of users at the expense of another class of users or the avoidance of the bureaucratic constraints that is attached to the governmental activity. The methods to encourage the non-profit sector are many like the subsidisation through the tax system and the direct grants made available to them as prevalent in the United States. This has often helped in raising of grants for charitable institutions efficiently. Another model of public policy support seen in UK is through support for community participation through voluntary groups, especially in less affluent societies (Williams, 2004). This however, proved difficult to implement in practice for the reason that people in informal community engagement failed to lobby and represent their interests on one hand and there was on the other hand the problem to evaluate and monitor the informal community engagements by the public authorities. To overcome this thorny problem it is proposed by Williams that public policy needs to seriously consider adopting an enabling approach whereby it funds or sets up systems of mutual exchange and then, once they are operating, lets participants monitor and evaluate

each other. If such systems could be designed, then not only would the outlay by government be relatively minimal, but at the same time, it would avoid the issue of monitoring and evaluation when engaging in informal community capacity building. For doing so three initiatives were outlined namely: local exchange and trading schemes (Williams et al., 2001), time banks (Boyle, 1999; Cahn, 2000) and employee mutuals (Leadbeater and Martin, 1997). Local exchange and trading schemes (LETS) are nonprofit-making associations that encourage people to help each other one-to-one by putting people in need of Community Capacity Building aid in touch with those who are willing to help (North, 1996, 1999). They do this by compiling a directory that lists the services that members would like ("requests") along with a list of the types of help that members are willing to engage in ("offers"). The receiver and supplier then use a local currency created by the LETS for the purpose of reimbursement. Similar to national currency, a check is written by the purchaser and given to the supplier who sends it to the LETS bank who credits and debits the accounts. Time banks reward informal engagement by paying one "hour" for each hour of commitment, which can at any time be "cashed in" by requesting an hour's work in return from the system (Boyle, 1999; Cahn, 2000). As such, time banks record, store, and reward transactions where neighbors help neighbors. Starting in the United States (Cahn, 2000), time banks have been promoted in the United Kingdom by the New Economics Foundation (NEF). A third and final initiative, still under discussion, is the "employee mutual" (Leadbeater and Martin, 1997). These are intended to be localized bodies that the unemployed, employed and firms can voluntarily join through the payment of a weekly subscription fee.

Similar to LETS and time banks, members earn points on a smart card from their work for the mutual, which enables them to acquire goods and services from it. As such, they are a "new institution for collective self-help" that matches local demand for work with local supply.

### **The role of third sector in drought prone regions in India**

The role of third sector in the drought prone regions is deemed to be important and essential for the reasons that both the market failure and the state failure are evident in these regions. Markets fail because there is limited purchasing power with the people making the market mechanism weak for operation, the state failure is largely attributed for political reasons like limited population and therefore fewer votes and limited economic and political patronage (Gupta, 1995). The emergence of institutions like Sristi and honeybee network through Sristi in Gujarat is quite noteworthy. They try to build upon something that exists and facilitate

in developing solutions provided by the people known for technological innovations rather than identifying the problem and imposing our solution on them. The honeybee database enumerates many examples of people's innovations in farm technology. Gupta narrates one such example for water harvesting done in Kachchh region of Gujarat.

"In Kachchh there is a large grass land called as Bunni comprising saline flat soils. No cultivation is done in this area which incidentally is Asia's largest pasture. People have developed a very ingenious way of conserving fresh water in the sub-soil system called as virda. What farmers do is to take square blocks of wood, generally the branches of *Prosopis* spp., and make a square frame of the same. After the rains when the salts have leached down, they dig a well of 20 to 25 feet deep and line it with wooden frames having a layer of grass in-between. These frames prevent soil from caving in and the grass lining filters the water which moves into the well from the surrounding soil. These wells are filled up with the soil during rainy season, but when water is required, the soil is taken out and the water oozes in from side ways. Since the specific gravity of fresh water is less than the saline water, it floats on the saline ground water. For at least two-three months after opening the virda, water remains drinkable. Later it becomes saline. This is a technique, which has provided answer to the problem of drinking water for human and livestock use for centuries in this area. Perhaps, this technique is of use in other arid environments as well. Incidentally, there is not any technology developed by modern science with comparable efficiency and low cost. There is also no mechanism available today for people to transfer of such technologies and ideas."

The SRISTI model of empowerment and sustainable technology development implies a possibility of improving income and livelihoods of knowledge rich economically poor communities and individuals through documentation, value addition and experimentation and local innovations.

### **Some basic feature of Kachchh**

Kachchh is the second largest district of India, which covers about 24% of Gujarat states' total geographical area, characterized by arid climatic conditions, low rainfall pattern, a larger tract of land under the Ran without any human habitation and low density of population. Like its geography, its history, culture and society are equally fascinating. Agro-climatically not so favourable, Kachchh was the gateway of trade and faired well over centuries through the Arabian Sea as well as through the Ran connecting Sindh (in Pakistan). Kachchh though a district of Gujarat, it still maintains a distinct identity of its own in

terms of phonetics, culture and livelihood. Kachchh too has drawn special attention from the central government due to its strategic geographical location. Having a huge coastline and sharing the boarder with the Sindh province of Pakistan, there can be apparent reasons for its strategic importance. Kachchh is not only distinct for its rich culture and strategic location in terms of geo-political environment, but also from the ecological point of view Kachchh remains distinct from the rest. About 6000<sup>2</sup> km of the great ran and little ran of Kachchh, which is different from desert, evolved as an extensive mud flat through the centuries of silting of the Arabian Sea is a unique ecosystem. A part of the great ran of Kachchh is the grasslands of Banni with about 2000<sup>2</sup> km of area known for its superior quality of grass and that maintains a variety of flora and fauna diversity. The 352 km of coastline not only has major ports like Kandla and a few minor ports like Mundra and Jakhao, but also helps sustaining the livelihood of a large number of people depending on fisheries.

The coast of Kachchh near Nalia and Lakhpat also has long stretches of dense and open mangroves that are some of the rapidly disappearing ecosystems. Mangrove ecosystems are known for their diversity in terms of the plants, mammals, reptiles, birds and fishes. The ecosystems of the region largely influence and determine livelihood strategies. Since 15th Century the rulers of Kachchh known as 'Rao' and later 'Maharao' and 'Mirza Maharao' nurtured the trade, art, craft and culture as well as promoted agriculture and allied activities in the region (Williams, 1958). Though sparse, there were attempts to provide irrigation facilities and promote commercial crops like cotton during different periods. From ages, Jowar is the staple food in the region. It is said that during 15th Century the invaders from Sindh brought in Bajri (another pulse) to the region. However, due to low average and high variability of rainfall, mixed cropping has been used as an insurance mechanism to withstand the unforeseen. The mixed crops include pulses like green gram and Math (a pulse variety) and varieties of oilseeds including castor and sesame. Animal husbandry has been a prominent allied activity in the region, specifically among the Durbar, Muslim and Charan communities. Huge shepherds are maintained by a few households for wool and red meat production. However, these practices are not uniform across Kachchh. Broadly the habited Kachchh can be divided into three regions namely the Lakhpat and Abdassa region with thin population and huge rung of common grazing land, the densely populated Waghad region with agriculture as one of the prime activities and the Bhuj Mandvi region which can be considered as one of the progressive regions of Kachchh. Of these, our study is focused in the first two regions.

In order to develop our understanding on the livelihood issues in the region, we expect a distinct feature between the Lakhpat-Abdassa and Waghad regions that are historically, culturally and economically distinct over the

ages.

### ***Household characteristics, access to resources and well-being***

The main focus here is to understand some basic characteristics of the study 'talukas' in terms of their access to basic resources. Besides, we are also discussing about demographic features, education and health situation in the study region. The living condition of the population can also be observed from the type of house the people are living in and the kind of facilities and assets they have. Kachchh being a water-stressed region, understanding the availability of drinking water would be an important issue that has direct bearing on the health and livelihood of the people. These are some of the issues discussed here. Though agriculture and associated activities are the major sources of income in rural areas, in stress conditions, there is high diversity in occupations (Table 2). These stress conditions may be high for certain regions and/or certain communities. Unlike in many other parts of rural areas, in Kachchh 'occupations other than agriculture' contributes substantially to the household income. More than 50% population earning their major livelihood as non-agricultural wage labourer, salaried employment, charcoal making and others (these sources mainly include fishing, income from leasing out land and remittance) shows the diversified livelihood strategies in arid ecosystems like Kachchh. The remaining population depended mainly on cultivation, agricultural labour and animal husbandry as their major sources of income. In a developing economy context, agrarian scenario is biased in favour of land endowments. In India land is just not a factor of production, rather is treated as an indication of social wealth and prestige apart from having an important function of collateral in the case of emergent fund requirements. Kachchh too is no exception in this case. However, the skewed distribution of land is a striking observation in our study villages. Overall, around 41% population of the study households do not own land (Table 3). But, among the landholders larger proportion have more than two hectares of land. In other words, size of landholding seems to be high in Kachchh, which can be attributed largely to the pattern of landholding in arid ecosystem where productivity of land is low. There are however, discrepancy in land ownership and land operated.

Compared to landlessness status in ownership more proportion of people even do not have operational land (Table 4). Overall figures of operational land holding in different size class are less than ownership category. In other words, this implies a part of owned land is not operated which can be largely attributed to low rainfall pattern of the region. This is also possible because in some cases land owning households have leased out

**Table 2.** Distribution of households by major source of household income.

Major source of household income	Rapar	Abdasa	Lakhpat	Total
Cultivation	632 38.9%	42 13.9%	120 17.9%	794 30.6%
Animal husbandry	36 2.2%	22 7.3%	52 7.7%	110 4.2%
Agricultural labour	304 18.7%	10 3.3%	56 8.3%	370 14.2%
Salaried employment	143 8.8%	29 9.6%	114 17.0%	286 11.0%
Charcoal making	110 6.8%	27 8.9%	32 4.8%	169 6.5%
Non-agricultural wage labour	170 10.5%	47 15.6%	199 29.6%	416 16.0%
Others	228 14.0%	125 41.4%	99 14.7%	452 17.4%
Total	1623 100.0%	302 100.0%	672 100.0%	2597 100.0%

**Table 3.** Distribution of households by land ownership category.

Land status	Rapar	Abdasa	Lakhpat	Total
No land owned	680 41.9%	140 46.4%	248 36.9%	1068 41.1%
Less than 1 hectare	132 8.1%	6 2.0%	12 1.8%	150 5.8%
1 to 2 hectares	236 14.5%	29 9.6%	51 7.6%	316 12.2%
2 to 5 hectares	391 24.1%	85 28.1%	194 28.9%	670 25.8%
More than 5 hectares	183 11.3%	42 13.9%	167 24.9%	392 15.1%
Total	1622 100.0%	302 100.0%	672 100.0%	2596 100.0%

their land for various reasons. Assets holding pattern of the household to an extent reflect their living condition. Among the various assets type of house is one of the important indicators. However in Kachchh this can be misleading. As we have identified more than 83% households have fully or partially Pakka houses. This, however, has to be understood in the backdrop of devastating earthquake in 2001 that had damaged most

of the houses in this region. As a part of earthquake rehabilitation programme most of the houses rebuilt were pakka. Most of the houses, however, have only one room or at the best two rooms. There are only about 14% households having more than two rooms at their disposal (Jyotishi et al., 2006). Gujarat villages are endowed with better rural electrification as compared to many other states. Kachchh being no exception, 76% of the houses

**Table 4.** Distribution of households by operational land category.

Operational land holding	Rapar	Abdasa	Lakhpat	Total
No operational land	715 44.1%	167 55.3%	272 40.5%	1154 44.5%
Less than 1 hectare	113 7.0%	7 2.3%	13 1.9%	133 5.1%
1 to 2 hectares	182 11.2%	23 7.6%	51 7.6%	256 9.9%
2 to 5 hectares	436 26.9%	72 23.8%	180 26.8%	688 26.5%
More than 5 hectares	175 10.8%	33 10.9%	156 23.2%	364 14.0%
Total	1621 100.0%	302 100.0%	672 100.0%	2595 100.0%

**Table 5.** Distribution of households by source of drinking water in summer.

Source of drinking water	Rapar	Abdasa	Lakhpat	Total
Tap	611 37.6%	151 50.0%	420 62.5%	1182 45.5%
Well	548 33.8%	124 41.1%	229 34.1%	901 34.7%
Tubewell	393 24.2%	2 .7%		395 15.2%
Others	71 4.4%	25 8.3%	23 3.4%	119 4.6%
Total	1623 100.0%	302 100.0%	672 100.0%	2597 100.0%

are electrified in our study villages. Better housing and electrification can be good indicators for physical infrastructure, but sanitation facilities reflect the health and hygiene consciousness of the people and to a large extent sensitivity toward the women folk. On this count however, the performance seem to be miserable as only around 14% households have toilet facilities in their houses. The agricultural assets holding pattern is another indication of low agricultural intensification in the region. Hardly 2% of the households in the study villages have Tractor, trolley or a thresher. However, around 16% households own bullock carts. 10.4% households have ownership of electric pump set, whereas only 4%

households own oil engines. Availability of drinking water is another important indicator of well being, specifically in a water stressed region like Kachchh. In summer the availability of drinking water becomes more difficult.

There are three indicators that define our understanding of availability of drinking water. These include sources, distance from home and inside or outside the village. Taps (either at home or from a stand-post in the village) and wells are the prime sources of fetching drinking water. These constitute more than 80% of the households' dependency (Table 5). Another 15% depend on tube wells and about 5% households use other sources like ponds and tanks in summer. There are

only 14% households who get drinking water at their homes. Though this figure seems meagre, from a rural perspective, it is a significant achievement. Most of the households (about 63%) avail their drinking water within half a kilometre radius. However, a significant proportion of households (about 23%) have to go far to fetch drinking water. This also implies that a substantial human hour is lost in the process of collecting drinking water. Besides, difficulty in fetching drinking water is also strongly associated with the communities. Socially and economically unprivileged communities like Scheduled Castes, Koli and Muslims have to travel farther to collect drinking water. Their dependency on sources like tanks and ponds is high which involves higher risks of health disorder. Access to drinking water becomes relatively difficult, time consuming and at times costly. For example, residents of a few villages in Rapar Taluka obtain water from Rapar through tankers. They have underground water tanks with the capacity of 10,000 L each either owned individually or between two households to store water. These Tanks were built up by YUVA, a local NGO engaged in developmental activities. Rain waters are also stored in these tanks. Households pay Rs. 250 per tanker of water. Villagers moving on bicycles or bullock carts with plastic containers to fetch water from nearby or distant places was a common scene. Health and Education are two important indicators of well-being and quality of life. In order to understand the health status in the family we asked about short-term and long-term diseases (disability). About 27% households reported about short-term disease in last one year. Prominent among these diseases are general illness (fever) and malaria. At the same time, about 13% households reported about long-term diseases and disabilities in the family.

Illiteracy is widely prevalent in Kachchh. It is therefore, not so surprising that around 23% of all households do not have a single literate person in the family and about 42% households have maximum 2 literate persons in the family. Incidence of illiteracy is high among the Muslim and Koli communities. In contrast to our expectations Scheduled Castes families are fairing better in education. The overall features of surveyed households suggest that the region is fairly well endowed in terms of basic infrastructure like housing and electrification. Asset holding pattern in terms of agricultural implements, in general though is less endowed has substantial growth option, provided uncertainties in agricultural activities are reduced. However, when looked in terms of household having land ownership or operational land, the asset holding pattern has strong division between landholding and landless class. Though drinking water is made available to a large section of population within the village, the concern remains with more than 20% of the population going far off places to fetch water. The situation becomes more acute when we consider a certain section of population bearing the burnt. However,

when it comes to basic education and health the situation is grim. With some of the basic understanding of the household features it would be interesting to enquire into the livelihood pattern.

### **Livelihood pattern**

A few factors underscore the livelihood pattern in an agrarian context. Livelihood pattern is often perceived in terms of occupation. In Indian agrarian context, caste and class factors dictate the occupation and hence the livelihood pattern. Therefore, it becomes inevitable to understand the varieties of occupations across the communities and class (Size class of owned and operational land can be proxy to understand class scenario) in Indian agrarian context to differentiate the vulnerability across the groups. Occupational structure, which in turn to a large extent determines the livelihood can be varied, specifically in agriculturally stressed region. This also leads to varieties of off-farm activities, which is based on common pool natural resources. Besides, agriculturally stressed region also face the push factor associated migration that are seasonal as well as permanent in nature. Apart from having a basic understanding on the dependency on agriculture and allied activities, it would also be worthwhile to know the basic infrastructure facilities like irrigation and use of input like fertilizers. With varying capabilities, assets and strategies people engage in different types of economic activities to sustain their lives. Livelihood pattern of a society also reflects its coping mechanism, particularly in a semi-arid and drought prone area like Kachchh. Distribution of households by major source of household income presented in Table 2 indicates that agricultural activities predominate as an important source of household income for majority of the rural households. Almost half of the households in 26 surveyed villages sustain mainly on agricultural activities for their livelihood with 31% households engaged in cultivation, 14% in agricultural labour and 4% in animal husbandry. If we look at village wise distribution, we find exactly half of the surveyed villages, that is 13, have higher proportion of households engaged in cultivation. This includes all 10 villages of Rapar taluka where proportion of households engaged in cultivation ranges from 27 to 79%.

Each village of the region has some interesting characteristics in terms of major source of livelihood. For example, from village Nandasar of Rapar taluka more than 100 Jain households have out migrated to Bombay and most of them are engaged there in trade. Their lands are either kept fallow or leased out to Muslim households of the village. It is also interesting to note that in rest of the villages, cultivation is not the dominant source of livelihood as compared to other sources of income. For example, in Rapar Ghadvali of Abdasa taluka and Jara of Lakhpat taluka, respectively, 31 and 64% of the



**Table 6.** Area (ha) under first major crop.

Major crops	Taluka			Total
	Rapar	Abdasa	Lakhpat	
Bajari	363 (20.2)	127 (56.4)	182 (16.0)	672 (21.3)
Guwar	123 (6.8)	37 (16.4)	451 (39.7)	611 (19.3)
Castor	176 (9.8)	--	89 (7.8)	265 (8.4)
Cotton	625 (34.7)	9 (4.0)	3 (0.3)	637 (20.2)
Groundnut	22 (1.2)	10 (4.4)	169 (14.9)	201 (6.4)
Green gram	176 (9.8)	--	89 (7.8)	265 (8.4)
Other crops	314 (17.5)	42 (18.7)	153 (13.5)	509 (16.2)
All crops	1799 (100.0)	225 (100.0)	1136 (100.0)	3160 (100.0)

Note: Figures in the bracket are percentage of column total.

households are sustaining on making and selling of charcoal. And in villages Guneri, Chhagar, Khatiyun, Mudhan, Atdo and Siyot of Lakhpat taluka wage labour in non-agriculture has been predominant source of earnings. Wage labour in non-agriculture includes construction work, employment in saltpans and salt factories, mines and loading-unloading work. Households relying on this source vary between 20 to 62% in these villages. Village Dhareshi and Sayra have regular employment as major source of household income for considerable proportion of households. Their members are mainly engaged as truck drivers. Other sources of income were important for a significant number of households in Darar Vaandh, Budia and Sindhodi Moti villages of Abdasa taluka. These sources mainly include fishing and remittance for Abdasa villages. Income received from leasing out land and remittances are also included in this category.

The picture that emerges at taluka level is that while agricultural activities are predominant sources of livelihood for majority of the households in the villages of Rapar, it is wage labour in non-agriculture in Lakhpat villages and miscellaneous occupations in Abdasa villages that provide livelihood to significant proportion of the households. If we compare the land status of households at village level, we find that in Abdasa and Lakhpat there are some villages where close to or more than 50% of the households are landless. Two villages of Lakhpat Taluka namely: Dhareshi and Siyot have respectively 60 and 67% of the households being landless.

### Major crops and sources of irrigation

Bajari and Guwar among food grain crops and cotton among non-food crops dominate the cropping pattern of the study villages. At the taluka level, we find that Bajari and groundnut in Rapar and Bajari and Guwar in Abdasa and Lakhpat were important crops grown. Among pulses, cultivation of green gram was also reported significantly

in Rapar and Lakhpat villages. In Rapar and Lakhpat talukas mix cropping of Bajari with either of green gram, sesame and Gowar or with all of them is prevalent. In Abdasa it was mainly Jowar. Jowar used to be a staple food crop about 4 to 5 centuries ago. It is believed that Lakho Fulani, who invaded Kachchh from Sindh, brought Bajari seeds with him and since then Bajari has emerged as the major cereal crop and staple food crop. As second crop, Bajari and green gram in the villages of Rapar, Guwar and Bajari in Abdasa villages and green gram and Guwar in Lakhpat villages were reported significantly. As third crop, green gram in Rapar, Guwar in Abdasa and green gram and Guwar in Lakhpat villages were sown by higher proportion of households. Distribution of major crop sown and area under cultivation shown in Table 6 reveals that while Cotton and Bajari dominate in Rapar covering more than 50% area, Bajari alone in Abdasa covered more than half of the area and in Lakhpat. Guwar, Bajari and Groundnut were sown in more than 70% of the area shown under first major crop. While examining the productivity of crops we find that each of the three talukas has performed better in respect of certain crops. Abdasa stands out with remarkably higher productivity of Bajari and Guwar: 4157 and 3903 kg per hectare respectively, followed by Lakhpat with corresponding figures of 2385 and 1830 kg and by Rapar with 906 and 261 kg.

Productivity of Castor was higher in Rapar: 1502 kg per hectare as against 580 kg in Lakhpat. Cultivation of Castor as first major crop was not reported in Abdasa. Yields of groundnut and green gram were higher in Lakhpat 1808 and 3747 kg per hectare as compared to other two talukas (Table 7). Examination of cropping pattern by size class of operational holdings do not indicate any sharp differences except that cultivation of cotton and groundnut was dominated by households having middle and large operational land holdings. However, this holds true for the villages of Rapar. In Abdasa and Lakhpat, households of all categories of operational holdings have reported cultivation of food grain crops significantly. At the level of crops 2 and 3 also

**Table 7.** Per hectare average production of first major crop (kg).

Major crops	Taluka			Total
	Rapar	Abdasa	Lakhpat	
Bajari	906	4157	2385	1819
Guwar	261	3903	1830	1545
Castor	1502	--	580	1240
Cotton	1122	1323	1120	1130
Groundnut	769	348	1808	1561
Green gram	517	--	3747	1437
Other crops	3471	3679	1725	3176

we find that cultivation of Green gram and mixed crop was important for households of all categories of operational holdings. However, in Kachchh, crop yields are greatly influenced by salinity in water and the amount of rainfall. This was clearly indicated during the process of survey by the villagers of Rapar, as the verbatim goes, they say, "village economy is dependent on rain. Only a good rainfall can save us. In absence of it, no schemes can better our lives". In another sample village we heard from the villagers that without water no development is possible. In most of the villages people seemed deeply concerned about the status of water. In some of the villages having check dams in vicinity, and years of good rainfall it is possible to cultivate winter crops like Cumin seed, mustard and wheat (for example, Thanpar, Ratneshwar and Jadawas villages of Rapar taluka). Irrigation assumes greater importance in drought-prone areas, which are characterized by low and erratic rainfall. Wells and tubewells have emerged as two major sources of irrigation in study villages.

A little more than one fourth of the households reporting cultivation have reported irrigation in kharif season. Bulk of these households belongs to the villages of Rapar. More households, particularly in Lakhpat villages have reported availing of tubewell irrigation.

### Coping with drought

Drought is not a new phenomenon in Kachchh. The frequency of drought, which is almost predictable in Kachchh, has made the people diversifying their occupational activities in order to cope with the situation. States' drought relief programmes add substantially to the livelihood requirements of the populace. Yet, there are several malaises exist that adversely affect the quality of life. These include decrease in food consumption, getting indebted, selling off the domestic animals, dropout from the schools, outward migration. The women folk are the worst sufferers in such situations. The severity of the impact of drought varies across communities and class (both occupational as well as land owning status). In this section we attempt to understand

the peoples perception on drought situation across the communities and classes by taluka in order to evolve a better insight of the impact of drought. Quite a significant proportion of households reported decrease in food consumption in the drought years. 25% of total households in Rapar, 16.2% in Abdasa and 6.1% of households in Lakhpat reported this decline. There is, however, no definite pattern of such decline across communities and class. Yet the proportion of decline in food consumption is reflected high among the Darbar, Koli and Muslim communities. Synonymously, the cultivators, agricultural labourers, charcoal-making class and non-agricultural wage labourers sought to decrease in food consumption due to drought. Though land leasing out or mortgaging out is another option during the difficult period of drought, this also considered as one of the last options by the families. Therefore, we find very few cases (mostly in Rapar taluka) of land leasing or mortgaging out.

Most of these cases are concentrated among the Patel and Darbar communities. These are the communities who also own more land and cultivation is their major source of income. Credit from formal as well as informal sources is usual in agrarian scenario. However, drought like unforeseen situations has significant impact on the indebtedness of the households. Indebtedness increases among the otherwise indebted households during this period. Such increase was reported among 21% of households in Rapar, 10% in Abdasa and around 32% in Lakhpat. Community-wise Koli, Darbar, Patel are the worst sufferers of increasing indebtedness during the drought years. This incidence is high among the landless as well as medium farmers (2 to 5 ha category), primarily occupied in cultivation, agricultural and non-agricultural labour, charcoal-making activities. Migration associated with distress condition termed as 'push factors' is a phenomenon in developing economies. Kachchh being a semi-arid agro-climate drought and drought related migration are not new. However, Kachchh having a long seacoast and fairly well developed ports, historically encouraged migration associated with trade. But, of late most of the migration is largely due to the factor that agriculture and associated activities hardly can support

the population. Besides, there are very few opportunities available outside agriculture. This is evident from the fact that the communities that begin or increased the frequency of seasonal migration during the drought years largely from Koli communities, often from landless group and agricultural labour as the primary occupation. Apart from Koli, seasonal migration is visible among the scheduled castes and Muslim communities. Though education as one of the most important indicators of human development index seems to be poor in the study region, to add to the difficulty, drought leads to dropout from the schools. The instances of such drop out may be meagre nonetheless significant when seen in the backdrop of drought distress.

Among the Patels, Kolis and Muslims, this phenomenon is high. Dropout is spread across all the classes, albeit high among the landless group. All these impacts of droughts, needless to mention, puts the family into difficult situation. However, the severity of impact takes more from the female members compared to the male counterparts. Let it be food consumption or school drop out, fetching water or going outside to earn food for the family. These are all without compromising the household work she does even in a normal situation. Fetching water from distant places becomes an additional impact of drought straight falls on the women members of the family. Even this does not spare the women of Darbar community most of who otherwise do not step out of home in normal circumstances. Besides, they participate in the scarcity work to substantiate the family earnings. There is little difference in the situation across taluka. However, in Lakhpat that inhibits numerically more Darbar households, the severity of drought seems to have impact albeit to a lesser degree.

### **Third sectors' engagement in development process in Kachchh**

Presence of NGOs play important role in the rural livelihood support system. They not only are often engaged in development activities, but also play a crucial role of monitoring the activities performed by the state. NGOs played a significant role during and after the devastating earthquake (epicentre) in Kachchh. Later many of these NGOs continued working in the region albeit shifting their emphasis from rehabilitation to development issues. There are a number of NGOs engaged in developmental activities in study talukas in order to improve the living conditions of the rural population. For example in Rapar, YUVA has undertaken development activities since last three years. Under SADPAR scheme, ten villages are covered to promote organic farming. YUVA, presently intervening in three states: Maharashtra, Madhya Pradesh and Gujarat is working on issues of natural resources, livelihood of rural

poor, rural governance and basic human rights and gender and other social discriminations. The NGO had also contributed to the rehabilitation process of earthquake victims by constructing more than 800 houses in villages of Rapar taluka. The NGO is working in all ten villages under study, though in some of these villages their intervention has begun recently. Water and Sanitation Management Organisation, WASMO is an autonomous organisation established by the Government of Gujarat in 2002 to coordinate and extend support for the implementation of sustainable, decentralised and community managed approaches to the rural drinking water and sanitation sector in the state. In many villages of Rapar such as Padampur, WASMO is engaged in construction of piped water schemes with people's participation.

In many of the study villages in Rapar, Abdasa and Lakhpat talukas WASMO's presence in addressing the drinking water issues is felt. There are two organizations present in Neelpar village of Rapar taluka. Bhimani Khadi Mandal established in 1951, works with the main aim to help backward class people and make them self reliant by educating them and creating employment opportunities, particularly for those women who know embroidery. It not only supplies raw material to them but also market their products. Many of the women folk in Rapar taluka, specifically from Darbar community take the raw materials from the organisation and supply them the finished product. Bhimani Khadi mandal has taken up the marketing responsibility of these handicrafts and handloom products. Another organization is Gram Swaraj Sangh. Founded in 1978, the Sangh has initiated a range of educational and cultural activities along the Sarvodaya principles of non-violence. The main areas of work are housing for the poor, primary education, watershed management, well recharging, employment generation and animal husbandry. Vivekanand Research and Training Institute (VRTI) was established in 1975 with a vision to make village economies self-reliant and sustainable. The organization works on a range of issues such as watershed management, drinking water, agriculture, animal husbandry, eco-restoration, income generation, energy conservation, public health and sanitation, education and youth activities. The Kachchh Fodder Fruit and Forest Development Trust, known as KFFFT is based in Abdasa. The organization is involved in activities like watershed development, wasteland development, and animal husbandry programme. The Shrujan Trust was established in 1968 with the main objective of providing designing, marketing and training support to the traditional handicrafts sector of Kutch to make the artisans economically self reliant.

Today Shrujan Trust works in 80 villages and supports through its efforts, 2000 women artisans of Kutch. Recently, they have taken up other developmental activities like agriculture, watershed, common land development in Lakhpat taluka.

## Summing up

In brief, presence of the NGOs is identified in all the study villages, though the participation is of different degrees. Secondly, focus of these NGOs range from livelihood issues relating to drinking water supply and off farm activities like handloom and handicrafts to sustainability and growth issues associated with agriculture. The programmes in which the NGOs are involved include watershed activities, organic farming, agricultural extension services, land development, procurement and marketing of handicrafts, education, health and formation of small credit societies through the SHG programmes. However, one could identify that third sectors' work is often driven by funding norms and availability. Therefore, there are all possibilities of mismatch between the needs of the people in a drought prone region like Kachchh and third sectors' offer towards development. At the same time, there are divergent views on development needs by the people/communities of drought prone region and third sector activists/planners. For example, if the farmers say assured water would improve the agricultural situations of the region, third sector planner can opine that increasing irrigation availability would make the farmers shift from traditional crops to water intensive crops that are not suitable for the region. Besides, there is a possibility of increasing land degradation. However, there are issues relating to drinking water availability, sanitation and medicare needs, education and education infrastructure, and access to market for agricultural and domestic produces, where there is hardly any divergence and long term conflicting views. But, third sectors' role on these issues in the study region has been on ad hoc basis, except for WASMO which is a state sponsored autonomous organisation. NGOs involved in development initiatives in the study regions of Kachchh put substantial emphasis on 'natural resources management' like, agriculture, organic farming, fisheries, watershed development, and common land management. If such divergence can be aliened, third sector can play a prominent role in the development of drought prone regions.

Nevertheless, role of third sector as a vigilant institution that interfaces the states responsibilities and peoples' views is always relevant. At the same time, agricultural sector seem to be most important source of livelihood as most of the households are depending on it either for their major share of income or to supplement their household income. Efforts are therefore needed to strengthen this sector by improving sustainability and productivity of crops. This calls for investment in research and development in technology. One such initiative by SRISTI in recognising peoples initiative in R&D based on local knowledge is a noteworthy step. There are also needs to develop accessibility of fodder and introducing means for increasing milk production and its marketing. These efforts are likely to increase more employment

days for agricultural labour but, require enormous effort in terms of institutional reorganisation. Increase in sustainability of agricultural sector may also lead to reduction of migration, particularly distress migration, ensuring more stable life both socially and economically for the village folk. Diversity of occupation that is largely derived from the agro-ecological conditions can be looked into in order to supplement and enhance the quality of life. Input markets, of which, credit plays an important role needs significant attention. NGOs can play a crucial role on these aspects.

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