PROJECT NOTE OCTOBER 2022

Biodiversity and Resilience Interventions

Analysis of Interviews with Farmers in the United States

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This note summarizes the results of in-person interviews with 16 US farmers in Iowa and Illinois to identify the motivations and challenges that impact farmers' adoption of practices that improve biodiversity.[1] The respondents—mostly considered relatively progressive farmers—were identified through the Illinois Soil and Water Conservation District and the farmer network of the team leader based at Iowa State University, and thus were not representative. These interviews are 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

During our interviews with US farmers in Iowa and Illinois, we found that farmers generally understand biodiversity and most recognize the potential benefits that can be gained from it. However, farmers are concerned about the costs of biodiversity enhancing practices, and this impacts their decisions and ability to implement such practices. In the interviews, farmers discussed their experiences with biodiversity enhancing practices, perceived benefits of biodiversity, perspectives of neighbors, biodiversity policies and programs, and personal aspirations.

Biodiversity Knowledge & Experience

1. **Variety and coexistence:** Farmers defined biodiversity as various forms of life, such as animals, insects, plants, and microorganisms, existing together in one area.

2. **Ability to produce benefits:** Many farmers acknowledged that biodiversity provides various advantages for their land. The benefit of biodiversity that was discussed most was improved soil health. Several farmers also mentioned that biodiversity can reduce soil erosion, improve water quality, decrease harmful runoff into nearby water sources, and increase financial effectiveness.

[1] For additional details about the project note, please refer to the full project report or contact: Michael Castellano, castelmj@iastate.edu; Wei Zhang, w.zhang@cgiar.org

3. **Popular practices:** Cover crops were the biodiversity measure that was most commonly discussed. Almost all interviewed farmers have cover crops and nearly a third said they would like to have more on their farms in the future. No-till farming, crop rotations, and buffer strips are also practices that farmers commonly use.

Limitations & Considerations When Adopting New Practices

1. **Cost challenges:** All farmers discussed how costs limited their ability to introduce or expand practices that improve biodiversity. Many practices require farmers to purchase additional equipment, seeds, and labor. A couple of farmers also mentioned how the uncertainty of weather and the market could further exacerbate cost burdens.

2. **Concerns about unknown outcomes:** Some farmers fear that implementing biodiversity enhancing practices will weaken weed or pest control and result in a lower crop yield. Farmers are also concerned that if they introduce biodiversity enhancing practices, new and unforeseen issues may arise that they won't be able to address.

Addressing Challenges

1. **Provide assurance:** Some farmers noted that it is important for them to know the long-term outcomes of biodiversity enhancing and conservation practices to ensure that the investment costs are worthwhile. Cost concerns could potentially be mitigated by providing farmers with evidence of the benefits and nondetrimental outcomes of biodiversity enhancing practices. Additionally, several farmers said that it would be beneficial to spread awareness and educate farmers about the advantages of biodiversity.

2. **Motivate change with monetary support:** Offering financial incentives to farmers who adopt biodiversity enhancing practices could also help address concerns about costs. Farmers believe regional support for biodiversity could be improved through increased government financial assistance to alleviate the costs of biodiversity enhancing practices and incentivize adoption.

Neighboring Farmers' Perspectives & Adoption Willingness

1. **Hold different views:** Most farmers interviewed said they are willing to share their experiences with practices that improve biodiversity with neighboring farmers. However, many farmers said their neighbors' views on biodiversity differ from their own and that most neighbors are unwilling to adopt biodiversity enhancing practices.

2. **Unwilling to adopt new practices:** Farmers shared a variety of reasons for neighbors' unwillingness to adopt biodiversity enhancing practices, such as a desire to continue current practices that they are comfortable with, short-term rent leases limiting their prioritization of long-term conservation practices, and the uncertainty of the practices' outcomes.

3. **Initial interest quickly dissipates:** Some farmers said that their neighbors initially seemed interested in learning about the practices but quickly become frustrated or impatient while attempting to implement them because they do not fully understand the required management style or receive immediate benefits.

Experience with Conservation Policies & Programs

1. **High program participation:** Nearly all farmers interviewed said they currently participate in conservation policies and programs or were previously enrolled in them. The program with the highest participation of interviewed farmers is the Conservation Reservation Program. Some farmers also noted their experiences with the Conservation Reserve Enhancement Program and the Conservation Stewardship Program.

2. **Maintain freedom in decision-making:** A majority of interviewed farmers feel they have freedom to decide on the practices they adopt when participating in conservation policies and programs. A few farmers noted that this freedom exists because the programs are all voluntary. However, a small number of farmers said they do not have freedom, because programs have strict qualification requirements related to carbon markets and the principle of additionality, and some are ineligible to participate. Two of these farmers believe they lack decision-making freedom because policies and programs are designed at the national level rather than at the local level, or without sufficient public research.

3. **Decisions are motivated by finances:** Nearly half of the farmers said their decision to adopt conservation policies and programs is influenced by financial factors. Farmers stated that they need to know that a policy or program results in financial gains before choosing to participate. Farmers also said that they consider incentives, payments, costs, crop yields, and ability to predict the impact of conservation practices on finances when making an adoption decision.

4. **Most desired change is increased financial support:** Farmers were asked if they would like to see any changes in current conservation policies and programs. The most frequent response was an increase in financial support. Most farmers said that additional or greater incentives need to be provided to those who participate in conservation policies and programs. Some farmers also felt that government financial assistance should be available for long-term practices rather than only for short-term ones.

5. **Altering policies and programs to better suit farmers:** Farmers would also like to see an increase in the availability of information on the results of policies and programs. Additionally, farmers want policy and program design to include local input. A couple of farmers noted that they would like enrollment to be made more accessible by easing restrictions or reducing required paperwork.

Aspirations

1. **Hopes for the future state of farms:** Several farmers said they hope their future farms' value and profits increase. A couple of farmers said they hope markets improve for biodiversity enhancing practices and that costs of practices lessen.

2. **Continued environmental respect and family farm management:** Some farmers said they hope their future farms are environmentally safe or maintain an appreciation for conservation, continue to attract wildlife, and are passed down within their family.

3. **Financial barriers limit farmers' ability to meet goals:** Several farmers said they believe financial limitations could challenge their ability to achieve their ideal farm in the future.

Conclusion

Most interviewed farmers currently use biodiversity enhancing measures and understand their advantages. However, the costs of these practices and unknown potential impacts on crop yields and profits remain a significant concern for many farmers. This concern may impact farmers' use or expansion of biodiversity enhancing practices. Many farmers highlighted a need to increase financial support to assist with the costs of required labor and equipment. Farmers also shared that they want greater government incentives offered to participants in conservation policies and programs. Many farmers indicated that financial outcomes and reduced production costs are the most important considerations for them in their farm management decision-making. Farmers expressed that it would be beneficial to receive information that assures them that biodiversity enhancing practices do not result in extraordinary economic losses. Some farmers also said that it would be helpful to spread awareness of these practices in general. These suggestions can be taken up by expanding research and education on the subject.

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; Michael Castellano is a professor in the Department of Agronomy at Iowa State University; 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 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.

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