



# PROJECT UTTHAN

**ANNUAL REPORT F20**

**Submitted by BAIF Development Research Foundation**

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# Why Project Utthan?

In northern Gujarat, more than 90% rural communities are largely dependent on agriculture and animal husbandry for their livelihoods and about 70% of them are small and marginal farmers. These are negatively impacted by the following set of problems pertaining to (a) Recurrent droughts, neglected natural resource management and increasing gap between demand and supply of irrigation water (b) Unstable production, increasing cost of cultivation, reducing net income, increasing risks in agriculture and livestock (c) Lack of post-harvest value addition, poor price realization, exploitative market, and collective actions and d) Poor information dissemination and access to govt. social inclusion schemes particularly by vulnerable sections, women, other deprived community through gram panchayats e) Poor awareness and collective action on sanitation, education and health of women and child etc.

Recognizing the significant role that McCain India can play in the development of the region, especially in the alleviation of rural poverty, there was room for designing and adopting an institutional support system to enable small and marginal farmers to enhance their livelihoods and at the same time ensure broader stakeholder participation in the development of the area.

It is with this motivation that McCain India explored collaboration to jointly initiate agriculture based livelihood project in 4 villages of Vijaynagar block, District Sabarkantha of Gujarat namely Khedasan, Ladivada, Joravarnagar and Bhankhra with BAIF Development Research Foundation. The Project has been aptly named as "Utthan", meaning "upliftment".

Project Utthan focuses on livelihoods enhancement and Improvement in the overall quality of life of small farmers through suitable interventions.

Main components of the project are as follows:

- a) Improved Agriculture Production
- b) Improved income form livestock
- c) Soil & Water conservation
- d) Improved Quality of Life

# Project Utthan + SDGs

**Goal:** Improvement of livelihoods, health and nutrition of small and marginal farmers of 4 villages in Sabarkantha district of Gujarat

## Objectives:

1. Improved income from farm activities for small and marginal farmers
2. Improved income from allied agriculture activities like livestock
3. Improvement in health indices through improved access, affordability, and consumption of nutritious diets by small and marginal farmers.
4. Enhanced soil fertility through soil and water conservation for better agricultural productivity.

## Expected Outcomes:

1. Improved livelihood options for small and marginal farmers within their own villages.
2. Prevention of migration in small and marginal farmers in search of livelihood

**Sustainable Development Goals:** All interventions under Project Utthan are aligned with the UN SDGs. The primary objectives of project being eradicating poverty and hunger, enhancing income through agriculture and allied activities by promoting sustainable agricultural practices, with an overarching aim of improving the overall quality of lives in socially and economically backward communities.



# Goal, Objectives & Interventions

<b>Goal: Improvement of livelihoods, health and nutrition of small and marginal farmers of 4 villages in Sabarkantha district of Gujarat</b>		
<b>Objectives</b>	<b>Interventions</b>	<b>No. of Households</b>
1.Improved income from farm activities for small and marginal farmers	<ul style="list-style-type: none"> <li>▪ Improved Agriculture- Cash Crop Production</li> <li>▪ Vermicomposting</li> <li>▪ Trainings on improved agriculture practices &amp; Exposure Visits</li> </ul>	73
2. Improved income from allied agriculture activities like livestock	<ul style="list-style-type: none"> <li>▪ Breeding through AI (Conventional semen and Sorted semen)</li> <li>▪ Livestock management practices training</li> <li>▪ Mineral mixture awareness</li> <li>▪ Animal health camp</li> <li>▪ Fodder- Demonstration plots</li> <li>▪ Chaff cutter for group</li> <li>▪ Animal Insurance</li> </ul>	130
3.Enhanced soil fertility through soil and water conservation for better agricultural productivity.	<ul style="list-style-type: none"> <li>▪ Group borewell with lifting devices</li> <li>▪ Well recharging</li> <li>▪ Partial support for irrigation through pipes</li> </ul>	16
4. Improvement in health indices through improved access, affordability, and consumption of nutritious diets by small and marginal farmers.	<ul style="list-style-type: none"> <li>▪ General Health Camp</li> <li>▪ Kitchen Garden</li> <li>▪ Upgradation of school infrastructure</li> </ul>	25

**Objective 1:** Improved income from farm activities for small and marginal farmers

**Intervention 1:** Improved agriculture income- Cash Crop Production



**Onion- Garlic cultivation**

- **Rationale:** Small farmers of this region follow traditional cropping practices, farming the same crops over generations using traditional farming methods. Growing the same crop across a continuous time period also makes them vulnerable to pest attacks. Typically they grow some cash crops along with food grains, which is just enough to sustain them for about 9 months of the year. For the remaining time they either migrate to cities in search of work or try to find work locally as farm labour etc. After identifying the geographical conditions of the project area, Project Utthan aims to promote the growth of improved varieties of same crops or other suitable crops so as to increase the overall production, eventually increasing the income of the small and marginal farmers from agriculture.

- **Target:** 30 farmers to be provided with the improved variety of castor and other cash crops like onion and garlic.
- **Achievement:** 73 farmers were trained and provided with improved castor seeds and other crops like castor, onion, garlic, ginger and watermelon so as to increase the production and income. Farmers have partially borne the input cost, with the rest being borne by the project. Along with seeds, they have also been provided with organic fertilizers and pesticides, in an attempt to drive organic farming in the area.

**Objective 1:** Improved income from farm activities for small and marginal farmers

**Intervention 1:** Improved agriculture income- Cash Crop Production



**Castor cultivation**

➤ **Expected Outcome:** Increase in production and reduction in input cost eventually leading to increase in agricultural income. Inculcate the practice of crop cultivation as opposed to the conventional mono-cropping methods and promote crop diversification.

➤ **Actual Outcome:** Earlier farmers did not use to cultivate cash crops. With the help of our intervention, they have started cultivating cash crops and vegetables such as better yielding castor variety, onion, garlic and watermelon. This has made participants and non-participants aware about the cash crop cultivation and profitable agriculture. Onion production was 16.82 ton per hectare and Garlic production was 5.23 ton per hectare which are close to the state average. Average production in Gujarat is 17.1 ton per hectare for onion and 6.68 ton per hectare for garlic. These were cultivated in 0.5 hectare land by each farmer and average income was Rs 8000 for the farmers. In addition to this, the crop diversification breaks the monotonous cropping pattern and reduces the risk of pest attacks. Earlier income from 2 Guntha\* land used to be Rs. 968 which was Rs. 8792 for onion and garlic cultivation. Similarly for watermelon cultivation the income was Rs. 1,32,720 against the Rs. 78,750 for 2.5 acres.

\*1 acre = 40 gunthas

**Objective 1:** Improved income from farm activities for small and marginal farmers  
**Intervention 2:** Vermicompost (actual outcome to be added after data collection)

- **Rationale:** Small farmers of this region follow traditional cropping practices, farming the same crops over generations using traditional farming methods. This also includes regular use of chemical fertilizers and pesticides. These methods are harmful in long run not only for the soil but also affects health of farmers as well as the consumers. Project Utthan in line with its sustainable goal of Climate Action aims to provide a sustainable and environment friendly agricultural practices. Use of organic fertilizers and pesticides also reduces the input price of the crop
- **Target:** 4 Vermicompost units to be provided to participants for usage of organic manure and vermiwash for pests.
- **Achievement:** 4 farmers were provided with the Vermicompost units under the project intervention in which the cost was partly borne by them. Under the project intervention they were provided with shed, tank and worms.



### Vermicompost Unit

- **Expected Outcome:** In long term usage of organic manure and pesticide will have positive impact on the health of the soil and will reduce the input cost of farmer. It will also provide income to the participants as they can sell worms as well as the manure.
- **Actual Outcome:** The participants had enthusiastically managed the unit and followed the standard guidelines provided by the team. They have produced 1050 kg of manure. Out of this they have used 300 kg in their own field and sold 550 kg for Rs. 1650. They have 200 kgs of manure in stock which again they will be selling at the rate of Rs. 3 per kg. They used the Vermiwash as a pesticide in their farm and are happy with the results. In addition to this they will be selling worms at the rate of Rs. 150-300 per kg. Thus, along with climate smart agricultural practice, vermicompost is also an income generation activity.



**Objective 1:** Improved income from farm activities for small and marginal farmers

**Intervention 3:** Training on Agriculture and Exposure visits



**Rationale:** To spread awareness amongst the farmers for best practices existing and introduce to the prevailing best farming practices

- **Target:** Total 3 trainings including exposure visits were planned
- **Achievement:** 7 trainings and 1 exposure visit was conducted which included exposure to Wadi and Nahari models in Vansda, Navsari district and training of onion and garlic cultivation by experts from KVK Khedbrahma. Additionally, regular handholding is given to these beneficiaries through field staff and community resource persons.

Training	Participants	No of hours	Direct beneficiaries	Indirect beneficiaries
Orientation to Project Utthan and General awareness regarding latest agricultural practices	11	4	Participants of the programme	Families of participants and Non participants of the programme who will be made aware of the latest agricultural practices.
Castor cultivation	31	5	Participants given the input support	Families of participants and Non participants of the programme who will be made aware of the latest agricultural practices.
Capacity building for Garlic & Onion cultivation	49	5	Participant farmers given the input support earing more income	Families of participants and Non participants of the programme who will be made aware of the latest agricultural practices.

**Objective 1:** Improved income from farm activities for small and marginal farmers

**Intervention 3:** Training on Agriculture and Exposure visits

Training	Participants	No of hours	Direct beneficiaries	Indirect beneficiaries
Profitable Agriculture: Vegetable cultivation	52	2	Participants given the input support for vegetable cultivation for increase in income from agriculture	Families of participants and Non participants of the programme who will be made aware of the latest agricultural practices.
Cultivation of Vegetables	32	4	Participants of the programme	Families of participants and Non participants of the programme who will be made aware of the latest agricultural practices.
Fruit cultivation especially watermelon cultivation	29	3	Participants of the programme and participants who were given the input support	Families of participants and Non participants of the programme who will be made aware of the latest agricultural practices.
Ginger cultivation	18	2	Participants of the programme and participants who were given the input support	Families of participants and Non participants of the programme who will be made aware of the latest agricultural practices.

**Objective 1:** Improved income from farm activities for small and marginal farmers

**Intervention 3:** Training on Agriculture and Exposure Visits

Exposure visit	Participants	Observation/ Learnings	Direct beneficiaries	Indirect beneficiaries
BAIF Lachhakadi campus, KVK Chaswad	40	Participants were given orientation of BAIF. They visited the field activities of BAIF in south Gujarat such as Wadi programme, FPOs, Processing unit, Nahari model (women led micro enterprise), etc. In KVK Chaswad they had exposure to various farming activities like Vermicompost, Nursery Plantation, Horticulture etc.	Participants had an opportunity of seeing the impact of field activities that were carried out during the course of intervention. They were informed about the technical aspects in various agricultural practices.	Non participants of the visit were made aware about BAIF's activities and its impact which led to their interest and interaction with the Project Utthan team.

**Objective 1:** Improved Agricultural practices and income

**Intervention 3:** Training on Agriculture and Exposure Visit

- **Expected Outcome:** Awareness and adoption of latest technology and cost effective practices for agriculture and promotion of innovative practices in the farming methods.
- **Actual Outcome:** 20 farmers were motivated for onion and garlic cultivation as per the standard scientific methods suggested by the KVK scientists. The average production was 16.82 ton/ hectare for onion and 5.23 ton/hectare for garlic. 5 farmers started cultivating watermelon. Women were also motivated by seeing the 'Nahari' model- a micro enterprise completely operated and managed by tribal women in South Gujarat. We can plan a relevant model for the given project area as well.



## Case Study: Castor production using improved variety seeds

Primary occupation of Nagjibhai, a resident of Khedasan village is agriculture and animal husbandry with a land holding of 2.5 acres. He, like all other farmers of this area, grows traditional variety crops like castor and cotton.



**Fig. 1 Conventional Castor**



**Fig. 2 Project supported Castor variety**

Nagjibhai has been a participant of Project Utthan for last one year. This year he did the castor plantation in 2 acre of his land, in which he planted castor in 1 acre as per his conventional method and rest 1 acre under the support and guidelines of Utthan project near the bank of the river. However, due to the excessive rains in monsoon, 50% of these castor crops got destroyed. In spite of that, Nagjibhai did not give up. He started taking measures under the guidance of professionals of BAIF and took preventive measures as well. He also took precautionary measures and caution in order to avoid pests. As a result, the overall crop has turned out to be good. The growth difference is quite evident in the figure shown here. He got 600 kg of castor in 1 acre and income generated from it was Rs. 24,250. Fig. 1 represents the conventional castor and Fig. 2 represents the castor supported under the project. It still remains to be seen what the actual output is post harvest.

## Case Study: Watermelon cultivation



Satishbhai Khimjibhai Asari, a resident of Bhankhra village of Sabarkantha village has 1.5 acre of cultivable land in which he traditionally used to grow ---. During one of the exposure visit in which he participated, he came know about profitable farming through vegetable cultivation and horticulture. He was inspired to try these new agricultural practices.

With the support of Project Utthan and subsidized rate from Horticulture department he cultivated watermelon in 1.1 acre of his land for the first time. He received seeds, pesticides and fertilizers under the project intervention and mulching plastic from horticulture with 40% subsidy. He cultivated the watermelon with guidance of project team as and when required with drip irrigation method. Total input expense was Rs. 62,125 and income was Rs. 92,720 which led to profit of Rs. 30,595. He deposited Rs. 50,000 in the bank which were earned from the selling for cultivating watermelon next year.

# Case Study: Onion and Garlic cultivation



Dilipbhai Vasantbhai Asari is a small farmer in Bhankhra village of Vijaynagar taluka in Sabarkantha district of Gujarat. His wife, Mamtaben participated in Onion and Garlic cultivation training by technical experts of KVK Khedbrahma as a part of the project intervention. She learned how this cultivation is profitable even with small portion of land.

They showed their keenness in the cultivation of onion and garlic and cultivated it with support of Project Utthan in – acre. The project team also followed up on regular basis and informed them the efficient and effective practices. They obtained 55 kgs of Garlic and 220 kgs of onion. They sold it at the rate of – per kg for garlic and – per kg for onion. They earned a total of Rs. 8000 after selling. Mamtaben says: “We are happy to earn this much from small portion of land. Now, I will cultivate this every year. Project Utthan has made us aware that how we can have substantial earning from agriculture even with small land holding.”

## Objective 2: Improved income from allied agriculture activities like livestock

### Intervention 1: Breeding through Artificial Insemination (Conventional and Sex Sorted Semen)



- **Rationale:** Livestock play a very important economic, social and cultural role for rural households since they contribute to improve income and wellbeing of the family. Livestock helps with food supply, family nutrition, family income, asset savings, soil productivity, livelihoods, transport, agricultural traction, agricultural diversification and sustainable agricultural production, family and community employment, ritual purposes and social status. Hence, Project Utthan aims to improve the progeny of the buffaloes and cows, thus leading to increased milk production and reduced inter calving period.
- **Target:** Conventional AI – 300, Sex Sorted AI - 57
- **Achievement:** Conventional AI – 334, Sex Sorted AI – 45
- **Expected Outcome:** Better progeny will result to better milk production and healthy calves. It will also help in reducing the inter-calving period, thus having more productive cattle.
- **Actual Outcome:** Conception rate for conventional AI is 39.77% whereas conception rate for SSS AI is 32.50%. SSS AI is This being the first year of the project intervention, the participants were bit hesitant for SSS AI as it is new technology and costly as compared to conventional AI. No. of confirmed pregnancy for conventional AI are 105 and SSS AI are 13. For conventional AI, 2 calving are obtained so far. Further calving is yet to be obtained for as the gestation period in cows is around 9 months and 10 months in buffalo.

**NOTE:** Sex Sorted Semen is a technology where 'x' and 'y' chromosomes are separated which results to having more probability of female calf. This is not only useful so that there are more female productive calves but also to reduce the ill-treatment towards male calves. When farmers cannot afford a male calf and has no purpose, they are either starved to death or left as stray animal. Having more female calves reduces this cruelty along side the benefit of having a productive progeny.



**Objective 2:** Improved income from allied agriculture activities like livestock

**Intervention 2:** Livestock management practices training

- **Rationale:** To spread awareness amongst the farmers for best management practices in livestock to increase the income from livestock and reduce the cost for maintenance.
- **Target:** 4 such trainings and 1 Exposure visit were planned under the intervention.
- **Achievement:** 5 trainings and 2 Exposure visits were conducted under the interventions for the said objective.

Exposure visit	Participants	Observation/ Learnings	Direct beneficiaries	Indirect beneficiaries
Mehsana Dairy	29	Understanding the operations and function of dairy	Participants had a chance to closely observe how dairy functions and how the milk is processed into various forms.	Non participants getting to know how the actual processes are at dairy level.
Vihar Lab and Vadhrad village-Centre of Excellence: Nursery	33	What are the various diseases that affects livestock, its diagnosis and preventive measures. Also e brief understanding of the role of lab and ethno veterinary practices. Participants also had an opportunity to observe ideal Gaushala and Sorted Semen progeny	Participants had an in depth understanding of various diseases in livestock and their preventive measures. They also understood the significance of technically advanced laboratories and services.	Non participants learning the role and significance of effective services of livestock that are technically advanced.

**Objective 2:** Improved income from allied agriculture activities like livestock

**Intervention 2:** Livestock management practices training

Training	Participants	No of hours	Direct beneficiaries	Indirect beneficiaries
Livestock Management- General Awareness	48	5	Participants were given information about general awareness regarding livestock management practices	Non participant getting awareness regarding the management practices of livestock
Animal Husbandry	50	5	Participants learning about the animal food and care of pregnant and mulching animals	Non participants understanding the importance of animal food and care of pregnant and mulching animals
Livestock Diseases: Prevention and cure	52	2	Participants getting awareness regarding vaccination of animal, local home base treatment and after delivery care of pregnant animals	Non participant understanding the important practices for health care of livestock
Effective Livestock Management	73	5	Participants were educated with following aspects of Animal Husbandry: Profitable Animal Husbandry, Benefits of AI, Prevention of diseases, usage of mineral mixture, sanitation while milking, grass cultivation	Non participants learning about the efficient management practices of livestock
Operating chaff cutter and its benefits	15	2	Participants were trained for following: Operation of Chaff cutter, Service and maintenance, Precautions while operating, Expense and income recording	Non participants getting aware about such practices and its impacts

## Objective 2: Improved income from allied agriculture activities like livestock

### Intervention 2: Livestock management practices training



- **Expected Outcome:** Eventually the input cost reduces for farmers, health of the livestock improves by providing them with the better fodder quality and additional required nutrition through mineral mixture resulting to better health and milk production of the livestock
- **Actual Outcome:** Farmers have begun to understand how to provide their cattle with a balanced diet to maintain their health. They also now know how to take preventive measures like deworming, vaccination etc. Their livestock were always important to them, but were never able to provide them with focused attention. Only when their animals fell sick or needed AI, did they provide them with medical assistance. But now, they are coming to terms with the fact that animals, in order to be productive, need constant monitoring, so much so that they have started keeping their sheds cleaner as compared to earlier. Also, women are usually the care taker of cattle at household level. During the training, active participant of women was also ensured which helps them understand and adapt it easily. These practices will eventually lead to increase in milk production and improvement of health in the future.

**Objective 2:** Improved income from allied agriculture activities like livestock

**Intervention 3:** Mineral Mixture Awareness and Adoption



- **Rationale:** Dairy cattle require a number of dietary mineral elements for normal body maintenance, growth and reproduction. Deficiency of minerals impairs metabolic functions, which affects the growth in young calves and milk production and reproduction efficiency in adult animals. Supplementation of minerals through mineral mixture is of paramount importance, in order to maintain productivity of animals. In order to provide cattle with certain nutrients and additional nutrients, mineral mixture is produced by BAIF at Urullikanchan Research Station which has proven to be useful after series of experiments lead by experts of the field.
- **Target:** 120 farmers to be given mineral mixture at subsidized rate in order to spread awareness, adoption and importance of the mineral mixture in regular diet of the livestock.
- **Achievement:** 92 households were availed with mineral mixture under the project intervention. Out of this 58 used it to feed their cattle regularly along with the fodder and asked for it for the second time.
- **Expected Outcome:** The mineral mixture provides additional nutrients that are required for the cattle which are not present in their day-to-day diet. It also increases the appetite of cattle if they are eating less than prescribed.
- **Actual Outcome:** Many farmers have reported that they have seen increase in food intake of their cattle after feeding the mineral mixture. It is also clearly evident in their improved health. 58 households had requested the mineral mixture for second time.

## Objective 2: Improved income from allied agriculture activities like livestock Intervention 4: Animal Health Camps



- Rationale:** In rural areas, endemic, production-limiting diseases are continually present which tend to make livestock raisers vulnerable to external shocks, which keeps them in poverty. Although the government has infrastructure and resources to address such issues, they are most often not enough and fail to reach remote areas, like Khedasan. So Project Utthan organizes Animal Health camps at village level to diagnose diseases and also to spread awareness regarding the preventive measures and care to be taken for the cattle.
- Target:** 4 Animal Health camps were planned for the current year
- Achievement:** 6 Animal health camps were conducted in order to spread the awareness of animal health. Vaccination, deworming and other such activities are carried out where required. Awareness regarding major disease prevailing in the cattle and preventive measures is also done. In total 4 Animal health camps, 146 households were reached in 4 villages covering around 756 cattle.
- Expected Outcome:** Animal health camps aim to provide access to animal healthcare at the doorstep of community and spread awareness regarding the same.
- Actual Outcome:** Beneficiaries are made aware of the prevailing diseases in the cattle, better practices for maintaining their health, benefits of mineral mixture, etc. They have adopted such practices at the household level.

**Objective 2:** Improved income from allied agriculture activities like livestock

**Intervention 5:** Fodder Demonstration Units



### **BNH-10 Fodder Demo plot**

- ▶ **Rationale:** Awareness and adoption of improved fodder production and conservation technologies among farmers will increase the production & availability of green fodder in terms of quality and quantity. Improved variety of fodder which is scientifically tested and approved provides cattle with the essential nutrients from the fodder. Hence, Project Utthan introduced an enhanced variety of Napier grass which is nutritionally better than the traditional variety or even hay. Also, other varieties need to be grown every year, BNH-10 once planted can last up to 10 years.
- ▶ **Target:** 20 farmers were planned to be given the fodder cutting of BNH-10 as a part of the promotion and make them aware of the benefits of the same

- ▶ **Achievement:** During implementation, 40 farmers were covered under the intervention. Out of this 40 HH, the fodder crop sustained in 33 HH due to untimely monsoon which is 82.5%. They were provided with cuttings and also with training on how to plant them and their upkeep. Total land covered under the intervention was 1.06 acres.
- ▶ **Expected Outcome:** BNH-10 is scientifically tested fodder crop which lasts longer than other fodder crop in addition to providing the essential nutrients for the cattle. It is expected that this fodder intake would improve animal health and productivity.
- ▶ **Actual Outcome:** The fodder crop has grown as fast as expected within 7 weeks itself, many farmers have started harvesting and feeding. The food intake by cattle has increased and impact on health and milk production can be seen in long run. Earlier they used to procure approximate 1500 kgs of fodder from outside, due to this intervention they will get 1960 kgs of fodder at their household level throughout the year with smaller portion of land. This ensures regular supply of fodder for these families in smaller plots of land, making it possible for these farmers to dedicate greater proportion of their farmlands to cultivating other food crops.

## Objective 2: Improved income from allied agriculture activities like livestock

### Intervention 6: Chaff cutter for group



- **Rationale:** While awareness and adoption of improved varieties of green fodder is very important, it is also the first step in the process of efficient management practices. Along with fodder, nutritional addition like mineral mixture is very vital. What method can a farmer adapt in addition to these, is providing the fodder to the cattle in the form which is more beneficial and convenient to the cattle. So, here comes the role of Chaff cutter machine where, the machine cuts the grass in tiny pieces which makes it easy for cattle to digest and helps in increasing their intake as well, thus improving its overall health.
- **Target:** A chaff cutter machine to be provided to one group which can be used by members of the group
- **Achievement:** A chaff cutter machine was provided to Ambika Women SHG having 15 members in Bhankhra village
- **Expected Outcome:** The chopped fodder obtained from the chaff cutter ensures easy digestion for cattle and prevents them from rejecting any part of the food. This helps in reduction of wastage of the green fodder. In long term the effect of this can be seen in the milk production of the cattle if used regularly.
- **Actual Outcome:** Participants have already been trained for the operation and usage of chaff cutter. As women look after most of the feeding part of the cattle, the chaff cutter is provided to a women SHG ensuring their active participation. 10 out of 15 households are using it on regular basis. They have seen its impact on the cattle as their food intake has increased and also it helped in digestion and reduction of waste. However, to have its impact in milk production, its regular usage is compulsory. It also led to women work in an organized environment along with operating, managing and accounting part. The team takes follow up at regular intervals so as to ensure smooth functioning and usage of it.

**Objective 2:** Improved income from allied agriculture activities like livestock

**Intervention 7:** Animal Insurance



- **Rationale:** One of the great success stories of rural India is its dairy sector. This is where resource-poor, small and marginal farmers, as well as landless labourers, have contributed to make the country the largest milk producer in the world. However, the risk coverage of milch animals continues to be largely ignored. For a farmer who does cattle rearing, his cattle are his biggest asset. Concept of animal insurance is not that popular in rural India and whenever cattle dies due to unavoidable circumstances, farmer suffers a huge financial loss.
- **Target:** Total 30 cattle for 30 farmers (1 cattle per participant) were planned to cover with the insurance policy by the end of the January 2020 to spread the awareness regarding covering the risk of animal assets.
- **Achievement:** 30 farmers were linked with the insurance policy providing them with the doorstep service of verification and documentation, reducing their hassle. Part of the insurance cost was borne by the farmer and part of it was funded through the project.
- **Expected Outcome:** Whenever a farmers loses his cattle, while it's a huge loss emotionally, they are now enabled to bear the financial loss. The premium charge being small, its not a drain on the farmers pocket, making it more attractive and adoptable for small farmers. Under the intervention the project has borne Rs. 65,914 (Rs. 2197 per participant) premium amount and participants have borne Rs. 6000 (Rs. 200 per participant). Till now there have been no reported cases of animal loss. In case of any loss, a participant can claim up to Rs. 26,600 per animal.



# Case Study: Fodder Demonstration Unit



Devrambhai Asari lives in the Deri hamlet of Bhankhra village. He owns 25 milch animals, some of which he inherited from his father and some he has been able to buy and develop by his hard work and limited income from his farmland. He owns 5 acres of land. He requires total of 5 tons of dry fodder and 4 tons of green fodder per annum. Earlier he was dependent on traditional fodder grown in part of his farmland and remaining he used to buy from the market.

His wife, Shantaben attended the animal husbandry training provided through Project Utthan. In the training she was introduced to BNH-10 fodder which lasts up to 10 years and has nutritional benefits for the cattle as well. Earlier they used to buy from the market, so they thought of growing the fodder on their own which has multiple benefits and is also cost effective. They received the BNH-10 fodder through the project by paying a part of the cost.

Within 4 months the crop had grown up to 7 feet long. They have started feeding the same to cattle. The fodder is grown in 1.28 gunthas and he has so far obtained 411 kgs of green fodder. Impact on the milk production and health of the cattle can be seen in long term. Seeing Devrambhai, other small farmers have started enquiring about this fodder and want to adopt it for their cattle too.

## Case study: Mineral Mixture Awareness & Adoption



Shardaben Laxmanbhai Bhagora is a resident of Bhankhra village. The primary occupation of their household is agriculture and animal husbandry. Their total land holding is 1.5 acre and 9 cattle, out of which 4 are milch animals. She noticed decrease in milk production and fat content in one of her cow. There was also reduction in food intake of the cow. She actively participated in various interventions of Project Utthan such as Animal Husbandry training, fodder demonstration, mineral mixture and best practices for livestock management.

When she came to know about the benefits of mineral mixture, she regularly started feeding the cow along with the fodder as per the prescribed quantity. Laxmanbhai and Shardaben believe that using the scientific approach not only benefits the health of the cattle but also increases the milk production. They had so far obtained 4 cuttings and 337 kgs of green fodder from 1 guntha land. They also had SSS AI done for their cow recently, which ensures better progeny and chances of female calf is as much as 92%. Actual result remains to be seen.

# Objective 3: Soil and Water Conservation

## Intervention 1: Group borewell with lifting devices



**Awareness meeting**



**Field execution**

- ▶ **Rationale:** India's economy vastly depends on agriculture. Farmers work for fulfilling the food demands of the population. To meet the increasing demand, more output is expected. Soil and Water conservation not only ensures increased productivity but also sustainability and management of natural resources.
- ▶ **Target:** 2 Group borewell with lifting devices were planned for the first year of the project intervention.
- ▶ **Achievement:** 2 Group borewell with lifting devices were availed to 12 households
- ▶ **Expected Outcome:** Group borewell with lifting devices in long term increases the land under irrigation and this in turn will increase the productivity of the land
- ▶ **Actual Outcome:** Currently the water table for groundwater is 15-40 feet in monsoon, 40-70 feet in winter and 70-90 feet in summer. This is expected to increase the groundwater table in long run.

## Objective 3: Soil and Water Conservation Intervention 2: Well Recharge



**Awareness meeting**

- **Rationale:** India's economy vastly depends on agriculture. Farmers work for fulfilling the food demands of the population. To meet the increasing demand, more output is expected. Soil and Water conservation not only ensures increased productivity but also sustainability and management of natural resources.
- **Target:** 4 Well recharge were planned for the first year of the project intervention.
- **Achievement:** 4 Well recharge were carried out covering 4 households
- **Expected Outcome:** Well recharge in long term leads to increase in groundwater table and will also increase the water level in borewell.
- **Actual Outcome:** Currently the water table is 15-20 feet in monsoon, 45-60 feet in winter and grater than 60 feet in summer. This is expected to increase the water table in long run.

## Objective 3: Soil and Water Conservation

### Intervention 3: Partial support for irrigation through pipes



**Field measurements**

- **Rationale:** India's economy vastly depends on agriculture. Farmers work for fulfilling the food demands of the population. To meet the increasing demand, more output is expected. Soil and Water conservation not only ensures increased productivity but also sustainability and management of natural resources.
- **Target:** 20 households were planned to support for irrigation pipes
- **Achievement:** 20 households have been provided with pipes for irrigation
- **Expected Outcome:** Increase in irrigated land will lead to increase in productivity and efficient usage of water.
- **Actual Outcome:** With 20 households being provided with the irrigation pipes, their irrigated land will increase leading to increased productivity in long run. It will also help them reduce the expense of renting water. Efficient use of water as a resource can be done.

**Objective 4:** Improvement in health indices through improved access, affordability, and consumption of nutritious diets by small and marginal farmers.

### Intervention 1: General Health Camps

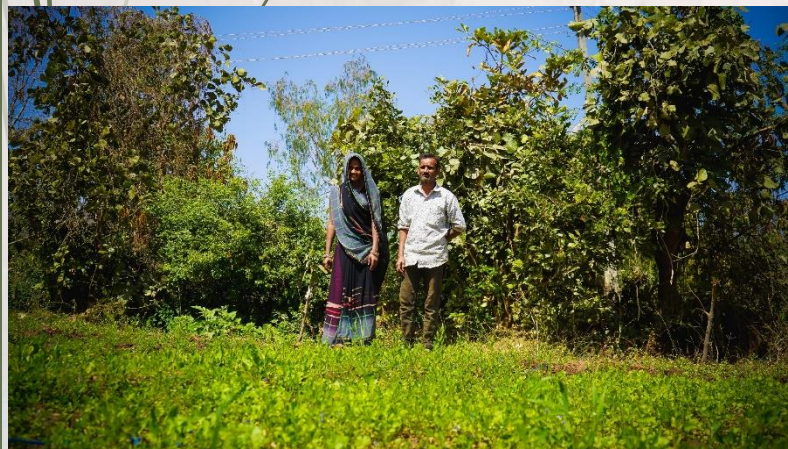


- Rationale:** Our project area being remote and not readily accessible, public health services are not easily available. People are generally dependent on private practitioners who are not qualified and expensive. One bout of illness is enough to send a family back into the cycle of poverty which continues to keep the family in its vicious grip. Through Project Utthan we conduct regular health camps (in association with govt. hospitals) in villages
- Target:** 4 health camps were planned to be conducted in the project area.
- Achievement:** 4 health camps were conducted in the project area covering 251 participants from 229 households. This included 142 females, 37 males and 72 children.
- Expected Outcome:** Increase in awareness of health and nutrition especially amongst the women and children.
- Actual Outcome:** Common disease identified where cold, coughing, fever, etc. Few cases where infection in upper and lower respiration track was also diagnosed. Apart from this, skin problems, anemia, weakness etc. were also present in many cases. Along with medication and cure for most of the diseases, guide for preventive measures were also given to the participants present in the health camp. Nail clippers were distributed to promote hygiene. Ladles to take water out from pots were also disbursed so as to ensure cleanliness while drinking water.



**Objective 4:** Improvement in health indices through improved access, affordability, and consumption of nutritious diets by small and marginal farmers.

**Intervention 2:** Kitchen Garden



- **Rationale:** Rural families in this region typically consume less vegetables owing to high prices. More often, the women of the house miss out on consuming green vegetables. Kitchen gardens are the most direct and dependable way to ensure vegetable availability for a rural household. The money saved from buying from the market can be used for other essential services. Moreover, kitchen garden are a means to produce non-food items such as medicinal herbs, spices etc.
- **Target:** 20 Kitchen Garden were planned for the project villages
- **Achievement:** 25 Kitchen Garden were planted in the project villages. These have been created within the premises of the households in limited spaces. They include seasonal leafy vegetables, root vegetables, creepers and fruit plants, including lemon so as to ensure year-round availability of produce.
- **Expected Outcome:** Availability and access to nutritional vegetables and fruits throughout will result to healthy food habits eventually improving the health of the household members.
- **Actual Outcome:** Fruiting has been started in many kitchen garden such as spinach, carrot, fenugreek, etc. It also addresses the behavioral changes in their eating habits. Total 25 participant were given input support and package of practices for kitchen garden. Production in Kitchen garden started since last 2 months only, approximately saving Rs 680-880 for 2 months.

**Note:** Monthly approximate usage of vegetables in kitchen garden is around 17-22 days. This can save Rs 20 per day. On the basis of this, approximate savings per month can range from Rs 340 to Rs 440 per household per month.

**Objective 4:** Improvement in health indices through improved access, affordability, and consumption of nutritious diets by small and marginal farmers.

**Intervention 3:** Community Infrastructure: Upgrade of government primary school



Dilapidated school building

- **Rationale:** During the feasibility study for Project Utthan, it became evident that in addition to improving livelihoods, we must work on improving rural infrastructure too. It was also an expectation from panchayat members and district officials too. This year, in discussion with panchayat members, it was decided to improve the school infrastructure of village Ladiwada. The school is the foundation for building the future of any child. Basic necessities such as hygiene, nutritional food, basic infrastructure etc. play a very important role. Hence, necessary upgradation in the infrastructure will lead to a healthy and better study environment.
- **Target:** Renovation in 1 government primary school in Ladiwada village.
- **Achievement:** The renovation work has been completed in the school.
- **Expected Outcome:** Apart from basic necessities in entire building, emphasis is given to renovate girls washroom and meal infrastructure.
- **Actual Outcome:** With primary focus being improvisation of sanitation and hygiene, toilets for girls have been constructed. For the dining, the shed has also been reconstructed so that students are able to have their meals in a clean place. With this work, students now have access to better dining area and girls now have access to hygienic washroom facilities. This not only provides them with healthy environment but also inculcates healthy habits which also induces behavioral change.



# School building after our intervention



# COVID-19 Relief Activities



While regular activities of project were brought at a halt due to the worldwide pandemic of COVID-19, Project Utthan identified the need of the hour and actively provided relief support to the needy families of project villages.

Under the relief support following activities were carried out:

- i. **Sanitization booth**: 4 Sanitization booth were established at 4 entry points of the project villages. The booth were operated by project team and participants along with the local police. The booth was operational for 10 days during the first lockdown imposed nationwide in India.
- ii. **Ration kits for needy families**: Total 250 households were provided with 250 kits with 11 items per kit. These included daily necessities like rice, sugar, oil, soaps, etc.
- iii. **Availing and awareness regarding usage of masks**: 5 tailors were engaged and provided with raw materials for making masks. 750 households were provided with 2800 masks. It also provided tailors with additional income. Overall income generated by tailors was Rs. 12,000. In addition to this, Project Utthan provided government with 1200 masks for labours.

## Case Study: Kitchen Garden



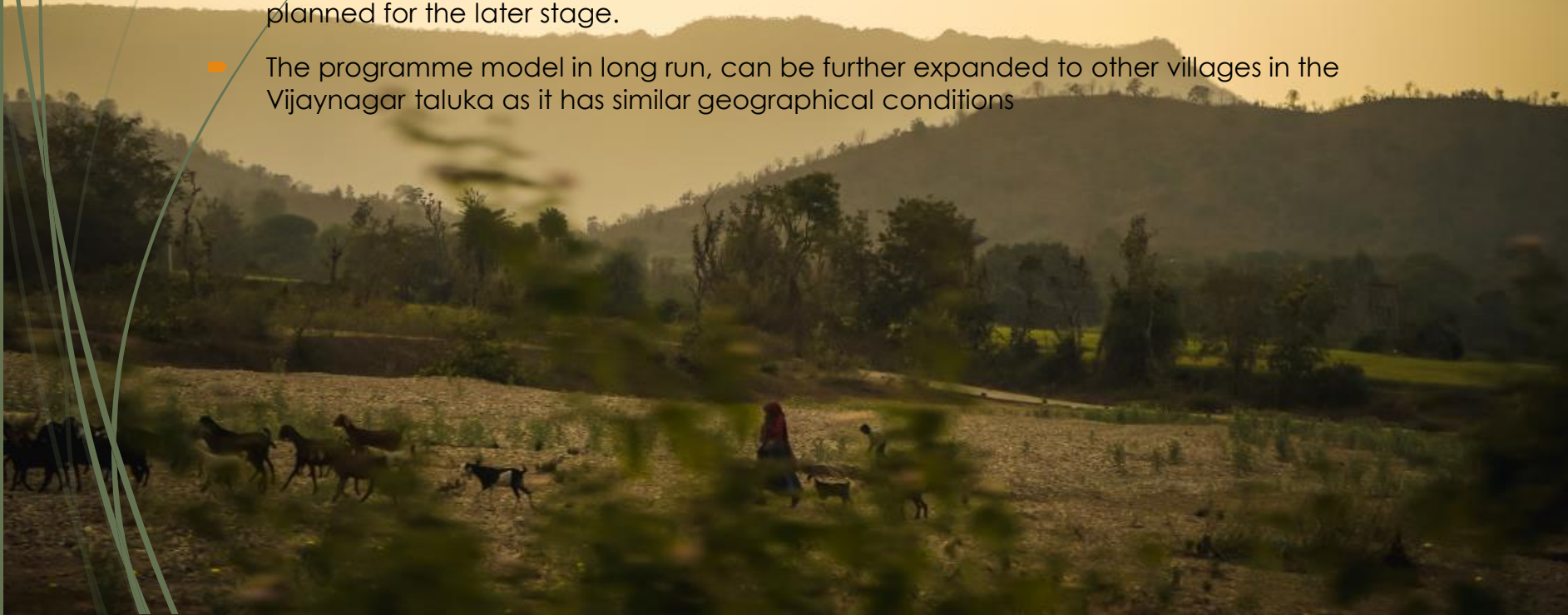
Pemilaben Maganbhai Sadat lives in Zoravarnagar village in Vijayngar taluka in Sabarkantha district. Under the intervention of Project 'Utthan' she was educated about kitchen gardens and she adopted it. She used a small portion of farmland that was near to her house for the Kitchen Garden.

In this, she grew fruits and green vegetables such as mango, carrot, coriander, radish, fenugreek, spinach, etc. Fruiting has started in some plants since December which she is utilizing for household purpose. She has eventually saved Rs 400 in last 23 days. These nutritional kitchen garden is not very labour intensive.

Her family is now regularly consuming green vegetables. She is thankful for this intervention and regularly takes inputs on its upkeep. She also ensures that she does not use chemical fertilizers in her kitchen garden. Instead, she uses manure and other organic fertilizers.

# Way Forward...

- ▶ The next phase of project will commence with planned regular activities along with the new activities that were designed after having in depth understanding of the field in past one year of operations.
- ▶ These new activities include promotion of poultry farming, goat rearing, a micro enterprise or FPO model with the participant farmers
- ▶ In the next phase, more emphasis will be given to the existing participants so as to have substantial impact and uplift them in sustainable way. Once the model is fully developed it can be scaled by increasing its reach.
- ▶ Assuring engagement of women equally in each activity as much as possible so as to empower them socially.
- ▶ Activities having focus on health of women and children and education of children can be planned for the later stage.
- ▶ The programme model in long run, can be further expanded to other villages in the Vijaynagar taluka as it has similar geographical conditions



# About BAIF

- ▶ BAIF Development Research Foundation (formerly registered as Bhartiya Agro Industries Foundation) was established by Dr. Manibhai Desai in 1967 in Urullikanchan, near Pune to promote sustainable livelihood in rural India.
- ▶ **Vision:** Building a self-reliant society assured of food security, safe drinking water, good health, gender equity, low child mortality, literacy, high moral values and clean environment.
- ▶ **Mission:** BAIF's Mission is to create opportunities of gainful self-employment for the rural families, especially disadvantaged sections, ensuring sustainable livelihood, enriched environment, improved quality of life and good human values.
- ▶ This is being achieved through development research, effective use of local resources, extension of appropriate technologies and upgradation of skills and capabilities with community participation.
- ▶ BAIF reaches out to more than 53,93,223 families in 1,64,835 villages in the 13 states spanning over 318 districts of India divided in four zones viz. North, South, East and West.