

THE AGE OF RESILIENCE

Reviving Green Revolution Cell

Annual Report | 2020-21



Governing Body and Statutory Disclosures

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Ludhiana

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Progressive Farmer

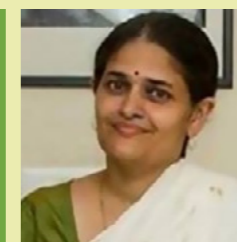
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Executive Director's Note

Staying resilient through the pandemic

Since inception, the main objective of the RGR Cell has been the welfare of rural communities with focus on small and marginalized farmers. During the past year, the COVID-19 pandemic has taken its toll on us, and all sectors were impacted. During this difficult time, rural communities that earn their livelihoods through agriculture were also affected in multiple ways but showed remarkable resilience. RGR team is proud to have worked with the rural and tribal communities of Punjab and Tamil Nadu respectively through the pandemic.

RGR team spread awareness on precautions to be taken against COVID-19 and other necessary information related to the epidemic. The team used various methods to raise public awareness to prevent the spread of the pandemic including audio and video messages, messages from influencers and use of public broadcast systems.

Since the core intervention of the RGR cell is related to agriculture, it was very important to continue the time-sensitive farming activities even during the various restrictions. During the beginning of this year, new guidelines were issued by the government for the harvesting and marketing of rabi crops. Therefore, the team took necessary precautions and provided necessary assistance to the farmers. Livestock based intervention was designed for returning migrants in Jawadu Hills in Tamil Nadu.

Due to shortage of agricultural labour during lockdown, the team along with Punjab Agricultural University and the Department of Agriculture & Farmers' Welfare, launched a campaign to popularize direct sowing of rice and basmati. Due to this campaign, where timely sowing of kharif was possible, water and other natural resources were also saved.

A fine of Rs. 1 crore levied on burning of crop residues in the fields and other farm laws have been strongly opposed by the farmers. The farmers' organizations proactively mobilized the farmers and promoted crop residue burning as a form of protest. Working on Crop Residue Management and mobilizing farmers towards the no burn solutions was especially challenging but the team work on this tirelessly.

During the COVID-19 pandemic, the disrupted marketing posed a threat to the livelihood of the farmers especially the

small vegetable growers. Being the perishable in nature the storage and marketing of vegetable was major constraint. To tide over this situation, the Department of Horticulture (DoH) came forward with a model called "Farm to Fork" i.e. supply of fruits, vegetables and other horticulture produce directly from the field of the farmers to the primary consumers. RGR Cell supported 30 small and marginal farmers/groups in the direct marketing of their produce by providing e-Mobile Vending Cart on assistance basis in collaboration with DoH, so that sense of entrepreneurship among them could be created.

Rural, farming communities demonstrated tremendous resilience when industry and other sectors were severely impacted due to pandemic and produced bumper crop amidst challenging times.

RGR Cell is grateful to our funding partners – Tata Trusts, World Wildlife Fund for Nature (WWF), Department of Agriculture (Government of Punjab), Department of Horticulture (Government of Punjab), Titan Company Limited and Hindustan Unilever Limited for their continued support and trust in a shared mission. We are also thankful to our technical partners – Punjab Agricultural University and Tamil Nadu Agricultural University for their technical guidance in ensuring lab to field transfer of technologies.

We look ahead to the new year to serve rural communities with renewed vigour.

Amrita Patwardhan
Executive Director, RGR Cell

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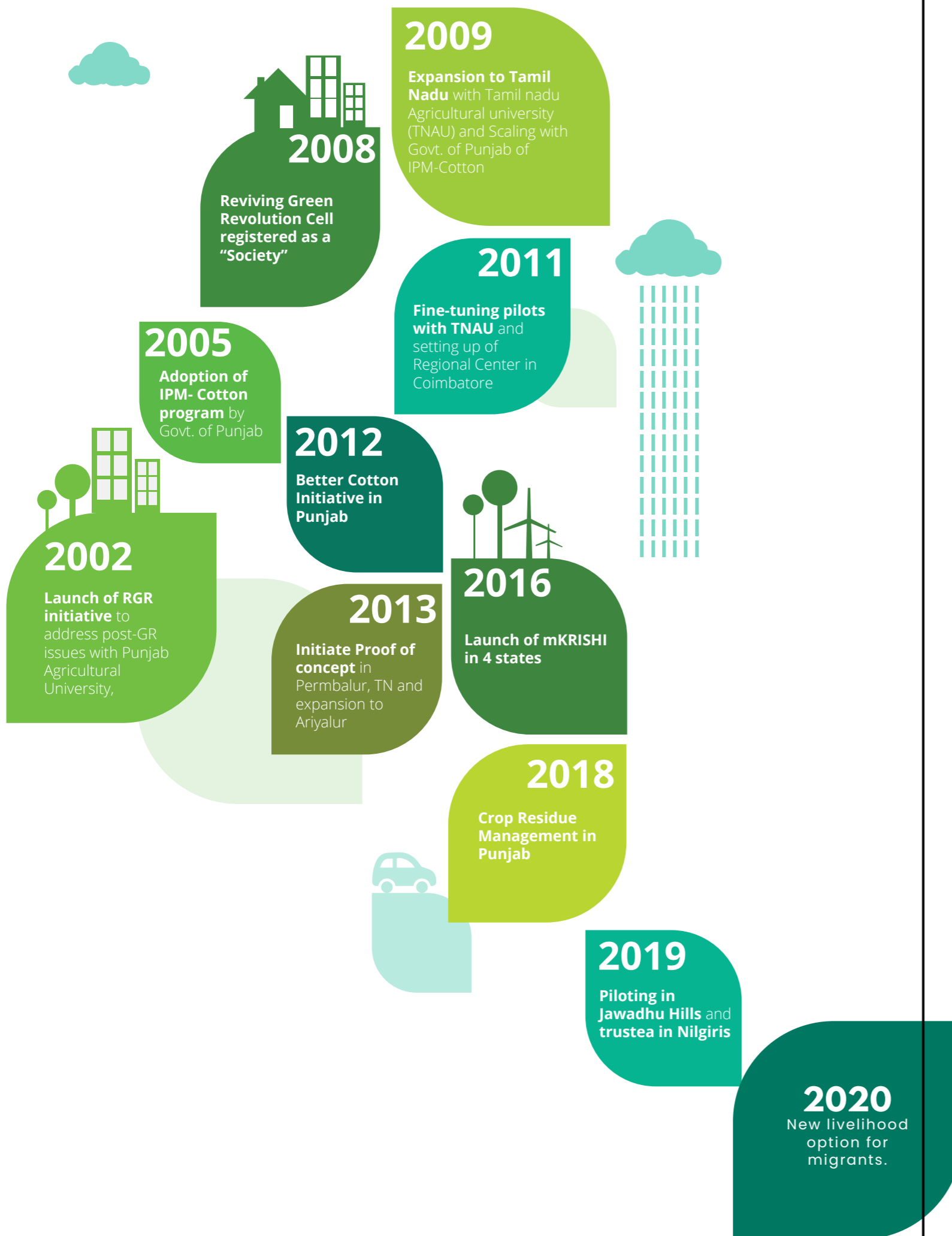
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RGR Cell

An introduction



JOURNEY so far

Though the Green Revolution significantly increased crop production, it also caused a long-lasting impact on farm lands, which was especially felt in Punjab. Excessive use of agrochemicals and over-exploitation of sub-surface water left Punjab farmers troubled with falling groundwater levels, severe air pollution and soil nutrient depletion. This further increased the cost of production for farmers, who had limited know-how on redressal measures.

In 2008, Tata Trusts set up the Reviving Green Revolution Cell (RGR Cell) to address these detrimental effects of the post-Green Revolution era. Technologies to reverse this damage existed within the confines of a research lab but, large-scale farmer dissemination was lacking. In partnership with the Punjab Agricultural University, RGR Cell identified and worked to implement simple, cost-effective measures directly with the farmers. Initial work focused on multi-crop Integrated Pest Management (IPM) in a Zero-Subsidy Agriculture Model in Punjab and generated a successful replicable and scalable extension model.

Encouraged by successful implementation of IPM in Punjab, IPM was scaled to Tamil Nadu, Maharashtra and Gujarat. Further, RGR Cell developed a partnership with Tamil Nadu Agricultural University (TNAU), Coimbatore, to address agricultural issues faced by farmers in tribal and drought-prone regions of Tamil Nadu. By 2011, a number of innovative programs, from developing a new drought-tolerant hybrid rice variety to saturating Jawadhu Hills under a new little millet variety and promoting Azolla as a super feed for livestock were piloted. In 2013, based on the success achieved through TNAU implemented pilot programs, we ventured into direct implementation in Tamil Nadu and successfully implemented the IPM-Cotton program in drought-affected Perambalur district.

Over the years, we have evolved our programs based on emerging needs of the agricultural sector. We have adopted a cropping cycle approach in Punjab; integrated Information Communication Technology (ICT) in agriculture through the Tata Consultancy Services mKRISHI® platform; created market linkages for fair price and promoted institutions such as Farmer Producer Companies. At the household level, these interventions have helped in a sustained increase in income and mitigated the resultant environmental risks of the post Green Revolution era.

RGR Cell controls the quality of our program implementation by ensuring regular training to our field staff; close monitoring of programmatic progress; monthly reviews; and promoting transparency and accountability in all operations. In addition, we are working towards making RGR Cell into an agile organisation which can rapidly adapt to the need of the hour and make a transformative difference to small and marginal farmers in Punjab and Tamil Nadu.

This past year has been extremely challenging for everyone. We've all had to learn to live, breathe, conduct business, and meet family in a new way. The echoes of the impact of the pandemic and the ensuing lockdown were heard loud and clear in our project villages too. COVID-19 significantly impacted rural livelihoods especially in the context of agriculture and income generation. Loss of employment and livelihood coupled with a loss of lives turned the atmosphere in the villages very somber in the early days. Further, the migrant crisis had a major impact on household income and brought in an additional challenge to identify and include new strategies to increase household incomes.

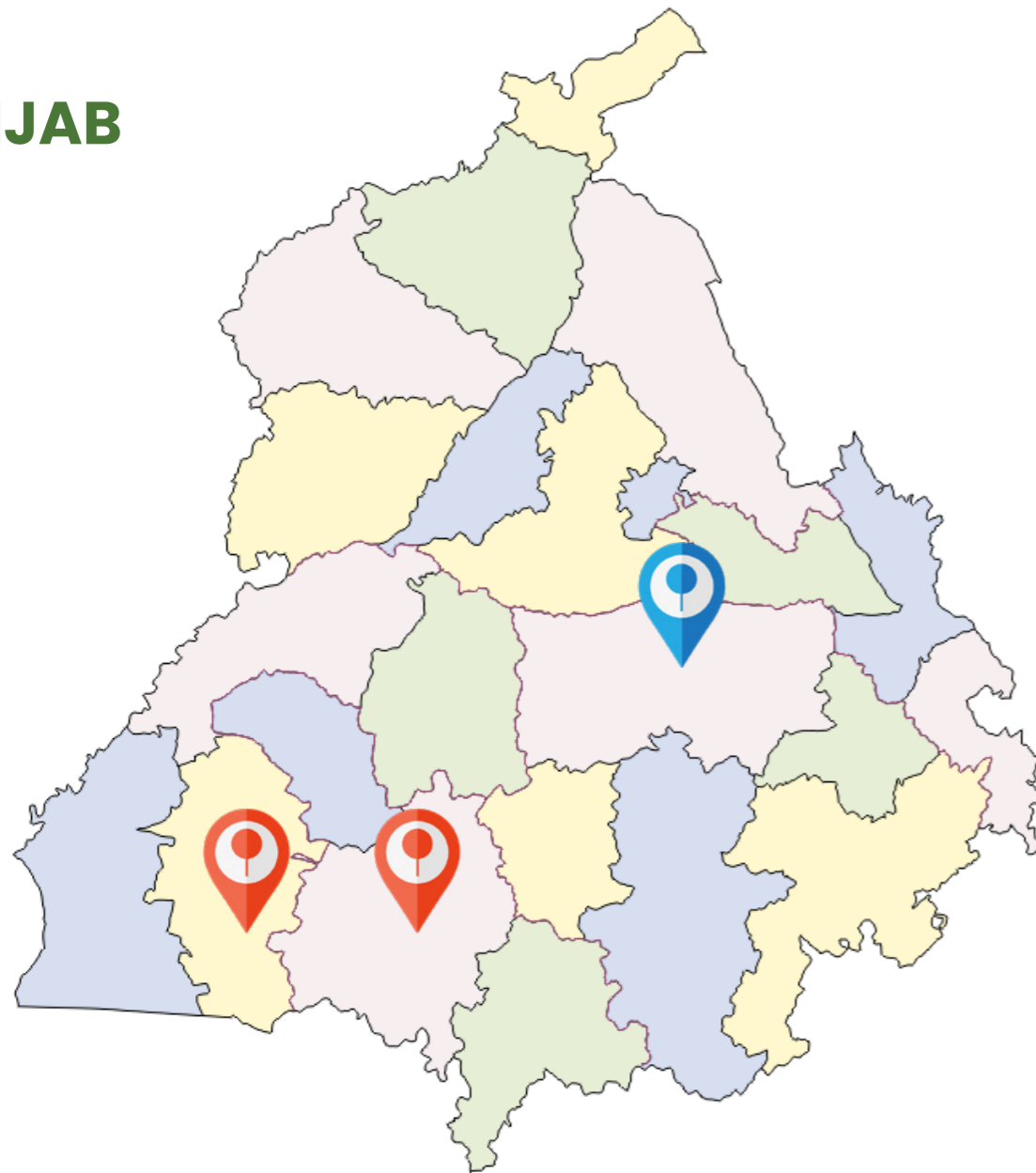
However, resilience and ingenuity have helped many restart their lives. Some may have been more fortunate than others in this regard, with RGR cell supporting out-of-work migrants in Jawadu Hills. RGR Cell has attempted to experiment with introducing Goatery as a livelihood option for migrants in Tamil Nadu which has the potential of earning Rs.35-40K/annum - equivalent to what is generated by seasonal migration. Our Goatery programs have ensured these migrants made subsistence wages at the very least. We also ran awareness programs and provided medical assistance in the remote villages of Jawadu Hills.

Partners



AREAS of operation

PUNJAB

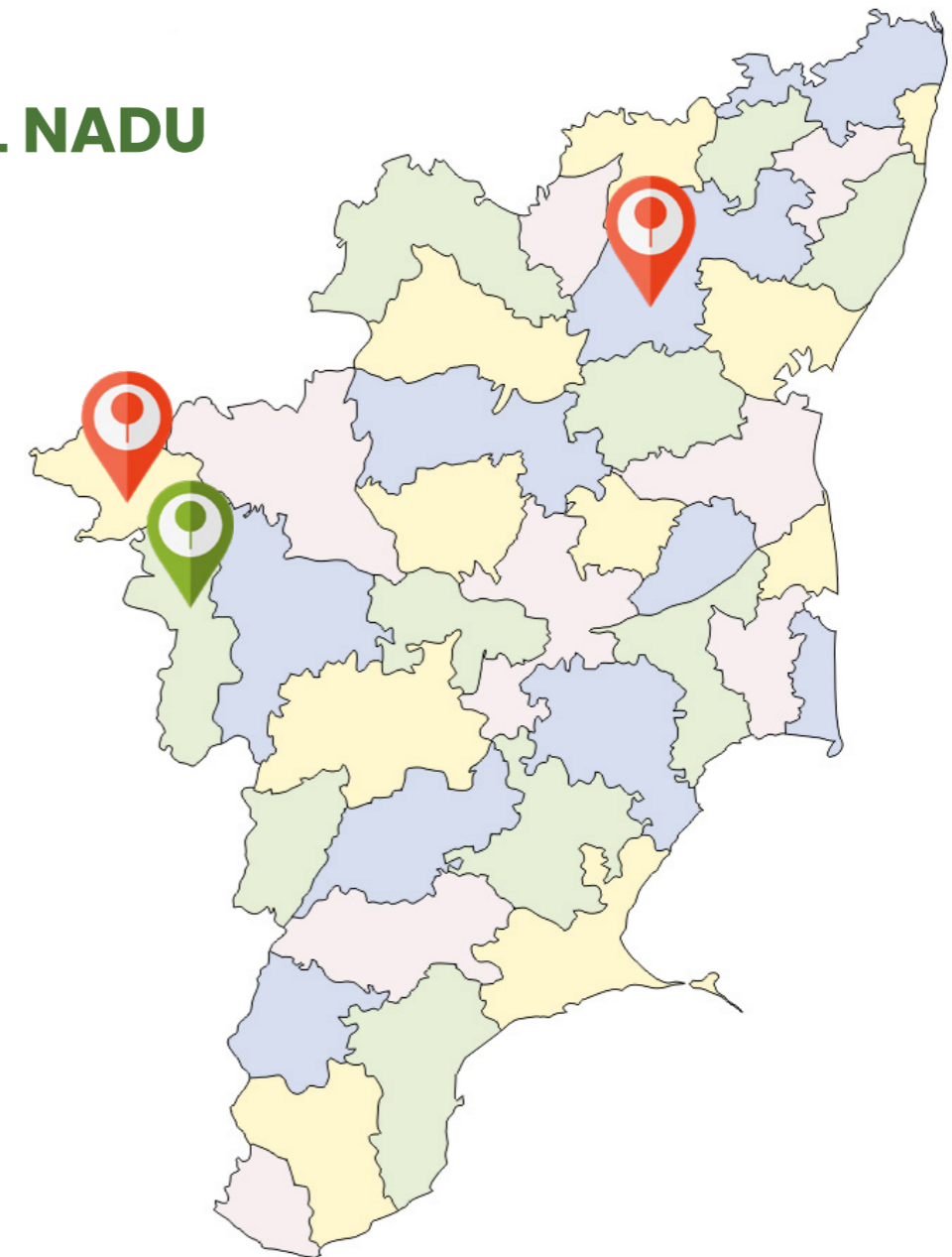


Head Office, Ludhiana



Field Offices: Malaut and Bhatinda

TAMIL NADU



Regional Center, Coimbatore



Field Offices: Coonoor and Jamunamarathur



2020
in a snapshot

45K

farmers licensed
for Better Cotton
Initiative

21 M

kilograms
sustainability
produced

2.5 Lakh

acres of farms brought
under sustainable
agricultural practices

₹ **9329**

income
increase/acre

3.5 Lakh

farmers brought on
digital platforms

₹ **4.26 Cr**

leveraged

Best

implementation
partner
for trusteea





Impact Themes 2020-2021

- a. Crop Residue Management
- b. Better Cotton Initiative
- c. Promoting Tribal Women Entrepreneurship
- d. trustea Program
- e. e - Mobile Vending Carts



Crop Residue Management



16,357
acres planted using
project assisted
Happy Seeders

9
districts

25%
increase in area
under Happy
Seeder technology

540
villages
under direct
demonstration

1976
village level camps

STUBBLE burning

The widespread burning of agricultural waste in India's northern states is a significant source of air pollution, particularly in the winter months. Around 20 million tons of rice residue are burned each year in Punjab, Haryana and western Uttar Pradesh. This practice diminishes soil health, affects long-term agricultural productivity and contributes to climate change. Thus, putting the livelihoods of millions of farmers at risk. In addition, people living in surrounding areas - especially New Delhi and National Capital Region with its 25 million residents, are impacted each year by air pollution caused because of these practices.



CROP RESIDUE Management Program

RGR Cell initiated the promotion of Crop Residue Management program which offers a no-burn alternative to farmers for in-situ & ex-situ management of paddy residue instead of burning it. We provided easy accessibility to straw management machines and on-ground training to enable farmers to effectively manage the problem as well as increase their profit margin.

Objectives of the Program

- Promote in-situ management of crop residue by using Happy Seeder and other technologies
- Support custom hiring of in-situ crop residue management machinery by establishing "Straw Management Sewa Kendras (SMSK)"
- Deploy cost effective apps for mobile-based advisory and management of available machinery for timely sowing of wheat



IMPLEMENTATION highlights of 2020

Farmer training camps:

Village level farmer training camps were planned to mobilize farmers but were hampered due to the restricted movement and restriction on the farmers' gatherings owing to COVID-19 and the farmer protests. During these restrictions, the meetings were conducted in small groups at multiple locations in the adopted villages.

1,976

village camps organized

40,159

farmers participated

Farmer database:

Amid the pandemic, the focus of the RGR Cell has been to add as many farmers as possible so that every household in the project districts can access the service. In order to extend the benefits of this service to as many farmers as possible, the required information was collected and many new farmers were registered for this service.

94,224

new farmers added

828

new villages added

5.1 Mn

messages sent

3.5 Lakh

farmers benefitted

Area sown by project assisted Happy Seeder machines:

To encourage the adoption of Happy Seeder technology, 95 machines were provided in the project villages. Team made efforts to ensure the efficient use of these machines and robust monitoring was carried out by the team. Amid the farmers agitation and limited movement due to COVID-19, with the help of collaborative efforts of the field team and of the machine operators, a total of 16,357.5 acres across nine districts were sown using these machines.

Straw Management Sewa Kendra (SMSK):

Covering each cluster of the project intervention, 36 Straw Management Sewa Kendras (SMSK) have been established in the project villages. We established these to help farmers with the availability of machinery and to provide latest information about straw management technologies. Posters related to Happy Seeder machine, straw management technology, wheat nutritional deficiencies, insect-pest management and about the sustainable agricultural practices have been showcased at SMSKs.

Cluster level Farmers' Field days

36 cluster level camps were set up in selected villages to impart information to farmers on various advanced techniques of straw management and recommendations for successful cultivation of crops by Punjab Agricultural University, Ludhiana. These camps emphasized on environment and soil conservation as well as how to reduce input costs. Experts from the local Krishi Vigyan Kendra and the Department of Agriculture and Farmers' Welfare also participated in these events.

Direct Seeded Rice (DSR)

This year, due to the COVID-19 pandemic, travel restrictions made it very difficult for agricultural laborers from other states to travel to Punjab for paddy transplanting. Fearing labour shortages, farmers were eager to learn about the Direct Seeded Rice (DSR) technique. A survey conducted about the adoption of the technology revealed that for paddy crop about 10 percent area was planted by using the DSR technology in the project villages whereas for basmati 13 percent area was sown with this technology.



Mass awareness through ICT:

Awareness through social media

For creating mass awareness among the farmers, team used telephonic contacts, public address system and other ICT tools to guide farmers on various aspects and benefits of straw management technologies. For this need-based content was developed by the RGR team and the content created by Punjab Agricultural University and by the DoA, Punjab was also shared with the farmers. More than 75,000 farmers benefitted from this activity.

Awareness through mobile based advisory service

During the last few years, mobile phone access has reached every village in Punjab. Today, almost every farming family in Punjab has a mobile phone and most of them have smart phones. RGR Cell has been providing a free mobile-based advisory service to farmers for the past few years.



Demonstrations

Large scale field demonstrations were set up in villages selected under the project for a comparative exhibition of different techniques of straw management and to dispel various misconception about these techniques. In these demonstrations the focus was to demonstrate the Happy Seeder technology. To provide farmers clear information and comparative view, demonstrations of other practices were also conducted. In this demonstration, the focus was on the Zero tillage drill, MB plough, rotodrill etc. This year newly introduced Super Seeder technology was also demonstrated in the project villages.

1,080 Happy Seeder
demonstrations

360
demonstrations of other
straw management practices

540
villages



Better Cotton Initiative

5
districts in Punjab
&
1
district in
Haryana

44,779
farmers federated
into 10 Producer
Units (PUs)

385
villages

₹ 4896
Per acre
additional profit
for farmers

84,528Ha
under sustainable
cotton production

₹ 67,559
per hectare net
profit



Cotton is an important crop of the South-western districts of Punjab. WWF and RGR Cell initiated the Better Cotton Initiative in this region to improve livelihoods and economic development whilst reducing the environmental impact of cotton production.

Under this project, Integrated Pest Management (IPM) technology is transferred to the beneficiaries (farmers) with the objective of reducing wasteful expenditure and harvesting higher yield of better-quality cotton. The RGR Cell ensures adoption of the Minimum Production Criteria by cotton growers for better cotton production.

IMPLEMENTATION strategy

Field demonstrations: Field demonstrations were carried out in each adopted village to create awareness amongst farmers on recommended agricultural practices. Thus, obtaining better cotton yield and quality with reduced cost of production through need-based use of recommended pesticides and fertilizers.

150

demonstration plots of improved practices of Cotton

Soil testing: Soil testing was done to assess the nutrient levels and then provide recommendations for use of fertilizers based on the soil test report for better crop production.

291

samples tested

Trainings: PU Managers and the Field Facilitators (FFs) participated in trainings, workshops, webinars, exposure trips, etc. to be equipped with the latest technology and agricultural practices. They went on to train the farmers in these practices to increase yield and reduce the cost of production.

Touching farmers through Video and text messages:

- COVID awareness information (9 videos, 4 animated videos, 5 audio messages) was shared with farmers
- 4 audio messages shared through the public address system in the 385 project villages
- 4 videos developed by RGR team and 9 other videos developed by PAU Ludhiana on the latest PoP for cotton have been shared with 15,000 BCI farmers
- 4 leaflets have been shared with the 15,000 BCI farmers
- 150 FFs and MFFs were in regular touch with all 44,354 farmers over telephone call, need based field visit etc.
- IEC material on cotton varieties, cotton cultivation practices, fertilizer use, ETH level etc. shared through WhatsApp with 25,000 farmers
- 2 trainings of FFs/MFFs conducted through zoom, WhatsApp, conference call



Promoting Tribal Women Entrepreneurship

₹ 4.53 L
through
government
entitlements

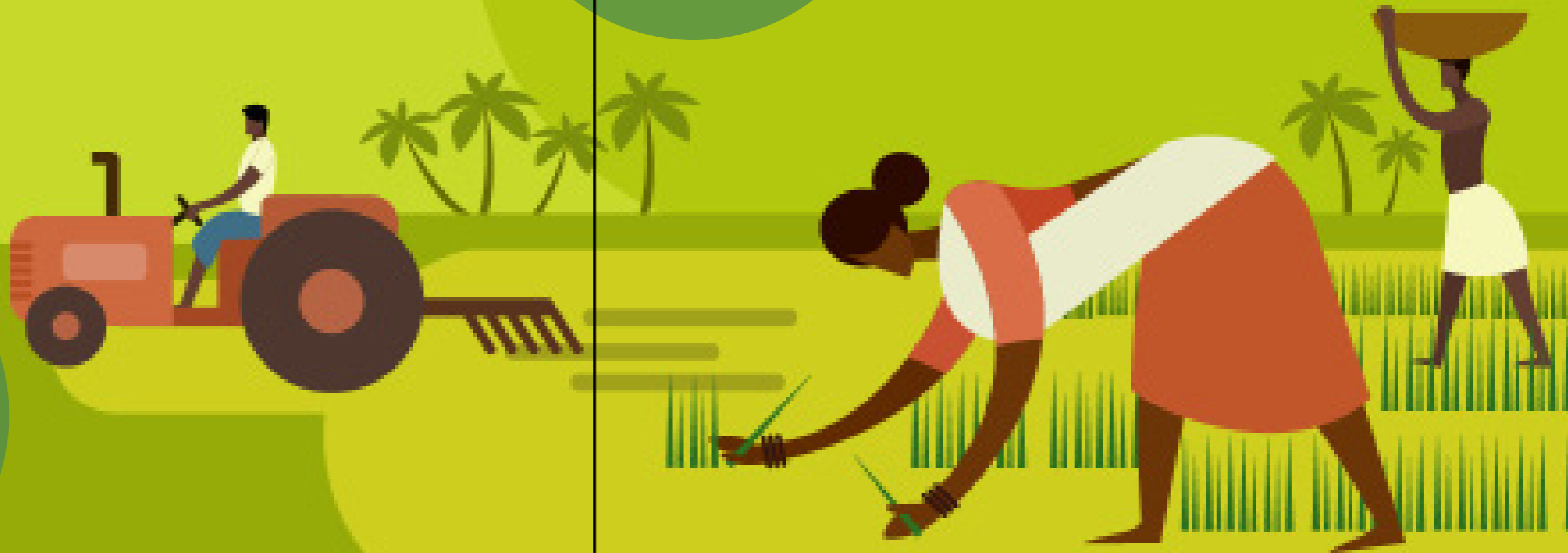
315
tribal women
federated into
the Jawadhu Hills
Women Entrepreneur
Federation

₹ 6.91 L
raised from
government
and community
contribution

₹ 33.12 L
federation
turnover

85 Tons
of little millet
marketed

1.03 Lakh
savings by women
producer
groups



Globally, tribal populations continue to remain the most vulnerable and marginalised demographic. A combination of issues such as loss of access to traditional lands and natural resources, type of work discrimination, forced migration, and poor access to opportunities have rendered them even more socio-economically vulnerable. Further, tribal women are exposed to multiple forms of discrimination and exploitation – both within and outside their communities. In India, tribal populations suffer a similar fate and disadvantage.

In 2019, with an objective of addressing the most vulnerable in Thiruvannamalai district, RGR Cell initiated a program in Jawadhu Hills block with tribal women. The program envisions promoting entrepreneurship as a means of bringing tribal women onto a path of socio-economic prosperity. Thereby, improving their overall quality of life within the village rather than as seasonal migrants. Through the program, Women Producer Groups (WPGs) have been capacitated and aggregated under the Federation formed i.e. Jawadhu Hills Women Entrepreneur Federation (JHWEF). The Federation provides the necessary institutional structure to carry out income generating activities and provide an opportunity for women to take up leadership roles within the Federation.

The program adopts the following four principles :

**Market
Demand-Led
Interventions**

**Community
Institution
Strengthening
(Federation)**

**Promoting
innovation
and digital
technology
integration**

**Developing
varied
livelihood
prototypes**



IMPLEMENTATION

strategy

Outreach Expansion: In Year 2 of the program, an additional 5 villages were selected and 5 Women Producer Groups (WPGs) formed with 110 tribal women. These additional members are also members of Jawadhu Hills Women Entrepreneur Federation (JHWEF) and groomed on entrepreneurial activities. At the end of March 2021, JHWEF achieved a membership of 310 tribal women and targets reaching 1000 tribal women by 2023.

Institution-building: Focussing on continuous capacity building of women members has shown appreciable results. In context of the Federation, women have (i) organised aggregation of custard apple for bulk buyers; (ii) managed exhibitions of Baya Products and; (iii) directly dealt with banks for accessing loans.

These are first time experiences for tribal women from Jawadhu Hills. During the pandemic, these women played a key role in educating community members on preventive measures to be taken for preventing spread of COVID-19. Their work has resulted in negligible COVID-19 patients, despite significant returnee migrants. With only a single Primary Health Center in Jawadhu Hills block and limited government functionary outreach, the women ensured correct information reached the community and preventive practices adopted.

Technical Training : During the year, RGR Cell promoted cultivation of new millet variety – Athiyandal – 1 (ATH-1) and System of Rice Intensification (SRI) for paddy farmers. Yield data collected showed that demonstration farmers adopting ATH-1 achieved a 20% higher yield and increase in income of Rs.6296/acre as compared to CO4 variety. Importantly, ATH-1 showed good results even in extremely poor-quality soils. For SRI, cyclonic rains caused lodging in much of the standing crop. Still, SRI farmers achieved an increase in income of Rs.5,000/acre as compared to regular paddy cultivation.

Entrepreneurial Activities : As part of promoting different livelihood options, RGR Cell implemented rearing backyard poultry and goatery as alternate livelihood options. Further, marketing of Baya Products has been launched on e-commerce as well. Federation members undertake various responsibilities ranging from filtering and sorting of produce to packaging and dispatch of products. For the first time, two women members travelled to Hosur, Tamil Nadu for selling Baya Products in the Titan Factory and interacted with people outside their hamlets.

6.5 Lakhs 20 Lakhs 1.23 Lakhs

for farm ponds

**Goatery
promotion**

**federation
net profit**





Interventions

MARKET Linkages

Despite a challenging pandemic period, wherein logistics were affected and women weren't able to transport their produce to buyers, JHWEF has achieved a major jump in its turnover. From Rs.71,000 on March 2020, JHWEF as on March 31, 2021 achieved a turnover of Rs.33.12 Lakhs with 84 tons of little millet marketed. Through JHWEF, members are currently marketing little millet rice, raw little millet, finger millet, foxtail millet and horsegram. Seasonally, the Federation will also market tamarind, custard apple and honey, all under the BAYA Brand. The BAYA packaging for honey has also undergone major changes in line with feedback received from customers. Similarly, tamarind drying and packaging methods have been modified to suit customer needs and increase shelf-life. All these changes have helped JHWEF increase its marketing channels and developed 13 new market linkages during the year.

“

The name BAYA is inspired from the baya weaver bird – a common sight in South India and known for their beautiful nests. The nests are all weather-proof and more importantly, the female bird takes the lead in all activities, including completing the nest with her chosen mate. This resilience and strong self-determination of the female baya weaver bird made the name “Baya” an apt choice for Federation products.



GOATERY

The year in review, posed new challenges for the entrepreneurship program with COVID-19 lockdowns and returnee migrants. Prioritizing sustainable development strategies, though there were many challenges and hurdles, the team was able to provide services and achieved the planned activities.



Background:

Coronavirus (COVID-19) Pandemic has caused severe damage to livelihoods of the rural and migrant families across the world, Jawadhu Hills is no different in this regard. Migrant families of Jawadhu Hills are more vulnerable and were faced with severe economic strain during this period. To respond to this pandemic crisis RGR Cell partnered with Titan to bring livelihood opportunities to the affected families (focusing on migrant returnees) through a goatery promotion program. Although there are many migrant families in the project villages we selected the neediest families based on set criteria and with concurrence of the women's group members. In addition, we have seeded the concept of revolving first kids (goat offspring) to the next deserving member in the groups. This strategy will improve cohesiveness between the group members and build the social responsibility of WPGs.

Intervention Approach:

The beneficiaries selected were formed into village level Goat User Groups (GUGs) and given training on Goat rearing (Economics of Goat rearing, Selection procedure of goats in the market, Feed, Health and Shed Management). To create ownership we have motivated beneficiaries to meet insurance and transportation related expenses for goats purchased. While purchasing goats, women selected for goat rearing were accompanied by local experts and veterinarian to help select the healthy goats. This strategy has helped women have greater confidence in valuing and identifying better breed and health of livestock.

Partnering with veterinary department we have organised 8 trainings on health and feed management in goat rearing. Local veterinarian had facilitated the trainings and emphasized the importance of health management and feed management which are more essential in goat rearing. In addition, he had advised the farmers to respond immediately if goats show indications of sickness and not to delay treatment. Further, all women beneficiaries were given training on Azolla cultivation and its benefits. Women were provided with Azolla trays and starter culture to initiate Azolla cultivation and feeding of Azolla to animals. Further, the GUGs members monitor Azolla growth, goat health and prevent undocumented sale of goats.

AGRICULTURE

Due to its topography, Jawadhu Hills is primarily a rainfed area. In these conditions, the drought-tolerant little millet is an excellent crop choice and thus, it has the largest area in the State under little millet. For farmers who have access to a water source such as farm ponds, paddy cultivation is taken up on small land parcels. With technical guidance from Center of Excellence for Millet, Tamil Nadu Agricultural University (TNAU), Athiyandal, RGR Cell trained women growers on scientifically validated cultivation practices for little millet and paddy. Similarly, TNAU has provided seeds of the newly launched little millet variety i.e. Athiyandal 1 to RGR Cell for setting up demonstration plots in 2020 season and provide field validated data.



NON-TIMBER Forest Produce

Towards diversifying revenue generating opportunities, the Federation has ventured into marketing of Non-Timber Forest Produce (NTFP) such as wild honey, custard apple and tamarind. Women members have been trained in cleaning, sorting, drying and packaging these NTFP products. Further, value chains are being developed both with wholesalers and retailers with an aim of creating stable market linkages and additional income for tribal women. The forest produce available with women members is mapped and aggregated to enable sufficient availability for supply to these market players under the Baya branding.

During the year, the complete packaging and processing process of wild honey has been changed. Initially, very basic packaging was adopted and natural, minimal processing was maintained. However, customer feedback provided highlighted a preference for boiling and filtration process rather than traditional filtration process. For sealing a paper seal is being used with taping for tamper-proof packaging. Accordingly, the honey product has been revitalized and customer feedback received so far has only been positive. Also, honey has been lab tested to ensure that it meets the necessary FSSAI standards and permissible limits of pollen and moisture content. The packaging now provides both the story behind the brand as well as the nutritional contents of Jawadhu hills honey.

5 Tons
custard apple
marketed

547 Kg
wild honey
marketed

600 Kg
tamarind
marketed



**truste
Program**

143
trustea
trainings
conducted

15.05 M
kgs of
sustainably
produced tea

8222
small tea growers
covered



IMPLEMENTATION

strategy

India is the 2nd largest tea producer in the world. Most of our tea is exported and that production process follows strict international guidelines of quality and fair wages. However, the tea produce used for the domestic consumption does not follow any standard protocols.

The trustea program is the first domestic sustainability code and verification system for the Indian tea sector. The program focuses on adopting a sustainability code for tea aimed at improving agricultural practices, working conditions and health & safety of tea workers while also addressing the concerns around water pollution, food safety, soil erosion and contamination, gender issues and adverse effects of climate change. We work with small tea growers (STGs), estates and factories to train them in these practices, to ultimately help increase their farm productivity.

Capacity building of STGs and Factory workers:

The trustea program in South India has brought awareness on sustainability across the tea-producing community. Apart from providing the certification, the program has created an impact through handholding and implementation support across the different segments of the tea supply chain. Focussed trainings on Recommended Agricultural Practices especially about Soil Management, Water Management, Fertilizer application, Recommended use of PPF (Plant Protection Formulation) has ensured adherence of trustea mandated standards for robust production systems.

Governance and Management Practices:

- Trained the trustea officers on structured governance system, we have created harmonised system with global requirements as per the trustea codes
- Capacity building of the trustea officers for better management of sustainability risks
- Improvement in documentation processes, transparency, traceability and brand image of the tea-producing community and supply chain.





Recommended Agricultural practices:

- Tea growers and workers are made aware of water wastage, its effects, and the most efficient water-delivery irrigation system to minimise wastage.
- Tea producers and entities have been trained on different types of irrigation methods and are now adopting practices to help improve productivity as well as water-use efficiency.
- Sewage management systems to avoid water pollution from chemical run-offs and waste-water treatment plants have also been implemented
- Application of appropriate irrigation method resulted in better yield and productivity

Fertilizer Management:

- All trustea-verified units are mandated to use PPC and FSSAI-approved chemicals within the allowed Maximum Residue Limits (MRLs).
- trustea-verified entities identified and deployed appropriate buffer zones.
- The growers adopted the Integrated Pest Management (IPM) Plan, which provides a framework of adoption of organic fertilizers and pesticides.

Recommended use of PPF:

- trustea-verified entities must use only the PPFs recommended by the TBI and are also required to maintain the records of PPF purchase, use, inventory and applications.
- Training and handholding programmes have been conducted on a regular basis with estate management and STGs.
- The implementation team continuously engage with STGs to create awareness of PPFs, their impact, method of application, safe storage and disposal practices.
- The entities and growers are made aware of the proper handling of chemical waste by reuse, recycle or safe disposal to help prevent accidents and reduce health risks from exposure and environmental contaminants

Food Safety:

- Ensuring compliance to the national guideline on food safety
- Prevent contamination by foreign and harmful substances and particles
- The trustea Code requires all verified entities to analyse tea and evaluate residue levels against guidelines by the TBI and FSSAI to ensure it does not exceed the maximum residue limits
- Development of SOPs for Good Health and Management Practices.

Health and Safety:

- H&S awareness and competence development
- To ensure H&S risk-management protocols in place
- With the implementation of the trustea programme, training programs on lesser-known areas of work (e.g. safe spraying of agrochemicals and PPE importance and use) raised the level of awareness among the estate management and workers as well as STGs and BLFs.
- Reduction in reported incidents caused due to improper handling of chemicals.

Environmental management and protection:

- trustea emphasises minimising the adverse impact of the tea industry on the environment. Steps in the right direction have resulted in verified entities developing structured environmental-management systems, including identifying procedures to reduce environmental loads of farming and processing on the flora and fauna.
- Ensuring non-degradation of forest lands, maintaining shade trees of indigenous varieties and promoting native vegetation through STG trainings
- Also, to mitigate any risks of human/animal conflict, awareness programmes on 'no hunting' are conducted.
- Through the program, targeted training was provided to create vegetative buffer zones in areas where there is interface between human activities adjoining plantation areas.
- The entities and the STGs are trained in identifying hazardous, non-hazardous and biomedical waste as well as the protocols for their segregation, storage, handling and disposal.



e - Mobile Vending Carts

e - Mobile Vending Carts to vegetable growers

Farmers, especially small vegetable growers, were threatened by the disruption of marketing during the COVID-19 pandemic. In addition to being perishable, vegetables' storage, transport, and marketing had added hassles and caused price hikes for consumers too. To tide over this situation, the Department of Horticulture, Punjab came forward and implemented a "Farm to Fork" model i.e., supply of vegetables, fruits and other horticulture produce directly from the field of the farmers to the primary consumers. As a result, the initiative was able to create initial footprints and has become the base for further testing. RGR Cell is piloting a self-sustaining business model by providing e - Mobile Vending Carts to the progressive farmers/ farmer groups for direct marketing. This program will surely bear positive results, the Department of Horticulture has coined the slogan "Kissan veero jara socho, appe beejo appe vecho".

Objectives of the Program

- To enhance the income of small and marginal vegetable growers
- To promote self-marketing and entrepreneurship among the target farmer
- Employment generation for the rural unemployed youth.
- To boost diversification by promoting demand driven farming

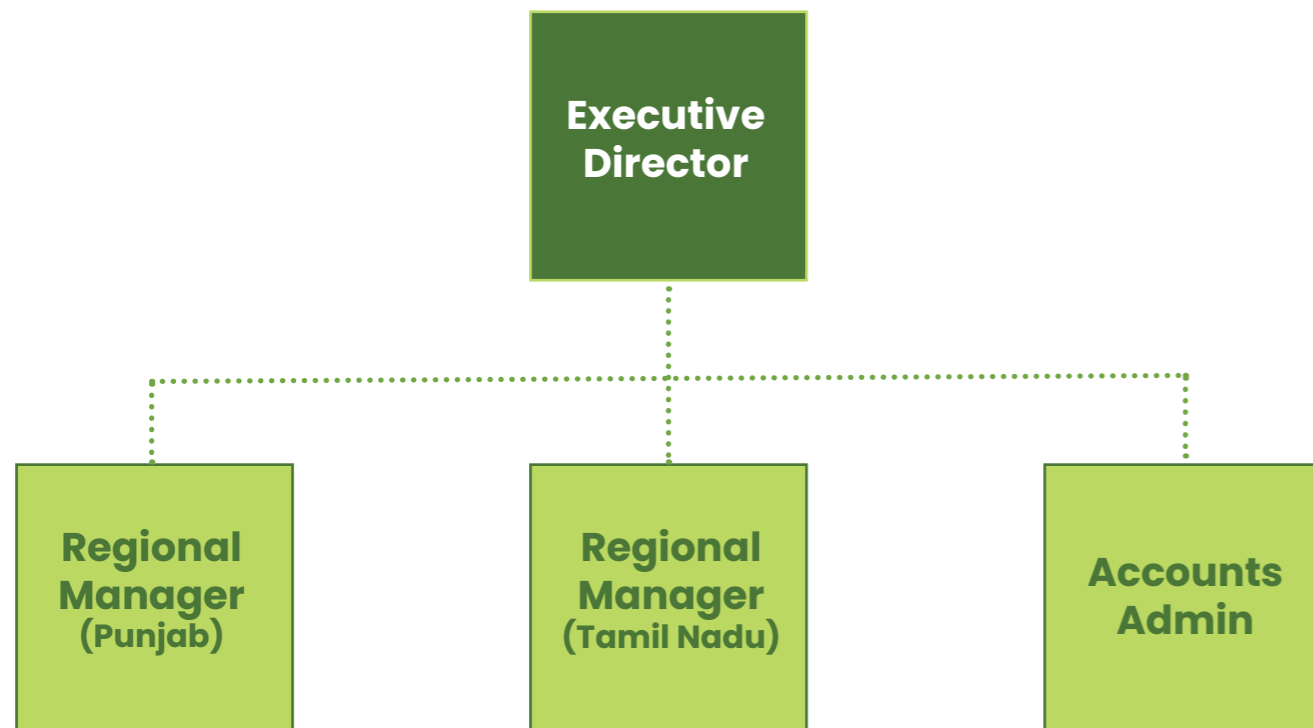


Anticipated impact/outcome

- Income enhancement to a tune of ~ Rs. 42,000/year.
- Entrepreneurship zeal would be developed among the target beneficiaries.
- Target farmers will be further counseled and nurtured to form Farmer Producer Organization/ Companies (FPO/FPC).
- Employment generation for the rural unemployed youth.
- Better price realization of vegetables/fruits due to competitive market.

3

Program Implementation



Technical Support

1. Universities
 - a. Punjab Agricultural University
 - b. Tamil Nadu Agricultural University
2. Borlaug Institute for South Asia (BISA)
3. Technical Experts/Scientists
4. NDDDB Dairy Services (NDS)



4

**Organizational
Development**

Stories of Hope

Born into a farmer family, 36-year-old Hardeep Singh Brar is one of the more progressive farmers in Punjab's Bathinda district.

For years, Hardeep has been an avid participant in the Tata Trusts' Reviving the Green Revolution (RGR). While attending village level farmer meetings, Hardeep came to know about Crop Residue Management (CRM), a practice that RGR advocates for good soil health.

Hardeep developed a deep interest in the subject. "I attended several RGR Cell farmer meetings and I learnt from the experts how to mix the straw into the soil," says Hardeep.

"In mid 2019, I heard about a subsidised Happy Seeder scheme in the Crop Residue Management Project being run by RGR Cell, Ludhiana. I applied for it and luckily got selected. I filled out the paperwork and got the latest model of the Happy Seeder machine in end September of 2019, just in time for the sowing season for wheat."

It was a new piece of equipment and Hardeep and his brothers attended the training camp conducted by the field team of RGR Cell. They used the machine on about 19 acres of land, where they sowed HD2967 and HD3086 varieties of wheat. One of the first things they found was that the new practice saved a lot of time, effort and even fuel.

"I have also found that there are fewer weeds in the field. So, our family has also saved on herbicide purchase," he said.

Hardeep also found that he could earn by renting out his Happy Seeder. During the sowing window of 30 to 35 days, he hired out his machine to farmers in his own village of Maluka and in the surrounding villages of Siryewala, Neor and Kothaguru. The Happy Seeder and tractor became an additional source of income for me." Hardeep says cheerfully.

He has even engineered small customisations in his machine. "In this Covid-19 epidemic, farmers are facing



shortage of labour for paddy transplantation. One day, I had an idea. I changed a small seed dropping part in the machine by myself at home, at a cost of just Rs. 2,000. With this small change, I have sown nine acres of paddy in my own farm with direct seeding of rice (DSR) technique. This has added more value to my Happy Seeder machine. This minor change in the machine can be reversed at any time with no additional cost," he shares happily.

DSR is a solution for planting rice when there is a water shortage, or the rains are inadequate. Hardeep is now motivating several other farmers of his village to sow at least one acre of paddy with DSR technique and save on water which is a scarce resource in the area.

With his willingness to try out better crop practices, Hardeep Singh Brar has become a role model for local farmers. His success story is an eye-opener for today's educated youth who may now see a renewed potential in farming as a sustainable means of livelihood. By dint of sheer hard work, intelligent farm planning and management, ably supported by training from experts, Hardeep has shown that India's small farmers can make a better living out of farming and agriculture.

Partnerships and Fundraising



We have been diversifying our funding sources since the inception. Apart from Tata Trusts, we raised funds from Independent Foundations, Corporate Social Responsibility (CSR) funds, and collaborative international grant opportunities. We have actively sought out partner organizations with a common interest in agricultural development, tribal development, promoting social entrepreneurship and value chain development for key crops. Our efforts yielded results in the form of developing strong bonds with Titan Company Limited and Hindustan Unilever Limited, engaging in the value chain for millets, Non-Timber Forest Produce (NTFP) and tea. Our ties with our long-term partner organization i.e. World Wildlife Fund for Nature (WWF) were renewed through the Better Cotton Initiative (BCI).



5

Financial Statements

Balance Sheet

REVIVING GREEN REVOLUTION CELL

Registration No.: 680 of 2007-08

BALANCE SHEET AS AT MARCH 31, 2021

Particulars	Note No.	As at March 31, 2021 (In ₹)	As at March 31, 2020 (In ₹)
FUNDS AND LIABILITIES			
FUNDS			
(a) Earmarked Funds	3	27,89,390	56,72,885
(b) Fixed Assets Fund	4	11,56,719	9,46,707
(c) Income and Expenditure Account	5	62,158	81,010
		40,08,267	67,00,602
LIABILITIES			
Current Liabilities	6	-	-
		-	-
TOTAL		40,08,267	67,00,602
ASSETS			
(a) Fixed assets	7	11,56,719	9,46,707
(b) Loans and advances	8	1,48,933	1,23,915
(c) Cash and bank balances	9	27,02,615	56,29,980
TOTAL		40,08,267	67,00,602

See accompanying notes forming part of the financial statements

1-19

In terms of our report attached.
For Deloitte Haskins & Sells LLP
Chartered Accountants

For Reviving Green Revolution Cell


Joe Pretto
Partner




Rajinder Singh Sidhu
Treasurer
Reviving Green Revolution Cell
Place : Ludhiana


Amrita S. Patwardhan
Secretary
Reviving Green Revolution Cell

Place : Mumbai
Date : September 24, 2021

Date : September 24, 2021

Income & Expenditure

REVIVING GREEN REVOLUTION CELL

Registration No.: 680 of 2007-08

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED MARCH 31, 2021

Particulars	Note No.	For the year ended March 31, 2021 (In ₹)	For the year ended March 31, 2020 (In ₹)
Income			
Transfer from Earmarked funds		2,96,97,866	4,10,15,381
Transfer from Fixed Assets fund			
-For Depreciation		3,59,628	2,49,884
-For Assets written off		4,381	-
Other income	10	5,998	40,462
Total Income		3,00,67,873	4,13,05,727
Expenses			
Expenditure on objects of the Society			
(i) Grant paid		-	-
(ii) Project expenses	11	2,66,86,758	3,75,99,997
(iii) Establishment expenses	12	20,57,898	24,81,309
(iv) Employee Benefit Expenses	13	9,82,441	9,34,075
(v) Depreciation and amortization expense	7	3,59,628	2,49,884
Total expenses		3,00,86,725	4,12,65,265
Excess of (Expenditure over Income) / Income over Expenditure		(18,852)	40,462

See accompanying notes forming part of the financial statements

1-19

In terms of our report attached.
For Deloitte Haskins & Sells LLP
Chartered Accountants

For Reviving Green Revolution Cell


Joe Pretto
Partner




Rajinder Singh Sidhu
Treasurer
Reviving Green Revolution Cell
Place : Ludhiana


Amrita S. Patwardhan
Secretary
Reviving Green Revolution Cell

Place : Mumbai
Date : September 24, 2021

Place : Ludhiana
Date : September 24, 2021

Independent Auditor's Report

Deloitte Haskins & Sells LLP

Chartered Accountants
One International Centre
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Elphinstone Road (West)
Mumbai - 400 013
Maharashtra, India

Tele: + 91 22 6185 4000
Fax: +91 22 6185 4001

INDEPENDENT AUDITOR'S REPORT

To
The Members of Reviving Green Revolution Cell
Report on the Audit of the Financial Statements

Opinion

We have audited the accompanying financial statements of **Reviving Green Revolution Cell** ("the Society"), which comprise the Balance Sheet as at March 31, 2021, and the Statement of Income and Expenditure for the year then ended and a summary of significant accounting policies and other explanatory information.

In our opinion and to the best of our information and according to the explanations given to us, the aforesaid financial statements give a true and fair view Accounting Standards issued by the Institute of Chartered Accountants of India (ICAI) and other accounting principles generally accepted in India, of the financial position of the Society as at March 31, 2021, and its financial performance for the year then ended on that date.

Basis for Opinion

We conducted our audit of the financial statements in accordance with the Standards on Auditing (SAs) issued by ICAI. Our responsibilities under those standards are further described in the Auditor's Responsibility for the Audit of the Financial Statements section of our report. We are independent of the Society in accordance with the Code of Ethics issued by the Institute of Chartered Accountants of India (ICAI) together with the ethical requirements that are relevant to our audit of the financial statements, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the ICAI's Code of Ethics. We believe that the audit evidence obtained by us is sufficient and appropriate to provide a basis for our audit opinion on the financial statements.

Management's Responsibility for the Financial Statements

The Society's management is responsible for the preparation of these financial statements that give a true and fair view of the financial position, financial performance in accordance with the Accounting Standards and other accounting principles generally accepted in India. This responsibility also includes maintenance of adequate accounting records to safeguard the assets of the Society and for preventing and detecting frauds and other irregularities; selection and application of appropriate accounting policies; making judgments and estimates that are reasonable and prudent; and design, implementation and maintenance of adequate internal financial controls, that were operating effectively for ensuring the accuracy and completeness of the accounting records, relevant to the preparation and presentation of the financial statements that give a true and fair view and are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Society's management is responsible for assessing the society's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using



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Deloitte Haskins & Sells LLP

the going concern basis of accounting unless management either intends to liquidate the entity or to cease operations or has no realistic alternative but to do so.

The members of governing board of the society is also responsible for overseeing the Society's financial reporting process.

Auditor's Responsibility for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with SAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with SAs, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal financial control relevant to the audit in order to design audit procedures that are appropriate in the circumstances but not for the purpose of expressing an opinion on the effectiveness of the Society's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Society's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Society to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

Materiality is the magnitude of misstatements in the financial statements that, individually or in aggregate, makes it probable that the economic decisions of a reasonably knowledgeable user of the financial statements may be influenced. We consider quantitative materiality and qualitative factors in (i) planning the scope of our audit work and in evaluating the results of our work; and (ii) to evaluate the effect of any identified misstatements in the financial statements.



**Deloitte
Haskins & Sells LLP**

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

For Deloitte Haskins & Sells LLP
Chartered Accountants
(Firm's Registration No. 117366W/ W-100018)



Joe Pretto
(Partner)
(Membership No. 77491)
(UDIN: 21077491AAAACV2849)

Place: Mumbai
Date: September 24, 2021



Statutory Disclosures

Society Registration No:	680 of 2007-08
Foreign Contribution Regulation Act (FCRA) No.	115300042
Registration u/s 12AA (1)(b)(i) of the Income Tax,1961:	CIT-III/JB/12A/242/10-11/694
Exemption u/s 10(23C)(iv) of the IT Act, 1961:	CCIT/LDH/JB/10(23C) (IV)/145/2009-10/2821
Exemption u/s 80(G) of the IT Act, 1961:	CIT(E)/CHD/80G/AAAAR6284L/ 2019-20/4666
Permanent Account Number:	AAAAR6284L
Tax Deduction Account Number:	JLDR03215C

Our Banker



State Bank of India, Punjab Agricultural University Branch, Ludhiana

Statutory Auditor



M/s Deloitte Haskins & Sells LLP, Mumbai

Internal Auditor



M/s PKF Sridhar & Santanam LLP, Mumbai

Design Partner



Graffiti Collaborative, Bangalore

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Landline: 0161-2400556

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