Imprints of Ecological Footprints ...
A compilation of Ecologically Sensible Good Practices

IFHD

WASSAN
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Aug 2016

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Acknowledgements

I am very happy to present "Imprints of Ecological Footprints .... A compilation of Ecologically Sensible Good Practices".

I take this opportunity to thank all organizations and individuals who contributed to the process of documenting these good practices. They were kind to frankly share with us their experiences, thoughts, challenges and achievements. They also shared relevant data to substantiate any critical point from their experiences. Some of them even prepared the first drafts of these case studies. They also revised them, based on our feedback. All the organizations/individuals happily gave consent for publishing these case studies and using them for learning purposes under "Leaders for Nature" program of IFHD, IUCN, CII, Hivos and Wild Life Trust of India. The entire process of producing this compilation was an enriching and fruitful experience. It is also a humbling experience for us to learn several lessons from these interactions and visits to several villages/sites. We genuinely believe that this compilation truly enriches the learning processes of "Leaders for Nature" program.

The Writeshop was one of the important events of this process. We got guidance and feedback on the '0' drafts from the participants of the writeshop. This was useful in refining the initial drafts. The participants of writeshop also made important suggestions on the presentation and utility of these case studies. From their busy schedules, they spared few days for refining these case studies, which is a very kind gesture. I thank everyone who participated in the writeshop. Their inputs are invaluable.

I thank Ms. Aruna Rangachar Pohl, IFHD for having faith in WASSAN and entrusting us the responsibility of compiling these case studies. She is an active team member at all critical stages of the project and guided us on choice of case studies, structure/framework, presentation, etc. The partnership with IFHD is really cherished by all of us, at WASSAN.
I also thank the family of artists of Cheriyal - Shri D Vaikuntam, Mrs D Vanaja, Mr D Vinay and D Rakesh, who visualized these experiences in their own unique style.

My team -MB Vali, Anitha Vustela, Waseem Mohammed, Benita Mahanta, Radhashree who spent considerable time on this agenda. I also thank K Suresh for providing editorial inputs and support at various stages of this process.

MV Rama Chandrudu

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Foreword

It is almost three decades back, the threats to "Our Common Future" were formally identified and deliberations started gaining more steam and support from governments too... (Our Common Future,Gro Harlem Brundtland, 1987). Climate Change and its implications were also slowly getting recognized during this period. The need for "producing more with less" was also part of this thinking process, as a means to address the challenges of the future. Over a period of time, the world witnessed more economic distress, unemployment, political turmoil and ecological disasters across different countries and regions of world. Those early predictions seemed to be less threatening than the current reality. The global gloom got predictable companions - unscrupulous industrial growth, irresponsible urbanization, careless global politics, dishonest governments, self-centric citizenship, which tried to glorify the current trends as achievements and inevitable solutions.

In the middle of such despair and misery, there is a hope. "Imprints of Ecological Footprints - A Compilation of Ecologically Sensible Good Practices" is a compendium of good practices that brings the efforts made by relentless civil society organizations, citizens and community based organizations, to change the direction of this trend. These experiences bring cheer and hope in the lives of thousands of rural, tribal and urban citizens in India, who are part of these experiences. They were able to take a different path that is less travelled and troublesome. There were several challenges, at each step and milestone. But they continued their journey and proved that "producing more with less" is possible. They also ensured that the ecological and environmentally sustainable processes are feasible for improving economic standards and quality of life of poor communities.

These case studies give a hope and confidence that we can face the cruel world and transform the same into a comfortable place for all - including endangered species, poor and marginalized communities. While Corporate Social Responsibility is gaining more support
from governments, corporate agencies and development agencies, these experiences provide guidance and help them to think about alternatives. These experiences help the willing and discerning development agencies and investors in social change, to transcend the mundane "photo stories" of majority of current CSR interventions. They provide an array of options, strategies and ideas that proved themselves in different parts of the country.

I thank all the organizations and agencies who shared their stories - highs and lows of it, with us frankly and completely. I thank them for providing leadership on the chosen theme - promoting biodiversity; conservation and governance of natural resources; promoting ecologically sensitive production processes; enhancing livelihoods by developing environmentally harmonious economic models and several others. These experiences are invaluable and are certainly useful for provoking thoughts in the minds of participants of "Leaders for Nature" programs, which are jointly organized by IFHD, IUCN, CII, Wild Life Trust of India, HIVOS and other like-minded organizations. I thank WASSAN for producing this compilation of case studies and supporting us in this endeavor.

Aruna Rangachar Pohl
IFHD, Bengaluru
Aug 2016
Social responsibility and commitment towards sustainable development solutions have been the core ideology and mission of the Kamalnayan Jamnalal Bajaj Foundation (KJBF). As the Foundation started its intervention in 2009-10 in Wardha, it realized that the river systems, which had long been the lifeline of agrarian society, were in fact no longer so.

The rains have always played mischief with the fortunes of the hapless farmers in the rain shadow area of Vidarbha. Though the annual average rainfall is about 1080 mm, it is erratic and distributed in three to five spells. 3-4 days of rainfall often accounts for almost half of the annual rainfall. To add to the farmers' woes, years of negligence resulted in the siltation of drainage channels reducing their carrying capacity. During periods of torrential downpour, the crops get damaged. The farming community faced problems of flood almost on a regular basis and incurred loss of crops, soil erosion etc. All this has affected the farmers' income and to an extent was responsible for the spurt in farmers' suicides.
**Intervention**

The work on reviving the lifeline of the farmers started in 2009-10. The Water Resource Team initially started planning for check dams across streams. The idea was to build structures that would give farmers access to water, particularly for critical irrigation during sudden withdrawal of monsoon or during long dry spells between two rainy days. They referred to topography sheets to identify locations for these structures. This was followed by a transect walk along with the community. This would provide the team with a glimpse of the real situation on the ground. It would also help identify issues of concern and the potential partners. However, the transect walks revealed that in many locations the streams marked on the topography sheets do not exist. The farmers encroached them and had been cultivating them for several years.

The farmers had to be convinced about the need for reviving the streams. It invariably meant that someone had to give away part of their land for the excavation of the stream and formation of bunds. This needed gigantic efforts from the team, the village level volunteers and the members of the Village Development Committees (VDCs). Decisions were made with the involvement of the community.

The field to field surveys under net planning exercise ascertained the total discharge along with the depth, width and the location of drainage points. This also gave an estimate of the total cost. The plan and estimate were shared with the user groups and their members. KJBF used both individual and group discussions to explain the design to the farmers. The financial plan along with the necessary roles and responsibilities of the community and the farmers was shared and debated upon. The farmers had to agree to the design, and for their contribution.
KJBF believes that such interventions would require an institutional arrangement for planning, execution and maintenance. The prospective beneficiaries were organized under User Groups. These groups took part in conflict resolution; speedy execution and in maintenance of structures. The users’ groups are totally involved in the intervention and collect contribution from the farmers. They monitor the ongoing work and are also involved in solving the issues during execution of work. The users' groups contributed 17% of the capital cost for these interventions.

Initially, the mandatory contribution was 10% of the total cost. As a thumb rule revival of a stream with a width of 10-12 meters would cost Rs 10 lakhs. Of this, the farmers contribution would be Rs 1 lakh. After giving ideas to work out individual contributions, KJBF left this decision to the respective user group. With the benefits from the intervention known to them, the contributions came up much faster than expected. In some cases, where farmers could not pay, the contribution came from others within the group.

The execution started after the farmers contribution was deposited into the VDC account. A letter prepared on behalf of the VDC along with the design details and the beneficiary list was placed before the panchayat and a No Objection Certificate (NOC) was procured.

The execution: The village volunteers who were trained at KJBF gave the layout. They marked the channel and also supervised the machines during the work. The user group members also supervise the execution. The machines, provided by KJBF, charge Rs 35/ cubic meter of earth work. The market rate for such earthwork was around Rs 90/ cubic meter. KJBF had invested Rs 2.82 Crores for procuring nine excavating machines. The
charges for excavation are on a no-profit, no-loss basis which covers the operation as well as maintenance cost, salary of the operator, etc.

_The scaling up:_ As the farmers from other villages got to know about the benefits there was great demand for the revival of the streams. The thumb rule of costing is known and the villagers organize themselves and do all the work of collecting the contribution, getting the NOC and then approach KJBF with their demand. The Water Resource Team does the feasibility check of the proposed site and prepares the design. All this is then shared with the users' groups and the finer aspects are worked out. The work peaked during 2013-14 and 2014-15 (see table below). The social engineering process is handled by the village level volunteers, VDC members and the newly formed users' groups, while KJBF is involved in the engineering work.

### Table: Progress of Stream Revival

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Year</th>
<th>Kilometers</th>
<th>Farmers Benefited</th>
<th>Area Covered (Acres)</th>
<th>Wells Benefited</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2009-10</td>
<td>5.620</td>
<td>383</td>
<td>1,695</td>
<td>63</td>
</tr>
<tr>
<td>2</td>
<td>2010-11</td>
<td>17.200</td>
<td>570</td>
<td>2,523</td>
<td>130</td>
</tr>
<tr>
<td>3</td>
<td>2011-12</td>
<td>10.285</td>
<td>276</td>
<td>1,223</td>
<td>73</td>
</tr>
<tr>
<td>4</td>
<td>2012-13</td>
<td>19.930</td>
<td>1296</td>
<td>3,800</td>
<td>305</td>
</tr>
<tr>
<td>5</td>
<td>2013-14</td>
<td>67.200</td>
<td>3074</td>
<td>13,923</td>
<td>879</td>
</tr>
<tr>
<td>6</td>
<td>2014-15</td>
<td>46.700</td>
<td>1478</td>
<td>7,886</td>
<td>581</td>
</tr>
<tr>
<td>7</td>
<td>2015-16</td>
<td>27.160</td>
<td>781</td>
<td>2,123</td>
<td>168</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>194.095</td>
<td>7858</td>
<td>34,777</td>
<td>2302</td>
</tr>
</tbody>
</table>

*Source:* MIS of KJBF

_Reviving the Farmers' Lifeline_
**Bringing in the innovations:** As the work progressed, KJBF suggested some changes in the design for optimizing the results. The first was the excavation of dug ponds all along the revived river system. These dug ponds are of 2 meters depth and 50 to 60 meters in length. Such ponds are dug at an interval of ten to twenty meters. These ponds are sources of additional storage and also serve as structures for recharge. They also act as silting structures in the upper ridges. The silt is available to the farmers who have to use their own tractors to carry it to their land. However, this has to be done with the permission from the users' group.

The second innovation pertains to the bunds. KJBF realized that single-step bunds wear out faster than bunds with two-steps. The two-step bunds do not get damaged from the rain in the first year and can withstand movement of humans and animals. These two-step bunds are now part of the design. These bunds are further stabilized by grasses.

As the stream bunds are at a height above the farm level, often the land adjacent to the bund is water logged. To drain off this water into the river hume pipes are laid as per the design. Farmers in all villages are in agreement with this third innovation in design. For this purpose, KJBF increased the farmers contribution from the earlier 10% to 17%. The additional 7 per cent is in the form of material. The farmers' groups purchase hume pipes for draining the excess water into the river systems. This is happening for over three years now.

**The maintenance:** Every year during summer, KJBF provides guidance and training to the users' groups on the maintenance of the structures. The government funds like MNREGS are not readily accessible for this purpose. The VDCs in some villages have contributed for repairing and desilting the structures. Maintenance is a very important issue and KJBF
along with the VDC and users' groups are working on a better management design to take due care of this aspect.

**Outcome**

The work on reviving the river systems at Wardha has moved from being supply driven to demand driven. After 6 years of intervention, a total of 1,94,095 metres of rivers have been revived. The work has covered over 128 villages and more than 7800 farmers.

'We are water secure today,' are the words of many farmers summarizing the changed situation. With over 90.90 MCFT water now being stored in these river systems one would readily agree. The water security is of much consequence to the farming community. Apart from securing the first crop, they can think of an additional crop also.

*Damage of crops from flooding has disappeared:* 48 farmers of Umari village in Hingaghat Block were suffering from flooding of their agricultural lands during the monsoon months. The flooding damaged their crops and their hopes. These farmers had 76 acres of land. After the revival of the Vativali stream which ran adjacent to their land, the farmers have not witnessed a single year of such damage. Presently, they are harvesting good crop of soyabean and cotton and earning handsome income. The farmers of many other villages like Arvi, Lasanpur, Bambarda, Pawni, Zadsi, Bothali, Ridhora, Antargaon, Tass, Pawnar, Kurzadi, Bothali (P), Rampur, Dhanoli and Hivra too share similar stories.

*Our income from farming has more than doubled:* Hariom Goshala of Lasanpur saw his production of Jowar increase from 15000 kg to a staggering 112500 Kg. His 3.5 acres of land gives him a very good income during the Rabi season. It is the same with Sri Prakash S. Bankar of village Murudgaon in Deoli Block. Prakash gets an additional crop season today.
His income from the Kharif season increased from Rs 69000 to Rs 273000 and with the additional Rabi season he makes another Rs 40000. There are many other farmers like Prakash.

*The returns on investments are very high*: A back-of-the-envelope calculation would reveal that the return on the investment comes back in the first year itself. The farmers have made huge profits from agriculture and are able to use the money for various economic activities. Many were able to repay their debt; many have built their asset base. Housing conditions have improved. They have invested in their children's education. In short, the investments are fueling other investments which will reap better returns in the days to come.

**Conclusion**

The river revival programme costs Rs 14285 per hectare. However, the benefits that the farming community get are immense. Thus, resources have to be allocated towards reviving similar lifelines. State-sponsored programmes (like MNREGS and IWMP) can be utilized for such purposes. If Panchayats are supported with funds and designing such interventions, it would help rejuvenate the rural economy. MNREGS funds can also be used for desilting of the rivers and maintenance of the bunds. Such interventions result in sustainable growth. CSR funding for such interventions will rejuvenate the resource base in rural locations and contribute to the economic prosperity.

**Haribhai Mori, President, Bajaj Group; Nabarun Sen Gupta, Freelance consultant; Mahendra Phate, Programme Manager of KJBF, Wardha; Raju Pawar, Programme of Water Resources Development in villages of Wardha**
About Cheriyal Paintings

Shri D Vaikuntam and his family members Mrs. D Vanaja (wife); D Vinay and D Rakesh (sons) are keeping the tradition of Cheriyal Paintings of Telangana state, for generations. All members of the family are engaged in protecting and conserving this rare art form, that is not likely to survive for long. This is the only family in the country that is still engaged in this traditional art form. The Cheriyal Art has a unique character - red color background; vivid presentation of figures (men, women, animals, flowers, plants and others) with unique strokes and style. This art form belongs to "nakashi" form of paintings in India. But Cheriyal paintings contextualized this nakashi format to local Telangana and improvised it, with their unique styles. Apart from paintings and scrolls, Cheriyal Masks are also very attractive and unique with their bright colors and large eyes. D Vaikuntam received several awards from Central/ State governments, for his unique contribution to Cheriyal Art.

D Vaikuntam and his family members agreed to present the key messages of these case studies. They spent time with us to understand the essence of each case study and presented it in their own style. These pictures further enriched the experiences, which are already exemplary in several ways. WASSAN thanks the family of artists of Cheriyal for their support in visualising these case studies.

Pictures of some of the paintings/ scrolls and masks could be seen on this blog:
http://vaikuntamnakash.blogspot.in/
".....In the middle of such despair and misery, there is a hope. "Imprints of Ecological Footprints - A Compilation of Ecologically Sensible Good Practices" is a compendium of good practices that brings the efforts made by relentless civil society organizations, citizens and community based organizations, to change the direction of the trend. These experiences brought cheer and hope in the lives of thousands of rural, tribal and urban citizens in India, who are part of these experiences. They took a different path that is less travelled and troublesome. There were several challenges, at each step and milestone. But they continued their journey and proved that "producing more with less" is possible. They also ensured that the ecological and environmentally sustainable processes are feasible for improving economic standards and quality of life of poor communities..."Aruna Rangachar Pohl, IFHD, Bangaluru.

"......these experiences are invaluable and are certainly useful for provoking thoughts in the minds of participants of "Leaders for Nature" programs, which is organized by IFHD, IUCN, CII, Wild Life Trust of India, HIVOS and other like-minded organizations. The entire process of producing this compilation was an enriching and fruitful experience. It is a humbling experience for us to learn lessons from the interactions and visits to their villages/ sites. We genuinely believe that this compilation truly enriches the learning processes of "Leaders for Nature" program" - MV Rama Chandrudu, WASSAN