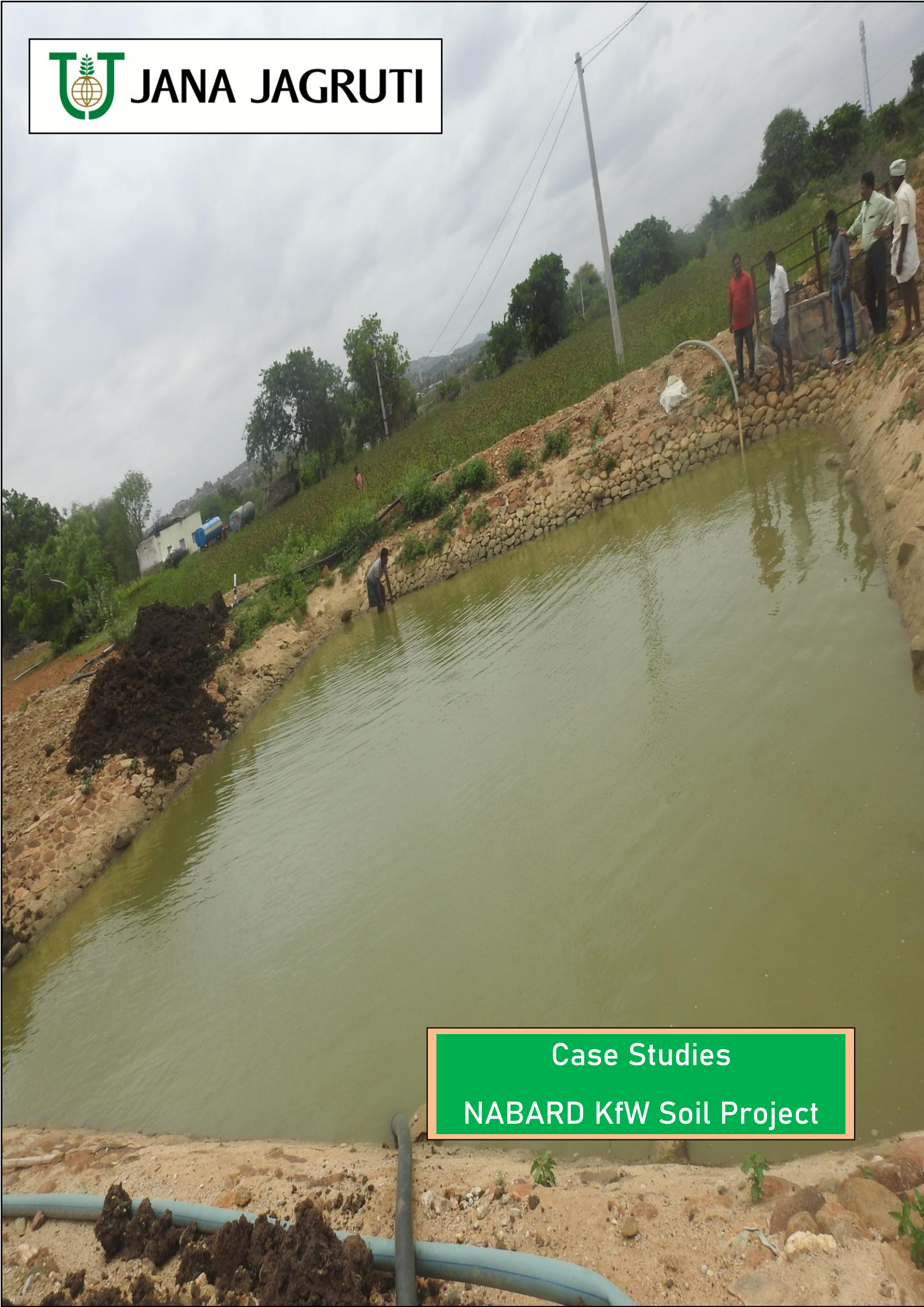




JANA JAGRUTI



Case Studies

NABARD KfW Soil Project

1. A case study on Navadhanya system

Introduction

Peddapalli Micro-watershed is situated in Thanakallu mandal of Anantapur District. This area characterized by low, erratic and spatial rainfall. The area is surrounded by small rocky hillocks with an undulating landscape. Major crops in the micro watershed grown under rain fed conditions are Groundnut, and Redgram . Some farmers cultivate Horse gram as a catch crop in Groundnut by utilizing the rain in the months of September-October. They sow Horse gram just before the Groundnut is harvested. Erratic rainfall in the region over the past years has caused a sharp decline in the yield per acre from the crops. Crop diseases are also a major problem in the area, which leads to the low yield of the crop. Paddy and Tomato are the major crops grown under irrigated conditions. Most farmers who grow ground nut are unable to get stable yields due to factors like poor soil fertility, increasing soil erosion, delayed and erratic rainfall, continuous mono cropping as well as poor management practices. These are some of the major factors affecting yields in this micro watershed.

Janajagruthi, Thanakallu implemented the NABARD funded project covering in Peddapalli watershed over 1250 Ha from 2008-2015, that includes treatment of private and common lands available in the area, along with livelihood support to poor and marginalized sections of the population dwelling within the purview of the watershed. The present area has a predominant area under dry land farming and hence the focus of the team has been to address issues and problems faced by dry land farming community.

Importance of Navadhanya System in Rain fed Agriculture

.Navadhanya system enabled the farmers to reduce risk of crop failure. Navadhanaya is a combination of 3 types of crops that Millets, Pulses and Oil crops. The millets will be combination through this cropping system farmers.

Advantages

- It reduces the risk of crop failure due to environmental stress.
- Pest infestation of crops is greatly reduced.
- It increases soil fertility.
- It increases the yield of both the crops due to complementary effect of each crop.
- By products you can use as feed and fodder

The Process

As part of NABARD KfW Soil Project the JJ team visited the Peddapalli village during the year 2019 kharif season and gave orientation on importance of Navadhanya system in Rain fed agriculture and they took interested farmers to study tour to understand the basic of the system and to learn the cropping systems. And also team organized the training programme on Navadhanya system and gave the orientation on package of practices. After organizing the different awareness programmes Mr. Hyder ali came forward to adopt this system in his 2 acres of land under rain fed conditions and contacted the watershed committee to proceed further. He treated his land with soil and moisture conservation works like farm ponds, contour trenches, boundary trenches etc



Adopted Practices in Navadhanya System by Farmer

- Ploughing the across the slope
- Application of farm Yard manure 4 tons per acre
- Using of Bio fertilizers
- Intercrops with Redgram, Cow Pea, Field bean, Green gram, Bajra, Jower, Castor, Horse gram and Sesamum
- Intercultivation

The application of good quality farm yard manure (4 tons for peracre), enriched FYM and bio-fertilizers rendered the crops drought resistant and they looked healthier than the farmers practice crop in the comparison plot. Adoption of the practices like: good quality seed, Optimum Seed rate, Optimum plant density legumes. Cereals, Pulses and Oil seeds crops as a inter practice of carrying seed germination test and use has resulted in good plant population. Change in cropping system helped increase the productivity in the form of additional biomass per unit of area cultivated. Due to Navadhanya system more predator population (Lady Bird



Beetle, Spider) was observed and 15% area under crop rotation due to inter cropping.

Yield and Income from 1 acre of Navadhanya System:

SI No	Crop	Yield in Quintals	Income in Rs	Remarks
1.	Redgram	4	18000	Rs 45/kg
2.	Field Bean	1.5	6000	Rs40/kg
3.	Cow pea	1.25	5000	Rs 40/kg
4.	Green gram	0.25	1520	Rs 50/kg
5.	Sasame	0.25	1500	Rs 60/kg
6.	Bajra	3	7500	Rs 25/kg
7.	Jower	1	2500	Rs 25/kg
8.	Castor	0.50	3000	Rs60/kg
9.	Horse Gram	1.5	3750	Rs 25/kg
Total			48770	
Cost of Cultivation			10500	
Net Profit			38270	

Farmer opinion about the intervention in Peddapalli watershed:

The above opinion clearly indicates that farmer was very much interested to do Navadhanya practice. It was clearly visible compare to normal ground nut crop his income is high and there is good health of soil. It means Navadhanya practice is favorably helping the farmers to survive in agricultural stream.

2. A Case Study on Annapurna Demo

My name is B.Chand Basha, I belong to Eedulavanka watershed, Bonthalapalli village of Tanakallu Mandal, Anantapuramu district. This village comes under Bonthalapalli village SDP program of NABARD. Bonthalapalli village, there are 300 families were living, most of their occupation is agriculture and they cultivate Groundnut, Red gram, Bajra as main crops and Cow pea, Green gram and Gingelly were being grown as inter crops as rainfed crops. Under irrigated conditions, they go for Groundnut, Tomato and Maize.



Our village is located 20 kms away from Tanakallu Mandal head quarters. NABARD has executed watershed works since 9 years in our village. After completion of watershed program, NABARD has sanctioned SDP program in our village. This program has been assigned to concerned PFA Jana Jagruti to ensure proper functioning of the program. Under this SDP, provisions for conducting trainings, exposure visits and conducting demos which are suitable for replication to make the farmers aware about latest agricultural practices implemented by the improved farmers so that they can be replicated in the project area.

When Jana Jagruti team had explained about the demo offer, local farmer Mr.B.Chand Basha had came forward to go for a demo with Annapurna demo in his 1acre of land that he want to demonstrate this practice. In his one acre of land, the model was to go for Annapurna deom which is going of 20 varieties of vegetable crops according to their growth and spreading of the canopy to utilize the sun light in an effective manner so that they will never compete for getting their sun light. The selected vegetable crops include Leafy vegetables like Annapurna etc, Brinjal, Chilly, Radish, Bitter gourd, Field bean, French Bean, Ridge gourd were being sown with the help of Jana Jagruti.



This demo was being raised under the guidance of local MAO's trainings and advice, we have planted in staggered sowing we have got 2 lakh rupees gross income from one acre of land. It was also decided to go for ZBNF practices, by using botanical concoctions, Ghana Jeevamrutham, Drava Jeevamrutham were being sprayed on daily basis.

Here I want to convey my sincere thanks to SDC project committee of NABARD, staff of Jana Jagruti team, Mrs. Jyoshna local MAO and to the officials from NABARD who have been extended financial assistance to me. Here I want to share the outcome from the demo by going for Annapurna demo 2 BNF model from my 2 acres of land as follows:

Annapurna Demo	
Cost required for land preparation	4000
Cost incurred for labor payments	5000
Cost required for purchasing the nursery	7500
Fertilizers cost	5000
Transportation cost	15000
Total	36500

Tomato pure crop	
Cost required for land preparation	4000
Cost incurred for labor payments	5000
Cost required for purchasing the nursery	7500
Fertilizers transportation costs	10000
Transportation cost	15000
Total	41500

As mentioned in the table, it was evident that cost of cultivation is low under this demo and the produce that is available can easily sold in local markets or at Raitu Bazar because of its quality enhancement I got good price due to glossy appearance and high keeping quality.

Tomato pure crop: Even though we will get more yield from Tomato puree crop, total produce can not be sold in Raitu Bazars, we need to sell the produce at the nearby markets where ever it is available.



The major issue in selling the produce at local regulated markets is fluctuations in the prices daily according to arrivals of the commodity and based on the principle of demand and supply. It was also evident that some days farmers even not getting their cost incurred for the cultivation costs after selling the produce. The cost of cultivation of Tomato is quite high for HYVs and for adopt AO Mrs. Jyoshna, CRP Mr. Garudappa for advocating 2 BNF method from the deep of his heart and from his family.

3.A Case Study on Ground water storage through Bore well recharge

My name P.Seethapathi, singiravandlapalli village of Tanakallu Mandal. I myself, my wife and my son living through farming as our livelihoods. I have 3 acres of land, I dug a bore well and with the available water for 2 acres. When I dug the bore well, initially there was sufficient rainfall and with that recharge I used to do my agriculture. But since last 2 to 3 years because of drought we were getting less rainfall and results in depletion of ground water level. This was happened with my bore well also and resulted in shortage of water and whatever rain that we have resulted is not enough of recharge. This made me panic and I become clueless to handle this kind of situation.

At one occasion, I had expressed my ground water issue with the committee members of SDP of NABARD project. Then Jana Jagruti and SDP project committee members have visited my bore well. They have observed that whatever rain water has been received is not going in to bore well and being running away fro the bore well. This is leading to shortage of ground water. Hence Jana Jagruti team had advised me to recharge the bore well , with that recharge structure, whatever rain water received will deposited in ti bore well. Not only advising, Jana Jagruti team had discussed my issue with SDP committee members and they have sanctioned Rs.20000/- towards recharge of the bore well.



Construction of recharge structure as follows: digging of a broader well around bore well with a dimension of 10X10 and 10 feet depth. The bigger well was filled with big rock for 2 feet height, then added sand for 2 feet above, then I had added fine sand and we did flouring over the structure. The we have raised 1 feet wall With this structure, we were able to store the rain water in to my bore well. With the increased



water, now I can able cultivate my one acre land and also due to un interrupted water supply there is no drying of crop due to water shortage, i can see there is increase in yield levels, With this support extended by Jana Jagruti and SDP of NABARD in recharging my bore well myself and my family were leading our livelihood trough cultivation of crops. Due to avoiding drilling of new bore well I don't have new debts and getting income. I want to say sincere thanks to Jana Jagruti and SDP of NABARD for getting net income of Rs.60000/- by cultivating Tomato.

4.A case study strengthening the Millet based farming system

Introduction

Goundlapalli Micro-watershed is situated in Thanakallumandal of Anantapur District. This area characterized by low, erratic and spatial rainfall. The area is surrounded by small rocky hillocks with an undulating landscape. Major crops in the micro watershed grown under rain fed conditions are Groundnut, and Red gram. Some farmers cultivate Horse gram as a catch crop in Groundnut by utilizing the rain in the months of September-October. They sow Horse gram just before the Groundnut is harvested. Erratic rainfall in the region over the past years has caused a sharp decline in the yield per acre from the crops. Crop diseases are also a major problem in the area, which leads to the low yield of the crop. Paddy and Tomato are the major crops grown under irrigated conditions. Most farmers who grow ground nut are unable to get stable yields due to factors like poor soil fertility, increasing soil erosion, delayed and erratic rainfall, continuous mono cropping as well as poor management practices. These are some of the major factors affecting yields in this micro watershed.

Janajagruthi, Thanakallu implemented the NABARD funded project covering in Goundlapalli watershed over 967 Ha from 2008-2014, that includes treatment of private and common lands available in the area, along with livelihood support to poor and marginalized sections of the population dwelling within the purview of the watershed. The present area has a predominant area under dry land farming and hence the focus of the team has been to address issues and problems faced by dry land farming community.

Importance of Millet farming System in Rain fed Agriculture

Millet farming system enabled the farmers to reduce risk of crop failure. Millet cropping system combination of 3 types of crops and these millets will be combination through these cropping system farmers.

Advantages

- It reduces the risk of crop failure due to environmental stress.
- Pest infestation of crops is greatly reduced.
- It increases soil fertility.
- It increases the yield of both the crops due to complementary effect of each crop.
- By products you can use as feed and fodder

The Process

As part of NABARD KfW Soil Project the JJ team visited the Goundlpalli village during the year 2019 kharif season and gave orientation on importance of Millet Promotion in Rain fed agriculture and they took interested farmers to study tour to understand the basic of the system and to learn the cropping systems. And also team organized the training program on Millet farming system and gave the orientation on package of practices .After organizing the different awareness programs Mr. Surya narayana came forward to adopt this system in his 2.5 acres of land ie Fox tail Millet is in one acre ,Proso millet is in one acre and Finger millet is in 0.5 acres under rain fed conditions and contacted the watershed committee to proceed further. He treated his land with soil and moisture conservation works like farm ponds, contour trenches, boundary trenches etc

Adopted Practices in Millet farming System by Farmer

- Ploughing the across the slope
- Application of farm Yard manure 4 tons per acre
- Using of Bio fertilizers
- Inter cultivation

The application of good quality farm yard manure (4 tons for per acre), enriched FYM and bio-fertilizers rendered the crops drought resistant and they looked healthier than the farmers practice crop in the comparison plot. Adoption of the practices like: good quality seed, Optimum Seed rate, Optimum plant density legumes. Cereals, Pulses and Oil seeds crops as a inter practice of carrying seed germination test and use has resulted in good plant population. Change in cropping system helped increase the productivity in the form of additional biomass per unit of area cultivated. Due to Millet cultivation more predator population (Lady Bird Beetle, Spider) was observed and 15% area under crop rotation due to inter cropping.

Yield and Income from different crops in MilletCultivation:

SI No	Details	Foxtail Millet(Korra)	Proso Millet(Sama)	Finger Millet (Ragi)
10	Area Cultivated	1 Acre	1 Acre	0.50 Acre
11	Total Cost of Cultivation	5800	5500	4500
12	Yield In Quintals	12	7	5
13	Rate per quintal	3500	3000	2500
14	Total Gross Income	42000	21000	12500
15	Net Profit	Rs 36200	15500	8000

The above opinion clearly indicates that farmer was very much interested to do Millet promotion. It was clearly visible compare to normal ground nut crop his income is high and there is good health of soil. It means Millet farming System is favorably helping the farmers to survive in agricultural stream.



5.A case study on Convergence to improve livelihoods of poor

Introduction

Development of the villages and the community is the ultimate goal of several departments, program and schemes. However, the sectoral and short sighted approach of these has not resulted in sustainable achievements at the grass root level. Lack of co-ordination between various actors at the cutting edge might lead to overlap, conflicts and duplication of work. On the other hand, a co-ordinated effort would lead to fruitful utilization of funds and matching of grants for higher and better results.

Thus convergence has become the buzz word in the circles of development. The constitution has envisaged greater role for Watershed Institutions in the issues of governance and development. The issue of convergence with special reference to natural resources management needs and livelihoods improvement to be explored.

Jana Jagruthi, Tanakallu implemented the NABARD funded project covering in Goundlaplli watershed over 1050 Ha from 2008-2015, that includes treatment of private and common lands available in the area, along with livelihood support to poor and marginalized sections of the population dwelling within the purview of the watershed. The present area has a predominant area under dry land farming and hence the focus of the team has



been to address issues and problems faced by dry land farming community.

As part of NABARD KfW Soil Project in the year 2017 Jana Jagruthi organization initiated the different developmental activities through convergence in Goundla Palli watershed to sustain the livelihoods of the community who are already benefitted under this program and also scaling up of successful intervention to more number of beneficiaries.

One of the major strategies of the programme was to converge with various departments and programmes to bring in a holistic impact. An effective convergence arrangement is established with other programmes (MGNREGS – Mahatma Gandhi National Rural Employment Guarantee Scheme, a rural employment programme of the government) and departments (Department of Agriculture, Animal Husbandry, Forestry, Horticulture etc.,) for undertaking interventions. As the funds available under watershed development project may be inadequate to saturate a watershed,

convergence with other development programmes helps not only to supplement funds for holistic treatment but will also complement other development programmes.

For instance, convergence with MGNREGS programme complements MGNREGS to focus on the asset creation which will have direct impact on the soil moisture conservation and socio economic status of rural poor. A state specific clear cut convergence policy with MGNREGS scheme for holistic treatment has been evolved and is being successfully implemented in the state.

Similarly, non pesticide management along with comprehensive soil fertility management activities viz., NPM shops consisting of all biological extracts, NADEP compost pits, household nutrition security models, custom hiring centres etc., are being taken up in convergence with Community Managed Sustainable Agriculture (CMSA) wing of Society for Elimination of Rural Poverty (SERP). For enhancing livelihoods of rural poor, Poorest of the Poor (PoP) strategy of SERP is adopted to provide financial assistance to the identified poor through women Self Help groups and federations, for promoting income generation activities.

Treatment of forest fringe areas is being taken up in collaboration with the Forest Department. Similarly, livestock development initiatives such as livestock health camps, breed improvement, nutritional support, capacity building of the stakeholders etc., are being taken up in convergence with Department of Animal Husbandry.

The following programs were implanted by convergence with different line department and research stations.

Convergence with banks

Total 50 lakhs loan was sanctioned by Andhra Pragathi grameena Bank to water shed committee to purchase milch animals for interested beneficiaries and SHGs were actively involved in disbursement and recovery of loans.

Convergence with Animal Husbandry Department

Watershed committee jointly collaborated with Animal Husbandry department and United India Insurance Company to cover the livestock under safety net through insurance. VWDC took the help of Animal Husbandry department for poultry and Cows vaccination purpose to avoid pandemic diseases at the watershed level. VWDC took the help of Animal Husbandry department in identification and purchase of Sheep and Poultry breeds. VWDC took the help of Animal Husbandry department for trainings and exposure visits under capacity building program.

6.A Case study on Convergence with MGNREGS

By convergence with MGNREGS works like trench cum bunding, Earthen bunds, Farm ponds, Dugout ponds and tank silt application etc carried in the watershed villages and total Rs 0,00,000/- mobilized for works.

Convergence with Department of Agriculture

By convergence with department of Agriculture inputs like Gypsum, Groundnut seed and implements were distributed the farmers and different training programmes were organized in the watershed villages. Team mobilized various



inputs from Agriculture department especially through to promote sustainable agriculture practice in Ground nut and Ragi. VWDC mobilized Tricoderma, PSB, Rizobium, Azosperillum, Zinc, Gypsum, finger Millet, Jower, Cow pea, Red gram, Castor, Neem oil, Neem cake etc to provide the same on time to farmers. Soil samples were collected and analyzed. Farmers were enabled to practice seed treatment and use of bio inputs. Majority farmers practiced in-situ soil moisture conservation practices like fall ploughing, land preparation across the slope and dead furrows..

Convergence with Rural Development Trust

Total 50 lakhs grant was given by RDT to water shed committee to purchase nearly 35 milch animals for interested beneficiaries and SHGs were actively involved in disbursement and recovery of loans.

Convergence with Forest Department

The scope and need for convergence was identified in four functional areas – protection of assigned forests, in building awareness on protection, catching forest offenders and in treating the upper reaches of the watersheds that are mainly forest areas.

Convergence with Horticulture Department

By convergence with department of Horticulture the Kitchen garden seeds were distributed the farmers and different training program were organized in the watershed villages.

The experiences of NABARD KfW soil project demonstrate that the effect of drought and desertification can be effectively tackled through integrated Watershed management measures at local level through active participation of rural communities. More importantly, it proves that an integrated approach and convergence of programmes goes a long way in achieving holistic impact in watershed areas. However, development through convergence is a time consuming process and not without challenges. It calls for mutual cooperation, active participation and sharing of insights by each of the programmes. It is important to have a vision and a holistic design which is flexible, before planning activities with various departments. This design should be continuously revisited to accommodate changes as and when required.

One of the important reasons for achieving convergence among different programmes is that all of them belonged to the same department, i.e., Department of Rural Development. The watershed community thanked to NABARD KfW soil project and Jana Jagruthi organization for their efforts on convergence of different programmes in this watershed.

7.A Case Study on Increased milk yield after establishment of hydroponics

I am from peddapalli village of Malreddypalli gram panchayat of Tanakallu mandal, Anantapuramu district. In my gram panchayat they is no much dairy industry viable. Jana Jagruti organization is implementing KfW soil health project in our village. Under this project the organization has given jersey cows to promote dairy in our village with the help of Andhra Pragathi Grameena Bank. Under this assistance, i had also taken one jersy cow for improving my livelihood. For giving feed to cow, i used to give green fodder and mineral mixture as supplemental and i used to sell milk in our local dairy and i used to get Rs.26/- per every litre of milk that I sold. I used to get 6 litres each in the morning and evening per day. During the period, Jana Jagruti staff explained about raising the fodder through hydroponic. They have told me that the project will give Rs.12500/- as project component and rest of Rs.2500 has to be born by me as farmer's contribution. The organization has brought me the hydroponics unit from KVK, Banaganapalli of Kurnool district, after making the payment of Rs. 2500 towards my share.



I had started raising green fodder from hydroponic method and giving 3 kgs each in the morning and evening to my milking cow. After using this upgraded component in feeding my live stock, milk yield has been increased from 6 liters to 8 liters per day. One more interesting fact is, after using this unit, i can see not only an increase in milk yield, i am getting more prices per liter that means from Rs.26 to Rs.30 per liter due to increase in fat content in the milk. I got both quality and quantity improvement in my milk business. This has got positive improvement in our village and my village farmer Mr.Venkatarami Reddy is also giving fodder raised by Hydroponic grass. Not only is this farmer, the demand coming from lot of dairy farmers from our village to get the equipment. I want to convey my sincere thanks to the officials of KfW soil project, Jana Jagruti and my local watershed committee members



8.A Case study on nursery

My name is P.Suryanarayana, belong to K.Malreddy palli village of Tanakallu mandal. My village is located 25 kms from Tanakallu mandal head quarters, due to lack of nursery selling points in our village, we used to go to nurseries situated at Kokkanti cross and Moalakacheruvu of Chittoor district. During transportation of nursery like Tomato and Brinjal like vegetable nursery, we used to face lot difficulties for transporting the nursery through autos. We have expressed our difficulties to Jana Jagruti organization authorities during our meeting with KfW of soil project funded by NABARD when they have organized a meeting in our village. The Jana Jagruti organization responded well and they escalated the issue to the authorities of NABARD and the NABARD's AGM Mr.Ravindra Prasad sir had understood the importance of quality nursery in vegetable cultivation and he had kindly sanctioned Rs.1 lakh towards grant from this project's funds. The organization had selected me as the right candidate for establishing the nursery during the gram sabha commenced for this purpose. Under this assistance of Rs. 1 lakh, it has been decided that Rs.50000/- will be given as grant and Rs.50000/- will be given as loan.



I had established a nursery with the released amount in our village. So far I had sold nursery of Tomato worth Rs. 3 lakhs, Rs.50000/- worth Chillies and Rs. 50000/- worth Brinjal. The farmers belonging to our village were quite happily purchasing the nursery from my nursery plant and some farmers were getting nursery raised by the seeds given by them as per their choice to ensure quality. I am happy to share you that



the farmers not only from A.P. And the farmers from bordering Karnataka state like villages of Chakivelu, Maddireddy palli were also purchasing from my nursery unit. With this unit I am getting work and wages towards my business. I am giving work to 5 women laborers in my unit. My nursery had reached breakeven point and I am trying my level best to improve the nursery according to the interests of the farmers to ensure quality. I want to convey my sincere thanks to the officials of KfW soil project, Jana Jagruti and the committee members of my village watershed for extending their support to me.

9.A Case study on impact of Farm Ponds to improve rural livelihoods

Water is precious as it nourishes and fosters life. It is vital to the existence of all. Hence it is essential for proper and effective management of water resources. Development of integrated watershed program is significant as it provides opportunities to the local communities to treat watersheds and conserve water for improving their livelihoods. With the intent of managing and conserving water resources, the local communities treat watershed areas and construct rain water harvesting and recharge structures. Water harvesting not only conserves the water which would otherwise have gone unused but also helps in recharging aquifers and tackles the problem of depleting water table in areas where ground water is under enormous pressure. In situ water harvesting is a key in watershed development which helps in increasing soil moisture and productivity of vegetations. Further it also acts as drought proofing measure.



Janajagruthi, Thanakallu implemented the NABARD funded project covering in Goundlapalli watershed over 967 Ha from 2008-2014, that includes treatment of private and common lands available in the area, along with livelihood support to poor and marginalized sections of the population dwelling within the purview of the watershed. The present area has a predominant area under dry land farming and hence the focus of the team has been to address issues and problems faced by dry land farming community.

Background information

Mr .Surya Narayana is one of progressive farmer in Goundlpalli watershed and he is regularly adopting the practices suggested by the Jana Jagruthi Organization as part of NABARD KfW project.. He land is very slopy and located to near to hillocks and Excess runoff flowing down, deposit heavy silt over the crop land. In the absence of any storage tank the Surya narayana is unable to provide drinking water for their livestock during their Livestock grazing periods.

As part of NABARD KfW Soil project the Jana Jagruthi team initiated activities in Goundlapalli watershed villages in a unique way.The message was spread through a 'Kalajatha' cultural program with singing and games. The village community had been

informed about the benefits of Farm Ponds. Water scarcity in the village would be solved by the construction of water harvesting structures. Farmers were taken to other watershed areas to learn through exposure to other development activities. Those who saw the successful implementation of watershed works in other areas shared their experience with the rest of the villagers. Thus the whole community was motivated to participate in the watershed activities.

As a part of NABARD KfW soil Program a Farm pond was dug in his private land which is located at the bottom of his entire land. These livestock depended families use to take their livestock every day morning to neighboring common lands for grazing and will come back by evening. The main source for drinking water for livestock during the grazing period is small ponds and kuntas. During the rainy season the drinking water facility is a not a problem for entire this village livestock population. But in summer season there is no drinking water availability for their livestock and severe especially during the drought periods.

In order to improve upon the moisture regime of upland soil JJ PFA, in 2019 initiated the process of excavation of a Farm pond in about 20 x 20 mtrs size at the base of Suryanarayana land under NABARD KfW soil project. With an estimated investment of Rs.1,00,000 and he got grant Rs 77000 from project and he contributed Rs 30000 labor for digging the Farm Pond and it took around 7 days to complete the work.

The Farm pond serves in preserving runoff water and enabling to provide enough drinking water for Livestock especially during the summer months. The pond also serves as a good source of water for dry land agriculture and fodder growth in the adjoining pasture which is used for grazing by cattle of the village. This Farm Pond has been protected against silt deposit from runoff by loose boulder structures and guard bunds constructed by villagers in the upper ridges.

The Functions of Farm Pond is as follows

- Drinking water for livestock
- Domestic use for human population
- Pisciculture
- Irrigation for dry land Agriculture

The following Advantages:

Ground water recharge

Drinking water facility for livestock

Creation of employment for excavation, earth works, stone

Pitching and de-silting etc

Due to this Farm pond intervention total 807 livestock population got drinking water facility and totally 115 livestock dependent families were benefitted covering 3 villages. The farmer also provided assured irrigation to his Ragi crop which is grown under rain fed conditions and he got 10 bags yield from his 0.5 acres.

Impact

By seeing this impact nearly 11 farmers were came forwarded and approached the staff of Jana Jagruthi and constructed the 11 farm ponds in their respective lands under the finance NABARD KFW Soil project.

Lessons learnt

- Water for livestock can be made available by excavating Farm ponds to harvest the rain water.
- We can address the migration of livestock dependent families especially during the summer months
- Farm ponds are means to achieve increased income level of Livestock dependent families with low investment
- It serves as a good source of water to cultivated rain fed crops by providing the assured irrigation



10.A Case study on Sreeja Dairy- A Role Model

Malreddypalli is a small and remote village in Tanakallu mandal of Anantapur district with about 75 households and a population of 400. This village has borders of both Karnataka state and another side Chittoor District. Most of the farming community dependent on dry land farming and some of them have milch animals as alternate livelihood activity. There were very little milch animals in the village to provide milk and the dairy activity also very minimal.

Jana Jagruthi, Tanakallu is previously implemented the NABARD funded project covering 6 micro watersheds cover 1250 Ha since 2014 that included treatment of private and common lands available in the area, along with livelihood support to poor and marginalized sections of the population dwelling within the purview of the watershed. The present area has a predominant area under dry land farming and hence the focus of the team has been to address issues and problems faced by livestock dependent farming community.

In 2016, members of the watershed development committee (VWDC) and the project implementing agency- Jana Jagruthi Project staff visited their village as a part of implementation of KfW soil Project. They identified a good potential for income generation through rearing buffaloes and Dairy activity. They conducted a series of



meetings with women's groups and formed the common interest group with an aim to disburse loans for buying Milch animals. It was a new activity and not many understood how it would benefit them or how they should rear these animals. There was a need to first improve the quality of their groups in order to facilitate smooth transactions and micro-credit activities. Different awareness programme was conducted in the village which explained several aspects of the management and benefits of a self-help group such as saving and the process of getting loans, monthly meetings, and decision making and book-keeping. In addition, the women's groups were taken to B.Kothakota on exposure visits.

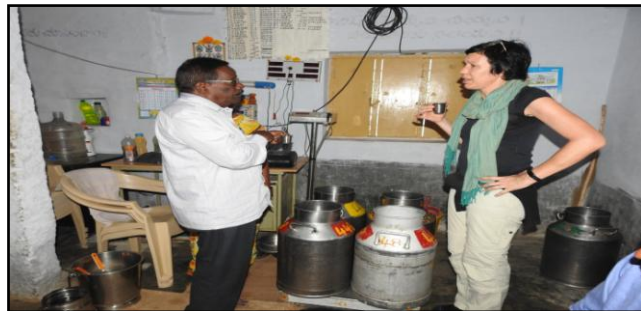
In the year 2017, the NABARD KfW project sanctioned Rs.126000/- to the VWDC a fund for the enhancement of livelihoods. There are 11 women's groups in the village. First the families which were very poor, poor and the middle class were identified and loans were distributed to them. All loans were meant for generation of income through the purchase of milch animals like Jersey cows and buffaloes. To facilitate the

process the self-help groups constituted a five member committee consisting of one veterinary doctor, one member of the watershed development team, one animator and VWDC members.

Building the social capital base is an essential capital requirement of Dairy as it is widely spread across hundreds of households. The self help group of women and Village Watershed Development Committee (VWDC) provide the right platform for initiating the program in collaboration with department of animal husbandry.



The all dairy activity members decided and established the "Sreeja Dairy "a direct linkage between milk producers and consumers by eliminating the middlemen. Production and marketing functions have been integrated along the chain, reducing transaction costs for farmers. As part of development the Sreeja Dairy members approached Rural Development Trust (RDT) and got some financial assistance to purchase additional Dairy animals. The farmers were provided with animal feed and as part of technology transfer members established the 3 nos Milk



Collection Units at village level and used to collect information on animals, milk fat content, volumes, and amounts payable to each member. This information is also used with the objective of improving the breed. There is considerable focus on capacity building by JJ to beneficiaries in terms of feed management, disease management and marketing management .The chain is fully integrated, from the producers to the retail outlets. Sreeja Dairy is now a well-established unit, entirely owned by over 150 milk producers all the benefitted families was supplying every day morning 600 liters and evening 600 liters to Sreeja Dairy.

Income from sale of milk has been more than agricultural income that has brought about qualitative improvement in the benefitted families- - constructing pucca house, buying durable assets, children education, installing well for portable water and quality food consumption. Agricultural incomes have also improved thanks to improvement in soil fertility. All the Sreeja Dairy members thanked to NABARD KfW Soil Project for improving their livelihoods in a sustainable manner.

