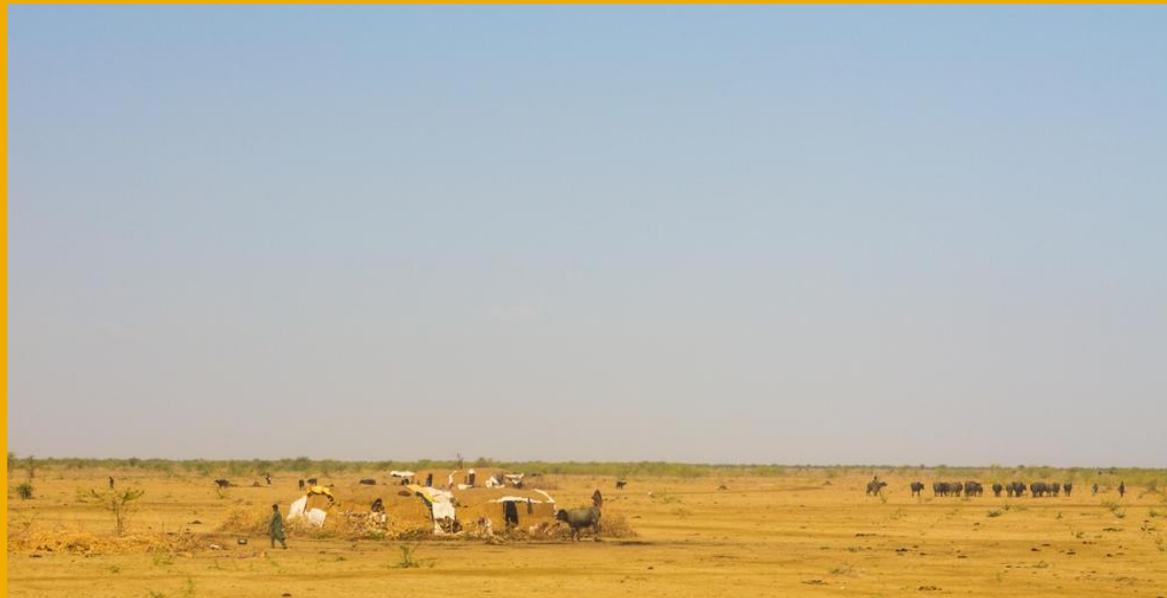




Strengthening Local Livelihoods with Ecological Considerations in Kachchh, Gujarat

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Project on
**ALTERNATIVE PRACTICES AND VISIONS IN INDIA:
DOCUMENTATION, NETWORKING, AND ADVOCACY**

Sponsored by Heinrich Boll Foundation, New Delhi

Citation: Desor, S. (2014). *Strengthening Local Livelihoods with Ecological Considerations in Kachchh, Gujarat*. Pune, Maharashtra: Kalpavriksh.

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Published by:

Kalpavriksh

5, Shree Dutta Krupa, 908, Deccan Gymkhana, Pune 411004

www.kalpavriksh.org

Date of First Publication: November, 2014

Cover Photos: Kankrej cattle; Maldharis (pastoralists) with their buffaloes in the banni landscape, near Hodka, Kachchh

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This case study is an outcome of a project 'Alternative Practices and Visions in India: Documentation, Networking and Advocacy', supported by Heinrich Boll Foundation, India. It is part of a larger process towards exploring alternative frameworks and practices in India, that demonstrate ecological sustainability, social well-being and justice, direct democracy and economic democracy. To know more, see www.vikalpsangam.org. To join a list-serve for discussions on the subject, contact anurivelihoods@gmail.com.

Design & Layout: Tanya Majmudar

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Acknowledgements

The author would like to acknowledge inputs of various members of Kutch Nav Nirman Abhiyan and the members of local communities interviewed during the various field visits. In particular, suggestions and inputs of Sabyasachi Das, Pankaj Joshi, Ramesh Bhatti, Sandeep Virmani, Sushma Iyengar, Kiran Patel and Mamta Patel of Sahjeevan, in Bhuj and Shailesh Vyas and Ramesh Mukwana of Satvik, Khimji Kanthicha, cluster coordinator of Kabrau Setu, Devsi Parmar and Narayan Mataliya of Adesar Setu, and Iqbal Ganchi of SJS is deeply appreciated. Inputs of Meera Goradia and Ghatit Laheru of Khamir are also deeply appreciated. The author is grateful to Ashish Kothari for detailed comments on the report and overall guidance for the case study. The author also appreciates conceptual discussions and translation support of Vinay Nair and inputs of Adam Cajka for the report.

1 Introduction

1.1 Context

The district of Kachchh in Gujarat has a diversity of landscapes; to the north are the Banni grasslands and the salt plains (the Rann) and straddling the district from east to west is the 400m Bhuj Ridge. This is the only arid ecosystem in the world that is accompanied by a marine mangrove ecosystem along its coast. The Rann has a unique ecosystem, inundated for a part of the year, a vast dry expanse in the rest, and with the only site for flamingo breeding in the country and one of the last refuges of Wild Ass subspecies Indian Wild Ass on earth. The Bhuj Ridge with its thorn forests has the most dense population in the district. Owing to this diversity of ecosystems, people in Kachchh have traditionally adopted different livelihood strategies with 38 distinct communities coexisting together, subsisting on livelihoods such as rain-fed farming, pastoralism, fishing, working as saltpan workers, *agariya* or as artisans of different crafts.

In the past few decades, social and economic changes in ways of living in India and larger government policies have had growing impacts on the land use-land cover and on livelihoods in Kachchh. Some of these recent land-use land-cover changes in Kachchh are described in Box 1 based on secondary information. There has been a major thrust on

industrialisation considering this land as 'unproductive' without giving any consideration to the significance of this arid ecosystem and the possible negative consequences of its destruction. After the earthquake in 2001 which killed over 12000 persons within Kachchh and devastated the city of Bhuj, there was a tax relaxation for further promoting investment in industries in Kachchh. With markets becoming more accessible for agrarian and dairy produce, there has been intensification in both agriculture and animal husbandry. More land is being claimed for ecologically unsustainable land uses such as inorganic agriculture, and for industry; yet more is taken over by a pervasive invasive plant species called *Prosopis juliflora*. Industrialisation and urbanization offer modern ways of living. The transformation in response to these has been both within society with the growing importance of money and the external introductions of opportunities and threats. Apart from socio-economic changes, this has also had its own severe ecological impacts, especially related to exploitation of water resources, and destruction of mangrove forests, desert and grassland ecosystem.

It should be noted that most of these changes (or development solutions) of intensifying irrigation-based inorganic agriculture and developing industries for regions such as Kachchh were being steered by individuals



Salt flats and scrub forests in the landscape of Kachchh

with little orientation on ecological and socio-cultural aspects. These solutions were expensive, as well as short lived and neglecting the ecological value of Kachchh's ecosystem and local livelihoods. The possibilities of developing local solutions, building on local knowledge and skills and ecological conditions, have seldom been entertained.

Yet parallelly there have been attempts at a different approach. In 1985-87, Kachchh faced 3 consecutive years of drought, greatly affecting livestock, livelihoods and the landscape. This period saw distress selling of traditional embroidery items, exploitation and also emergence of a few embroidery based enterprises. In this context, a women's group called Kachchh Mahila Vikas Sangathan (KMVS) emerged focusing on empowerment and livelihood security of women through crafts, especially embroidery. While the Sangathan began in 1989 with a focus on alternative livelihoods through embroidery, the question and need of village-level ecologically sustainable livelihood security through agriculture and related works such as livestock keeping was soon felt. KMVS's work slowly diversified into many other arenas as connected issues were raised and needs realised.

In 1992, the women's group became involved in eco-restoration work through watershed development. The objective was to demonstrate that water needs could be met at local level, and did not always require dependence on borewells or on water being externally diverted through canals (since during that period Narmada water into Kachchh was being promoted as a positive 'development solution'). Water conservation and eco-restoration efforts cannot succeed when there is parallelly a shift towards or a continuation of inorganic and water-intensive agriculture. With this understanding,

Abhiyan has grown into 38 organisations covering over 650 villages of the district and working on issues such as management of natural resources, watershed management, health, drought-support, crafts and micro-credit.

simultaneous attempts at promoting organic agriculture began. This led to origins of a forum of farmers promoting organic farming across Kachchh which formalised into Kachchh Sajeev Kheti Manch in 2000 and later became Satvik. In 1997, an environmental group called Sahjeevan was formed which initially worked extensively on livestock (Banni buffaloes and camels), and on restoration of grasslands. Meanwhile the group which had begun for organising Kachchhi women for embroidery based livelihoods slowly evolved into an independent unit called Qasab in 1997. Qasab evolved (in 2010) to become a registered producer company.

In June 1998, when the district was hit by a cyclone, it was felt that lack of synergised efforts during disaster relief between various NGOs (Non Governmental Organisations) had led to instances of duplication for some sites and missing out on some others. To synergise these efforts, 22 local organisations (including KMVS and its above-mentioned offshoots) came together to form an informal network called Kutch Sankat Ane

Punarvasvat Abhiyan. Even after the rehabilitation work was over, it was felt that an umbrella organisation to collectivise and synergise the efforts of various organisations towards a common vision is needed. Thus KSAPA was subsequently renamed as Kutch Nav Nirman Abhiyan (or Abhiyan). For coordination and collective action as a part of Abhiyan, information centres called Setus (literally translating to 'bridges') were established for clusters of villages for knowledge exchange, mediation between government agencies, various NGOs and the local communities, and advocacy based on needs and issues raised at the local level¹. As of now the Abhiyan has grown into 38 organisations covering over 650 villages of the district and working on issues such as

1. As per information provided on www.kutchabhiyan.org for Abhiyan and kutchabhiyan.blogspot.in/2011/04/what-is-setu.html for Setu.

management of natural resources, watershed management, health, drought-support, crafts and micro-credit.

Over this time many of the KMVS offshoots have become independent organisations with specialised interests in organic agriculture, pastoralism, urban governance, women

empowerment, crafts etc. KMVS itself has also evolved from a single women's collective to a network of seven² women-based organisations, supported by knowledge resource units for capacity building, legal support for domestic violence, and outreach³.

BOX 1: RECENT LAND-USE-LAND-COVER CHANGES IN KACHCHH

Water-use and Water-exploitation⁴

In the post-independent India, the predominant discourse of development focused on irrigated agriculture and the need of bringing in water to Kachchh from various rivers such as Indus (Pakistan), the Indira canal (in Rajasthan) and most recently from the Narmada. The drinking water-schemes, funded through global projects such as World Bank also focused on tapping into deep groundwater reserves and introducing bore-well technology.

Spread of Invasive Prosopis juliflora⁵

Another important change, in recent times was seen with the spread of Prosopis juliflora, or Gando Bawal (or mad bush), a shrub that has very quickly taken control of the scrub forests and grasslands in particular, changing the way animal husbandry is practiced in the region and a shift towards buffalo-keeping. Charcoal-making out of its wood has now become an illegal but significant source of livelihoods for many people living in Kachchh.

Land for Industrialization⁶

Kachchh witnessed one of the largest de-reservations in the country, that of Narayan Sarovar Sanctuary, for a cement plant, and later the demarcation of the little Rann for the Wild Ass and Salt Industry. Post-1990s focus on industrialisation led to exploitation of resources especially through open cast mining having impacts on water resource, laying of port lines where mangroves are being destroyed, and use of local ground water. The next big change is being witnessed now, with the promotion of large port based industries under a Special Economic Zone along the southern coast.

Landscape invaded by Prosopis



2. Saiyare je Sangathan, Ujjas Mahila Sangathan, Qasab, Sushasini, Sakhi Sangini, Soorvani and Dai Sangathan.

3. As per information provided on <http://kmvs.org.in>

4. Source: Sahjeevan 2006, 'Reviving Animal Husbandry economy with a gender and conservation perspective', (Project Proposal submitted to Ford Foundation for July 2006-June 2009)

5. Source: Sabyasachi Das pers. comm. 2014

6. Source: Sahjeevan 2006 Reviving Animal Husbandry economy with a gender and conservation perspective (Project Proposal submitted to Ford Foundation for July 2006-June 2009)

1.2 About the Study

1.2.1 FOCUS

In this context, this case study discusses a set of initiatives in Kachchh which attempt to secure local ways of living (through animal husbandry, agriculture and crafts and strengthening the linkages between these) with a core belief that local livelihoods can only flourish if they are in consistence with ecological and socio-cultural systems. The initiatives documented in the case study form a subset of the above-mentioned Abhiyan which is a larger Kachchh-level endeavour working on social, economic and environmental aspects of well-being in Kachchh both independently and through collaborations. While the range of activities undertaken by the Abhiyan is immense, the focus of this case study are the initiatives undertaken by two member organisations viz. Satvik (on rain-fed and organic agriculture) and Sahjeevan (on animal husbandry and pastoralism)independently, in collaboration with each other or with other member organisations such as Setu and Saiyere Jo Sangathan (SJS). SJS is a women's collective within KMVS working on economic, social and political empowerment of women of Lakhpat and Nakhatrana blocks). The case study also delves into initiatives by another member organisation called Khamir in crafts that attempt to strengthen the craft-ecology linkages.

1.2.2 STRUCTURE

This case study will describe:

- ◆ How the initiatives (in agriculture, animal husbandry and crafts) attempt to secure local livelihoods with ecological considerations
- ◆ What are the challenges that remain
- ◆ What are the emerging core values
- ◆ What are the larger implications of such an initiative, in adopting more environmentally and socially sustainable ways of living.

1.2.3 METHODOLOGY

The study is based on three field visits to the case-study site and review of secondary information.

The first field visit (of a duration of 9 days) was in September 2012 by Ashish Kothari and Shiba Desor. This field visit was helpful in getting a broad overview of various initiatives of the Abhiyan through brief visits to some of the field sites as well as interviews of individuals from member organisations including from Sahjeevan, Satvik, Khamir, Setu and Saiyere Jo Sangathan (SJS).

The second field visit (of a duration of 25 days) was in February 2014 by Shiba Desor and Vinay Nair. This field visit was helpful in getting in-depth information on initiatives by Satvik and Sahjeevan. With the support of Sahjeevan, field visits were undertaken to villages in Banni grassland and the community centre of Banni Breeders' Association at Hodka, camel-breeders in Lakhpat and SJS office in Nakhatrana. With the support of Satvik, field visits were undertaken in Anjar (to visit Maganlal Ahir and Castor Produce Company), in Bachau (to understand seed conservation work done in partnership with Setu of Kabrau block), in Adesar (to interview farmers engaged in rain-fed cultivation of cotton), and in Abdasa (to visit VRTI Naliya- a partner organisation of Satvik for seed conservation work). Apart from the field visits, there were interviews with individuals from Sahjeevan, Satvik, SJS, Setu and Khamir.

The third field visit (of a week's duration) was in September 2014 by Shiba Desor and Adam Cajka. This field visit was helpful in follow-up interviews with Sahjeevan and Satvik members as well as understanding the dimension of craft-ecology linkages through examples of initiatives by Khamir. A field visit was undertaken to village Mota Jamthada where weavers have been engaged by Khamir for weaving Kala cotton⁷ cloth. Apart from the field visit, interviews were conducted with persons from Sahjeevan and Khamir involved

⁷ Kala cotton is the word given for short-staple rain-fed varieties of cotton that do not require any chemical inputs for cultivation. Details are given in Section 2.2.1a

in coordinating or carrying forth these initiatives.

The secondary data reviewed included organisational Annual Reports and publications, shared project proposals outlining organisational understanding and approaches, information available on websites, newspaper reports and articles.

1.2.4 LIMITATIONS

This study is based on limited field work, and discussions with a few key individuals from the mentioned organisations as well as a few site visits. This could be further deepened with a detailed literature review and a deeper analysis of what could be supportive policies to strengthen these. This could also benefit from more in-depth interviews with government agencies, and partner organisations to get their views on agriculture, animal husbandry, crafts and their linkages. Information and analysis of initiatives related to crafts could be particularly enriched.

Another limitation was the lack of a direct knowledge of the regional languages (Kachchi and Gujarati) by the author. Although there were always facilitators and translators, the author feels that there may be gaps in understanding because of this weakness since most of the persons interviewed during field visits spoke Kachchi and some reports and publications could not be thoroughly analysed since these were in Gujarati.

2. The Approach of the Initiatives

This section describes how the initiatives (in agriculture, animal husbandry, pastoralism and crafts) attempt to secure local livelihoods with socio-cultural and ecological considerations in Kachchh.

2.1 About the Initiatives

2.1.1 BACKGROUND

At a landscape level, there have since long been relationships between extensively ranging and mobile pastoralists and settled agriculturalists, with agriculturalists allowing livestock of pastoralists to graze in their fields during certain fixed seasons because of the value of animal dung as manure. Most farmers also practised animal husbandry parallel to cultivation with the two activities complementing each other. Additionally, cattle and craft have for long been important mediums of maintaining barter and trade inter-relations between communities (see Box 2)

Traditionally, the connection between rain-fed agriculture and animal husbandry made economic sense and ensured an organic cycle. Rain-fed agriculture provided both fodder and feed for cattle, while cattle provided manure to keep fields fertile. Also, both activities provided marginal surpluses in crop, milk and cattle heads for local sale in local markets.

With money becoming more important and an emerging market for cattle-feed in other applications, cluster-bean and cotton began

BOX 2: BARTER AMONG WEAVERS, FARMERS, PASTORALISTS IN KACHCHH

The weavers in village Bhujodi, near Bhuj, used to barter with Patel and Ahir farmers in cotton (for turbans, water resistant pot covers, bedsheets) and woollen weaves in return for grains and vegetables.

The Kala Cotton farmers of Makhel Village in Adesar recall that weavers used to reside in this village who made clothing from the cotton sourced from the farmers.

Traditional sheep wool weavings in Kachchh were originally sourced from the surrounding pastoralist communities of Rabaris with woollen shawls traded back to the Rabari community, whose women would embellish the pieces with embroidery or Bandhni (which is the tie and dye art of Kachchh)

Source: Shealy S 2011, Documentation- Kala Cotton Initiative of Khamir and Satvik, July, Khamir

to be sold to distant markets directly. There was a consequent change in the choice of cattle feed, which had to be bought. This broke past linkages, and made the connection between rain-fed agriculture and animal husbandry economically unviable. This also made livestock-keeping more expensive.

With this breakage of linkages, a shift to irrigated inorganic agriculture was felt as being not just desirable, but also essential. This further broke the linkages by making manure insufficient for crop production, thereby rendering pesticides and fertilizers important, and leading to more investment in irrigation and the growing of crop varieties that were irrigation dependent and less drought tolerant. This resultant system while making narrow economic sense (incomes) in the short term does not seem to have the robustness of secure sustainable livelihoods. Not only is it environmentally destructive (depleting soil fertility and ground water), but it is also leading to loss of crop types and varieties suited to an arid ecosystem. This has also impacted pastoralists through reduction and contamination of water sources for livestock.

With the socio-economic and ecological changes of the past few decades, artisans engaged in various crafts such as pottery, block-printing, weaving, lacquer work, leather work and metal-bell-making have also been facing many challenges in eking dignified livelihoods out of their crafts. It is increasingly difficult to source customarily used raw materials because of various reasons. Many steps in the existing chains of process are getting out of local production or consumption. E.g. For weavers, there is no local spinning of sheep wool or rain-fed, short-staple varieties of cotton anymore. The cause for difficulties in procurement of raw materials could also be environmental degradation. For instance, indigo, used for natural dyeing has become rare. The water-holes for dyeing cloth have dried out, and many are polluted such that they cannot be used. For potters, clay and white mud have become rare and water has become such a

scarce commodity in some areas that it has to be bought. With farmers and pastoralists now selling cotton and wool to factories, the past relationships of trade and barter with weavers have also broken down. In some cases entry of cheaper substitutes for their products or technology such as screen printing (instead of block-printing), mechanised looms (instead of handlooms) have created economic challenges of eking a livelihood out of continued practise of the craft⁸.

2.1.2 WHAT THE INITIATIVES DO

In Kachchh, where more than 75% of agriculture is still rain-fed, it is important to support and strengthen rain-fed agriculture. The initiatives have focused on seed conservation of numerous varieties of 7 traditional crops and on creating beneficial market linkages through organic certification. Also by setting up producer companies and micro-finance loan groups, attempts have been made to engage with markets on more equitable terms and ensure continued practice and participation when the intervening organisation leaves. Where the shifts to inorganic have occurred, the initiatives have attempted on providing trainings and encouraging practices for improving soil conditions with a view to coming back to organic.

In animal husbandry, the initiatives have been on conservation of local livestock breeds, particularly, Banni buffalo and Kharai camel, securing and managing grazing resources, facilitating links with dairies, providing health and veterinary services, and creating micro-finance groups.

In crafts, apart from strengthening local entrepreneurship, the attempt is to sustain pride in practising crafts as a way of living and in acknowledging crafts-ecology linkages (through initiatives such as Kala cotton, described further on).

2.2 Detailed Description of the Initiatives

2.2.1 IN AGRICULTURE

Satvik (which literally means authentic) is an

⁸. <http://www.khamir.org/crafts/>

organisation in Kachchh that focuses on supporting rain-fed agricultural practices, conservation of traditional seed varieties and keeping agriculture organic (see Table 1).

ignoring. The idea is that in case of crop failure, farmers should have sufficient quantity of seed to grow next crop. The principle belief is that seed conservation has

Table 1: Satvik's Approach in Agriculture

FOCUS AREAS	APPROACH
How to keep rain-fed farming alive amidst the instabilities of market, crop-failure and temptations to move towards green-revolution farming practices of water-intensive and chemical intensive cultivation	Work on seed conservation and keeping seed variability alive, and at the same time making rain-fed farming economically viable through means such as organic certification (details in 2.2.1a)
In irrigated farming, how to check high demand of ground water and high use of agro-chemicals	Trainings and research for organic farming to make the shift to organic desirable for farmers practicing irrigated farming (details in 2.2.1b).

2.2.1a For Rain-fed Farming

Seed Conservation: Since 2006, Satvik is engaged in seed conservation of numerous varieties of 7 traditional (commonly referred to as *Ram mol- God's food*) rain-fed crops, viz. cluster-bean (*guar*), sorghum (*jowar*), pearl millet (*bajra*), castor (*arenda*), sesame (*til*), *moong*, and dew bean (*moth*). Satvik's seed conservation programme, called *Anmol* (meaning priceless), attempts to keep seed variability alive, which the government is

to be achieved through propagation, rather than preservation in seed banks.

The process involved identifying seed breeder farmers (who have traditional varieties of seeds), collecting these varieties of seeds, supporting producer farmers (who can ensure multiplication through production of these seeds in a conducive environment) and facilitating distribution and sale of these seeds through partners and producer companies (See Box 3 for information on one

BOX 3: LINKAGES IN SEED CONSERVATION

Kabrau Setu - A Partner in Seed Conservation

The Kabrau Setu includes 21 villages and 7 wards. The Anmol program on seed conservation, for which Satvik collaborates with Setu, has been ongoing since 2005 in 8 villages. There are village level farmers' committees of 4-5 farmers, and cluster level meetings of leaders from each of these committees with each other and with Setu. Setu works on the dimensions of creating awareness regarding organic and rain-fed farming (through creation and dissemination of outreach material), engagement at political level (by working with panchayats) and engagement at market level (facilitating organic certification). The work on organic certification, now carried out by Fasal Producer Company (which also charges a fee) was initially being done through Setu.

A Breeder of Old Seed Varieties

Jesa bhai of Ner village, Kabrau region of Bhachau block has been associated with Satvik for seed conservation work since the onset of the program in late 2005 when he was identified as a seed breeder farmer for having traditional varieties of many of the seeds being conserved. He grows cluster-bean, green gram, moong, sorghum, matt, castor and sesame. His field has organic certification (see below) which helps him get a better price for some of his crops, in particular, castor. His support to Satvik has been crucial in gaining trust of most villagers. When asked about what he feels regarding the value of such work, he replied 'the taste of desi moong or bajra is much better than any of the newer varieties. What is good must go back to the earth. That is the only way that taste and health can be restored.' He also commented about the role of information-exchange between farmers, 'I gained this understanding regarding seed because before TV came, it was a ritual to gather together and exchange information about what works in farming and what doesn't.'

of the partners, Kabrau Setu and an associated seed breeder farmer).

The process has been successful in terms of identification of seed breeders and production but filled with challenges in terms of procurement of produced seed varieties. Lack of seriousness in buyers led to a shift in the model from an initial direct linking of buying farmers with producing farmers, to partner organisations buying from seed producer farmers and distributing or selling in their work sites. Partners have been selling seeds informally for some time, but from this year onwards have started formally selling seed. The extent to which these traditional varieties are now being used at the level of a village/ village-cluster has been dependent on leadership and priorities of the partners and there has been varying success in different areas.

Till 2013, the seed conservation work focused only on rain-fed crops, but now it also focuses on varieties of crops used in irrigated farming (requiring irrigation up to 1000ppm) like wheat, groundnut, and cotton (organic, non Bt varieties). Focus has also grown on developing plant breeding tools for genetic purity and rouging (keeping varieties other than the grown variety out of the field).

Initially production (multiplication) of these

varieties was being done on rain-fed farm but because of risks of crop failure, they soon shifted to irrigated conditions. Although for a long time, Satvik acted as a technical facilitator in production, the organisation has started recently being engaged directly in seed production on an irrigated organic farm of Manoj Solanki on its own since it was felt that many valuable seed varieties procured and multiplied were beginning to get lost for various reasons. It is also considering direct involvement in selling of seed (after getting a better understanding of The Seeds Act 1966).

Organic Certification: In 2006, Satvik along with the Kabrau Setu (see Box 3) initiated facilitation for organic certification of fields of rain-fed farmers, the certificate being issued through Abhiyan. After the first 2-3 years, which were a struggle in terms of marketing, they have been particularly successful with organic certified castor. This is sold to Castor Produce Company (see Box 4) which produces oil and exports that to Waala, a German company. Their main role has been in establishment of channels such that a farmer gets good price and does not get exploited. The pricing formula has been fixed by Setu, Satvik, farmers' committees and the main buyers and involves averaging out the minimum and maximum Agricultural Produce Market Committee-Bhuj (APMC) price for the

BOX 4: CASTOR PRODUCT COMPANY (CPC): A LINK IN ORGANIC CERTIFICATION

CPC is a small company in Anjar block of Kachchh that procures most of the organic-certified castor from the surrounding areas and exports it outside the country. While most of the total procurement (around 400 metric tonnes) is from irrigated organic farmers, it also procures 50-60 metric tonne (per year) from rain-fed farmers organized into small grower groups. In this way it has had an important role in connecting the rain-fed farmer growing castor with the market in a way that supports his finances. A by-product of the process, oil cake is bought by farmers engaged in irrigated farming as an input for the soil.

Castor is highly cross-pollinated, requiring an isolation distance of 1000km. In case Genetically modified (GM) varieties of castor are introduced, it will be very hard to prevent them from mixing with organic castor varieties. With their economic viability being largely dependent on demand for organic produce, the company becomes a stakeholder in policy decisions relating to GM field trials.

In overall concerns of ecology, some questions arise. There is the question of whether such a dependence on exports is ecological sustainability over a long term, or whether there is an important need to shift to localised consumption. Another concern would be on possible large scale conversion of diverse agricultural fields to castor. In response to these concerns, Satvik feels that in the present situation when markets becomes important, this connection (even if it is going out of local loop of consumption) has its significance in making rain-fed agriculture financially viable. It is felt by the Satvik team that it is unlikely that there will be a complete shift to castor, and the conventional pattern of three divisions in fields (cash crop, food crop, fodder crop) will continue.

week and adding a 13% premium to that. Initially organic certification was free but since Setu has started charging a fee of Rs 75 per month there has been a drastic reduction in the number of farmers seeking certification. At present around 200-250 farmers are involved in this, with around 150 being regular members. As the need for a separate entity for marketing was realized, a producer company of involved farmers, called Fasal Producer Company, was created which now handles organic certification more or less independently.

The Kala Cotton Initiative: Kala cotton is a term being used for rain-fed organic varieties of short-staple cotton that have been traditionally grown in many parts of Kachchh. In a wider collaboration between Satvik, Setu and Khamir, there was an attempt to capture different steps of making cotton cloth from the time of growing, to the point of

have tried to work towards exploring possibilities of organic milk and are still grappling with challenges in making it a reality. In 2012, Satvik attempted and conducted a phase of documentation, monitoring and auditing related to this and realised that there are many challenges before organic milk can be ensured and marketed in Kachchh. A major difficulty is in ensuring organic fodder and feed.

Earlier kala cotton and cluster-bean (guar), both rain-fed crops grown in most parts of Kachchh, were used in cattle feed. This was viable in the economy of that time. KC seeds are now lost because they are left at the large ginning unit sites. Earlier smaller ginning units made cotton seed locally available. Guar seed has now found other uses. Because of this, now cattlefeed has to be bought from outside and is mostly composed of wheat bran and irrigated Bt cotton cake. In such a scenario, an

BOX 5: RAPAR PRODUCER COMPANY

Kalyanbhai Nathubhai Madwi of Makhyar village is the director of Rapar Producer company in Adesar which includes 22-23 families engaged in Kala cotton cultivation. He recalls earlier exchanges of weavers-farmers for cotton.

The producer company was registered on 14 Feb 2014. The company has 10 directors, each director has 20 shares, with a total capital of Rs. 1 lakh (each share of Rs 500). 3 directors were earlier in Fasal Producer Company. It is hoped that the Producer Company (PC) will eventually be financially robust enough to support the regional Setu, which has been constantly involved in facilitation for the process. It plans to market kala cotton and castor. Organic castor gets a premium of 18%, 13% goes to farmers, 5% goes to accountant, office expenses. Certification was earlier done by Abhiyan, now by the PC. It is also promoting moong and bajra. Overall input supplies include both organic and chemical inputs. Livestock related activities include veterinary services, awareness creation regarding role of traditional varieties- buffaloes, bulls, kankrej, and initiating a dialogue on concerns related to the on-going complete shift towards tractors in agriculture. It also plans to work with panchayats on fodder storage issues.

marketing, in such a way that farmers and weavers are also benefited by the process.

There has been an overall reduction in area under Kala cotton cultivation because of high instances of crop damage by bluebull. Presently Khamir procures Kala cotton from 160 farmers, 5 villages in Makhel pocket of Adesar through Rapar Producer Company (see Box 5). In the earlier years of experimentation with the process (2006-7) 700-800 farmers were involved.

Attempts at Organic Cattle Feed and Organic Milk: Sahjeevan and Satvik together



Kankrej cattle

organic reliable source-feed would have great demand. There are attempts to recreate one based on kala cotton cake and guar but main challenges at present are technological, economics of value of feed (may have other uses that give higher financial value, or may turn out to be too expensive). There are also challenges of changes in lifestyle and a demand for ready-made feed options. 'In a society where kitchen for humans is slowly becoming extinct, what place can we find for a kitchen for animals?' Shailesh Vyas of Satvik asked, explaining that the slow transformation of society has made it difficult for solutions which require people to spend lots of time preparing cattle-feed at home. In such a situation, ready-made and quick solutions are the ones that work.

The issues are not just related to organic cattlefeed and fodder, but also pertain to difficulties in ensuring that there is no contamination at any level (in terms of mixing with water, or inorganic milk). Also the official standards of certification are very stringent and require not just certification for chemicals in milk but also for the land (85% needs to be organic for all sources of fodder) which becomes difficult to ensure. The land issue could be resolved for a case like milk from pastoralists in Banni grassland, where primary resource is the Banni grassland. However even there it becomes difficult to meet some specifications. Standards ask for fixed exposure time of shade and sun for the cattle, require there to be no dung on the cattle while milking and so on. Such standards are hard to adhere to in the customary cattle-rearing practices of the region which have different notions of hygiene and good-care. It is felt by Satvik that apart from the larger challenges of procuring organic feed and fodder, for organic certified milk, we will need some changes in the standards and some in our ways of keeping cattle.

2.2.1b In Irrigated Agriculture Facilitating the Move in Irrigated Agriculture Towards Organic: The understanding and belief maintained by Satvik is that rain-fed farming in Kachchh is by default organic since the type of crops that

can be grown in a place like Kachchh without water are the ones that do not need chemical inputs. Further, the farmers engaged in rain-fed farming can seldom even afford inorganic inputs. For Satvik, it is the irrigated farmer who needs to be sensitized more regarding methods of organic farming. This becomes especially important since many rain-fed farmers also have a tendency to emulate practices of irrigated farmers and may otherwise move towards water and chemical-intensive farming practices. The approach is of organizing training programs for larger dissemination of these practices, and of supporting farmers in terms of access to information and technologies to enable a move towards organic.

With time there has been change in the focus of their dissemination, earlier the focus was on marketing organic produce, now more on how to enhance agricultural sustainability, with a basis in science. There has been an increased focus on soil issues and water with time, while earlier more focus was on crop selection. Second to soil, an important consideration is selection of the kind of seed that gives good output with low input.

Earlier only 1 day trainings were conducted. Now there are trainings for 3 different durations- 1 day (with a focus on benefits and methods of organic farming, including market inputs for organic farming), 3 days (with a focus on method, philosophy, and experience-sharing related to organic farming) and 1 month (which are most thorough). Month long trainings are once a year, and the other two kinds are held 2-3 times a year.

Some parts of Kachchh are a crucial habitat for the endangered bird species of Great Indian Bustard which lives in agricultural and grassland areas. There are plans for Sahjeevan and Satvik to work in collaboration to encourage organic farming among residing agricultural communities in the area by beginning with work with 10 panchayats in Abdasa on organic sensitivity. Work has been already initiated with 5-6 panchayats on organic farming on developing a People's Biodiversity Register.

Experiments on Organic Farming:

Simultaneous with the trainings, Satvik's own experiments, in collaboration with interested organic irrigated farmers continue. The objective is to understand better different ways for making organic farming sustainable. People like Maganlal Ahir, who is an organic seed producer farmer who does experimentation focused on seed with technical support from Satvik (see Box 6), or like Manoj Solanki who is an organic farmer with firm beliefs in significance of livestock in farming, are involved. These farmers also serve as resource persons for the organic farming trainings mentioned above.



Maganlal Bhai – Organic Farmer

2.2.1c A Discussion on the Overall Approach in Agriculture

In initiatives related to agriculture, the following broadly has been achieved:

- ◆ Market creation for rain-fed farmers.
- ◆ Seed conservation through propagation, rather than preservation and keeping seed variability alive, which the government is often ignoring
- ◆ Achieving seed security at farmer level, and (beginning at) producer company level.
- ◆ Sensitisation regarding organic farming practices for irrigated farmers

Some characteristics of their approach:

- ◆ Not setting objectives or changing plan of action based on fund-availability
- ◆ Not giving monetary incentives for participation in training programs, seed initiatives.
- ◆ Forging an informal relationship with SBFs and SPFs
- ◆ Decentralized approach through partners & producer companies and encouraging limiting of the scale of producer company so that there is visibility at the village end

Remaining Challenges: At present, the approach is to focus on bringing the irrigated farmer towards organic, assuming that the rain-fed farmers are 'by-default' organic. While this may be a practical approach, it was also observed that many rain-fed farmers don't have a strong insistence regarding not using pesticides or fertilizers if needed for crops usually grown in irrigated agriculture, if they are able to get means of irrigation. In

BOX 6: MAGANLAL AHIR'S TRANSFORMATION

Maganlal Ahir began conversion of 5 acres (out of 20 acres of his farm) into organic in 2007. By 2011 his fields were fully organic. This was at a time when his family was apprehensive of the shift because of what they felt was foolhardy risk-taking while expenses rose. His determination was reaffirmed when his younger daughter said to her friends 'my father doesn't quit when he decides on something'.

He uses compost, tank silt and green manure for the soil. Crops cultivated include cotton (non Bt-Deviraj), castor, bajra, til, ground nut, wheat and cluster-bean. As a rule, he always does green manuring in one plot.

His organic farming technique is not about letting land be. There is a great role for labour, seed, factors like pH and moisture, application of mind and experimentation. Influenced by the Swadhyay movement, he feels that it is important to accept truths revealed by nature instead of ignoring them, learn from other farmers with humility, learn from non-farmers and share what one learns with selflessness and love.

such a scenario, placing information about long-term impacts of presently practiced irrigated agriculture, and also on significance of rain-fed agriculture practices becomes important. As admitted by Satvik, there is not much documentation or information material on rain-fed farming practices. This is a gap that has persisted and is of concern.

As the actual impact and on ground implementation becomes partner-dependent and person dependent, there are instances

Table 2: Sahjeevan's Approach towards Livestock-keeping

OBJECTIVE	APPROACHES
Making livestock keeping economically sustainable (forward linkages)	Facilitating linkages with dairy, women collectives for milk and associated products, promoting sheep-wool and camel wool products,
Strengthening the base essential for livestock keeping (backward linkages)	Breed conservation, grassland conservation through collaborative research initiatives, participatory resource mapping, access and management rights, advocacy with government, support for veterinary services

when the work by partners is not given enough focus or else may be carried out more as a programme rather than a value (e.g. In case of VRTI Naliya, two parallel seed programmes continue, one on traditional seeds (with Satvik) and another on chemical-intensive improved varieties (with Care Cargil) with different villages in the same area.

There are also some concerns related to prime dependence on external markets for the organic certification program. While this dependence may make economic sense, it is moving us further away from a robust local ecologically viable economy. However, at the same time, there are also simultaneous attempts at creating organic products (such as organic cattle feed/ organic milk) for local consumption although the question of bringing cattle feed back into the local loop remains a challenge as discussed earlier

2.2.2 IN ANIMAL HUSBANDRY AND PASTORALISM

Sahjeevan (which literally translates to co-existence) has a strong belief that livestock sustainability is essential. The objective of

these initiatives has been on how to revive traditional animal husbandry economy with a gender and conservation perspective. The approach with time has evolved to include different facets and solutions. Primarily, Sahjeevan's work is described by its members as forward and backward linkages (see Table 2). The forward linkages pertain to making livestock-keeping economically sustainable by helping in linking villages to the dairy, and also facilitating creation and marketing of

other products (experiments for sheep wool, camel wool, camel milk, cow-milk ghee/ clarified butter are ongoing). The backward linkages pertain to strengthening the resources (grazing resources, local breeds, traditional knowledge, community-relations and interactions with others) that indirectly but significantly feed into sustainability of livestock-keeping.

2.2.2a Forward Linkages

The Dairy Story: In 1981, a Kachchh dairy, located in Bhuj, was started by the government. This dairy had to stop operations in 1997, after which for many years there was no government-supported milk marketing system in Kachchh. As a part of the Drought Proofing Program initiated by MoRD (Ministry of Rural Development) in collaboration with Abhiyan, the role of livestock was highlighted. The National Dairy Development Board was requested to evaluate the situation and bring dairying into Kachchh. After earlier reluctance, NDDDB started investing (by 2004-5). Sahjeevan did a small attempt in Nakhatrana as a pilot



Shift to buffalo keeping after coming of dairy

demonstration. Sahjeevan prepared a training module on milk collection, marketing and enhancement. Through Saiyere Jo Sangathan (see Box 7), women groups were organised for implementation. Through Abhiyan, replication of the system was ensured and para-vet trainings were also conducted.

Between 2008 and 2010, there was a hand-over of the milk economy work to the women collectives, with Sahjeevan beginning to focus more on breed conservation. When it began in 2007, there were hardly 40 villages



Dairy brought these Rabaris back to Lakhpat

connected, supplying 220 litres of milk. This has now risen to 3.5 lakh litres from 700 villages (80-90000 households). The network of dairies and chilling plants has led to a source of livelihood for villages where earlier

BOX 7: DOODH SANGATHANS (MILK COLLECTIVES) AND ASSOCIATED SERVICES IN SAIYERE JO SANGATHAN (SJS)

*Spread over 80 villages with 4500 members and 217 SHGs, this is a sangathan that arose (from KMVS) with the objective of giving identity to the role of women in agriculture and animal husbandry along with environmental consciousness. The women also operate a community radio. Overall they have a three pronged approach- financial (support and empowerment) , social (raising **issues** and concerns of health and violence) and political (interacting at panchayat level). After beginning work on crafts, at the time of drought, women decided to start saving money. As explained by Hakimaben- 'We thought our properties are in name of men, so let us make a fund for ourselves'. There were high costs of agriculture and no channels for milk. Savings (bachat) group was registered in 2008 as Shri Paschim Kachchh Bachat Widhi Mahila Sahkar Mandal. There are fixed rules on savings (minimum of Rs 100), monthly cluster-level meetings (4 clusters), loans for different products at different rates (with limits on wedding loans and priority given to rain-fed agriculture related loans over other kinds). Most members associated with the Savings Programme (Bachat Karyakram) are also connected to one or more of the other groups (related to agriculture, animal husbandry, crafts). This program gives need-based loans for agriculture and animal husbandry. Khattaben, a trustee of KMVS, who has been involved with SJS for 15 years sees a role of SJS in empowerment, freedom from exploitation at hands of money-lenders and self-identity for women. She herself feels that she has gained a sense of independence over her life because of this. SJS is a partner of both Satvik and Sahjeevan in their activities on seed conservation and milk marketing respectively.*

Saiyeri Pasupalan Ane Khet Utpadan Producer Company focuses on sale of agricultural produce and milk. It has 10 directors, 1 CEO and 225 shareholders. Their journey has had both successes and failures. The company had attempted producing and selling cow ghee (clarified butter) to prevent distress sale of cows but they incurred losses of around Rs 3 lakhs over this because of difficulty in marketing and high costs of making good quality ghee.

BOX 8: DAIRY AND LIVELIHOODS

The Village that Came Back

Sambwar village in Lakhpat has an interesting story to tell. Jiwabhai Kanabhai Rabari recalls that after the 7 years of drought, the village emptied out 20 years ago with only 13 out of the 80 families remaining. Since the past few years, after the dairy has been established, families have started coming back, with around 40 families living in the village at present. He himself had also left at that time, and has not been able to come back since his land has been acquired by the government.

Sawabhai Rajabhai of Sambwar village, Lakhpat, has returned home with his family. They left 15-16 years ago to work as daily-wage earners in construction labour. They have three buffaloes now with the milk going to the dairy (with the prices of Rs 30-32 per litre and around 25 litres per day). While dairy is not the sole reason, it was a major attraction for them to come back. He also practices rain-fed agriculture, growing mostly castor.

Dairy in Banni

The dairy has provided livelihoods to the migrating youth in Banni as well, as witnessed in Adhiyan village, Goriveli panchayat, where a dairy was established in 2008-2009. Dilthar Maulana Mutwa came back with a single buffalo in 1995 after 10 years of Mumbai life. He now has 15-16 buffaloes, sells on an average 40 litres of milk to the dairy, leading to a substantial increase in income. He recalls selling milk to Bhuj earlier at Rs. 10-11 per litre and also incurring transport costs. He feels that if the dairy had not come, the dependence on sale of charcoal for livelihoods would have been much more and many more youth would have migrated out of the village. Hajigul Mohammad Siddhi of Hodka agrees that the dairy intervention since 2010 has helped in the Banni. Earlier he had to go to Bhuj to sell milk and work as labourers.

distress migration towards towns and cities for working in factories had seemed to be the predominant option (See Box 8).

Keeping camel and sheep economy alive:

The dairy helped households keeping cows and buffaloes but camel and sheep were neglected. Camel-based pastoralism is especially threatened. Camel milk is not taken by the dairies. Before mechanization camel was used in draft, for ploughing, and for travelling, but these uses are declining. Their grazing resource is also under attack, being diverted for industrialisation. As per figures with Sahjeevan, population of camels has dropped from 17000 in 1997 to 8000 in 2007 (with only 250 households keeping camels now). For instance, in village Sambwar of Lakhpat (mentioned in Box 8 in the context of dairy-based livelihoods), camel maldharis talked about the sharp reduction in number of camels they keep, because of lack of viability of economy. Sawabhai Rajabhai is a camel maldhari who used to have 50 camels earlier and now only 8-10 camels (having sold most, and bought goats instead). Mamubhai Pabawe Rabari had 60-70 camels, sold them 15 years ago, buying sheep and goats instead.

In this context, Sahjeevan's approach has been to focus on checking reduction in camel numbers and also giving attention to the grazing resources. For checking reduction in numbers, the group has been involved in advocacy for camel health services, and promoting utility as a source of livelihood in the present scenario. For the promotion of utility, there are ideas of marketing camel milk, and of creating products of camel wool. Both are, however, still at the planning state. In milk, challenges remain in fixing a pricing policy (cannot be fat-based, has to be based on medicinal value), and in checking chances of adulteration at collection points. As per Indian Food Standards and Safety Authority camel milk is not a food item so a license will



Goat herd

have to be procured. Sahjeevan has started the process for it, with Gujarat Animal Husbandry and Natural Research Centre taking responsibility for this. A project on creating and marketing camel wool products to support camel-based livelihoods in Kachchh has been initiated in collaboration with Khamir but is still at the planning stage.

2.2.2b Backward Linkages

Work on Conservation and Recognition of Breeds: During the dairy intervention, it was realized by Sahjeevan that traditional livestock-keeping systems were more alive in some places than others. This led to interest in breed conservation work. The local livestock breeds are categorized as 'non-descriptive'. As a result of this, they are kept out of various government or NGO breed improvement programs. The need for government recognition of breeds and mobilization of breeders was felt. The work began with focusing on the buffalo breed kept by maldharis (pastoralists) in Banni grasslands. In January 2008, the first pashu mela (animal fair) for Banni breeders was organized. Till October 2008, an ad hoc

committee worked on the sangathan structure, functions and membership. In 2009 the Banni Breeders Association (BBA) was registered as a society. In April 2010, the Banni buffalo was registered. The idea was that breed conservation in Kachchh cannot be by simply introducing crossbreeds from outside such as Jersey and Heifer. A pilot study on breed conservation was done involving 100 buffaloes. The process included community registration, planning by local experts, work on dairy, health and pashu melas. The BBA has later been crucial in raising issues of community-involvement in grassland planning and also in attempts to claim access and management rights over their community resource (see Box 9).

The work on camel breed conservation was started with government aid. To collectivise camel maldharis of Kachchh, an association or collective by the name of Kachchh Unth Ucharak Maldhari Sangathan (KUUMS) has been recently formed and the first pashu mela was held in 2014. During work on surveying camel maldharis, it was realized that a separate unregistered kharai breed, more

BOX 9: CLAIMING COMMUNITY RIGHTS ON GRAZING IN BANNI

(as told by Isa bhai Mutwa of Banni Breeders' Association, BBA)

Pastoralists have been recorded as having been grazing in Banni from faraway lands of Saudi Arabia, Iran and Pakistan for the past 700 years, and settled in the Kachchh region around 500 years ago. In 1880s, this land was recognized by the erstwhile Maharaja as their grazing resource. It had 4 streams running through it (now most of these have been destroyed by salinity, or reduced in flow because of the many small dams upstream). After India gained independence in 1947, the status of land and settlements in Banni remained unclear. It doesn't come in revenue land, yet in 1965, 13 panchayats and in 1998, 19 panchayats within Banni were recognized. Parallel to this, in 1955 Forest Department recognized it as a Protected Forest. In 2001, industries started creeping in. In 2003, a working plan was formulated by the Forest Department based on the 1955 map. In 2008, Banni Breeders' Association was made by maldharis to stabilize pastoralism in the Banni grassland as a sustainable livelihood. In 2009, when implementation of the working plan began, BBA sought information on its details. 'We realized the threats as well as the lack of acknowledgement of the maldhari existence and role within the plan.' In 2011, a mass rally (of around 10000 persons) with the cry of 'Banni ko Banni rehne do' ("keep Banni as it is") gathered attention in Bhuj.

In an unprecedented exercise in February 2014⁹, around 46 villages in the Banni grassland claimed community rights over the 2400 sq km area of Banni under the The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Rights) Act 2006¹⁰. This is the first known claim by a pastoralist community on a grassland in India. The claimants have viewed the Banni as a whole (rather than village-level plots). They maintain that mutual understanding and customary use has been in relation to the entire Banni and any disputes that may arise are resolved internally.

9. See newsreport <http://epaper.indianexpress.com/234506/Ahmedabad/25-February-2014#page/6/2>

10. This Act, also called the Forest Rights Act or FRA seeks to provide legal recognition to customary access, use, management and ownership rights on forest land in India. Village-level committees through Gram Sabhas are supposed to file for claims at block level, and receive titles of recognition from the District level committee.

adapted to the mangrove regions of Kachchh, existed. This breed has now been registered. The work on camels is new and they are still grappling with how to conserve traditional knowledge, prevent habitat loss and make their livelihoods viable.

Biodiversity protocols¹¹ of Banni buffalo maldharis and camel maldharis have also been drafted. Sahjeevan's focus has now shifted more on grassland conservation and securing rights over access and management of customary grazing resources by pastoralists, while the work on breeds is being taken forward more by the breeders' associations.

Management of Grazing Resources: This includes conducting participatory mapping exercises, advocacy for access and management rights (see Box 9 for information on claims of community forest rights in Banni) and also conducting collaborative research such as the initiative called RAMBLE (Research And Monitoring in the Banni Landscape) being coordinated by Sahjeevan. A large part of this work is done as a facilitator with the maldhari collectives (BBA and the KUUMS) being active contributors and participants in the process.

The participatory resource mapping for biomass, water and biodiversity is taking place for two landscapes- for the Banni grassland-with 19 panchayats of BBA and for camel grazing resources over Kachchh landscape (with KUUMS). At panchayat level, a participatory conservation and management plan is being developed, at cluster level, multiple ecosystems are being included based on seasonal dependency of resources. Panchayat level exercise is for understanding the carrying capacity of the grazing resource, and identification of composition and distribution for preferred grasses. Using geo-referenced Google imagery and focus group discussions, a map of the community grazing resource is

prepared with the help of K-link foundation, another member of the Abhiyan which focuses on use of technology for communities. The intention of the mapping process is to make a biodiversity plan based on an understanding of geology, biodiversity, ecology and traditional knowledge, to eventually come up with landscape level plans. For Banni, an objective of this plan is to also present an alternative based in sound knowledge to the current working plan being discussed by the Forest Department. Pankaj Joshi of Sahjeevan feels that stall feeding and ploughing can destroy Banni through habitat conversion and destruction of food webs of a grassland ecosystem, and under working plan of the forest department that is exactly what is planned. The mapping exercise for camels has helped identify 13 grazing routes and clusters. During this exercise, issues of industrialisation, and inter-panchayat conflict over water resources were raised. This has led to advocacy for small water structures in some of the areas lacking water-holes, such as Balesar. Diversion of grazing land was a pertinent issue raised, with jetties and power plants in Mundra, industries in Bhachau and coastal areas and mining in western Kachchh.

2.2.2c Discussion on Overall Approach in Animal Husbandry/Pastoralism

Within animal husbandry, Sahjeevan's approach (directly or through collaborating institutions) has been on:

- ◆ Facilitating dairy linkages supporting local livelihoods, helping reduce migration
- ◆ Supporting veterinary services and micro-financing livestock-keeping
- ◆ Work on local breed conservation
- ◆ Overall landscape-management approach, looking at grazing areas and water sources together
- ◆ Learning from traditional knowledge
- ◆ Initiation of efforts to make camel maldharis' livelihoods secure

¹¹. These are documented articulations by local communities of their ways of life, systems of stewardship and engagement with their ecosystems and serve as a platform for laying out terms of engagement with external actors such as the government, NGOs, research organisations, etc.

- ◆ Advocacy with the local government for focus on grazing resources, decentralized management (e.g. through Biodiversity Management Committees (BMCs), under the Biological Diversity Act 2003), community forest resource governance through FRA, etc.
- ◆ Initiating participatory ecological research with collaborating institutions

While Sahjeevan acts as a facilitator, the activities are mainly being carried out through local community associations and collectives. The approach has been essentially multi-pronged, creating linkages within communities, with research organisations, with other members of Abhiyan, with the government.

As seen above, it still faces challenges, at the level of official conservation attitudes (which often ignore grasslands), breakdown of pastoral economies and technological and procedural challenges in re-initiating them, and threats to the grazing resources and the pastoral way of living from the industries (detailed in the section on larger challenges). There is also a concern, recognised by them, but not yet tackled, of the societal shift towards a fat-based dairy leading to sale or abandonment of cows and a disproportionate increase in buffalo-keeping which is more water-intensive than cow-keeping. The attempt in making ghee (clarified butter) from cow-milk (mentioned earlier in Box 7) was in response to this concern, but could not be economically sustain itself because of lack of willingness to pay a higher than normal price for the product.

2.2.3 IN INITIATIVES IN CRAFTS

In crafts, the work began in KMVS with embroidery, with the idea of women empowerment alongside supporting and promoting embroidery as a skilled art. This evolved into Qasab which has had a significant contribution both in community building and in providing dignified livelihoods to many artisan women. While substantially supporting and popularising embroidery as a craft, it has focused more on a community of artisans. The decisions on what to do with the

money are being taken by the women while the marketing end (to whom, where, with what designs) is being taken by an office team that consists of people from outside the communities also. For embroidery, various other models are also present in Kachchh (Srujan- which has a philanthropic client-sponsor approach, Kalaraksha- which is very preservationist in its designs and KMVS which has a feminist approach). For the purpose of our case study the focus in crafts is primarily on discussing the approach being taken by yet another organisation, Khamir.

2.2.3a About Khamir

Khamir (Kachchh Heritage, Art, Music, Information and Resources) was created in 2005. The word Khamir means 'pride' in the local language. The idea was to strengthen and support continuation of crafts (especially other than embroidery) as a lifestyle, keeping in mind the socio-cultural and ecological context. Six threatened crafts (block-printing, pottery, lacquer-work, metal-bells, weaving, and leather-work) were prioritised and the initial focus was to build entrepreneurship. It also helped in provisioning of raw materials where needed, and in creating market linkages. In the context of changing social dynamics and linkages between communities, and aspirations for life, Khamir is slowly getting away from the front-end of design and marketing, more towards understanding and working on the relationship between craft and ecology. Also, rather than working with a constituency of artisans, the objective here is to influence the sector as a whole. The idea is to build upon and work with the values of environmental sustenance, community practice, sustenance of knowledge systems and a sustained pride in craft.

2.2.3b Their Approach

Their approach is to intervene at the following levels¹²:

- ◆ **Engagement:** creating a dialogue on the value of crafts and also opening out local narratives of artisans through exhibitions, schools and university visits to the centre and encouraging research and documentation.

12. Source: <http://www.khamir.org/work>

- ◆ **Trade Facilitation:** connecting artisans with markets and facilitating fair trade while emphasizing the importance of trust and relationship-building.
- ◆ **Artisan Services:** identifying critical needs within each craft area, followed by a series of interventions to address these. These are related to raw-material procurement, credit, social security, appropriate technologies, skill development and offering a crafts studio.
- ◆ **Innovation:** This relates to devising innovations in raw-materials, processing techniques and products, while trying to be conscious of its environmental impact. The three current innovation programmes relate to kala cotton, sheep wool products and plastic recycling through woven products.

2.2.3c Levels of Interaction

Following are some of the main levels of interaction within their work, as emerged from conversations with the Khamir team:

Craft and Ecology: It is felt that both in terms of raw materials and in implications of the craft itself, there are intricate links with the surrounding ecosystem which cannot be ignored. Work on these is in collaboration with other organisations. For understanding issues related to access to soil for traditional potters, Khamir, with K-link and Setu, did a mapping exercise of sites which served as clay and white mud sources, and are currently being threatened by change in land-use, especially industries. This has been followed by advocacy for reclaiming these soils as customary resources of potters. They have also been working with another Abhiyan

member, Arid Communities and Technologies (ACT), on issues of potential water scarcity and water pollution related to block-printing. It also links with KMVS's groups of women garbage collectors (Sakhi Mandals) to create a local supply chain for Khamir's Plastic Recycling Project. This creates woven plastic products such as bags and wallets out of waste.

Craft and Culture: Understanding that crafts for artisans is a way of life, the relationship between craft and culture is constantly explored and highlighted through exhibitions and workshops. Khamir collaborates with KMVS-supported Sur Vani, an association of Kachchi folk musicians for organising cultural events. In collaboration with Sahjeevan, historical and present socio-cultural connections between pastoralism and crafts are being explored through a long-term research and documentation project which is planned to culminate in an exhibition in 2015.

Craft and Economy: The initiatives in sheep and camel wool and in Kala cotton are trying to support connections between craft and economy but with an ecological perspective.

Sheep and camel wool: As mentioned earlier, Khamir is collaborating with Sahjeevan for facilitating livelihoods based on sheep and camel wool. For initiatives in sheep wool products, linkages have been broken so that today Kachchh weavers buy sheep wool from intermediaries in Bikaner. Spinning is no longer in Kachchh. Khamir is working on reviving sheep wool economy. Procuring appropriate quantities for weaving is still a challenge they are grappling with. There is also interest in promotion of camel wool



Embroidery from Banni



Marketing store in Khamir

products. The front end related to working with maldharis on how to shear and clean, get sufficient volume and make it viable, lies with Sahjeevan. A pilot project for this was undertaken in 2013, procuring 140 kg of rough wool, and ending with 3 kg of fine wool after processing. Efforts at fine-tuning the process for implementation are still ongoing.

Kala Cotton: This was a product of a collaboration between Satvik, Setu and Khamir to create kala cotton cloth out of rain-fed organic cotton and attempt to capture all steps of the process. Some part of processing (spinning) is still out of the local loop, but other steps have been substantially integrated. The cotton is procured from some pockets of Adesar through the Rapar producer company, and after creating a thread out of it, is given to weavers in some parts of Kachchh for weaving a cloth out of it (see Box 10). Khamir is now selling high quality cotton yarn across the country. The process has led to indirect support to the weavers by establishing a benchmark for weaver artisan wages and has provided them a rallying point in this regard to demand

better terms of services from other traders.

2.2.3d Discussion on Overall Approach in Crafts

As evident from the discussion above, the approach of Khamir in crafts has been at one level to create local entrepreneurship, and at another level, to support and strengthen linkages of crafts with ecology, economy and culture. The work has been through collaboration with different organisations and individuals building on synergies and strengths and a range of stakeholders can exchange ideas and collaborate under a common roof. It also works to shift consumer perspectives and raise the cultural value placed on crafts. The vision is of a vibrant, sustainable Indian craft sector in which crafts and artisans alike are highly valued by people worldwide.

In terms of achieving their objectives, they feel that they are still at a stage of learning and grappling with many challenges, both at a technical level and the level of influencing overall social perceptions of value of craft.



Kala cotton tuft



Weaving in Kachchh

BOX 10: WEAVING AGAIN WITH ORGANIC COTTON

Narayan Walji Bunker is a traditional weaver living in Mota Jamthada (the village Jamthada has 300-400 families of weavers living in Mota Jamthada, while the Chhota Jamthada has agriculturalists). He gave up weaving kala cotton decades ago (when demand from the Khadi Bhandar stopped coming because of a change in policies) but has restarted recently. The labour wages received for weaving a Kala cotton shawl are much more than what they get for their woollen shawls. Weaving Kala cotton requires great skill. He says, "Thread is hard to weave, an amateur cannot do it. You have to be skilled. In us, weaving is in the bloodline." Most of the other weavers, except for a few associated with Khamir who use Kala Cotton, continue to weave with wool using fine thread sourced from Ludhiana.

He recalls: "in earlier times, the status of weavers was better, and the relationship of farmer-weaver was on more equal terms, sometimes we would loan them cloth out of kindness and they would only pay us at harvest time later. Now, they are much richer, whereas we are poorer."

3. Larger Challenges

Following are the major challenges (as identified by the organisations steering the initiatives) encountered in realisation of their key objectives of socio-economic, ecological and cultural sustainability of local livelihoods in Kutch:

3.1 Education

According to Shailesh Vyas and Ramesh Mukwana of the Satvik team, education has an important role in how we perceive things. Our present predominant education system being geared towards maximising material gains over a short period of time is a concern. There is an attitudinal change such that knowledge may not change behaviour towards judicious use of water or safe-keeping of soil fertility. In rain-fed farming because of the risks associated with crop failure, there is a tendency of the farmer to adopt green revolution farming practices wherever possible and predominantly the attraction of short term material gains remains high. For retaining farmers in organic agriculture non-economic motivations (such as the ethics of respecting the soil, or of ecological sustainability) will have a role, which seems challenging. Academic research scarcely aims to be accessible to the small-holding farmer. Moreover, our present approach is to devalue physical labour as something that needs to be reduced at all costs (if not eliminated).

3.2 Predominant Policies

The policy framework needs to support decentralisation and environmental sustainability. In animal husbandry, Sabyasachi Das of Sahjeevan pointed that rather than having schemes for huge investment in borewell and fodder-plots, using lesser investments, successful conservation of the present grazing resources could be possible if the intention had been to focus on latter. Instead, government policies have a limited focus on livestock, barely any on grazing land management, and view water and livestock as separate issues that can be dealt with by separate committees rather than as an interconnected whole. The coming

of the dairy has increased overall livestock numbers without a concurrent effort in commons management. Within this livestock increase, disproportionate increase in buffalo numbers because of the higher fat content in milk could have implications on water conservation.

In agriculture there are many policy level challenges that are preventing the practices from having judicious resource use and staying or becoming organic. Water costs are not accounted for and when we export crops (especially irrigated crops) we are exporting our valuable water resources. Shailesh feels that if we start getting charged for water use in agriculture, organic farming will indeed flourish. At the policy level, there is a lack of focus on efforts at drip irrigation, and more on promoting cash crops such as castor and Bt cotton. Govt. policy is also not sufficiently talking about seed conservation or developing seed varieties with unique characters (except production geared, irrigation geared). When there are efforts, very few, more focusing on seed banks. While urea and DAP subsidies have led to a huge shift in practices towards inorganic, there is insufficient attention paid to Non-pesticide Management. The government subsidies have for a large time been linked to companies selling huge tractors even though such high powered tractors are not technically required for Indian soils, where a 10HP tractor is sufficient. The approval for field trials of GM crops by Genetic Engineering Approval Committee or GEAC in July 2014 is also a cause of grave concern. Allowing Bt trials in 70 crops (including traditional crops) will be devastating in particular for cross-pollinated crops as it will become hard to keep



Samples of seed varieties

traditional seed without Bt infestation. The argument is not that Bt necessarily destroys soil fertility. The real argument is for having an environment where diversity in varieties can thrive and there is informed decision-making.

In crafts, Meera Goradia of Khamir pointed out that support to handloom in the government has actually reduced over the decades, with the earlier rules being more supportive of small enterprises.

3.3 Forces of Industrialisation

In discussions with the Sahjeevan team, industrialisation and its associated concerns were often raised. Kachchh was opened out for industrial development particularly through the tax-holiday after the earthquake in Bhuj. Factories have been set up with lax environmental regulations often causing air, soil, noise and water pollution. Traditional grazing routes of camels and common grazing lands for cattle are also being threatened by the Adani port in Mundra. In the Banni grassland as well, industries started creeping in, beginning with Thapar-Solaris in Khavda in late 1980s, then Agroc cell in 1992, and Archan 4-5 years ago. The promise each time is of providing employment to the local youth but the Banni residents have realised that the disadvantages (including pollution, health hazards) outweigh the benefits (see Box 11). The BBA has decided that they would not let any more industries come inside the grassland. 'People got attracted by a promise of 240 livelihoods by Archan and opened their grazing resource for exploitation. Why do we not think of the many more livelihoods being provided by the land on its own?' asks Isa bhai Mutwa of BBA.

3.4 Market Forces

Present choices of ways of living and doing things have a deep connection with market

forces. In agriculture, as highlighted by Satvik, overall trend of rabi wheat, summer groundnut and green fodder in rabi season and summer is increasing while in Kharif, focus is on Bt cotton and castor (rabi and kharif refers to the dry season and monsoon cropping season respectively). This implies increased water use in agriculture for growing these crops. While predominant market forces encourage a certain kind of crop pattern, they discourage agriculture using traditional seeds by low availability and accessibility. It is hard to find traditional seeds in the market. People are reluctant to buy loose seeds as they have less credibility and more chances of failures since characters are not mentioned. There are fewer chances of trials for these seeds since there is very little demand. Same is the case for selling such seeds, as traditional seeds are often small whereas people's demand is often for large-sized seeds without there being much rationality behind it. Also, in case of cluster-bean, a few years ago, because of high prices being offered, there was an increased instance of export to Gulf countries for fracking which is an environmentally destructive activity, instead of its customary use as fodder and feed for their livestock.

Yet, within the market, there is also some hope as urban demand for traditional crops and their products (such as pearl millet (*bajra*), brown rice, brown bread, etc.) is increasing leading to an increase in their prices. Satvik feels that farm-saved seed will slowly gain preference as seems to be happening in case of groundnut.

A larger challenge is also of keeping cycles of production and consumption local or regional, when it is more in other countries that organic crops and agricultural products are having a good market demand.

BOX 11: INDUSTRIALISATION IN KACHCHH

Hira Bamu Rabari tells about the dust that is spread all over the land, animals and humans in his village Jhandwa in Lakhpat for the past 20 years because of Sanghi Cement factory. The factory has also led to drying up of village water resources by cutting connection of the village to the stream (a recent fine of Rs 10 lakhs has been imposed by the government on the factory in this regard). Factories of Jaypee and Birla are also enclosing the village at present.

4. Emerging Values

Advocacy and work on organic farming, traditional seeds and seed diversity, grazing resource conservation, conservation of local livestock breeds as well as work on crafts-ecology linkages points to an approach where the attempt is to achieve financial and resource security with environmental consciousness and through empowerment of local institutions. It can also not be forgotten that the initiatives began as a means of empowerment of local women through crafts and their meaningful participation in decisions and directions pertaining to land, water and soil issues.

In these initiatives (be it natural resource management, marketing or social consciousness), the focus for implementation has primarily been at cluster level- through setus, sangathans and breeders associations, and producer companies. There has also been a noticeable transformation of knowledge centres or servicing units into separate small and several independent institutions over time. Yet these independent units seem to share many common principles and values. From discussions with the various organisational teams, field visits and a review of secondary data, the following core values common to these initiatives seem to be emerging:

4.1 Decentralisation

As articulated by Sahjevan, decentralization is the key to sustainable, uncomplicated solution finding. So any management system or technology that solves a problem at the nuclear level need not be pursued at a village or cluster level. This has also been maintained by Satvik, where the belief is that future of these initiatives lies in effective and responsible producer companies which will only work if they have a visibility at the end point.

4.2 Rights with Responsibilities

It is seen that rights come with responsibilities. In Banni grassland, while there is advocacy for recognition of grazing rights, there is also an effort to formulate a participatory conservation plan. In crafts, the

block-printers are encouraged to hold responsibility for treatment of the water resource which may be polluted by the dyes.

4.3 Practices Informed by Environmental Concerns

Saleem Desai Node of Sargu village, of Banni Breeders Association asks- 'for building our houses, we turn mountains into dust, but who out of us can turn dust into mountains?' In the discussed initiatives, solutions that are tried out and practices that are encouraged are informed by environmental concerns. Therefore animal husbandry must find solutions to increasing the grassland cover in Kachchh, fisheries cannot be promoted without mangrove conservation and water exploitation must go together with recharging. In agriculture, the soil and the water needs to be respected before finding any seed or crop related solutions.

4.4 Context and Diversity

The initiatives try to work out local solutions to local problems. The attempt is to build upon the strengths of the district for basing livelihoods on local seeds, breeds and skills rather than trying to implant solutions from outside. There is also a respect and appreciation of diversity in knowledge, in ways of living and in the value of physical work.

4.5 Well-being rather than Economic Growth

The focus has been on social well-being and justice rather than economic and structural development. Connected to the 'rights with responsibility' is the value that while there is engagement with markets because of present needs and aspirations, economic growth cannot be pursued at all costs, especially environmental and socio-cultural costs. As articulated by Ramzanbhai Halepotra of Banni Breeders Association, 'We must not destroy our hut looking at another person's palace.'

5. Larger Implications

The connecting thread in these initiatives seems to be the realisation that there are serious problems with our present

predominant way of living, its consumption patterns and its lasting impacts on our environment. In this context, these initiatives have questioned and raised a consciousness in the district on the model of industrialization vis-à-vis the environment, water and traditional occupations of Kachchh. They have suggested that instead of considering dry land as a wasteland, investment of time and effort in the dry land itself using an ecosystem approach and supporting marginalised communities can create a sufficiently viable economy.

Can this consciousness in approach regarding industrialisation, environment, water and traditional occupations develop into an alternative vision? While not articulated, a practised vision seems to be emerging of respecting the interconnectedness amongst culture, economy, politics and ecology based on the values described above. Linkages between agriculture, animal husbandry and pastoralism are being strengthened to revitalise the socio-cultural, economic and ecological relationships. The collectives of women, pastoralists, farmers and artisans are simultaneously engaged in struggles to protect and defend their commons. As articulated by Ramzanbhai Halepotra of Banni Breeders Association, 'Our traditional livelihoods cannot go hand in hand with the present form of industrialisation. If the attack of industries continues, nothing will remain. My vision is that in the time to come, we need to be prepared for poverty. In that world, there may not be money but there will be peace.'