

SUMMARY OF PROJECT SHODHAN “CROP RESIDUE MANAGEMENT INITIATIVE” - IMPACT ASSESSMENT REPORT

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 Organization for Economic Cooperation and Development - Development Assistance Committee (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

2022-23



Type of Beneficiaries

Farmers



Sample Covered

10 Villages
(~8000 Acres)



Stakeholders Covered

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



Project Location

Khamanon block of
Fatehgarh Sahib District,
Punjab.



Project Background

Crop residue burning in India poses severe health, environmental, and agricultural challenges, notably contributing to significant air pollution with its release of pollutants such as particulate matter and gases. This practice exacerbates climate change through greenhouse gas emissions, while also degrading soil fertility by removing vital organic matter. Birlasoft's CSR program, Project Shodhan "Crop Residue Management Initiative," spans 18 villages and 14,000 acres in the Khamanon block of Fatehgarh Sahib District, aiming to address these issues through comprehensive efforts in alternative practices, highlighting the urgent need for sustained solutions in Indian agriculture.



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

Enhanced Agricultural Productivity

The use of modern machineries like the Happy Seeder and Super Seeder has greatly improved agricultural practices & cultivation efficiency, leading to higher crop yields.

Economic Empowerment

Increased crop yields, coupled with efficient straw management practices, have translated into higher income for individual farmers and the community as a whole.

Environmental Conservation

The project has contributed to environmental conservation by promoting practices such as minimizing straw burning, reducing the usage of pesticides and herbicides, and conserving water, demonstrating a commitment to eco-friendly farming methods.

Sustainable Farming Practices

The adoption of new technologies and methods, including mixing and reduced crop residue burning, reflects a conscious shift towards sustainable farming, empowering farmers with effective straw management tools and reducing reliance on environmentally harmful practices like complete stubble burning.

Health Improvement

The widespread adoption of straw management practices using machinery has improved community health by reducing exposure to the harmful effects of burning practices and enhancing farming efficiency, contributing to overall well-being.

Improvement in soil health

The adoption of sustainable agricultural practices, including both in-situ and ex-situ methods, for post-harvest management of paddy straw has led to a significant reduction in the amount of crop residue burned.

Control of air pollution

The initiative's promotion of sustainable agricultural practices and elimination of open crop residue burning significantly reduced harmful air pollutants like carbon monoxide, particulate matter, and nitrogen oxides, critical for controlling air pollution and safeguarding public health.

Knowledge Transfer and Skill Development

The comprehensive training and demonstration initiatives have empowered farmers with the knowledge and skills to operate modern machinery, enabling them to independently manage straw and implement sustainable agricultural practices.

Time and Resource Savings

The project has led to significant time savings for farmers through the use of machinery for straw management, enhancing productivity and resource efficiency by reducing burning activities and associated time commitments.

Community Collaboration and Support

The project has fostered community collaboration, as evidenced by the support provided by the Cooperative Societies and other community-based organizations, fostering a network of knowledge-sharing and mutual assistance among farmers, thereby strengthening community ties.

VILLAGE JALLOWAL, DISTRICT FATEHGARH SAHIB



Key Findings

I. Background

24.7%

of the respondents/farmers have a family income between ₹ 5001 to ₹ 10000 per month followed by 28.2% in between ₹ 10001 to ₹ 15000 and 22.4% in between ₹ 15001 to ₹ 20000

100.0%

of the respondents/farmers holding 1 to 2 hectares of land can produce 21-30 quintals Kharif crop (Paddy) per year,

88.9%

of the respondents/farmers holding 1 to 2 hectares of land can produce 41-60 quintals Rabi Crops per year,

99.6%

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

II. Project Awareness

100.0%

of the respondents/farmers are aware of the straw management initiative, with 91.8% acknowledging that the initiative was supported by Birlasoft and implemented by CIIF.

III. Pre-Intervention Status

97.3%

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

58.8%

of the respondents/farmers have been following the crop residue burning for an extended period of 4-6 years, with 35.7% consistently doing so for 1-2 years.

IV. Straw Management Practices

98.0%

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

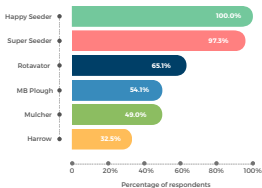
87.1%

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



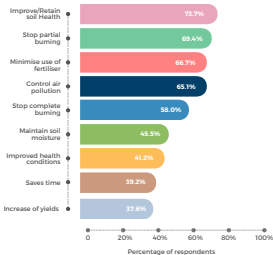
VILLAGE FATEH GARH NIWAN,
DISTRICT FATEHGARH SAHIB

V. Machinery use for straw management



All of the respondents/farmers (100%) reported using Happy Seeder, followed by Super Seeder (97.3%), Rotavator (65.1%), MB Plough (54.1%), Mulcher (49%) and Harrow (32.5%) for straw management.

VI. Benefits of Straw Management Practices



The respondents/farmers have reported different benefits regarding the project intervention and support. The majority (73.7%) highlighted improved soil health through the adopted technology/methods, while 69.4% mentioned about stopping partial burning and 66.7% observed minimise use of fertiliser.



VILLAGE JALLOWAL,
DISTRICT FATEHGARH SAHIB



VILLAGE SIRAJ MAJRI,
DISTRICT FATEHGARH SAHIB

Conclusion

In summary, the Project Shodhan "Crop Residue Management Initiative" has been transformative, significantly impacting agricultural practices, economic conditions, and environmental sustainability in the surveyed communities.

- Through the adoption of modern machinery and eco-friendly straw management methods, the project has boosted agricultural productivity, leading to increased crop yields and higher income for farmers.
- The focus on environmental conservation is evident in the reduced reliance on harmful practices like straw burning and decreased usage of pesticides and weedicides.
- The project has also contributed to improved community health by minimizing health risks associated with traditional stubble-burning activities. Knowledge transfer and skill development initiatives have empowered farmers and fostered community collaboration.

The project's success demonstrates the potential of sustainable agricultural interventions to create resilient, prosperous and environmentally conscious farming communities.



**VILLAGE COOPERATIVE SOCIETY,
BLOCK BASSI PATHANA, FATEHGARH
SAHIB DISTRICT**