

PROJECT UTTHAN



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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

Goal: Improvement of livelihoods, health and nutrition of small and marginal farmers of 4 villages in Sabarkantha district of Gujarat		
Objectives	Interventions	No. of Households
1.Improved income from farm activities for small and marginal farmers	<ul style="list-style-type: none"> ▪ Improved Agriculture- Cash Crop Production ▪ Organic Manure-Vermicomposting ▪ Trainings on improved agriculture practices & Exposure Visits 	72
2. Improved income from allied agriculture activities like livestock	<ul style="list-style-type: none"> ▪ Breeding through AI (Conventional semen and Sorted semen) ▪ Livestock management practices training ▪ Mineral mixture awareness ▪ Animal health camp ▪ Fodder- Demonstration plots ▪ Chaff cutter for group ▪ Animal Insurance 	352
3.Enhanced soil fertility through soil and water conservation for better agricultural productivity.	<ul style="list-style-type: none"> ▪ Group borewell with lifting devices (02) ▪ Trench cum bunds ▪ Masonry field outlets ▪ Well recharging ▪ Support for irrigation pipes. 	102
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"> ▪ General Health Camps ▪ Nutrition Garden ▪ Upgradation of school infrastructure ▪ Formation of Farmers groups ▪ Microenterprise for farmers group 	30 85 (Farmer Groups)

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

Intervention 1: Improved agriculture income- Cash Crop Promotion

- 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.
- On the basis of first year experience we have promoted demonstration base new and high income crops like strawberry, mushroom and cultivation of creeper vegetable with inter crops. We have also promoted sustainable farming like tree base farming- Guava, Lemon and dragon fruit plantation. Intercropping also introduced for castor cultivation.

➤ **Target:** 72 farmers to be provided with the improved agriculture.

➤ **Achievement:** 72 farmers promoted various crop cultivation with various interventions

No	Crops	Farmers
1	Castor and Black gram (Inter crop)	30
2	Strawberry cultivation	07
3	Dragon fruit cultivation	04
4	Cultivation of Creeper vegetable with inter cropping	18
5	Demonstration of Mushroom cultivation	06
6	Guava & Lemon plantation	07
	Total	72
7	Castor cutter – Support and awareness	42

Intervention 1: Improved agriculture income- Cash Crop Cultivation: Production data

No	Particulars	Unit	Plan	Achieved	Area of Sowing Acre	Total Production Kgs	Home Use kgs	Sale kgs	Total Income Rs.	Per acre Income/saving Rs.
1	Castor cultivation	Farmers	30	30	30.00	16304	00	16304	800560.0	26688.0
2	Black Gram: Urad (inter crop)	Farmer	30	15	0.75	356	356	00	00	24920
3	Strawberry cultivation	Farmer	07	07	1.00	189	99	90	16500.0	62500.0
4	Mushroom Cultivation	Farmer	06	06	--	100	78	22	2200	
5	Lemon Guava Plantation	Farmer	07	07	1.00	Production will start within 2 year	-	-	-	-
6	Dragon fruit cultivation	Farmer	05	04	0.20	Production will start within 2 year	-	-	-	-
7	Creeper vegetables cultivation	Farmers	18	18	0.90	Yield will get in Yr.3 ((Oct-Nov 2021)	-	-	-	-
	Total				33.85				819260	114108

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

Intervention 1: Improved agriculture income- Cash Crop Promotion

• **Expected Outcome:**

1. Increase yield and income per acre.
2. Orientation of high income crops and create demand for next year.
3. Acceptance of long term sustainable farming – tree base farming and generate demand.
4. Acceptance of vegetable cultivation. (short term – high income crop)
5. Experience of marketing of cash crop like strawberry, mushroom and vegetables.

► **Actual Outcome:**

- 1) Average Yield of Castor is 550 to 1000 kgs as per land and cultivation method. 30 farmers get 16304 kgs from 30 acre. Average per acre yield is 543.46. The rate of castor seed is higher than last year rate (Rs. 300.0) So farmers are getting good returns from castor (Rs. 800560)
- 2) 11 farmers have successfully done intercropping of castor with black gram and got 356 kgs production worth Rs. 24920.00
- 3) 7 Farmers cultivated strawberry (by saplings). Total area was 1.0 acre. Strawberry is new for the area. Although per acre estimated yield is 1 ton. As per the guidance of KVK, farmer had done plastic mulching in 8 guntha (0.2 acre) and he got 100 kgs strawberry yield worth Rs. 20000. He sold 80 kgs and got Rs 16500 (per acre income Rs. 1.0 lac). Other 6 farmers consumed at household level and with relatives and neighbors. Many farmers were attracted by strawberry farming and inquired for next year cultivation.
- 4) Tree based sustainable farming started by 12 farmers. Total 7 farmers were supported for Lemon and Guava cultivation and 4 farmers were supported for cultivation of dragon fruit.
- 5) Demonstration based cultivation of Mushroom was promoted with 6 farmers. Most of farmers consumed at home. Due to COVID-19, farmers were facing challenges in marketing of mushroom and strawberry.
- 6) Total 18 farmers were supported for cultivation of creeper vegetables and intercrops like turmeric and green vegetable.

**1 acre = 40 gunthas*



Intercrop – Castor with black gram



Strawberry Plantation



Dragon fruits cultivation



Lemon Guava Plantation



Mushroom cultivation



Castor Seed production

Case Study: Castor cultivation using improved variety seeds and scientific method



Adelaji Kalaji Asari is a marginal farmer of Bhankhara village. He used to have traditional farming methods. His land was not irrigated. This year he got the support from government scheme for bore well and electric water pump.

Adelaji cultivated castor intercropping with black gram under the project Utthan intervention. His son, Jayantibhai, participated in training and exposure visit. He practiced scientific method of castor cultivation. Under the project they received improved quality of seeds, fertilizer, castor cutter, irrigation pipes and technical support.



He produced 1000 kgs castor seed from 1 acre and earned Rs. 50000 from castor. He mentioned that for the first time in his life he has received such great returns from one acre of land. Black gram cultivated with castor was used by the family for household level consumption.

Case Study: Strawberry Cultivation (Ladiwada)



Thavaraji Nemaji Dgranji and his son participated in cultivation of Strawberry under the Project Utthan. He took guidance from project team, farmers of other village and even interned. He used plastic mulching and drip irrigation for better result. His son, Dinesh focused on packaging and marketing. He earned Rs. 14500 from 8 Guntha of land. Income earned is 300% higher than conventional farming like wheat or maize. He has decided to cultivate Strawberry next year too.

No	Particulars	Unit	
1	Total Area acre	Acre	0.21
2	Actual Production	Kgs	100
3	Sale	Kgs	80
4	Household consumption	Kgs	20
5	Total income	Rs	14500
6	Saving	Rs	4000



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

Intervention 2: Vermicompost



Vermicompost Unit

- **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 supported for 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, tanks and worms.

Expected Outcome:

- 1) Increase use of organic manure and reduction of use of chemical fertilizer and pesticides.
- 2) Improve soil health and reduction of input cost
- 3) Partially income from sale of worms and vermicompost.

Actual Outcome:

- 1) Total 7.03 tones vermicompost produced from 8 units and 1.80 tones used for own crops. Total 3.85 tones vermicompost sold and farmers got Rs. 11575. Farmers get Rs 5.0 per kgs average rate. 26 kgs worms also sold by unit holders and earned Rs. 2600.0
- 2) Farmers are sensitized and start practice of using organic compost and reduced chemical fertilizer.
- 3) **Another 11 farmers of project villages established Vermicomposting units by own investment. Bulk purchase inquiry also comes from developed farmers.**

Vermicomposting Units by own inputs

- Total 11 farmers established vermicompost units by own resources.
- Training provided by Utthan team and previous participants
- Units was established from available space and material (like damaged biogas plants and animal watering tanks)



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

Intervention 3: Training on Agriculture and Exposure visits

- **Rationale:** Capacity building is need for new crops cultivation like vegetable cultivation, strawberry, mushroom and dragon fruit cultivation including tree based farming.
- **Target:** Total 4 trainings and one exposure visit were planned
- **Achievement:** As per need Total 8 trainings and 2 exposure visit was conducted which included 1. training on cash crop cultivation like vegetables, fruit plantation, mushroom cultivation, strawberry and dragon fruit cultivation.
 2. Exposure to tree based farming- Wadi, land development, strawberry and dragon fruit farm, food processing units, SHG activities at Vandsa, Navsari district and visit of KVK farm at Chaswad for various fruit plots, vermicompost unit, azola cultivation and nursery, Gaushal. Participants also visited Shram Mandir - Vadodara and see Ideal Gaushala having good practice of animal rearing.

No	Training Subject	Participants	No of hours	Direct beneficiaries
1	Cultivation of Small Gourd	12	02	25
2	Cultivation of Castor and Black gram . All subject like: Sowing, Fertilizer use, pest control etc. Govt Scheme information	20	04	30
3	Cultivation of Creeper Vegetables	29	03	18
4	Cultivation of Strawberry and Dragon fruits	06	04	06
5	Vegetable cultivation	18	03	18
6	Cultivation of Dragon fruit	04	03	04
7	Training on Mushroom cultivation	18	09	06
8	Improved Agriculture practices, Livestock, People Organization, SHG, Wadi, Land development, Group well etc	37	09	Fruit plantation: 07



Exposure Visits



No	Place of exposure	Visit Details
1	BAIF Lachhakadi Campus	Orientation on BISLD programme
		Campus activities and demo visits: Vermicompost, Wadi model, Nursery, processing unit, Mango nursery
2	Dang Area: Barkhandhiya villages	Cashew Mango Wadi, forestry Land development and Water resource development Creper vegetable cultivation and kitchen Garden
	Jamlapada Village	Cashew processing unit Charak center: Traditional healers visit Cooperative visit Ambika Turmeric processing unit and meeting with participant
	Vaghai, Sakarpatal,	Activities of women development: Nahari, Bamboo jewelry making, Ragi papad gruh udhyog, interview of Nahari participants
3	KVK Chaswad Dist: Bharuch	KVK Farm visit and orientation on KVK activities. Farma visit: Nursery, Gaushala, Vermi compost unit, Various fruit plantation, Azola cultivation,
4	Shram Mandir - Vadodata-	Gaushala and leprosy care center including rehabilitation activities like handlooms and outlet of cotton hand made Items.
	Total Participants:	47

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

Intervention 3: Training & Exposure visits



- **Rationale:** Training and exposure plays crucial role for making farmers acquaint with new practices and its results. It helps them make decision in adapting new practices
- **Plan:** One training and one exposure for dragon fruit and strawberry cultivation
- **Achievement:** One training and exposure visit
- **Expected Outcome:**
 - Sensitize farmers for strawberry an dragon fruit cultivation
 - Capacity building of farmers
 - Awareness on harvesting and marketing of these exotic fruits
- **Actual Outcome:**
 - Exposure visits and training motivated farmers to adapt improved and sustainable farming including short term high income crops like strawberry and mushroom cultivation, vegetable cultivation and tree based farming.
 - Capacity building of farmers for new crop cultivation like strawberry, mushroom and dragon fruit.
 - Total 11 farmer started tree based farming

Mushroom Cultivation Training and material support for Units



Rationale: Mushroom is a nutritious food which is also consumed in some tribal areas. It can be cultivated in project area for introducing a new variety as well as an additional source of income

Plan: One training and 6 units

Achievement: 1 training arranged and 6 families supported for home base Mushroom unit.

Outcome: Capacity building of 15 participants for cultivation of mushroom.

Skill development of one CRP for establishment of unit.

Total 100 kgs mushroom produced from 6 units

One participants arranged demo program of recipes of food items of mushroom

Total 22 kgs mushroom sold and participants get Rs. 2200/-

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 – 400, Sex Sorted AI - 40

- **Achievement:** Conventional AI – 482 Sex Sorted AI – 47

Calving (by Con AI): 156 (By SSS AI): 18

- **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. SSS AI surely provide female calf which will be further support to family

- **Actual Outcome:**

- Conception rate for conventional AI is 41.78 % whereas conception rate for SSS AI is 39.13%.
- Total 98 Female Calves are born which are asset of family for future.
- Increase milk production by support of other intervention like BNH-10 Grass, Mineral mixture etc.
- Confidence generated on SSS AI and increased demand.



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:** 2 such trainings and 1 Exposure visit were planned under the intervention.
- **Achievement:** 5 trainings and 1 Exposure visits were conducted under the interventions for the said objective.

Exposure Visits:

Exposure visit	Participants	Observation/ Learnings	Outcome
1. Small Dairy unit at KVK Bharuch (Chaswad) and Shram Mandir Gaushala	37	Ideal and profitable Livestock rearing, Milking, Animal health care,	
2. Vermicompost unit at KVK chaswad and BAIF campus Lachhakadi		important of vermicompost in organic farming and soil health. Proper method of Vermicomposting, Use of Vermicomposting, benefits, care of beds,	10 farmers are started vermicomposting
3. Fodder cultivation: BNH-10, Maize,		Increase awareness on nutritious fodder its cultivation	Farmers started BNH-10 Grass cultivation by own investment
4. Fodder Urea treatment		Importance of urea treatment in milk production	
5. Azola cultivation		Importance of Azola in animal health and milk production	5 SHG women started Azola cultivation
6. SHG visit at Dang- Vaghai		Role of SHG for women development and empowerment	Sensitized women of SHG for various IGA activities.

Objective 2: Improved income from allied agriculture activities like livestock

Intervention 2: Livestock management practices training

No	Training topics	Participant	No of hours	
1	Livestock Management- General Awareness	34	4	Participants were given information about general awareness regarding livestock management practices
2	Poultry Rearing	14	3	Participants learning about the Poultry rearing by modern method including care and food of birds
3	Effective and profitable Livestock Management	40	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
4	Operating chaff cutter and its benefits	11	2	Participants were trained for following: Operation of Chaff cutter, Service and maintenance, Precautions while operating, Expense and income recording
5	Livestock Management- General Awareness	37	2	Participants were given information about general awareness regarding livestock management practices Also including: AI and SSS AI, mineral mixture, home remedies etc
	Total	136	16	

Objective 2: Improved income from allied agriculture activities like livestock

Intervention 2: Livestock management practices training



- **Expected Outcome:**

Awareness generation on profitable live stock including capacity building for successful live stock rearing- including animal health, feed, fodder, vaccination, disease prevention and treatment by home remedies. Entirely it is expected to increase and improve milk production and animal health.

- **Actual Outcome:-**

1. Increase awareness of farmers regarding animal health and feed.

2. Farmers have begun to understand how to provide their cattle with a balanced diet to maintain their health.

Also increase demand of Mineral Mixture powder on 100 cost.

3. Increase awareness regarding artificial Insemination and also increase demand of SSS AI.

4. They also now know how to take preventive measures like deworming, vaccination, fodder and watering etc.

5. 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.

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:** 250 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:** 250 households were availed with mineral mixture under the project intervention. Out of this 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. 80 households had requested the mineral mixture for second time.

Objective 2: Improved income from allied agriculture activities like livestock

Intervention 4: Animal Health Camps

Particulars	Plan	Achieve
Health Camp	05	06
Animal treated	2000	2606
Family participated	200	155
Treatment of repeat breeder		61



- 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:** 5 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. Total 2606 Animals from 155 families are treated during 6 animal camps in 4 villages.
- 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 which are advised by doctor.

ANIMAL HEALTH CAMPS



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, 20 farmers were covered under the intervention. Out of this 20 HH, They were provided with cuttings, fertilizer and also with training on how to plant them and their upkeep. Total land covered under the intervention was 0.5 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. It is also expected that reduction of expenditure on purchase of fodder from outside.
- ▶ **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 seen. Earlier they used to procure approximate 1-2 tones of fodder from outside, due to this intervention they will get 2 tones 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.
- ▶ Total 5 cuttings are completed and approximately 5390 kgs fodder produced and consumed by 145 Animals of 20 families. All these families have stopped purchasing fodder from outside.

Objective 2: Improved income from allied agriculture activities like livestock

Intervention 6: Chaff cutter in women group

- **Rationale:**

From the experience of 15 families of Ambika SHG, one chaff cutter was planned of SHG of khedasan village. Women of Ambika SHG described benefits of chaff cutter such as Increase fodder consumption, reduction of wastage, Improve health of animals and increase milk production. Eventually use chaff cutter is provides many benefits to farmers including drudgery reduction.

- **Target:** A chaff cutter machine to be provided to one group which can be used by members of the women group.

- **Achievement:** A chaff cutter machine was provided to Durga women SHG in Khedasan village. Training was given to members of group by project and members of Ambika SHG.

- **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. 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.



Training on Chaff cutter

Case study: Fodder Demo (Khedasan)

- Rasilaben B. Dhrangi is a farmer of Khedasan village and president of Ambika women SHG. She has 8 animals and every year used to purchase fodder from outside worth of Rs. 5 to 10 thousand. She planted BNH-10 Grass in 2 guntha land near her house during August 2020. Now she has sufficient green fodder and she also started selling of fodder stumps. She sold 22000 cuttings and earned Rs. 22000. She is delighted to see this change and has decided to increase plantation also. Other farmers and women of SHG also get motivation from her plantation and started BNH-10 Grass by own investment.



Adoption of Fodder cultivation (replication)

BNH-10 Grass cultivation in 4 villages

Year	Project Support	By own Investment	Total
2019-20 (First)	40	11	51
2020-21 (Second)	20	39	59
Total	60	50	110
Total Area (acre)	1.56	5.45	7.01

Outcomes:-

1. Reduced purchase of fodder from out side.
2. Most of families now getting sufficient fodder from plots
3. Reduction of drudgery of women as well as men.
4. Improve Health of animal and milk production.
5. Many farmers get income from sale of fodder stumps.



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 29 cattle for 29 farmers (1 cattle per participant) were planned to cover with the insurance policy to spread the awareness regarding covering the risk of animal assets.

➤ **Achievement:** 29 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:** Risk minimization of asset and awareness regarding the same

➤ **Actual Outcomes:**

1. Animal Deaths and Claim amount:- Total 5 animals died during the year and each participants get Rs. 25000. Total 1.25 lacs were received by these participants

2. Other farmers are sensitized for animal insurance and 14 farmers took animal insurance of 14 animal by own investment. This is first time in this area that after long time farmers taking animal insurance at their own expense. (total 28000/- paid by 14 farmers for 14 polices).

Case Study: Improve Animal husbandry by Mineral mixture, S S AI and animal Insurance.



Khatubhai Rupabhai Limbad resides at Khedasan village and his main livelihood is Agriculture and livestock rearing. Khatubhai has total 1.5 acre land and 18 animal and 3 milching cows

Rajubhai participated in Animal husbandry training programme. He got motivated and received the SSS AI, Mineral mixture and Animal insurance under the project intervention

Chheniben, his wife regularly uses Mineral mixture for her cow. 4 animal were given AI and 2 female calves were born. Now they are getting 30 litres of milk from 3 cows. Chheniben earns Rs. 850 daily. Chheniben and Khatubhai says that they getting more milk than previous milching.



Case Study: Integrated Livestock Development (Ladiwada)

Mavjibhai D. Kharadi is a farmer having primary livelihood as agriculture and livestock rearing. He adopted integrated livestock development practices for livestock management.

Mavjibhai and his wife had participated in training, AI, BNH-10 grass demo, Mineral mixture, Animal insurance and health camp.

He has 14 animal. Due to adoption of various activities of livestock, he is able to witness increase in milk production. He also got female calf from SSS AI. He sells 25 litres of milk daily and earns around Rs. 1000 per day. Last year he was getting 17 to 21 litres milk whereas this year he is getting 20 to 25l litres of milk.



Objective 3: Soil and Water Conservation

Intervention 1: Farm Trenches cum Bunding



Trenches and Bunds



- **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:** 1000 Cum meter trenches planned
- **Achievement:** 785.47 cubic meters trenches (1180 running meters) done with 21 farmers. They also get labor charges for own work. After deduction of contribution they will get Rs. 47363 from project side.
- **Expected Outcome:** - Trench cum bundings will improve soil fertility and agriculture production by reduction of soil erosion and ground water recharge. Farmers will get income where there in no employment during summer.
- **Actual Outcome:**

Total 785.47 cubic meter Trenches prepared and farmers get Rs. 47363. Actual and measurable results will in next cultivation seson

Objective 3: Soil and Water Conservation

Intervention 2: Masonry field outlets



Farm Masonry field outlets



- **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:** Total 30 masonry farm outlets are planned.
- **Achievement:** Total 10 masonry farm outlets were completed
- **Expected Outcome:** -
MFO are small structures constructed at farm water outlet. It is useful for water harvesting and reduction of soil erosion. It reduces farm land erosion. It is also increases soil fertility.
- **Actual Outcome:**
Total 10 MFOs are constructed. Actual and measureable results will get in next cultivation season.

Objective 3: Soil and Water Conservation

Intervention 3: Promotion of Water lifting devices- Irrigation pipes.



- **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:** 54 households were planned to support for irrigation pipes
- **Achievement:** 60 households are being 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 60 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. Now farmers can also cultivate land which is on height above from bore well.

Objective 3: Soil and Water Conservation

Intervention 4 : Well Recharge



Roof top harvesting system for open well recharge

- **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:** Water in well was found for 1.5 to 2 months more than previous year. Farmers also mentioned that ground water of near by bore well has increased and they received more water from bore well.

Objective 3: Soil and Water Conservation

Intervention 5: Group borewell with lifting devices



Drilling of Bore well

- **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:** 1 Group borewell with lifting devices were availed to 15 households from Bhankhara village.
- **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:** Group members will get sufficient water for agriculture and renting of water will stop. Group and water distribution management will be developed.
- **Remarks:** In one of the borewells during the drilling the machine got stuck due to hard material and it could not be completed. Hence this group is availed with lifting devices and drilling will be done in the third year of the project

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:** 3 health camps were conducted in the project area covering 122 participants from 98 households. This included 107 females and 15 males .
- **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.
- **Remarks:** Due to COVID-19 restriction and government guideline one camp was cancelled for the time being

Quality of Life

Intervention: 2 Formation and capacity building of People organization

- **Objectives:-**

- Empower the rural community to enhance their capacity towards sustainable agriculture , livestock and small enterprise through group movement.
- Develop leadership
- Planning : 12 group formation
- Achievement: 06
- Women Self Help Group: Plan: 01 Achieve: 01 Group meeting: Plan: 08 Achieve: 08



No	Particulars	No	Remarks
1	Villages having POs	03	
2	Total Farmers Groups	08	M: 06 F: 02 (SHG)
3	Total members	85	M; 55 F: 30 (SHG)
4	Name of Groups	members	Village
	1. Bhavani Farmers Group	10	Khedasan
	2. Yogeshwar Farmers Group	10	Ladiwada
	3. Sabar Farmers Group	10	Bhankhara
	4. Shree Ganesh Farmers Group	06	Bhankhara
	5. Jay yogeshwar Farmers Group	10	Bhankhara
	6. Bhairavnath Farmers Group	09	Bhankhara
	7. Ambika SHG	15	Bhankhara
	8. DURGA SHG	15	Khedasan
5	Savings of two SHGs	Rs. 32000	

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

Intervention 4: Nutrition Garden



- **Rationale:** Rural families in this region typically consume less vegetables owing to high prices. More often, 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. Experience of first year we have introduced concept of perennial nutrition garden and supported 30 families for vegetables which have perennial production like Ivy gourds. We have also supported new fruit plants like Spota and Jack fruits.
- **Target:** 15 Kitchen Garden were planned for the project villages
- **Achievement:** 15 Kitchen Garden were planted in the project villages and other 15 families are partially supported by Ivy gourds and drumstick plantation for perennial nutrition Gardens. 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, Guava, sapota, jack fruit, papaya and drumstick 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:** Participants have been consumed seasonable vegetables such as spinach, carrot, fenugreek and creeper vegetables like gourd, Ivy gourds etc. Now production of Guava, papaya and drumstick also started and family started consumption. It also addresses the behavioral changes in their eating habits. They save approximately Rs. 950 for two months

Case Study: Nutrition Garden



Rajubhai and his wife Induben resides in Joravarnagar village. During training and meetings they educated about nutrition gardens and they adopted it during both year. She used a small portion of farmland that was near to her house for the Kitchen Garden.

By the support of project she grew fruits such as mango, guava, papaya, jackfruit, lemon and vegetables such as coriander, radish, fenugreek, spinach, carrot, bottle gourds, bitter gourds etc. She used own vermicompost and kitchen waste for this vegetable cultivation.

Fruiting has started in Guava, papaya and lemon. She has saved Rs 1500 for 3 months by using vegetables of nutrition garden.

Her family is now regularly consuming green vegetables. She 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.



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



- **Rationale:** During the feasibility study this year and discussion with panchayat members, it was identified that Bhankhra school needed the renovation. 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 up gradation in the infrastructure will lead to a healthy and better study environment.
- **Target:** Renovation in 1 government primary school in Bhankhara village.
- **Achievement:** The renovation work has been completed in the Bhankhara school.
- **Expected Outcome:** Study will not be affected during monsoon because of water proofing. Due to shed and repairing of Verandah school will get a proper place for mid day meal and also option of classroom. They also will get space for culture programme. All over improvement of school environment and sanitation.
- **Actual Outcome:**
Stopped leakage of water from ceiling so study will not be affected. School got proper place for mid day meal and a space for extra classroom. This can also be utilized for cultural programme and events by school

Bhankhara Village School Infrastructure upgrade



COVID-19 PREVENTION ACTIVITIES



During the second wave of COVID-19 infection preventive and awareness generation activities were planned given the need of the area and time.

1023 families of 4 villages were supported with preventive kits. Each kits having pocket Hand sanitizer-01, N-95, 2 masks and 3 soaps

Awareness generation done during issue of material and due to availability of material resulted into people using masks and hand sanitizer.



No	Village	No of families provided kit
1	Bhankhara	579
2	Khedasan	151
3	Ladiwada	120
4	Joravarnagar	173
	Total	1023

Way Forward...

- The next phase of project will commence with planned regular activities along with new interventions based on the understanding of the area in past two years. We would also be focusing on new interventions like farm yard manure handling and enhancing our reach through technology.
- A 5 year roadmap of project will be designed in consultation with all the stakeholder to provide the initiative a direction resulting into productive efforts
- The project coverage will increase from four villages to six in the coming year.
- New activities with progressive farmers are planned which will help small and large farmers for adoption and awareness of best practices



THANK YOU

