20 YEARS

Foundation for Development Initiative

Activity Report

2020-2023

Foreword

Agriculture and rural development are two key areas that has proven to make Indian economy sustainably strong. Agriculture is an important sector of Indian economy as it contributes about 17% to the total GDP and provides employment to around 58% of the population. Around 60 per cent of the rural households depend on agriculture.

By investing in rural development and agriculture, India gains a lot. It helps to increase agricultural production and productivity, which directly boosts the country's economic growth. Additionally, it creates a large number of rural entrepreneurial opportunities thereby reducing rural-urban migration to great extent. A significant part of agrarian revenue is spent on services provided by the local communities, thereby creating more job opportunities.

Furthermore, rural development and agriculture play a critical role in poverty reduction and inclusive growth. Providing training programs, building infrastructure, promoting entrepreneurship and increasing credit availability are just few ways to achieve this objective. By doing so, India can promote social and economic inclusion and ensure that the benefits of growth are shared by all. Thus, investing in rural development and agriculture is not just important for India's economic growth, but also for its social and cultural development.

FDI's priority in the current year has been to have focused intervention in improving the rural infrastructure and impart modern agriculture tools and techniques that preserves and conserves utilisation of natural resources. FDI has focused its effort in empowering farmers and rural communities for inclusive growth.

Our goals are to:

- Promote, strengthen and advance non-profit initiatives towards human development.
- Promote Corporate, NGO and Government partnerships for communities we serve.
- Promote individual responsibility and direct involvement

FDI supports multi-pronged intervention strategies and programmes aimed at impacting the society on one end and system on the other end.
The projects/activities implemented during the last three years were selected on the basis of the needs of the local communities.

Our Activities in Brief

Farmer's Empowerment through Conservation of Resources

One of the primary focuses under the project 'Farmer's empowerment through conservation of resources' has been to infuse sustainable and advanced practices in agriculture to reduce drudgery and thereby improve livelihood options for families. It is witnessed that in the intervention areas (Saraikela-Kharsawan district of Jharkhand), the land holding pattern is skewed with big farmers leasing it to poor farmers into pieces or poor farmers having very short holdings leading to small farmers not being able to earn enough from their piece of land. To augment crop productivity for these farmers, the concept of Farmer Field Schools was introduced in the villages through the establishment of demo plots. Further, extensive training of over 500 farmers on sustainable agricultural practices and alternate cropping has been done – among these has been training focused on optimal usage of resources and how to improve on the farm productivity with reduced investments in terms of outside resources.

Farmer Field School (FFS) is non-formal on the spot practical activity to demonstrate the principles and activities undertaken on Sustainable Agriculture Practices. This is suitable for even the verbal literate farming community and empowers farmers to solve their field problem through participation, interaction and demonstration. Under this demonstration activity, farmers learn resource optimization, Integrated Pest Management (IPM), Integrated Soil Nutrient Management and maximise crop productivity on a piece of land.

The key objectives under this set of FFS were –

1. Productivity increase per square foot of land: Introducing short-duration plants, vegetables (high yielding and cost-benefit), multiple layer farming
2. Alternative Farming: Intense productivity and low input crops, alternative methods for conservation of resources such as mulching, polyhouse, etc.
3. Natural Farming: Through the application of Vermicompost & Azolla cultivation in order to improve the quality of soil & crops and prevent pest attacks naturally.
4. Extension of produce life: Often seen that vegetables aren't taken up by the farmers due to poor cost benefit arising from unavailable markets. Introducing a zero-energy cold storage to keep vegetables for longer duration in order to minimise forced selling is being done.
5. Group Learning: Through group meetings and demonstration of practices at Rajnagar Block of Saraikela-Kharsawan district. The intervention was for Farmers Field School for demonstration of the drip irrigation through solar submersible in one-acre land.

Farmer's Empowerment through Conservation of Resources

Benefits of FFS:

1. Learning by Doing approach: Farmers learn by carrying out the activities by themselves and become master trainers for their group members. Experience sharing among different farmers is also a component of this related to any particular thematic area of sustainable agriculture practices.
2. The field is the School: The farmers learn from the demonstrations being done on the field and its progress is trackable and shareable. This is particularly helpful for a community where a lot of farmers cannot resolve to books for learning expert methods. Working in small sub-groups, they collect data in the field, analyse the data, make action plans and present their findings to other group members for emulation and further improvement at their end as well.
3. Integrated & Holistic Learning: The curriculum is integrated – Crop husbandry, horticulture, floriculture, soil nutrition, resource management are considered together with the ecology, economics and topography of the area to make it a locally based and holistically approached project. Challenges faced in the fields and peer learning are integrated to upgrade the learning across all farmers. Also, farmers generate their own learning materials from the various field trials.
4. Improved group dynamics & team Building: Successful activities at the farmer level increase the confidence levels and learning from each other improve the leadership qualities among the farmers. Having first-hand experience also improves the ability to communicate their findings for others to learn and emulate, and in several cases, help improve themselves.
5. Activities are local, and season based: The practices envisaged have local context and develops a cycle based on seasonality of crops, duration of crops, productivity, input & output ratio on that particular topography and type of soil. Fodder crops, grains cultivation, vegetables (integrated from same piece of land) are all laid out based on seasonality to ensure farmer generates income throughout the year. Infrastructures such as zero-energy cold storage help with the losses incurred due to lack of markets in the area or forced selling in order to prevent spoilage.

Farmer's Empowerment through Conservation of Resources

Project Sustainability:
In last three years of our intervention the benefits are evident through enhanced earnings and progressive farmers group are ready to act as master trainer themselves. The master trainers will further disseminate the information to new members of Farmers Field School.

Outcome:

- Farmers became aware and skilled in modern technology which helps in higher yield.
- The awareness and adoption of judicious use of farm inputs helps reduce unnecessary input load in soil.
- The live demonstrations and field days accelerates the adoption of new tools and techniques in the region by public-private partnership mode which reflects in appreciable savings in ground water, labour, and energy costs.
- To mitigate and adapt to climate change.




Development of Rural Infrastructure under Rural Development

Rural connectivity plays a vital role in the economic development of rural population. Access to improved facilities is essential for the holistic socio-economic development. Roads also play a vital role in facilitating access to basic amenities such as healthcare, education, employment, market linkages etc. They are of prime importance for the development of the country.

As part of the holistic development of rural Population living in the outskirt of Hosur District; FDI collaborated with Exide Industries and requested for funding support as part of ongoing socio-economic and infrastructure development activities for the 15 rural villages connecting the adjoining villages of Chichuruganapalli & Sevaganapalli in Hosur. FDI has been instrumental in facilitating safe drinking water, conducting sanitation drive and incorporating digital education in government schools there. FDI this year built a rural road which is 500 m long. The road will connect rural population of 15 villages from the district headquarter and will facilitate easy reach to public services such as secondary & tertiary healthcare, access to mandi, less commuting time to courts, urban public transport and colleges. This was the long pending demand from the village population of 15 Villages connecting Chichuruganapalli & Sevaganapalli in Hosur.

Sl.No	Village Name
1	Kalhalli
2	Sevganapalli
3	Chichurakanapalli
4	Kagganur
5	Kusthanapalli
6	Bagur
7	Bagalur
8	Kothapalli
9	Chokkarasanapalli
10	Chokanathapuram
11	Chithanapalli
12	Madiwala Gate
13	Echanagoor
14	Nallur
15	Bellapur

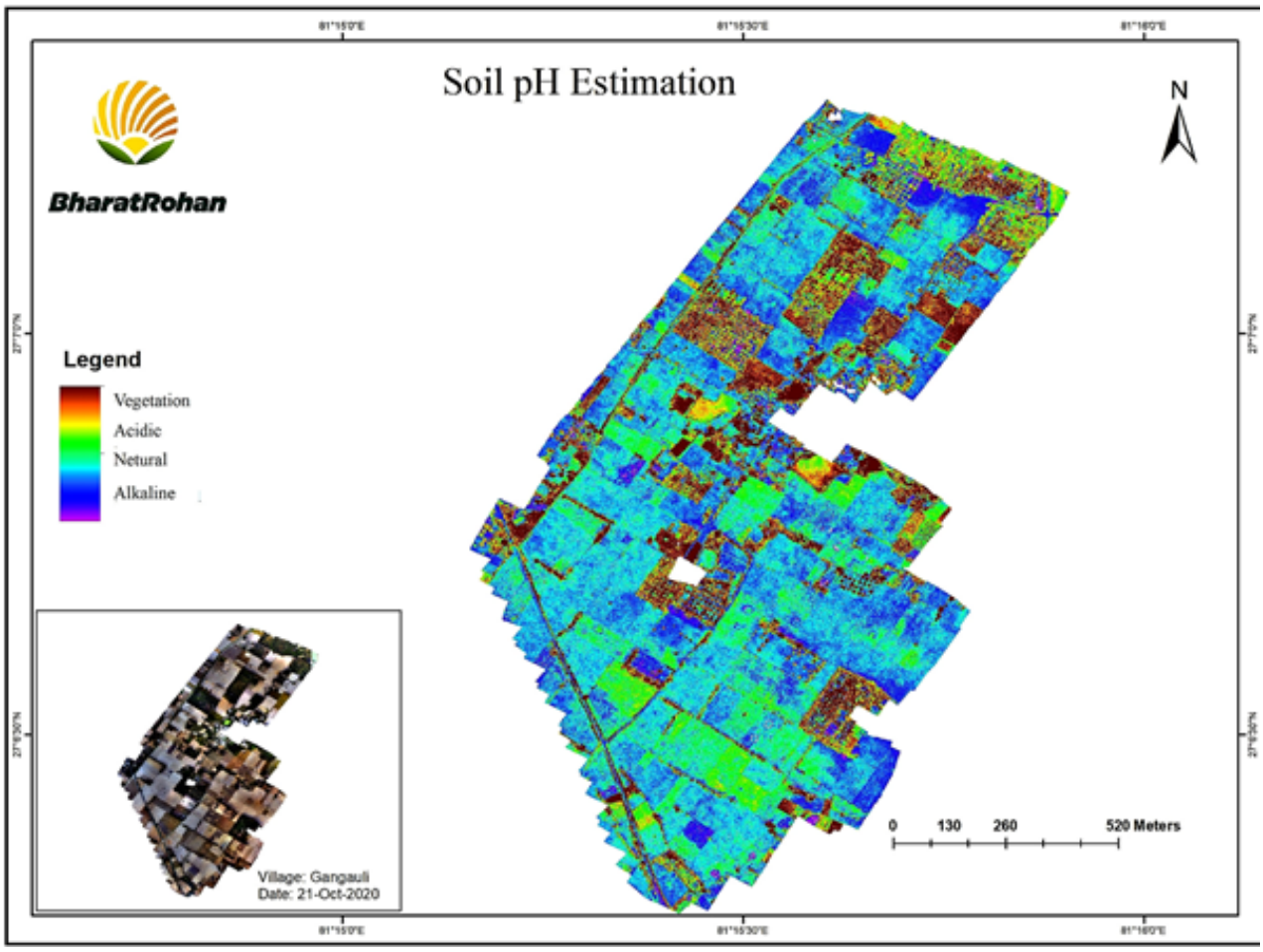
Sustainable Potato Cultivation using UAV/Drone based Crop Monitoring in Barabanki

Agriculture plays a significant role in the economic sector of India. Factors such as climate change, population growth and food security concerns have propelled the industry into seeking more innovative approaches to protecting and improving crop yield. As a result, Artificial Intelligence(AI) is steadily emerging as part of the industry's technological evolution. Aerial visualization is a new domain including satellite image processing and usage of Drones can really help farmer in collecting critical information about its own land e.g. pH factor or stress on foliar. Foundation for Development Initiative (FDI) initiated a project for improving agricultural productivity of potato to help maintain ecological integrity of soil by estimating the pH of soil and early diagnosis of pest using drone technology for potato farmers in Barabanki district of Uttar Pradesh. The project also entails creating awareness on sustainable production of potato using improved package of practices.

Key Highlights

- Total 598 farmers from 18 Villages and their farms have been selected in the Barabanki District of Uttar Pradesh State of India cultivating Potato crop.
- There are around 5 (five) land parcels. Each land parcel comprises of 180 acres of contiguous area
- The baseline information about the farmers enrolled in the project were captured by field team
- As part of the process, the aerial spectral data was acquired for all the 5 land parcels / patches under the project
- Based on the spectral analysis, soil pH Estimation was conducted using the Digital Soil pH Model. The data was further validated with the ground data captured from individual farmer fields through grid sampling of soil. The soil samples were further tested for the presence of N, P, K and pH
- Based on the results of Aerial maps highlighting the soil pH variation across different farmer fields, and their comparison with the conventional soil test results, an advisory has been issued in consultation with the agriculture experts
- Farmer meetings and awareness campaigns were organized for educating farmers on the advanced and sustainable Package of Practices in potato cultivation.

Sustainable Potato Cultivation using UAV/Drone based Crop Monitoring in Barabanki



Increasing awareness amongst various stakeholders Viz. Farmers, growers, extension workers for advocating sustainable agriculture practices

To address the environmental pollution caused by stubble burning; Foundation for Development Initiative (FDI) has sensitized at least 15,000 farmers through trainings, field days and online awareness sessions. The districts in Punjab and Haryana identified under the programme are worst in-terms of stubble burning and instrumental in causing pollution level exponentially high each winter.

As part of the activities FDI started forming Farmers Groups of 10-12 each which acts as change agents – all like-minded farmers gets together and pledge not burning. Every group has at least 1 progressive farmer who supports the group through sowing using technology (happy seeder) on rental basis. In case no Happy Seeder is available, then the group manages the stubble using their existing implements and managing stubble using labour. As a pre-requirement, the farmers have to come together as group. FDI registers their detail in our system & once sowing is done without burning, the incentive in the form of cost sharing for labour and partial purchase of machine cost is released. Our objective is to work together for this cause and support our fellow group farmers with our existing resources.

Farmers' Meet

Farmer sessions are organised across our selected districts and villages covering:

- Introduction of alternate straw management technologies, their advantages, its handling and maintenance SOPSs
- Highlighting benefit of Custom Hiring Centres (renting of machines as alternate source of earning)
- Explaining government's Straw Management Scheme and subsidies.
- Experience sharing by successful farmers (who have used such methods in the past)

Increasing awareness amongst various stakeholders Viz. Farmers, growers, extension workers for advocating sustainable agriculture practices

Intensive awareness

Intensive awareness drive on non-burning of agricultural residues in the month of September to November has taken place. Around 50 villages have seen interventions of varying degrees through Road shows, Nukkad Nataks and Appeal massages through wall painting.

While numerous efforts by all stakeholders are being made on addressing the issue, there are few factors which poses some risk towards the cause and impacts level of burning in the month of October

Paddy transplanting date delayed by 5 days:

- Punjab Preservation of Subsoil Water Act 2009, which governs the paddy sowing date coinciding with the onset of the monsoons to minimize dependence on groundwater for irrigation.
- This year, the announced transplanting was delayed by 5 days (20th June instead of 15th June last year).
- This has led to an additional squeeze of 5-6 days on much stressed window of 15-20 days between Paddy harvest and Wheat sowing.

Government subsidy scheme - Speed of execution

Machines has been made available to the farmers by the end of September, While the process of issuing orders have started, delay on account of manufacturer delivery or order clearance have had a negative impact.

Sustainable Agricultural Practices through promotion of Direct Seeding of Rice

Rice is the most important staple food crop in India. However, despite its high production in the country, low and stagnant productivity remains a grave concern. Its high dependence on south-west monsoon or irrigation via harvesting of underground water reserves in poorly managed water intensive production system of transplanted rice has started posing serious challenges of reducing farm profitability and increasing pressure on natural resources.

Direct Seeding of Rice (DSR) on the other hand is economically, technically and environmentally better alternative to the conventional puddled transplanted rice. Increased availability of herbicides to manage weeds and thus increased input (water, nutrition, labour etc.) use efficiency, should make direct seeding of rice an attractive substitute to conventional methods in all rice producing countries, including India. This has effectively been observed and demonstrated in various scientific research conducted worldwide. However, the real potential benefits of direct seeding benefits can only be harvested if it is adopted at a large scale through public-private-institutional partnerships.Thus, in the existing global scenario large scale adoption of DSR is one of the most promising scientifically proven and economically viable option for the adoption of principle of Sustainable Agriculture in rice production, and FDI through its various initiatives has demonstrated and adopted the same at farmer's level. This year the project was undertaken in two blocks of Rayagada Distt of Orissa. 1,455 Farmers were trained through field days and on farm demonstration on various aspects of DSR. Market linkages were established, and it was ensured that farmer gets due benefit on their produce without any intervention of middle man.

Addressing Children and Adolescent issues in COVID times through Social Media Engagements & Digital Engagement

FDI felt the need to address Children and Adolescent issues at the time of COVID through digital and social media engagement. The Project aimed to develop films and other audio-visual contents suitable for children and adolescents. The idea was to create an online e-platform which will help children and adolescent to interact with each other and learn solutions of their problems through online interactions.

Project Dharunam

Location: Saraikela Kharsawan, Jharkhand
Beneficiaries: Tribal population of 18 Villages

Natural Resource Management

- Entry point activities (Solar light installations, distribution of smokeless stoves)
- Manufacturing of Vermicompost, Bio-pesticide
- 'Direct Seeding of Rice' technique demonstrations
- Build irrigation infrastructure in the village (Boring, drip irrigation, submersible pumps, solar, etc)
- Vegetable cultivation and promotion through market linkage
- Availability of agricultural Implements

Health & Sanitation: Awareness creation and training (on multiple topics related to hygiene, mensuration, child and mother care, disease control, etc.)

Skill development and Livelihood

- Formation of Self-Help Groups (SHGs) acting as village mobilisers as well
- Basic enterprise development
- Livelihood enhancement and income generation skills through vocational training

Other Interventions

- Training & awareness of digital & financial literacy
- Construction of Village Road
- Provision of solar electricity facility

Impact

- Empowering 1800+ farmers through capacity building in multiple-layer farming, natural farming, and soilless farming.
- Establishing 75 self-help group (SHG) groups to enhance community collaboration and support.
- Strengthening market linkages to improve cost-benefit ratios for farmers.
- Creating local livelihood opportunities through skills training and development programs.
- Directly benefitting over 2500 individuals

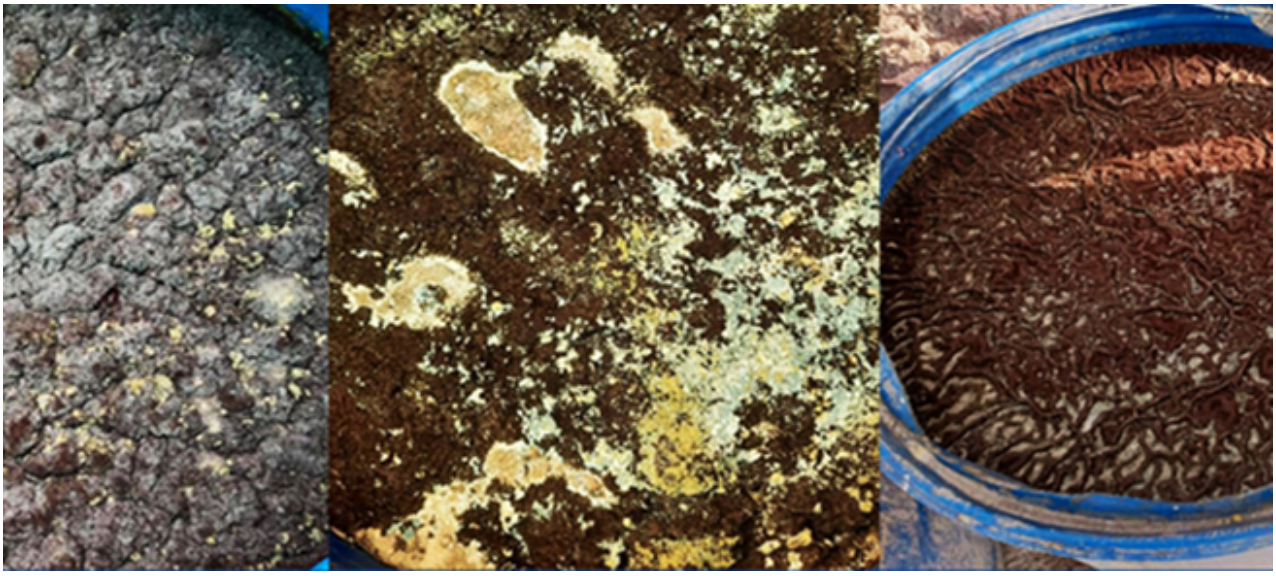
Project Dharunam




Crop Residue Management

Partner: KKBMS, Chambal Fertilisers
Location: Kota, Rajasthan
Beneficiaries: No stubble burning in 5000 acres, Sensitization of 10,000+ farmers

- Organized awareness drives and demonstrations in the farmer fields to train farmers on how use Pusa solution to decompose the stubble left after crops.
- This reduces the greenhouse gas emissions and improves the quality of soil, air and the next crop.
- 8-10% increase in the organic matter of the soil, improving the quality of the soil



Awareness Advocacy on Usage of Agro-Chemical

Partner: PI Industries Limited
Location: Punjab & Rajasthan
Beneficiaries: Capacity building of 5000+ farmers on agro-chemical usage

- The program aims to make farmers aware and trained in the new technologies
- Build 100 entrepreneurs amongst farmers by providing them with training and giving them an opportunity to lease out the equipment and transfer knowledge to other farmers.
- Advocacy and awareness amongst farmers on benefits of proper application of agrochemicals
- Overall behavioural change in farmers benefitting them in terms of health, income opportunities and also improving the quality of soil and environment

Project UTKARSH

Partner: Acquity Knowledge Partners
Location: Mandya, Karnataka
Beneficiaries: 1500+ students in primary schools, improved teaching abilities of 100+ teachers

- Improve primary education by inculcating analytical and logical thinking
- Digitally powered, innovative learning centres in the government schools. Customised classes where children learn basic maths, science, language and motor skills in small groups.
- Active community engagement in enhancing the learning standards of rural schools.
- Enhance the learning standards through capacity building of teachers/students of select schools

Project Unnati

Client: Acquity Knowledge Partners
Location: Noida
Beneficiaries: 150+ school drop-out unemployed youth
Creating awareness about ‘Skill Development for Livelihood Generation’ to mobilize the youth

- Generated livelihood opportunities for 150+ women and men by providing training as Sewing Machine Operators (SMOs) and giving them employment
- Reduced the gap between opportunities and skilled workforce by creating market linkages and pre and post-placement counselling for a long-term impact
- Created a sustainable skill-based ecosystem and imbibe within the youth a market-oriented outlook and interpersonal skills that meet the rising demands of the sector.




Facilitating Healthcare through Mobile Medical Clinics

Client: Aster DM, Ashok Leyland
Location: Gurgaon, Kaithal, Haryana
Beneficiaries: 60,000+ Rural population

- Sensitize the community on various health and allied issues
- Training of at least two health workers in each village by a professional doctor
- Community Outreach activities such as health awareness camps, door-to-door campaigns, and awareness programs on critical diseases
- Mobilizing the extra volunteering resources of Aster remotely, through a technology-driven platform.
- Multispecialty health camps including the inoculation drive were conducted in multiple villages