

birlasoft

Summary of Project Shodhan “Crop Residue Management Initiative” - Impact Assessment Report



 **SoulAce**
Path to Sustainability

SOULACE CONSULTING PVT. LTD.

Research Methodology



Application of Quantitative Techniques

A structured interview schedule was utilized as a dependable tool in the quantitative study to assess the effects of the different activities implemented through Project Shodhan's "Crop Residue Management Initiative". This method allowed for the gathering of quantifiable data for analysis and evaluation from the project's beneficiaries directly.



Application of Qualitative Techniques

To gain comprehensive insights into the project's impact, qualitative techniques were employed, which included conducting interviews with key stakeholders such as community members, project teams, farmer groups, and cooperative societies in various project locations.



Ensuring Triangulation

Triangulation is needed to increase the credibility and validity of the research findings. It is also a measure taken to ensure the trustworthiness of the research process. The findings of the quantitative research were verified with the insights from qualitative research, and the report was structured to reflect this point.



The OECD-DAC Evaluation Framework

The research study used the OECD-DAC framework for evaluation to ensure a pattern of research observations and keep research findings in line with certain universally acceptable criteria.

RELEVANCE
is the intervention doing the right things?

EFFECTIVENESS
is the intervention achieving its objectives?

IMPACT
what difference does the intervention make?



COHERENCE
how well does the intervention fit?

EFFICIENCY
how well are resources being used?

SUSTAINABILITY
will the benefits last?

Project Shodhan "Crop Residue Management Initiative"

Implementing Partner: CII Foundation



Year of Implementation

2021-22



Type of Beneficiaries

Farmers



Sample Covered

20 Villages



Stakeholders Covered

- Community members,
- Project teams,
- Farmer groups, and
- Cooperative societies



Project Background

Birlasoft's project Shodhan was initiated to address the critical issue of crop residue burning. Its primary objective was to advocate for sustainable agricultural practices and discourage open burning through initiatives such as behavior change programs, machinery support, training sessions, and awareness campaigns. Commencing in 2018, the project initially covered 12 villages in the Patiala district of Punjab. Subsequently, in 2019, it expanded to encompass 32 villages in Patiala, Punjab, and 3 villages in Sirsa, Haryana. The initiative continued to grow in 2020 by incorporating 11 additional villages and further expanded to 26 more villages in 2021.



Project Location

Patiala district (Punjab),
Sirsa district (Haryana)



SDG Goals



Rating based on OECD Framework

Relevance	Is the CSR Project meeting the needs of the beneficiaries?	● ● ● ● ●
Coherence	Is the CSR intervention in line with National/Global Policies/Principles/Programs.	● ● ● ● ●
Effectiveness	Has the Program met its objectives? To what extent the expected results have been achieved? Has it reached the Right Target Groups.	● ● ● ● ●
Efficiency	The extent to which the CSR Project delivers, or is likely to deliver, results in an economic and timely way	● ● ● ● ●
Impact	The extent to which the intervention has generated or is expected to generate significant positive or negative, intended or unintended, higher level effects.	● ● ● ● ●
Sustainability	The extent to which the net benefits of the intervention continue, or are likely to continue.	● ● ● ● ●

Index: 5 Points - Very High ; 4 Points - High ; 3 Points - Moderate ; 2 Points - Low ; 1 Point - Very Low

Impact Created

Control of air pollution

The initiative significantly reduced air pollution by eliminating open crop residue burning, which released harmful pollutants, enhancing air quality, and safeguarding public health.

Quality of soil improved

The initiative aimed to replace open crop residue burning with sustainable agricultural practices helping to preserve soil nutrients and enhanced soil quality.

Increase of yields

The initiative resulted in a notable increase in crop yields for 73.3% of farmers, with 56% reporting a post project intervention increase in rice production of 50-100 Kg per hectare.

Amount of fertilizers used

The initiative led to reduced pesticide use for irrigation, with the majority of farmers (50%) reporting reduction in the use of fertilizers by almost 10% post-straw management practices.

Increased awareness

The project positively enhanced farmers' awareness of the detrimental effects of crop residue burning, resulting in a transition to sustainable agricultural practices and a subsequent reduction in environmental impact.

Time saved

The project significantly improved agricultural practices by promoting the use of recommended machinery, saving farmers time, and increasing overall efficiency and productivity.

Increase in Income

The majority of farmers (70%) reported a 4-5% increase in annual income post-straw management practices. An average increase in income of ₹ 10,000 per annum has been reported due to the increase in yields by the farmers.

Key Findings

I. Background

67.8%

of the respondents/farmers have a family income between ₹ 5001 to ₹ 10000 per month.

58.3%

of the respondents/farmers owned land between 1 to 2 hectares.

99.8%

of the respondents/farmers produced rice (Kharif crops).

97%

of the respondents/farmers reported that they produced wheat (Rabi Crops).

95.3%

of the respondents/farmers reported the highest straw production from rice cultivation.

II. Project Awareness

98.3%

of the respondents/farmers acknowledged the straw management project.

III. Pre-Intervention Status

97.5%

of the respondents/farmers reported practicing complete burning of straw before the intervention.

41%

of the respondents/farmers have been following the crop residue burning for an extended period, with 37.8% consistently doing so for 4 years.

IV. Straw Management Practices

99.7%

of the respondents/farmers reported receiving machinery support from the project intervention, while 56.7% also reported capacity-building support.

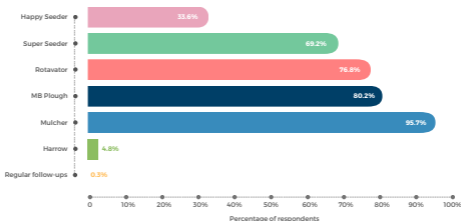
98.5%

of the respondents/farmers started practicing mulching and mixing for straw management after the project interventions.

98.7%

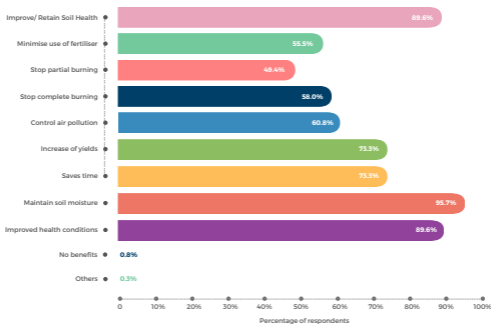
of the respondents/farmers have already adopted machinery as a new method of straw management.

V. Machinery use for straw management



Majority of the respondents/farmers (95.7%) reported using Mulcher followed by MB Plough (80.2%), Rotavator (76.8%), Super Seeder (69.2%) and Happy Seeder (33.6%) for straw management.

VI. Benefits of Straw Management Practices



Different benefits have been reported by the respondents/farmers regarding the project intervention and support. The majority of them (95.7%) highlighted improved moisture maintenance through the adopted technology/methods, while 89.6% noted enhancements in farmer health conditions along with soil health retention.

Conclusion

Birlasoft's Project Shodhan "Crop Residue Management Initiative" has made a significant impact in promoting sustainable agricultural practices and eliminating the conventional practices of open crop residue burning in the northern states of India. Through various interventions such as behavior change among farmers, machinery support, technical training and handholding, and mass awareness campaigns, the initiative has successfully achieved its objectives.

- The project led to an increase in yields, improvement of soil health, control of air pollution, reduction in the use of fertilizers, and increased awareness of the negative impacts of burning.
- The project also provided a livelihood opportunity for local village-level volunteers and farmers, promoting community involvement and participation.
- The positive impact of the initiative on the environment, soil productivity, and public health was observed through various impact assessment surveys conducted in the project intervention areas.

Overall, the initiative successfully promoted sustainable agricultural practices and provided a better quality of life for the farming community in the region.