



BiofuelCircle

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GREENFIELDS



Empowering Rural India Digitally



FOREWORD

India has been witnessing a gradual but certain shift towards environmental consciousness. Not just the MNCs and large corporates with a well-defined ESG agenda, but even closer home, smaller and mid-sized enterprises are consciously exploring adapting to greener fuels. The government is doing its bit by formulating the right kind of policies which are further setting the tone for this. Interventions at the grass root level like providing subsidies to the farmers and FPOs for owning post-harvest equipment so that they not only can deal with the agro residue effectively, but can then also aspire to augment their incomes by participating in the emerging bio-energy sector.

Schemes like SATAT (Sustainable Alternative Towards Alternative Transport), which is a broader initiative by the government of India to promote CBG and Bioethanol, is fuelling a growth in the number of CBG plants across the country with the major players of the country investing significantly in creating capacity in this space. There is a clear trickle-down effect which can now be seen in the rural landscape with more and more farmers participating in the supply chain to gain from their agro residue. This is clearly leading to the farmers being empowered now to deal with their agro residue, and also bringing a social change by creating more employment opportunities. The farmers can now move from being just "Anna Daata" to "Urja Daata". Interesting idea? We think it indeed is.

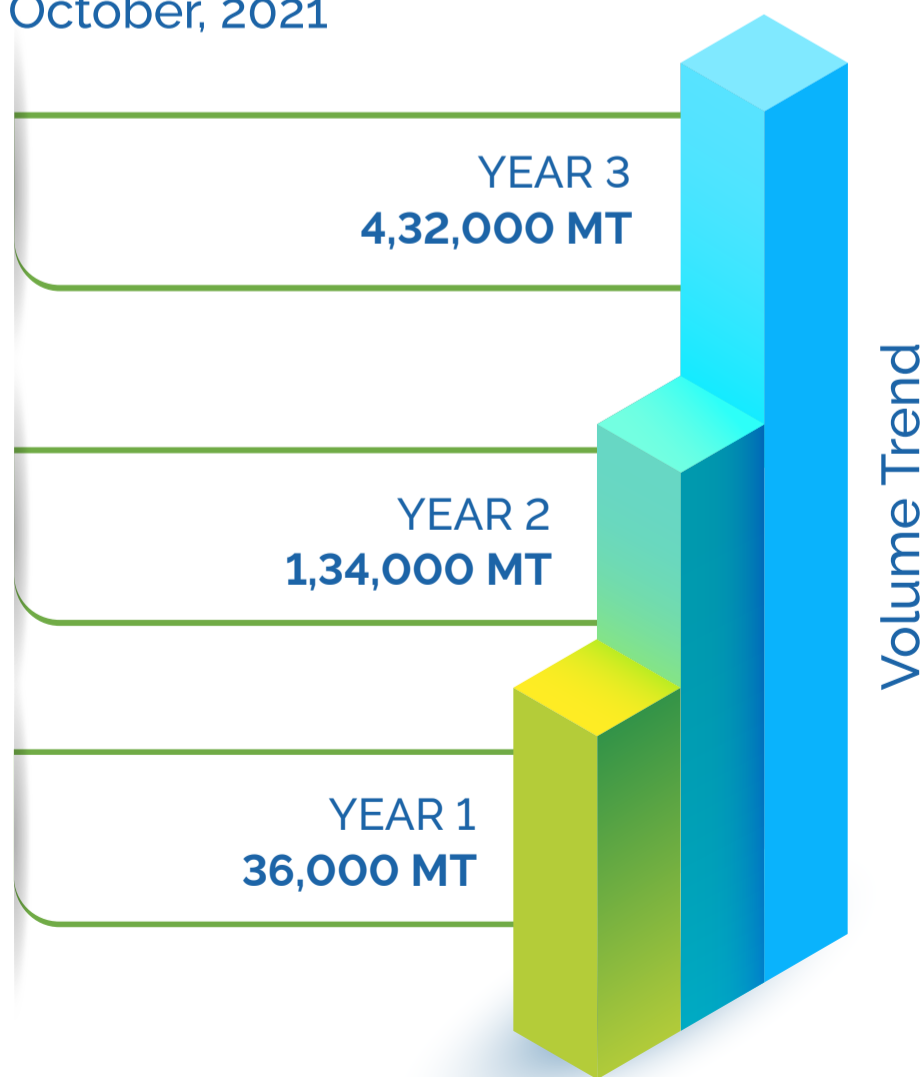
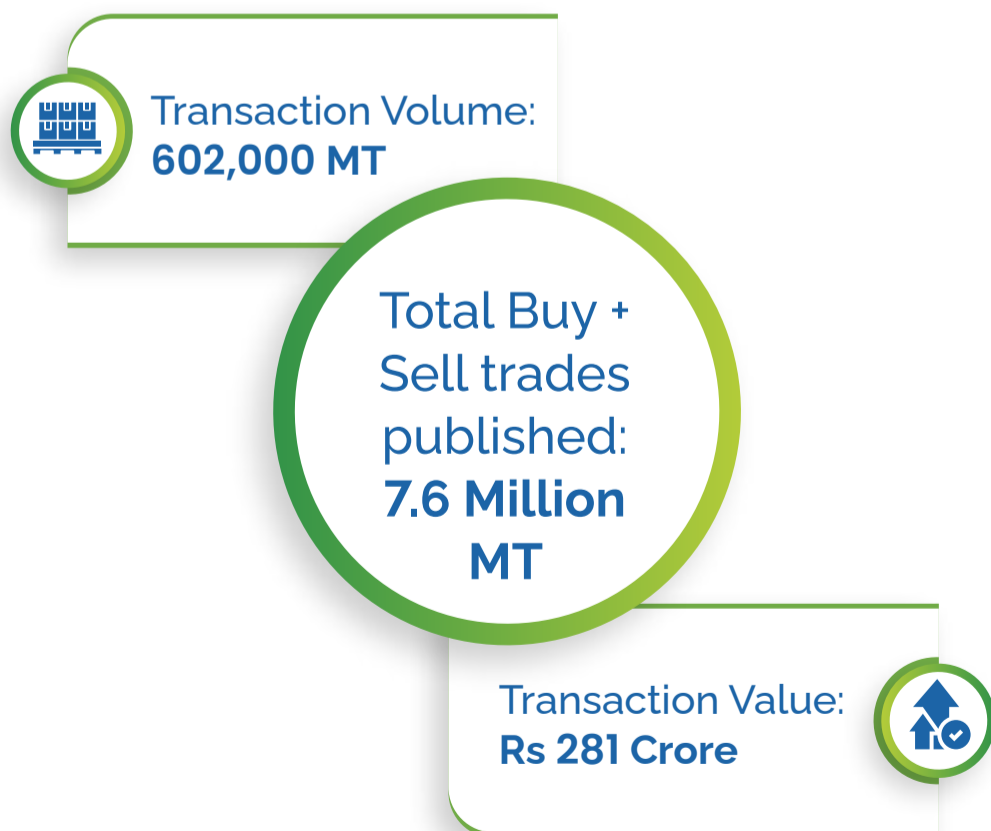
In this issue, you will find interesting insights from two of the most respectable and seasoned leaders, who have spent practically a lifetime in the betterment of rural and the farmer community. While Mr. Girish Sohani has served for a long time as the President of BAIF, the most respected name in the area of farmer upliftment, Mrs. Hema Yadav, as the Director of the storied VAM-NICOM, has nurtured the future entrepreneurs of India in the space of agricultural modern practices. We do hope that you will find the articles/interviews in this issue very useful and informative.

I would also like to take this opportunity to wish you and your loved ones, a very happy festive season. Have a safe *Diwali* (and may I dare say, a smokeless and noiseless *Diwali* too!)

Regards,
Tushar Lowalekar
 Founding Member and Chief Business Officer,
 BiofuelCircle

PLATFORM INSIGHTS

Since start of Commercial Operations on 1st October, 2021





The Cover Story

The power of empowerment:
Real change stories

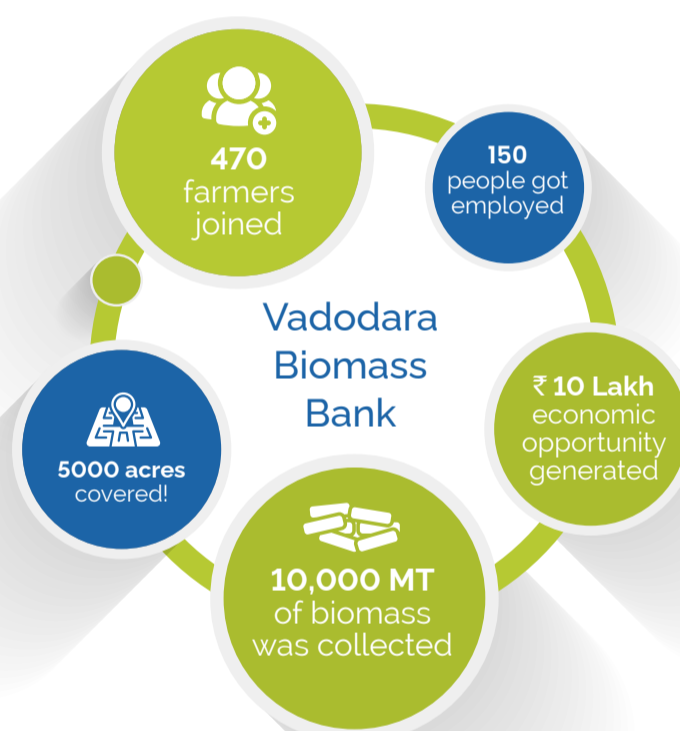
India is a land of more than 100 million farmers and one of the largest agricultural-producing countries in the world.

The disposal of the farm waste generated after the harvest of the crop has always been a challenge. For the farmers, the only viable option has always been burning it. Because, in addition to the many challenges of farming itself, they don't know how to solve this one. What do they do with the stubble? How do they invest time, technology, and labour into this activity that practically results in no output? Eventually, what will they do with the *parali* they collect? And after investing so much time, would it benefit them in any way?

Several villages in Uttar Pradesh, Gujarat and Maharashtra experienced a different economic activity for the first time.

With introduction of a new village-level activity, these challenges transformed into an opportunity for the villages. For the first time in their lives, they saw balers and tractors going into and coming out of farms. They witnessed new job opportunities on the same farms where there were none. And they saw farmers being paid for the waste that is left after harvesting their crops!

In Vadodara, with the setting up of Biomass Banks, 470 farmers were onboarded to cover 5000 acres of farms which resulted in the collection 10,000 MT of biomass, a payout to farmers of Rs. 10 lakhs, and employment to 150 people!



Thakur Arjun Bhai from Vasna village summed it up by saying,

"BiofuelCircle came to our village. They needed to collect biomass from the cotton farms and needed tractors for the same.

I immediately tied up with them. In the next 3 months, I helped deliver 10,000 MT of biomass to their warehouse and despite being an off-season, I earned handsomely well."

This project requires proactive local involvement. As these activities begin on the ground, the economic and environmental advantages become apparent, establishing trust and turning the initiative from a business into a broad movement. To put in another

perspective, the earning opportunity generated for the rural participants was to the tune of Rs,50 lakhs.

In UP's Barsana, the story began last year, with 4 large Biomass Banks after a massive biomass collection and aggregation drive in Mathura for a CBG plant.

96 villages came together with more than 4000 farmers to successfully collect the post-harvest stubble over 21,000 acres of farmland.

The FPO Director of Brijbhoomi Chhata Organic Navakrushak FPO, Barsana, Mr. Ajeeth Singh speaks about the on-ground impact on farmers' lives, saying, "Farmers can now utilize the *parali* that is left over in the farms. Now, they don't need to invest to clear their farms or cause pollution by burning it down. They can now earn through this waste. I was never really interested in biofuels, but now it is made so easy, this seems like one of the best opportunities I've ever come across. We didn't even know about this, now, we've been introduced to new technology that's bettering farmers' lives."

On the other hand, one farmer says,

"We are not just getting our farms cleared but also getting paid for it. At the same time, employment is getting generated and our idle tractors are getting utilized." Another farmer mentions, "It's a win-win for everyone. A much-awaited, welcome change. No farm burning, no FIRs, no headache. It has only benefits for everyone involved."



Mr. Ajeeth Singh

FPO Director
Brijbhoomi Chhata Organic
Navakrushak FPO, Barsana

Biomass Bank increases the value of agricultural waste for farmers, integrating them into the industrial supply chain. Stubble is chopped, gathered, and compressed into conveniently transportable bundles to establish a Biomass Bank. In addition to giving village tractor owners extra earning opportunities, this approach enables the generation of rural businesses and allows Farmer Producer Organizations (FPOs) to start new operations and boost profits. While helping circularity, it is generating economic opportunities, helping create rural employment, and at the same time, creating a positive social and environmental impact.

By the end of March 2025, BiofuelCircle is looking at having 35 such Biomass Banks, each having capacity of 10,000 metric tons. What this means is an ability to have about 350,000 metric tons annually harnessed and stored for supply for industrial end use. Each biomass bank gets services from around 2000 farmers.

Such 35 Biomass Banks will be touching lives of some 70,000 farmers from about 350 different villages.





Mr. Girish Sohani

Principal Advisor & Trustee, BAIF
Development Research Foundation



An expert view, a macro perspective

Mr. Girish Sohani, enlightens the entire activity with perspectives that are enriched over 40 years of vast experience in Natural Resource Management and Rural livelihoods. He has worked on Village Production Systems, Appropriate Technology, Agribusiness and nurturing Farmer Producer Organizations.

He is a veteran and been instrumental in Institutional Development of BAIF into a multi-sectoral development organization and as a Resource Institution.

He talks about how Biomass Banks are making empowerment possible at varied levels, from varied perspectives.

First is the empowerment of the local farmers, he says, "Through the biomass bank activity at the ground level, we are generating value for the farmer where no value existed before. So we help the farmers be relieved of their burden, but at the same time create some value. BiofuelCircle platform has made this transformation possible from crop residue to a valuable product, despite being geographically scattered.

Touching on the macro aspect, he talked about how this activity can empower ecosystems.

"We are laying the foundations of a bioeconomy where conventionally value products were coming from non-renewables like the fossil sources. Instead of that we are making it possible from renewable sources - from biomass."

Fossil fuels and large-scale production have been the norm of the last 100 years of economic activity growth. BiofuelCircle approach is laying the foundations of a Bioeconomy. It has become a mass-based production, mass-based conversion and mass-base processing. It's more decentralized, more localized chronic activity connected to individual producers of biomass, and all of them brought together in the form of a network that is supported by a platform.

The steel industry is talking about replacing part of coke which is used in the cylinder with biochar-based production.. Biochar will come from biomass and therefore this can be another way by which biomass producers can connect to even an existing large scale production of steel.

Bioeconomy doesn't have to be only in the energy sector, it can grow into many other possibilities of economic activity. The opportunity is big, the empowerment, even bigger."

He further adds how technology is being the undercurrent to this empowerment, "We can have many IT-based services that can make a difference. We are enabling farmers to get access to the banks through fintech. The farmer's understanding of technology will lead to empowerment because an individual farmer will be able to negotiate and access infrastructure that is beyond him in terms of access."

The farmer's understanding of technology will lead to empowerment because an individual farmer will be able to negotiate infrastructure that is beyond him in terms of access... and so on.





Driving a connection between the White Revolution brought by Amul, Mr. Sohani, spoke about how Amul started by using milk surplus in rural areas and supplying it to the market in the urban areas. BiofuelCircle is doing something analogous by taking the biomass in terms of crop residue, generating value for the farmer, and making it available where it can be used. The vision for BiofuelCircle will be working more intensively on making an institutional base that can be replicated.

He ended this conversation with this beautiful story.

Some people are cutting the stones and shaping them. They are producing stones of the required size and shape.

A person walks in and asks one of them, "What are you doing?"

He says, "Ohh it's a laborious job. I'm just cutting stones."

He goes to another person and asks him, "What exactly are you doing?" And he says, "I'm building a temple."

BiofuelCircle is not just putting a digital platform in place to simplify the supply chain, or just helping a transaction to take place. **But it is creating the foundation of a rural inclusive economic system.**





Dr. Hema Yadav
Director, VAMNICOM & CICTAB

Glimpses Of The Future

Nurturing Rural Indian Growth Through Entrepreneurship

Empowering rural communities with innovation and modern technology

VAMNICOM (Vaikunth Mehta National Institute of Cooperative Management) has empowered cooperatives across India for over five decades. Under the Ministry of Cooperation, VAMNICOM's work spans governance, business management, and entrepreneurship development.

Biomass as an opportunity. How do you see it changing the rural landscape?

Biomass presents a tremendous opportunity to transform the rural landscape. The growth of CBG (Compressed Biogas) plants and the increasing investments in this sector are significant. Biomass is generated in large volumes after every harvest, and harnessing it can create a circular economy.

By aggregating and processing biomass, rural areas can produce biofuels and other valuable products, reducing reliance on fossil fuels and enhancing sustainability. This model can increase rural incomes, provide clean energy, and reduce environmental pollution, such as stubble burning, which is a major issue in many agricultural regions.

Establishing biomass ecosystems in clusters of villages

can stimulate economic activity, create jobs, and promote a more sustainable way of life.

Any new opportunities need the adoption of new practices—be it agricultural practices like stopping stubble burning or business practices like the Biomass Bank Business model. How are any such new practices received by the rural community?

Adopting new practices in rural communities can be challenging due to deeply rooted traditional methods. For example, stubble burning persists because it is seen as a quick and easy way to clear fields, despite its negative environmental impact.

We need to educate farmers that biomass is not dead produce, it has value.

Biomass, generated in large volumes post-harvest, can be processed into biofuel and used for low emissions in industries. We must showcase how Biomass can be converted into carbon credit for trading. All of these connections need to be highlighted for them to consider biomass as a valuable resource.

Creating consciousness about harmful environmental practices & incentivizing farmers towards biomass conversion instead of stubble burning is essential.



Successful case studies and continuous support are essential. Extension services play a key role in educating farmers about the benefits and practicalities of new technologies and practices.

How will you seed entrepreneurship in rural audiences?

To seed and nurture entrepreneurship in rural areas, we need to start with the identification and development of local leadership models. A visionary local leader can drive such initiatives to success. Hence, the first thing to do is to foster local leadership, especially among the youth who are now well-educated and passionate about advancing their communities.

Investment in local leadership is crucial. This can be achieved by establishing entrepreneurship centres or incubation centres aimed at developing entrepreneurial skills further. The government's various ranking frameworks for villages, co-operatives, and FPOs (Farmer-Producer Organizations) will play a key role in this process.

Addressing local needs and nurturing leadership within these frameworks will be essential.

Skill-building is another critical component. Providing

financial resources such as grants and micro-grants can empower these rural entrepreneurs. Collaboration with local panchayats, NGOs, research institutions, and development organizations that are interested in investing in India will also be vital.

Such new enterprise opportunities require skill building and training. What is your experience? Is it well received?

Skill building and training are crucial for the success of new enterprises, and at VAMNICOM, we have found rural communities to be very receptive. They are enthusiastic about learning when you present them with the right opportunities, technologies and best practices. We have conducted training on various aspects such as digital technology, micro-irrigation, vertical farming, and precision agriculture. The response has been overwhelmingly positive.

Rural communities are not only eager to learn but also quick to implement these new practices.

However, continuous support and follow-up are essential to ensure long-term success. Our training programs also focus on financial literacy, market linkages, and value addition, which are crucial for sustaining new enterprises. The commitment and resilience of rural communities are commendable, and with the right support, they can achieve remarkable progress.





What is the role of women in rural entrepreneurship and are they receptive to being change-makers?

Women play a crucial role in rural entrepreneurship and are indeed receptive to being change-makers. Focusing on women and providing extensive training, microcredits, and microinsurance can help them step up in the biomass sector.

Women's inclusion in boards of directors of cooperative societies and FPOs is now mandatory, and we are preparing them for these roles through specialized training programs. Our approach to ensure that women on the Board of Cooperative Societies are confident to speak their minds has four parts to it -

Empowering women for entrepreneurship,

Acknowledging and recognizing the contribution of women.

Hand-holding other women for more leadership roles

And encouraging them to be a decision-maker is crucial.

Women from all over India come to our institute to be a part of these programs. They are so keen to learn that sometimes we have to accommodate women who come to our training with their infants or toddlers too. Other women in the group immediately take responsibility of the kids and help the students focus on the teaching. There is a need to bring women from rural communities and marginal sections to training classrooms to mainstream them and bring inclusion in ongoing schemes and programmes.

The way they dress up for such a training program also speaks volumes about what it means to them. A classroom training program is like an event, an opportunity for them to be their best and make the best out of it. These are the women who are going to be in the driving seat of change and bring prosperity to rural communities.

The Inside Scoop

Stories And Lessons From Our Growing Team Of Passionate Professionals

Umesh Dasur on Strategizing Diverse On-Ground Approaches for Biomass Adoption and Impact

Meet Umesh Dasur, who heads Supply Network Operations at BiofuelCircle, building the ecosystem that bridges the gap between the seasonal supply and annual demand of Biomass products. He's a storyteller bringing out the nuances of rural India while weaving the supply network at BiofuelCircle, who believes in the power of technology and the power of the story we're building for rural India.

After working globally for over 10 years, he chose BiofuelCircle for the real impact it brings, for every stakeholder.

Can you give us a perspective on what you do?

I handle the supply network operation, focusing on both ends of the supply network. We reach the grassroots of every village to empower the farmers to transform their agri-waste into a sustainable, profitable fuel,

essentially the beginning of a Biomass Enterprise. We start with creating awareness in the villages of all the benefits it holds like handsome additional income, creating jobs, and compliance with government directives of not burning agri-waste. BiofuelCircle's digital platform supports this further by enabling access to dedicated infrastructure such as rental post-harvest farm equipment, transport that streamlines agri-waste collection, warehouse management for storage, and facilitates efficient supply chain for biofuel production.

So, we create a supply of biomass in a particular cluster,

and from that supply location, we try to map the nearby customers. It can be either biofuel customers like briquettes or pellet manufacturers, or Compressed Biogas plants. For these customers, we need to ensure consistent supply. So that's where we come in as a supply network team.



Umesh Dasur
General Manager - Network Operations
BiofuelCircle

What were the challenges you encountered during implementation and how did you maneuver through them?

After spending months amidst the farmers, we realised that we could never be sure if every farmer had a smartphone, or the understanding of how to download an app, and that's when we brought this conversation to Whatsapp!

From App to Whatsapp! And that changed the game.

Today, the farmer can simply chat on our Whatsapp bot with ease at never-before convenience. That has eased the runway to set up Biomass Banks.

Next thing we wanted is to create a network of partners (local participants) who would operate the Biomass Bank. Like there are checklists we create while hiring in organisations, we can't go about the same way for finding partners in the rural landscape. So, a lot of times, we hit a dead end, be it labour, diesel management, or creating a transport chain.

How I look at it, is through an emotional connection. Once we understand the pain point of who we're dealing with, we come up with solutions and then collaborate.

Trust is the biggest driver and binding factor too.

Another front that we at BiofuelCircle have worked on and continue to work on is getting the work model organized. Unlike corporate setups, in villages, work can easily take a backseat for a celebration, or a community occasion.

We create awareness about what the industry expects, and bridge this gap between the rural ways of functioning and industry expectations.

How do you resonate with the concept of Biomass Bank? And how are you making a difference?

Work to love, to passion, to obsession. That's what it is for me. Everyone talks about sustainability, but contribution is rare. Here we are making a real difference.

The amount of biomass we aggregate is directly proportional to the coal firing we reduce.

Not just that, we are impacting rural lives by bringing opportunities where there were none. There were some virgin lands where a baler machine hit their land for the first time. And that is priceless. We are moving in the right direction for achieving carbon neutrality and inclusivity.

Do you see yourself as a contributor in the changing rural landscape of Biomass? What are your fulfilling moments?

We inaugurated our Baroda Biomass Bank with 3 people and 1 machine and started with 3 MT of biomass collection. By end of the season, we had 25 machines and 60 people who were paid regularly and collected 10,000 MT of biomass. Around 15 people now have an all-year job in their own village.

What can be a greater fulfilling moment than that!

Stories from the storyteller.

A taxi driver who was working with us on the field was observing me for a few days. And suddenly one day offered a more efficient way to handle the baler machine. Today, he's a self-sufficient entrepreneur who operates some of this post-harvest machinery on our platform and is in a position to employ more people.

A farmer shifted gears from being someone who did not have any earning potential earlier to earning a lakh a month in his own village. That's when you realise we can fulfil so many dreams.

In Gujarat, one aggregator did triple the work he did the previous year with two additional machines and now, he's purchased a tractor trolley of his own on cash. And he is on his way to much more growth.

On a personal note:

Umesh enjoys silence, so much so that he watches matches on mute! He loves reading and living a balanced life. He keeps mentally and physically fit to achieve future goals. And keeps his team motivated by walking the talk, understanding their why, and making himself a better person!



Leading the Barsana project from the front, leading the stars to win the “Changemaker Award”!

Our 4th Foundation Day celebration was truly special, celebrating true change makers who have made a difference on the ground. The 'Changemaker' Awards celebrated the heroes who made Project Barsana a phenomenal success by establishing the impact of Biomass Banks.

Project Barsana offered heartening evidence in support of our vision to offer rural players a rightful place within

the biofuel industry. We witnessed the process of value creation unfold right before our eyes. Entire villages were bustling with biomass-related activities from tractors making rounds and rakers covering farms, to FPO members enthusiastically unveiling new opportunities. With renewed clarity, Project Barsana fueled our commitment to creating deep transformation by unlocking the latent potential of biomass in India.



Hear it from the awardees:

“We made a huge difference to farmers in Barsana by generating employment and helping them generate extra income. My efforts have borne fruit in the form of the Changemaker Award. I will continue to be an asset to my company.”

Sagar Katkar, Sr. Executive, Field Sales

on winning the Changemaker award

“It feels so good to receive this award. The Barsana project was the first large scale project after putting in a significant amount of work. It felt remarkable! This recognition only gives me high josh to do more.”

Yogesh Mittal, Executive, Rural Sales

on winning the Changemaker award

“During my time with Biomass Bank on Project Brasana, we conducted awareness meetings with farmers, highlighting the opportunity for them to earn additional income through our platform. My dedication

and hard work in this role have been recognized with the Changemaker Award. I am committed to continuing as a valuable asset to my company, driving further success”

Shivaji Atole, Executive Rural Sales

on winning the Changemaker award

Milestone Alert!

We crossed 5,00,000 MT deals since the start of our commercial operations since 1st Oct 2021.

