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# PATHARDI, A MODEL VILLAGE: LIVELIHOOD SUPPORT AND NUTRITIONAL SECURITY

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Submitted to"  
GKN Sinter Metals Pvt. Ltd.  
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## Executive Summary

TERI, with the support of GKN Sinter Metals Pvt. Ltd has been working on transforming Pathardi village into a Model Sustainable village for the past five years (*Annexure 1*) with the aim to tackle issues that directly or indirectly affect the health and nutritional status of the villagers of Pathardi. Pathardi is an extremely remote village in Mokhada block of Palghar lacking in several basic amenities and plagued with problems related to water scarcity and micro-nutrient deficiencies.

TERI's initiatives were planned with a focus on improving the nutritional status of the villagers, especially the women and children, improve water availability and accessibility, provide fruit and energy plantations, increase energy access and efficiency, and so on, with health check-up camps conducted to monitor the nutritional status of the target groups.

The fourth phase of the project focusses on increasing sustainable livelihood avenues available to the villagers. The villagers are extremely dependent on rain-fed subsistence agriculture, which is becoming increasingly unpredictable due to changing climatic conditions. With barely any other income opportunities, they are forced to migrate to neighboring towns and cities and find work as daily wage laborers. The harsh conditions these laborers have to live and work in and the meager income generated negatively impacts their health and nutritional status and that of their family members. Thus, it was crucial to generate sustainable livelihood avenues that the villagers, especially the women, could take up as an additional income generation source, that could also provide them with a level of security and resilience to risks in case of unseasonal climatic variations such as unseasonal rains or droughts.

## Objectives: Phase 4

TERI enlisted objectives to circumvent issues related to the following areas that needed to be addressed.

As the fourth phase of the project dealt with the generation of livelihood generation and skill development, the following objectives were kept in mind

1. Capacity building and awareness about sustainable livelihood options
2. Provision of micro-finance
  - Establishing a micro finance group responsible for the revolving fund
  - Capacity building and credit management of the loans under the guidance of a micro-finance expert
  - Volunteer contribution and distribution of the revolving fund within the group
3. Training workshops
  - Training of selected individuals within the group for the training
  - Excursion to the institutions for the training and management course of goat rearing, backyard poultry and willow weaving
4. Establish goat rearing and backyard poultry in the village
5. Generate awareness and training of the youth

## Project activities

### Capacity building, mobilization and awareness about sustainable livelihood options

The villagers were given an orientation about the fourth phase of the project and introduced to the proposed activities that had been planned for the phase.

The villagers were informed in detail about the interventions planned such as promotion of goat farming, poultry, bamboo article making and the provision of micro-finance to help the villagers pursue these livelihood avenues. Discussions were carried out on how these interventions could be planned to maximize their impact in the village. The dates and schedules for different trainings were fixed as per the convenience and availability of the villagers.

The villagers were highly enthusiastic about this phase and agreed to participate in all the activities planned, showing willingness to even procure loans to kick start the livelihood generation activities.

The village had two active Self Help groups (SHG) that were functional, maintaining a revolving fund, and had even obtained loans in the past. Following extensive discussions with the villagers, especially the women, and explaining the benefits of starting a small ruminant animal or poultry business, the women who were not already a part of any SHG were encouraged to come together and form SHG. The formation and membership of an SHG was prioritized to be the medium for obtaining the funds to start goat rearing.

To ensure that the activities being carried out had maximum impact it was necessary to ensure that the villagers became active stakeholders and not just passive beneficiaries. Mr. Diwanji Pawar, consultant with CIDCO with a wide range of experience working at the grassroots level in tribal areas, was invited to encourage and motivate villagers to actively participate and carry out or co-operate with the various interventions planned by TERI. Mr. Pawar discussed with the villagers, the interventions carried out by TERI so far and taking the villagers feedback regarding the same, with many of the villagers sharing their experiences. He explained the need and importance of these interventions, TERI's role in providing these facilities to the village and solutions for any hindrance that could arise in the process of carrying them out.

The villagers were explained the merits of having a secondary source of income such as rearing goats, poultry farming, bamboo weaving, and so on, to supplement their earning which would have long lasting benefits for themselves and their families. At the end of several discussions, the villagers verbally committed to play a pro-active role in TERI's initiatives.

## Training workshops on bamboo cultivation and article making

As the women of Pathardi expressed their inability to participate in excursions to training institutes owing to family issues, workload, taking care of children, and so on, it was decided to bring the various trainers to Pathardi instead, in order to ensure that the women did not miss out on any of the training opportunities.

### **Skill Development- Creation of bamboo articles**

The bamboo plant is a highly versatile plant with several economic and environmental benefits. It is an excellent substitute for wood and ideal for its strength and durability. A number of articles can be made from bamboo such as mats, tiles, artefacts, pen stands, and lanterns and so on, thus having great economic value. Tender bamboo shoots are highly nutritious and consumed, with it being considered a delicacy in several regions in India. In the previous phase of the Model village project (Health and Energy Facilities), TERI distributed bamboo saplings to the villagers both for personal cultivation and also for cultivation on the common land.

#### a) Bamboo cultivation workshop by bamboo expert, Mr. Ajit Thakur.

A workshop was first conducted in order to introduce the villagers to the benefits of cultivating bamboo and the ways in which it can be used for environmental and economic benefits. This orientation workshop was conducted by renowned bamboo cultivation expert Mr. Ajit Thakur. He elucidated on the basic aspects of bamboo cultivation, different species and their economic significance. He encouraged the villagers to take up bamboo cultivation to have a sustainable source of additional income.

The workshop was attended by around 55 people, including 48 women, with great enthusiasm and achieved its objective of enlightening the men and women regarding the economic significance of bamboo cultivation and how it can be an excellent income generation option.

#### b) Second bamboo cultivation workshop by bamboo expert Mr. Rajendra Sakpal

The second bamboo workshop was conducted as a hands on training workshop to train the villagers on the use of bamboo to make articles such as mats, lanterns, pen stands and so on. This was conducted by Bamboo cultivation experts Mr. Rajendra Sakpal and Mr. Thathya. They covered various aspects of bamboo artefact making such as treatment of the raw bamboo as raw material and making it ready for making articles/ artefacts, bamboo weaving, various designs possible and the opportunities in the field of bamboo article making. They also explained the various opportunities available in the field of bamboo article making and its economic significance. He explained how it can be a sustainable source of additional income.

The trainers conducted hands on training with those present actively participating in demonstrating the freshly learned bamboo weaving skills.

The workshop was attended by around 37 people, including 31 women, with great enthusiasm and the skills learnt were even practiced during the course of the workshop.



Picture 1: Bamboo weaving techniques being practiced at a bamboo workshop held in the village by Mr. Rajendra Sakpal



## Goat rearing and Goat farm management workshop

Goat rearing is an excellent livestock breeding option as the goat is a multi-purpose animal producing meat, milk, hide, fibre and manure. Goats have low maintenance needs and can easily be raised as a secondary income source as minimal time is required for their care.

It is ideal for landless agricultural laborers and women. They can easily survive on kitchen waste, shrubs, bushes and the variety of leaves and grasses found in the vicinity

Goats are also more tolerant to harsh weather conditions such as droughts as compared to other livestock. Goat meat, being lean and having less fat, along with medicinal properties, is costlier than several other types of meat and is thus more economically viable. Goat milk is extremely nutritious and easily digestible, and if consumed would greatly improve the nutritional status, especially improving children's health. Even goat manure makes for an excellent fertilizer, having 2.5 times more nitrogen and phosphoric acid than cow manure. Thus, after in-depth research, goat rearing was selected as a sustainable livelihood avenue for the villagers to supplement their primary income.

### **Goat farm management workshop**

A goat rearing and goat farm management workshop was held on the 28<sup>th</sup> of November, 2017. Two goat farm management experts from Krishi Jagruthy Vikas Sanstha, Mr. Shivraj Humnabade (CEO) and Mr. Santosh Karde (Project Officer) conducted the training workshop wherein the villagers were trained on the various aspects of Goat rearing such as most suitable breeds for Pathardi, economic benefits, care and health related information, fodder management, disease management- prevention and control, shed construction and so on.

The villagers were explained in detail about the economic viability of goat rearing and the advantages of closed goat rearing (captive in a goat farm) as opposed to traditional goat rearing. Using modern techniques to rear goats greatly improves their health, increases weight and fetches a higher price in the market. The trainers also elucidated on the care to be provided at each stage of a goat's life

Mr. Humnabade and Mr. Karde also assured the villagers of providing any resistance required by them in the future in procuring and managing the goats or goat farm. 60 women along with a few men attended the training and indicated their enthusiasm to begin goat rearing.



*Picture 2: The goat rearing and goat farm management workshop in progress*

## Provision of seed funding for livelihood avenues

As mentioned earlier, at the beginning of the fourth phase, there were only 2 functional SHGs in the village. Pathardi initially had two SHG but following TERI's interventions and encouragement, 4 new SHG were formed in the village, 60 women now having SHG membership.

The women belonging to an SHG meet once a month, and contribute their savings (a small sum, fixed by the women themselves) into a revolving fund that can be deposited in a bank account created for the SHG, even enabling the women to obtain bank loans with ease. The objective behind encouraging the women to join SHG was to provide them with the opportunity to obtain loans via the banking system to start small scale business ventures. It was also decided to provide the women with seed funding for the purchase of one goat to enable them to kick start goat rearing. The seed funding option as part of the micro-finance intervention was readily accepted by the women, several of whom would otherwise not be able to afford the purchase of a goat.

After thorough research, it was decided to facilitate the purchase of the *Osmanabadi* breed of goats, a highly sturdy breed that is tolerant to drought prone conditions, making it an ideal breed to rear in Pathardi given the local conditions.

The women agreed to take responsibility and arrange funds to partially cover the cost of the goats.

In order to establish a sense of responsibility and stakeholder ship, it was decided that TERI would re-imburse the villagers with 50% of the cost of each goat. It was decided that the villagers would be given TERI's assistance only if the villagers are willing to become active stakeholders, take loans for the same, and so on. The remaining fund was to be arranged by the respective individuals through loans taken via the SHG or other means, which the villagers readily agreed to. After detailed discussions with the villagers, the plan finalized for the procurement of goats and the guidelines to be followed by the villagers was as follows:

- a. Only the SHGs/ individual goat buyers with active bank accounts to be given monetary assistance.
- b. Part funding (50%) to be made available to each SHG member (60 women members) or individuals who are not a part of an SHG after a healthy female adult goat is purchased.
- c. The goats bought must belong to the breeds recommended which would be tolerant to the adverse weather conditions of Pathardi and be more financially viable
  - a. If the women agree to have a combined goat farm (one per SHG, so a minimum of 10 goats in one goat farm), part financial help will be provided to purchase one high quality '*bokad*' or male goat per SHG goat farm. A prototype goat farm will also be established for the same, provided the SHG accepts the responsibility of maintaining a goat farm with combined ownership of all the SHG members

Care was taken to ensure that maximum number of women, even those who were not part of an SHG would benefit from the provision to purchase the goats and be able to begin goat rearing. TERI ensured the proper utilization of the funds provided to the villagers and purchase of good quality goats at the best available price.

## Seed funding for purchase of goats

A total of 73 goats were purchased by the villagers as part of TERI's interventions, with atleast 60 women now owning goats in the village. The women were not in favour of having a prototype goat farm with joint ownership and have thus decided to rear their goats individually.

The goat breeds that have been purchased by the villagers are all varieties that are tolerant to drought with over 90% belonging to the *Osmanabadi* breed that had been recommended. The female in this particular breed has multiple gestations during pregnancy, with the possibility of giving birth to twins extremely high. Thus, the number of goats owned per family can rapidly increase with a little care and maintenance.

TERI plans to give each SHG a 'bokad' or a male goat that will be jointly owned by the women belonging to the respective SHG. The male goat will be selected from a breed (such as the *bhil*) which will ensure that the offspring will be healthy, sturdy and will weigh more than the average weight of an *Osmanabadi* goat, thus giving a higher profit margin.



Picture 3: A few of the villagers with the newly purchased goats

## Promotion of poultry training

A poultry training workshop was conducted on 6<sup>th</sup> April, 2018 wherein SHG members were trained in successfully rearing chickens for poultry farming. The training will be conducted by representatives of an SHG (*Mauli*) based in Sonale village in Wada Taluka in Palghar who are entrepreneurs in poultry farming and successfully run a business selling *Kadaknath* chickens. The women shared their own personal experiences and urged the women to take the initiative to utilize the opportunities being made available to them. They also encouraged the women to try and find information about all the Govt. schemes and subsidies that they could avail of and make the most of these, which in turn will increase their standard of living. The women in Pathardi



Picture 4: The poultry workshop in progress

were inspired by the success story of *Mauli* SHG and expressed an interest to take up poultry farming in the village and run their own poultry business.

TERI also plans to provide Pathardi's SHG women with the chicks of *Kadakhnath* breed, over and above the deliverables that were to be completed as part of the project. The breed has very good adaptability to harsh environments, has good resistance to diseases, and has high quality meat with excellent texture and flavour. The meat of this chicken is also a healthy protein alternative and has very low cholesterol. The eggs too have medicinal properties and will contribute to the good health and nutritional status of the consumers. Thus the eggs and meat of this chicken are considered a delicacy and hence fetch a higher price in the market.

## Annexure 1

Table 1: Previous projects and their impacts

Sr. No.	Project Title	Theme	Impact
1	LaBL (Lighting a Billion Lives), Palghar LaBL, Buldhana (2014-15 and 2015-16)	Energy	<p>The main objective of the project was to provide the villagers with at least minimal lighting requirements to do their daily activities. According to Census of India 2011, more than 2015 villages in Maharashtra are un-electrified and most of them still depend on kerosene or other biomass for the lighting and cooking needs. This not only results in to insufficient illumination to carry out basic tasks related to household chores and schoolwork but also increases the indoor air pollution. As a result, work productivity, health, and education is greatly affected.</p> <p>TERI with a vision of sustainable development and to create innovative solutions for a better tomorrow, has been addressing energy needs of rural poor since 2008 through its initiative of Lighting a Billion Lives (LaBL).</p> <p>TERI has successfully implemented LaBL program in the 7 villages of Palghar district and 4 villages of Buldhana district, to provide the villagers with at least minimal lighting requirements. <b>300 solar powered lanterns</b> were distributed.</p>
2	PROTEIN (2014-15)	Health	Nutrient supplements have been provided to 51 SAM and MAM children and their mothers as a temporary and immediate remedy to address malnourishment under Botoshi Gram Panchayat.
3	Canteen for Teens (2014-15)	Health	The initiative with an approach of “Know, Grow and Cook your own food” has helped addressing the issue of malnourishment among the 700 urban teenagers and their parents in two cities.
4	Promotion of Nutri-Gardens and its allied activities to address malnutrition (2015-16)	Water and Health	8 houses have been installed with grey water treatment systems. Establishment of nutri-garden in all the 57 households to address the issues of micro-nutrient deficiencies and water scarcity to improve the health status of the villagers has been undertaken.
5	Health and Energy Facilities (2016-17)	Health and Energy	<p>More than 3000 saplings of Energy and fruit tree plantation as a sustainable source of fuel and food were planted.</p> <p>57 smokeless chulhas were distributed and a vegetable prototype to encourage vegetable cultivation in summer months has been promoted</p>

## Annexure 2.

### List of SHG formed

<b>1.</b>	<b>Lakshmidēvi Mahila Bachat Gat</b>
1	Heera Balkrishna Bendkoli
2	Lata Eknath Wagh
3	Heera Devanand Bendkoli
4	Sujata Eknath Wagh
5	Sunita Devram Patil
6	Gangubai Devanand Bendkoli
7	Urmila Shivram Pawar
8	Yogita Youvraj Patil
9	Sunita Sunil Thalekar
10	Yogita Raghunath Pawar
<b>2.</b>	<b>Jay Santoshi Mata Mahila Bachat Gat</b>
1	Gangubai Mahadu Sarakte
2	Kalpana Krishna Mukane
3	Changuna Chandar Wad
4	Bhagubai Ramchandra Jadhav
5	Pushpa Devidas Sarakte
6	Shevanti Sakharam Wad
7	Manubai Pandurang Sarakte
8	Meena Ramdas Sarakte
9	Gangubai Givind Mukane
10	Chandra Ramesh Mukane
11	Sangeeta Shantaram Mukane
12	Indubai Shankar Mukane
<b>3.</b>	<b>Renuka Mata Mahila Bachat Gat</b>
1	Gouri Madhukar Shinde
2	Mohini Ashok Shinde
3	Vimal Dinkar Shinde
4	Alka Shivram Patil
5	Vanita Umakant Bendkoli
6	Dhondubai Vasant Bendkoli
7	Anita Yashvant Bendkoli
8	Pushpa Prakash Wad
9	Vanita Motiram Choudhari
10	Meena Sadanand Mukane



11	Ranjana Yadav Mukane
<b>4.</b>	<b>Kalashubai Mahila Bachat Gat</b>
1	Mangal Tukaram Sarakte
2	Ranjana Sunil Hamare
3	Kamal Kisan Sarakte
4	Bhagi Baraku Ghatal
5	Parvati Lakshman Choudhari
6	Meera Dilip Gahare
7	Manjula Bhiva Ghatal
8	Mangal Shankar Ghatal
9	Kanti Janu Ghatal
<b>5.</b>	<b>Sarasvati Mahila Bachat Gat</b>
1	Yogita Ramdas Patekar
2	Shobha Nivrutti Sarakte
3	Shanti Hanumant Patekar
4	Manjula Vishnu Mukane
5	Kavita Sanjay Telavade
6	Soni Bhavadu Telavade
7	Seeta Ramu Telavade
8	Heera Balu Gavate
9	Bhagubai Babu Telavde

### Annexure 3.

#### List of goat beneficiaries

Sr. No.	Name
1	Venu Raju Ghatal
2	Shankar Yashvant Mukane
3	Seeta Ramu Telavade
4	Sakharam Baraku Wad
5	Vishnu Yashwant Mukane
6	Lakshmi Valu Thalekar
8	Sonibai Bhavadu Telavade
9	Kalpana Krushna Mukane
10	Manjula Tukaram sarakte
11	Sunil Shankar Hamre
12	Raghunath Soma Pawar
13	Ramu Kakadu Telavde
14	Kanta Janu Ghatal
15	Meena Ramdas Sarakte
16	Parvati Laxman Choudhari
17	Gangubai Mahadu Sarakte
18	Gangubai Kisan Sarakte
19	Vasant Shravan Bendkoli
20	Manjula Vishnu Mukane
21	Pushpa Devidas Sarakte
22	Bhagi Barku Ghatal
23	Shevanti Sakharam Wad
24	Tukaram Shankar Sarakte
25	Gangu Rama Wad
26	Ramdas Mahadu Sarakte
27	Shobha Nivrutti Sarkte
28	Shravan Sakharam Khade
29	Mangal Shankar Ghatal
30	Bhagubai Ramchandra Jadhav
31	Krushna Yashwant Mukane
32	Ramchandra Lahu Jadhav
33	Umakant Madhukar Bendkoli
34	Kamal Kisan Sarakte
35	Parvati Shankar Mukane
36	Shivram Laxman Pawar
37	Bhimabai Shravan Khade

38	Sanjay Babu Telavde
39	Laxmi Balu Gavte
40	Mina Mohan Padekar
41	Mohan Hanumant Patekar
42	Ramdas Hanumant Patekar (Cheque issued 2nd Time)
43	Devanand Kashinath Bendkoli
44	Chandra Ramesh Mukane
45	Vanita Motiram Chaudhary
46	Anita Yashavant Bendkoli
47	Yamuna Vasant Bendkoli
48	Yashvant Shravan Bendkoli
49	Vanita Umakant Bendkoli
50	Kavita Sanjay Telavade
51	Balkrushnan Kashinath Bendakoli
52	Eknath Dattu Wagh
53	Ranjana Sunil Hamre
54	Bharti Krushna Patil
55	Mira Dilip Gahale
56	Sunanda Kashinath Bendkoli
57	Surekha Prakash vad
58	Shivaram Soma Patil
59	Alaka Shivaram Patil
60	Mangal Tukaram Sarakte
61	Kamal Kisan Sarkate
62	Manjula Bhiva Ghatal
63	Heera Balkrishna Bendkoli
64	Lata Eknath Wagh
65	Heera Devanand Bendkoli
67	Sujata Eknath Wagh
68	Sunita Devram Patil
69	Gangubai Devanand Bendkoli

70	Urmila Shivram Pawar
71	Yogita Youvraj Patil
72	Sunita Sunil Thalekar
73	Yogita Raghunath Pawar