

Biodiversity and Resilience Interventions

Analysis of Interviews with Farmers in Brazil

Adina Kuncz, Ana Paula Cervi Ferez, Adelaine Cézar, Pedro Brancalion, and Wei Zhang

This note summarizes the results of interviews with 16 farmers in Brazil to identify the motivations and challenges that impact farmers' adoption of practices that improve biodiversity.¹ Respondents were identified by reaching out to companies, traders, and active NGOs who provided information on interest groups and producers, and thus were not representative. All interviews were conducted through either Google Meet or WhatsApp phone call. The interviews were part of the Enhancing Biodiversity and Resilience in Crop Production project, which was commissioned by Bayer and implemented in collaboration with ETH Zurich and IFPRI. The project analyzed information that can contribute to guidance on using agricultural practices to improve biodiversity and resilience of farming systems. It focused on intensive maize, wheat, and soy production systems in France, Germany, Brazil, and the United States.

Findings

The farmers we interviewed in Brazil recognize the benefits of biodiversity and generally believe it is worthwhile to invest in biodiversity enhancing practices. However, many farmers believe that policies and programs supporting biodiversity should be improved and provide additional financial assistance. In the interviews, farmers discussed their experiences with biodiversity enhancing practices, perceived benefits of biodiversity, perspectives of neighboring farmers, and regional support for biodiversity policies and programs, and hopes for the future of their farms.

Biodiversity Knowledge & Experience

1. **Supporting conservation efforts and a balance of various forms of life:** Many farmers defined biodiversity as the maintenance and restoration of preservation areas. Many farmers also understood biodiversity as an equilibrium of diverse plants, insects, and animals.
2. **Advantages for soil:** Farmers emphasized that biodiversity is beneficial for soil. Biodiversity supports life and microorganisms within soil and helps with soil conservation and management.

¹ For additional details about the project note, please refer to the full project [report](#) or contact: Ana Paula Cervi Ferez, apferez@gmail.com; Adelaine Cézar, adelainecezar@gmail.com; Pedro Brancalion, pedrobrancalion@gmail.com; Wei Zhang, w.zhang@cgiar.org

3. **Awareness of measures to strengthen biodiversity:** Farmers believe that they can improve biodiversity on their farms by reducing chemical inputs, using organic and natural products, practicing crop rotations, and maintaining preservation areas. Some farmers also noted that biodiversity can help with disease and pest control, increase farm productivity, and decrease negative impacts on the environment.
4. **Recognized benefits:** The benefits of biodiversity that were most discussed by farmers were cost savings from a decreased use of chemical inputs, improved soil health, and reduced soil erosion.
5. **Established experience:** A majority of farmers said they use biodiversity measures on their farms. Several farmers said they support biodiversity by practicing no-till farming.

Adoption Limitations

1. **Feasible costs:** A majority of farmers said that the costs of biodiversity enhancing practices are minimal and reasonable. The costs that farmers discussed were for alternatives to chemical inputs, poultry waste, rock dust, and hiring professionals to assist with fauna protection.
2. **Minimal risks:** Over half of the farmers we interviewed said that they do not believe there are significant risks involved with adopting biodiversity enhancing practices.
3. **Unknown outcomes:** A few farmers stated that there is a risk in the unpredictable nature of biodiversity enhancing practices and their potential impacts on profits. These farmers are concerned that introducing new practices could decrease their crop yields or require an investment in implementation without a financial return.

Adoption Motivations & Influences

1. **Variety of motivators:** Farmers acknowledged an assortment of factors that motivate them to adopt biodiversity enhancing practices. Farmers attributed their motivation to their desire to preserve or maintain water resources, improve soil quality, and limit their impact on the environment.
2. **Economic motivation:** Some farmers also said they are driven to adopt new practices by economic factors, such as profitability, costs savings, financial returns, and market trends.
3. **Financial considerations in decision-making:** The most common decision-making factor that farmers said they consider when choosing whether to adopt biodiversity measures are financial factors. Farmers said they consider the implementation expenses, cost savings, and economic feasibility of practices.
4. **Range of decision-making criteria:** Some farmers also said that their decisions are influenced by the impact of these practices on the environment, potential to improve and maintain farm productivity, and ability to increase efficiency.

Neighboring Farmers

1. **Open to sharing experiences:** All farmers said that they share their experiences with biodiversity enhancing practices with neighboring farmers.

2. **Positive reception of experiences and similar views:** Many farmers indicated that when they share their experiences with neighbors, it is well received. Additionally, over half of the farmers said they believe neighboring farmers hold views of biodiversity that are similar to their own.
3. **Mixed responses and views:** Some farmers said they receive both positive and negative responses from their neighbors when they share their experiences. Additionally, their neighbors' views on biodiversity vary; some neighbors hold views similar to their own, while others do not.

Suggestions for Increasing Regional Support for Biodiversity

1. **Disseminate positive information:** Some farmers said they believe that regional support for biodiversity could be strengthened by widespread sharing of best practices and accounts of positive results achieved through biodiversity measures.
2. **Seek greater knowledge and guidance:** A few farmers said that further research is needed on biodiversity enhancing practices. Other farmers suggested encouraging local and farmer input to support the development of biodiversity initiatives.
3. **Increase financial assistance:** Some farmers said that regional support could be gained by offering more financial aid and incentives for adopting biodiversity enhancing practices.

Experience with Policies and Programs

1. **Range of experiences:** Most interviewed farmers said they have experience with biodiversity enhancing policies and programs. Less than half of the farmers said they did not have any experience with biodiversity policies and programs. Many farmers said they have accessed resources through participation in Brazil's Low Carbon in Agriculture Plan (ABC) or the ABC plus plan. Several farmers said they have experience with the Round Table on Responsible Soy (RTRS) or Soja Plus, which are private initiatives to strengthen conservation efforts as a means to comply with the Forest Code. A couple of farmers said they have received financing for irrigation or Rabobank financing.
2. **Various influences drive participation:** Farmers said they were convinced to participate in biodiversity enhancing policies and programs by either their own personal curiosity, consultants, the Bank of Brazil, capital demand, or neighbors.
3. **Conflicting views of decision-making freedom:** When farmers were asked whether they felt they have the freedom to decide on which preservation practices to adopt and how to implement them, 10 farmers said they do not have freedom and it is required by law or regulation. Farmers believe that these laws and regulations are restrictive. However, 7 farmers said they feel they do have freedom and are able to choose which practices to adopt.
4. **Financial considerations:** Most farmers said that economic factors are the most important consideration for them when deciding whether to participate in a policy or program. Farmers discussed capital demand, market pressure, payments for environmental services, interest rates, initial investment costs, availability of financial assistance, and reduced interest rates and costs.

5. **Increase financial support:** Most farmers said that more financial assistance or incentives should be offered for participation in policies and programs that support biodiversity. Farmers said that the benefits received are marginal, payments for environmental services are not yet a reality, and that resources from the government programs often arrive late. Farmers suggested that incentives could come in the form of additional lines of credit, attractive interest rates, and market rewards.
6. **Greater promotion:** Several farmers said they would like to see greater disclosure, articulation, and publicizing of biodiversity enhancing policies and programs.
7. **Improve governance:** Many farmers said that they would like to see changes in governance of policies and programs. Farmers said there is a confusion between programs, a need to understand specifics of each location rather than generalizing for the entire region, a lack of in-depth explanations available or monitoring conducted, and bureaucracy issues.

Aspirations

1. **Desired farms:** Farmers were asked to share their vision of their ideal property, and they offered a variety of answers. One of the most popular visions was a farm that improved financially through either lowered costs, increased profits, or better meeting market demand. Some farmers also said they would like to incorporate new technology, such as Integrated Crop-Livestock-Forestry Systems.
2. **Financial challenges to achieving ideal farms in the future:** Farmers were asked to share the obstacles they thought would prevent or delay their ability to achieve their desired farm. One of the most common issues discussed by farmers was financial barriers such as maintenance costs, price of inputs, inflation, difficulty accessing a line of credit, and challenges within the market for smaller production farms competing with multinational monopolies.
3. **Governance challenges to achieving ideal farms in the future:** Many farmers also said they feel that obstacles created by the government will impact their ability to achieve their desired. Farmers discussed existing laws potentially challenging technological development in agriculture, bureaucracy, lack of government incentives, unclear laws, and politicians creating uncertainty.
4. **Success measured through favorable finances and production outcomes:** Farmers shared the criteria they would use to measure the success of their farms in the future. The most popular responses were financial factors and the ability to maintain or improve current levels of productivity. Financial success includes reduced production costs, improved market visibility, receiving greater financial assistance, and increased profits.

Conclusion

Farmers value the advantages that biodiversity enhancing practices create for their farms and management operations. The benefits of biodiversity that farmers discussed most were cost savings, improved soil health, and reduced soil erosion. Many farmers believe that the costs and risks of using biodiversity enhancing practices are minimal. However, a couple of farmers discussed their concerns about the unknown outcomes of introducing new practices. Although many farmers participate in policies and programs that enhance biodiversity, improvements are necessary to better support participation and

farmers' needs. Farmers emphasized that larger financial incentives should be offered to increase participation in policies and programs and expand regional support for biodiversity.

Financial considerations remained a consistent theme throughout interviews. When farmers shared the decision-making criteria that are most important to them when considering whether to adopt a practice, financial impact was most commonly discussed. Additionally, several farmers expressed that they would measure the future success of their farms by financial outcomes. Overall, farmers appear to be generally receptive to using biodiversity enhancing practices as long as they are financially viable.

ABOUT THE AUTHORS

Adina Kuncz was a research intern at the International Food Policy Research Institute (IFPRI), Washington, DC, and graduate student at Duke University at the time this study was written; Ana Paul Cervi Ferez is an independent researcher; Adelaine Cézar is a consultant at the International Institute for Sustainability; Pedro Brancalion is a professor of Tropical Forestry at the University of São Paulo; and Wei Zhang is a senior research fellow at IFPRI, Washington, DC.

ACKNOWLEDGMENTS

The authors acknowledge the financial support for this project from Bayer. This work was produced as part of the Enhancing Biodiversity and Resilience in Crop Production project led by the International Food Policy Research Institute (IFPRI) in partnership with ETH Zurich. The full project report is available [here](#). We are grateful to all the farmers who have shared their time with us during the interviews to make this project possible.

Funding for this work was provided by Bayer and was produced in collaboration with ETH Zurich and IFPRI. This publication has been prepared as an output of the Enhancing Biodiversity and Resilience in Crop Production project and has not been independently peer reviewed. Any opinions expressed here belong to the authors and are not necessarily representative of or endorsed by IFPRI.

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE

A world free of hunger and malnutrition

IFPRI is a CGIAR Research Center

1201 Eye Street, NW, Washington, DC 20005 USA | T. +1-202-862-5600 | F. +1-202-862-5606 | Email: ifpri@cgiar.org | www.ifpri.org | www.ifpri.info

© 2022 International Food Policy Research Institute (IFPRI). This publication is licensed for use under a Creative Commons Attribution 4.0 International License (CC BY 4.0). To view this license, visit <https://creativecommons.org/licenses/by/4.0>.