The background image is a photograph of a dry, cracked field. In the foreground, a man wearing a red turban and a light-colored shirt is sitting on the ground, looking towards the camera with his hands resting on his chin. To his right, a woman wearing a bright yellow sari is standing and looking away. The ground is parched and cracked, with some sparse, dry vegetation. The sky is a pale, hazy blue.

# Adaptation to Climate Variability and Change

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**Women in Livelihoods: <sup>1</sup>**  
**SHG as a Medium of Empowerment**

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**Abstract**

Sustaining land-based livelihoods such as agriculture and animal husbandry is facing greatest challenge today due to the increasing complexity of meteorological, physical and socio-economic conditions resulting in increasing water scarcity. People's response to disaster events such as droughts is again a function of a variety of factors.

Common coping and adaptive responses include loans/ borrowings, reduction of expenses on food consumption, mortgage/ sale of land and migration often resorted to in combination. Nevertheless, prolonged and frequent drought conditions, especially in arid and semi-arid regions, tend to sap the physical, economical and psychological strengths of the communities.

The paper discusses the enviable role the women's groups have taken on to contribute to the family's coping and adaptive strategy in a semi arid Satlasana taluka of Mehsana district. Beginning innocuously with the conventional savings and credit programme three to four years ago, the women's groups have today graduated to a federation level. While the evolution of the federation indicates institutionalization of the potential of women's power, at the group level, the women have demonstrated their visionary prowess by expanding the loaning arenas to cover basic livelihood issues such as releasing the land mortgaged during drought, constructing check dams and ensuring food and fodder security at family level. Further, the groups have also started concentrating on enhancing non-land based income through microenterprise activities as a strategy.

In this context, fund availability through a financial institution as well as from the NGO enabled the groups to seek and use the loans for direct, livelihood enhancement purposes. Data analysis indicates that the priority purposes included seeds, livestock and fodder. Other purposes include food grain collection and storage to ensure food security for the entire year. Interestingly, some groups have taken loans to release the family's agricultural land mortgaged during the recent drought spell.

For instance, the financial institution has provided them with a cumulative loan of Rs.28 lakhs over a period of one year. The groups have repaid instalments due promptly which kept the window of loan open for others. The bank manager from a nearby branch appears on a pre-appointed date in the NGO office in Satlasana as there is no local branch office. Looking at the cent per cent recovery, the bank has decided to open a branch in Satlasana.

What key factors determine the success of an SHG? Analysis reveals that a right combination of a facilitating agency (NGO in this case), fund availability (the financial institution) and a set of adverse local livelihood conditions, all this in the backdrop of the enthusiasm of the women trigger the process of development.

Further, working with the bank and the achievement within a year in terms of access to loans, prompt recoveries, use of loans for productive livelihood enhancement purposes by

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<sup>1</sup> Proceedings of the International Conference on Adaptation to Climate Variability and Change , January 5-7, 2006, New Delhi, Organised by ISET and Winrock International India, supported by US Environmental Protection Agency.

the groups was a noteworthy experience. Among others, the following contributed to the success of the programme: (i) the bank's professional approach to the programme; (ii) easy accessibility of the officials to the people and pro-active support; (iii) the overall banking philosophy that is rooted in maximizing the efficiency of money and the accompanying trained personnel geared for delivery approach; (iv) the committed NGO through whom the SHG programme is administered.

The paper concludes by drawing certain lessons related with policy, implementation and sustainability dimensions. The key message of this paper is that the self help group programme has the potential not only to mainstream women, but empower them further in providing a sustainability dimension to the adaptive strategies.

### Introduction

Two-thirds of India has semi arid and arid conditions wherein people face constant challenge for maintaining their livelihoods. Rainfall being the major source of water, the primary productive systems such as the agriculture and animal husbandry often get jeopardized, compelling people to look for alternative coping and adaptive mechanisms. The cash flow in these circumstances gets seriously affected; the families generally reduce their expenses on food which results in nutritional deficiencies. Many women take loans from banks for purchase of cattle; the village thus gets linked with the local dairy which provides assured market as well as weekly/ fortnightly payments.

The paper discusses how the self help groups make use of the loans for enhancing their livelihood opportunities.

Self Help Group Programmes in India are implemented aiming at empowerment of women. Various financial institutions such as NABARD, Nationalised Banks, World Bank and Department of Women and Child Welfare promote these programmes with slight variations but for the overall goal of women's empowerment. Discussion on the effectiveness or otherwise of the programmes supported by the above institutions is beyond the scope of this paper. This paper specifically looks at the programme supported by a nationalized bank.

### The recent drought spell

The most recent drought spell in India was during 1999-2001 with the year 2000 being the most unprecedented. As can be seen from the table given below, almost 55,000 villages forming approximately 12% of the country's total number of villages were affected involving huge population, agriculture land and large cattle population. In addition to the numbers, what is to be noted is the intensity. Although the number of districts during the three years in question remained more or less the same, the damage caused to crops and cattle, the major livelihood income sources, is extraordinary. As described in the following sections, the phenomenon of erosion of stability in livelihoods is more disconcerting.

**Table: Losses due to Droughts 1999-2001 in India**

Sr. No	Year	Districts affected	Villages affected (No)	Population affected (Lakh)	Damage to crops area (Lakh Ha)	Estimated value of damaged crops (Rs. Crore)	Cattle population affected (in Lakh)
1	1999	125		369.88	134.22	6.44	345.6
2	2000	110	54,883	378.14	367	371.87	541.67
3	2001	103	22,255	88.19	67.44	NA	34.28

*Source: Annual Reports, Natural Disaster Management Division, Ministry of Agriculture (in Tenth Five Year Plan 2002-07); NA: Not available*

Gujarat and Rajasthan are the two major states in Western India that suffered intense drought during 1999-2002 with the year 2000 reckoned as the

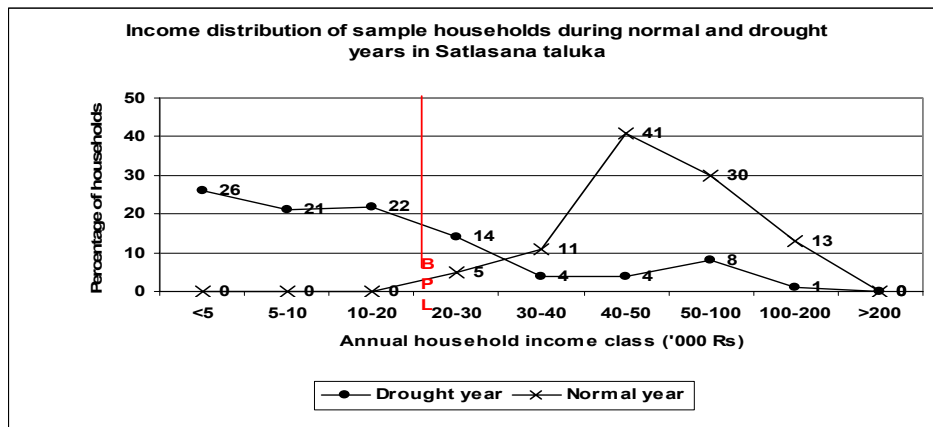
unprecedented year of drought. The intensity can be gauged from the fact that drinking water too was unavailable whether for humans or cattle. Drinking water was also transported by trains.

**The Study**

The paper draws from the following study findings: (i) Collaborative research study with British Geological Survey supported by DFID on Community Management of Groundwater; (ii) Adaptive Strategy for Droughts and Floods supported by USOFDA and US State Department through USAID and (iii) VIKSAT internal documents and reports.

The data basically relates to Satlasana taluka of Mehsana district in Gujarat. A box item is included to provide support to the adaptive strategy of the people. Although the box item is from Rajasthan, it is illustrative of the efforts that women have started taking to actively participate in the family livelihoods.

The graph below represents the shift in the income classes due to drought across the below poverty line from a typical village from Satlasana taluka. As can be seen in the graph, there were only 2-3% of the bpl families falling below poverty line; this increased to almost 69% line due to impact of drought. This indicates that the drought has affected the entire population as well as across all castes. In other words, the drought resulted in a drastic realignment of the income classes as well as reduction in absolute income.

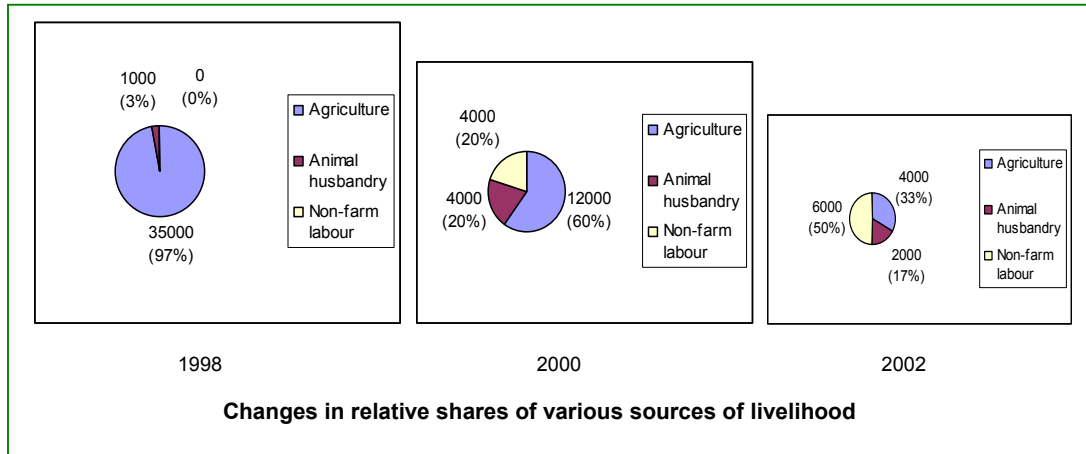


Source: Mudrakartha et al 2004.

Further, primary data collected as part of collaborative research studies on Adaptive Strategies for drought from VIKSAT field areas also showed that while 16% of the cattle died in Satlasana taluka of Mehsana district, 10% in Bhiloda taluka of Sabarkantha district and 17% died in Bhuj of Kachchh district. The arid Bhuj also witnessed death of 21% of camels, despite well known for their resilience and adaptability to water scarcity conditions (Mudrakartha S, 2002, Mudrakartha S et al, 2004, Moench and Dixit 2004).

**Realignment of Livelihoods**

During prolonged drought periods in particular, there is a realignment of livelihoods as people struggle to adapt to adverse conditions. In north Gujarat, for example, such changes are found to occur not only at family level but at village, and cluster/taluka levels.

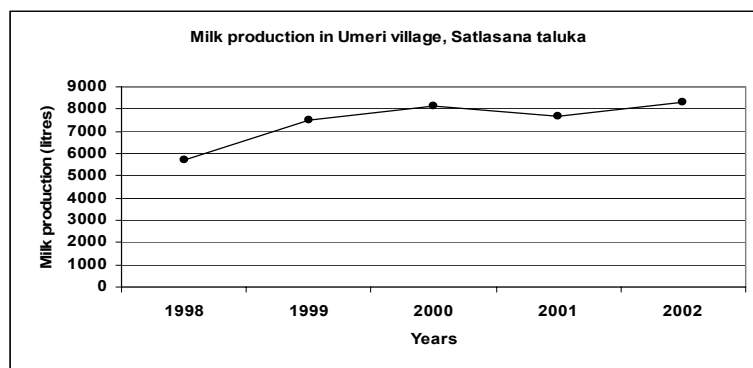


Source: Mudrakartha S et al 2003

The following observations can be made from the above figure which is representative of a typical village:

- Agriculture, which used to be the major occupation for 97% of the people in 1998 (a normal year), has reduced drastically to 33% in 2002.
- Animal husbandry which was a supplemental source of income has increased from 3% to 17% during the same period.
- While the number of persons employed in non-farm activities was very minimal in 1998, it increased to 50% as many farmers began working as non-farm labour.
- Further, the absolute income steadily decreased to 33% by the end of the 4-year drought spell (1999-2002).

Significantly, animal husbandry became an important income source in some villages as it could easily feed into the existing dairy cooperatives. As can be seen from the following graph, the milk production has in fact gone up significantly in some villages of Satlasana taluka, which indicates that people have started giving more importance to animal husbandry. Although the year 2000 was the severest, the milk production was also the highest as can be seen in the graph.



Source: Dairy Co-operative, Umri, 2003

This realignment towards increased importance to animal husbandry was possible not just by farmers' efforts but also by the critical role played by the local dairy. For example, the Mahesana Dairy in north Gujarat, which has a mandate to take care of the small milk producers, is into the process of collection, storage, processing and redistribution of milk to entire district and beyond; it also manufactures and sells milk products throughout the year. In order to maintain its own production schedules, the Dairy came forward to supply

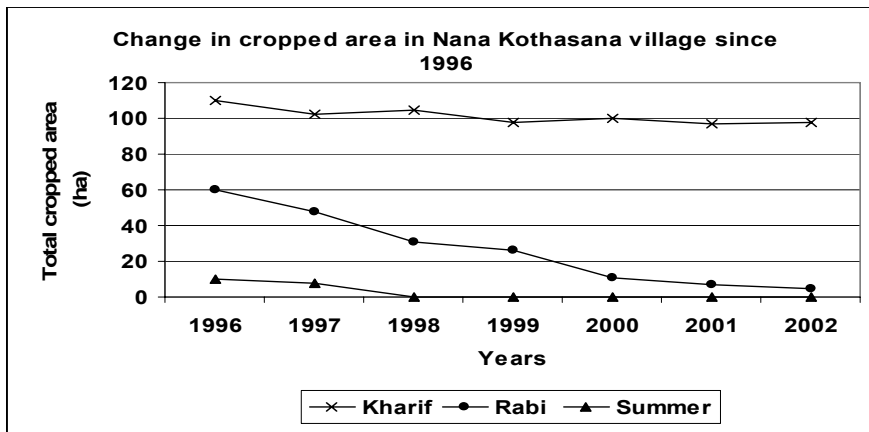
food concentrate for cattle. Since the turn around time for payments was quick (weekly/ fortnightly), and the much needed cash was available, cattle owners ploughed back some money for purchasing fodder at higher cost from elsewhere; they also sourced subsidized fodder supplied by government as part of the drought relief programme.

Further, people have also brought in some changes in their dairy practice such as abandoning unproductive cattle in the forest areas or selling them away. This helped them to purchase fodder to save the other productive cattle.

### Impact on Crops and Decline in Productivity

Crop failures and drastic reduction in agricultural production and productivity occurred in the Gujarat case study areas due to their high susceptibility to rainfall variations. For example, data collected, compared and analysed from two sources for Gujarat case from official data and through focus group discussions indicated that agriculture had been under severe stress (in north Gujarat) during the 4-year spell of drought. Farmers sow their entire land for kharif so that they could get at least one crop in a year. However, failure of monsoon results in dramatic reduction in the crop survival. As a strategy, farmers tend to 'save' ground water in the wells for Rabi (winter) crop since the rabi crop residue provides fodder for the livestock. Saving of water is ensured by providing minimum number of irrigations. Thus, we see that farmers in the arid and semi-arid areas adopt a cropping pattern which by and large aims at providing food grains as well as fodder.

The study showed that the total annual agricultural production has reduced by a drastic 60-70% during kharif and 80-95% during rabi; for summer crops, the reduction was tremendous in the range of 90-95% between 1996-97 and 2002-03. In many cases, the summer crop was almost nil according to official data. The following graph for Nana Kothasana is a typical representation of the above scenario for the Gadhwada region.



Year	1996	1997	1998	1999	2000	2001	2002
Kharif	110	102	105	98	100	97	98
Rabi	60	48	31	26	11	7	5
Summer	10	8	0	0	0	0	0

The following table shows the decline in production of typical crops in the area based on focus group discussion:

**Decline in Production of Selected Crops in Bhanavas Village**

Year Crops	1998	1999	2000	2001	2002
<b>Monsoon crops</b>					
Groundnut	100%	50%	Did not cultivate	Did not cultivate	Crop failed
Cluster beans	100%	30%	Did not cultivate	Did not cultivate	Crop failed
Maize	100%	50%	Did not cultivate	Did not cultivate	Crop failed
Minor millet (Bajra)	100%	70%	50%	25%	Crop failed
<b>Winter crops</b>					
Wheat	100%	50%	25%	10%	5%
Mustard	100%	50%	Did not cultivate	Did not cultivate	Did not cultivate
Tobacco	100%	10%	Did not cultivate	Did not cultivate	Did not cultivate

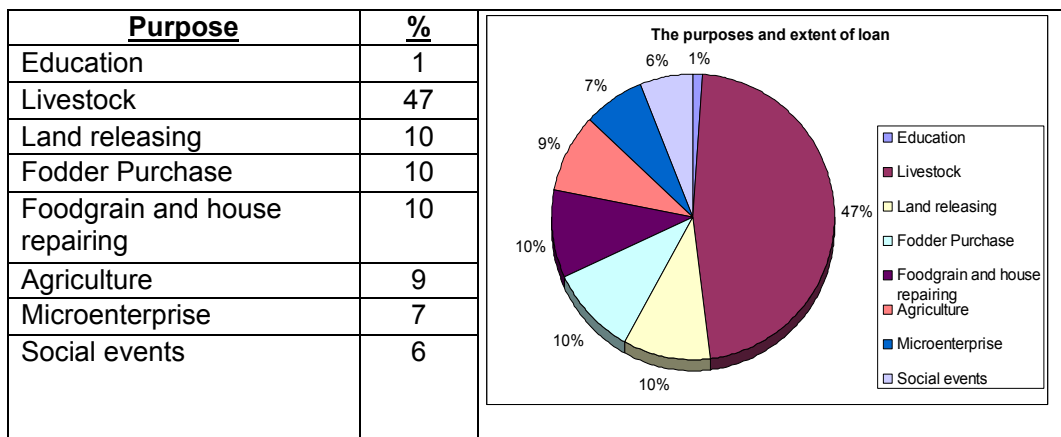
(Mudrakartha S, et al 2003).

Note: Year 2000 was the severest of all the four years of drought.

**Linkages with financial institutions**

In 2003, discussions were held between the State Bank of India and VIKSAT (the local NGO) on how collaboration could be forged. Senior officials of the bank visited VIKSAT Satlasana field area and interacted with the self help groups formed and functioning for over a year with the support of NABARD. The groups started with savings and credit, and have gradually diversified into microenterprises. Impressed by the groups and their functioning, the Bank offered a line of credit to VIKSAT. However, VIKSAT thought of not going in for line of credit but linking the groups with the bank.

By the end of year 2004, these groups were linked with the State Bank of India. Due to the cooperation of the local branch manager, 72 SHGs from across 12 villages took a loan of 28 lakhs as of August 2005. The purposes and extent of loan availed are given below:



It is clear from the above that almost 93% of the total loan amount taken was for purposes that are directly related with livelihoods and livelihood occupations. Half the loan amount was for purchase of livestock and a further ten per cent was for purchase of fodder to

support animal husbandry. This clearly indicates that people are investing in animal husbandry so as to reduce vulnerability.

#### **Perseverance Pays!!**

Sahyog Sansthan, an NGO in Udaipur district of Rajasthan state has been intensely involved in promoting SHGs as a medium of enhancing the confidence and capacity of rural population, in particular, the womenfolk. Beginning with two self help groups in Balica village in 1988, there are 255 groups today engaged in savings and credit, microenterprises and livelihoods linked activities. Among these are 7 SHGs have taken initiative to set up dairies in 11 villages.

Agriculture and Livestock are the two major sources of livelihood in this area. In the uncertain rainfall conditions, the mostly rain-dependent agriculture often yields inadequate fodder resulting in reduction of milk quantity. In order to tackle this issue and stabilize milk yield, Sahyog put forth a proposal to the women of Dhawdi village, who traditionally take care of the livestock, for developing pasture in the village wasteland. The SHGs willingly came forward and implemented the idea. Year after year, sufficient fodder yields were obtained; the increased cash flow tempted the women to invest in buying more cattle. More cattle resulted in abundant milk yield which the villagers were not able to market due to the remoteness of the village. The nearest dairy was 100 kilometres away.

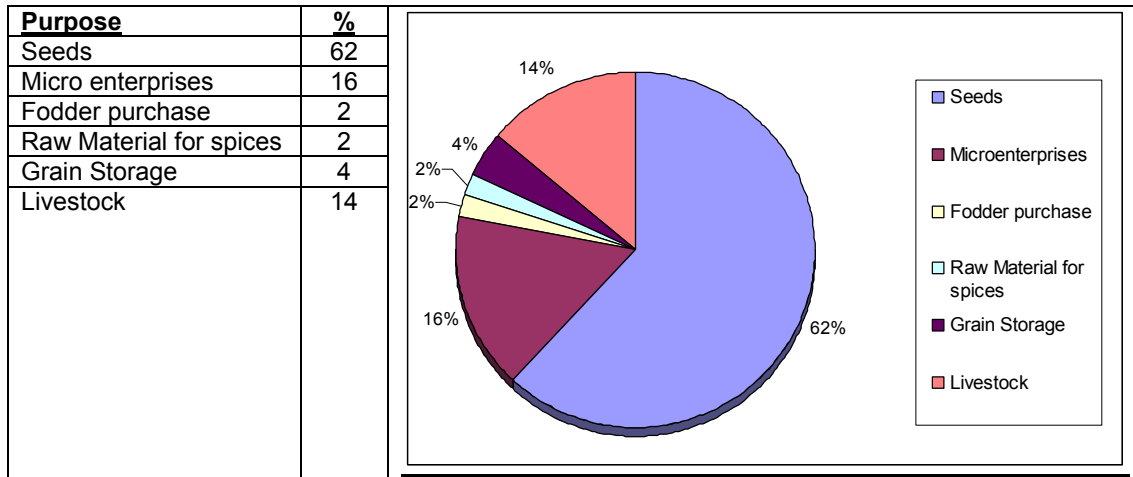
At this juncture, Shankari Devi led the crusade for negotiating for a dairy route to the village. After almost two years of relentless efforts, the dairy authorities agreed to lay a milk route to the village. The milk route was established but was soon abandoned as the milk was getting spoilt during transit. The women were again a worried lot. After long deliberations with Sahyog, it was decided to pressurize the dairy to install a bulk cooler in the village for maintaining the required temperature of milk till the arrival of the van every day. Finally, the dairy set up a bulk cooler in the year 2004. Ever since, the 7 SHGs have been collecting the milk from nearby villages and feeding to the dairy through the van.

*Contributed by Veenadhari M*

Further, microenterprise is emerging as another area being pursued that includes value addition for farm products such as condiments processing and sale and amla products, and others such as kirana shop, flour mill, washing powder, tailoring and office products made out of cloth. There is also recognition that the expenditure on social events be reduced.

Significantly, some groups have taken loans for release of mortgaged land, to the extent of 10%. In the previous drought events, when farmers took loans from money lenders, generally, it often took them anywhere up to ten years to repay the loans and get the land released. Banks were not giving loans to the farmers in these villages as they were considered not creditworthy based on bank's past experience. With the intervention of the NGO and the initiation of savings and credit operations, there was a change in the attitude of the people. The present linkage with the bank provided an opportunity to demonstrate the revitalized creditworthiness of the people. The women have brought in this important change. The role of women in releasing the mortgaged land and other economic activities has started affecting the mind set of the menfolk positively thereby paving the way for acceptance of women's role in decision making leading to their overall empowerment.

The local NGO VIKSAT has also provided loans to the people through a Fund Management Committee which works on transparent, participatory principles. The total amount of loan Satlasana villages have availed was Rs.3.2 lakhs as of August 2005 as per details given below:



As can be seen from the above, again, almost all of the loans were availed for direct enhancing livelihood occupations. Significantly, a major chunk of the loan was availed for purchase of seeds that have got eroded due to the long spell of drought.

The criteria for NGO fund was that those purposes which are not covered by bank menu, or the rate of interest is high, or involves a cumbersome procedure. A listing of criteria and norms was developed at the time of initiation of the loan.

Further, some SHGs have started sourcing funds for construction of check dams. The state government has a scheme (Sardar Jal Sanchay Yojana) for check dam construction which can be sourced by a farmer, panchayati raj or any other agency/department. However, as per guidelines, the initial payment is made only after excavation, and hence the scheme is more used by large farmers/ contractors from villages who could invest and wait. By and large, the small and marginal farmers are unable to source this scheme. Self Help Groups have shown exemplary entrepreneurship by taking bank loans for initial excavation to make labour payments. The entire loan was repaid after realizing the check dam fund from the scheme. As of now, 4 check dams have been constructed (one by a woman SHG). Many more groups are adopting this approach.

In conclusion, it can be seen that availability of funds has enabled groups to address their livelihood issues.

**Lessons**

The following are some of the lessons that can be drawn:

First, women are found to function effectively as a group and can provide a strong sustainability dimension to the adaptive strategy. Federations would help provide not only the much needed binding strength and the scale dimension across drought prone areas but also help sharing and learning.

Second, the NGO plays a critical role in terms of promoting institutional organization and functioning. In the context of economic activities, the NGO could also share information, knowledge and expertise in addition to facilitating backward and forward linkages.

Third, savings and credit and microenterprise activities need to be embedded in the societal context to gain people's acceptance. They should also be linked with the primary livelihood occupations so that a clear advantage is visualized. In the beginning, the long term vision of say the SHG programme should be shared with the entire village in the absence of which the menfolk may not cooperate leading to killing of the programme.

Fourth, SHG and micro enterprise are found to be a powerful medium for mainstreaming of women. Then, such a forward step by women would give the much needed jolt to the menfolk and compel them to improve their performance. We have seen this happening in our field areas where formation of Mahila federations in the past three years both Bhiloda and Satlasana areas has led to consolidation and improvement of the taluka level federations.

Fifth, choice of loaning purposes by women indicates that women get their priorities right and take risks necessary to achieve them. They also have given proof of their vision of sustainable development by timely, complete repayment. In contrast, generally, men are hesitant, often prefer to take the least resistant path and delay repayment schedules in the hope of write offs, which sometimes results in their losing the creditworthy status with the financial institutions.

Sixth, the potential role of dairy in strengthening people's adaptive strategies is evident from the discussion above. Since dairies are local institutions and present in every district, they have an enviable role that needs to be institutionalised.

Seventh, great potential exists for financial institutions to play a critical role in helping people enhance their livelihood systems. They bring in discipline, training and financial systems. However, while servicing at the local level, the effectivity depends upon the local branch officials, which often seems to be varying. Orientation and training, along with incentives, if need be, should be provided in particular to staff at branch level.

Eighth, the self help group programme has the potential not only to mainstream women, but empower them further in providing a sustainability dimension to the adaptive strategies.

Ninth, the often held presumption that men's and women's choices of development options are different seems to be disproved. It is presumed that men are more concerned with their occupational preferences such as agriculture and livestock as against women who are worried only about matters such as drinking water, fuel and fodder. The research clearly shows that women are as much concerned as men for livelihoods enhancement as men, if not, more. They do not also lack in leadership skills.

Tenth, there is a lot of scope for improvement in the policies and policy implementation; in the meanwhile, however, advantages can be derived from the existing projects and schemes with intelligent linkages as women as demonstrated. Policy makers on their part could extend support by hastening required policy changes by improving interaction with the communities, in particular, with women members.

### **Concluding Remarks**

Semi arid and arid zones in particular need a variety of interventions to help people strengthen their adaptive strategies. The role of funds is critical; since the financial institutions have started promoting self help groups in a big way throughout the country, providing access to funds to these groups, in a professional, non-political manner, would ensure use of these funds for purposes decided by the groups. Any external interference, or wrong messages would result in creating an unhealthy environment wherein loans may be accessed but not repaid. Responsible behaviour from all the partners such as the financial institution, NGO and the groups, in addition to the political functionaries who have

authority over the financial institutions ensures success. Adaptive strategies rooted in the community would surely make a dent in the poverty when complemented by adequate financial support.

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