LESSON LEARNED The importance of considering gender to maintain and enhance soil health

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To enhance soil quality, we must consider who the soil managers are. This lesson discusses gender barriers, paradigms that should be shifted in agricultural development programs, and attention points for decision makers at policy levels.

Important Details

time (or time period)	-
country & region	Global, Sub-Saharan Africa, South Asia
context & agro-eco landscape type	smallholder farms
key actors, stakeholders & beneficiaries	women and men farmers, researchers, development communities, policy makers
model and/or tools used	Literature review

Description & takeaways

Soil health is vital to the sustainability of agricultural practices, preservation of various ecosystem services, as well as mitigating climate change through carbon sequestration. However, large swaths of the world's land remain in poor condition and heavily degraded, particularly in sub-Saharan Africa and South Asia. To protect the soils, it is crucial to analyze soil management practices. This entails that we must consider who the soil managers are, what guides their actions, and what resources they have to work with. Management choices involve trade-offs—for example, diverting the use of cow dung as a natural fertilizer away from use as household fuel might lead to greater demand for firewood, adding pressure on forests. Gender can intensify these trade-offs and related opportunity costs, as women face certain gender norms and limitations on their assets that influence the choices they make. Addressing the structural constraints women face in adopting soil management practices is likely to create co-benefits, synergies, for women empowerment and gender equality, as well as the adoption of other sustainable agricultural practices.

Better soil health provides an array of benefits to producers and to society, with the potential to significantly improve women's crop productivity, resilience, and farm income. There are however still gender barriers to implementation of sustainable soil management. These include:

- **Time poverty:** women may struggle to adopt initiatives that are highly time-intensive given their other household/domestic obligations
- **Lack of information:** extension services are not always informing men and women equally; information could be communicated solely to men also when it concerns tasks that are the responsibility of the women.

- **Failure to consider gender preferences:** projects may unintentionally promote plants that align more with men's control and preferences (e.g. trees for timber) as opposed to women's preferences (e.g. fruit trees)
- **Lack of access to capital and land tenure:** women often grapple with unequal access to credit and capital. This constitutes a gendered obstacle for initiatives that require financial inputs

Agricultural development programs can actively enhance gender-equality and facilitate the adoption of technologies and practices that improve the condition of soils by shifting paradigms and acknowledging differences by raised awareness regarding the following points:

- **Changing units of analysis:** Projects and policies often target households as the unit or beneficiary. But this is not sufficient for many agricultural practices. Men and women often share decision-making for some household plots, while also managing some plots separately. This spectrum of joint to separate decision-making should be considered in research and in the design of projects and policies for soil health.
- **Addressing gender differences in knowledge, perception, and practices:** Knowledge about soil health, perceptions of soils and ecosystems, and preferences around management practices often vary by gender. For example, an experiment in Indonesia using a role playing game around land use found that women were more likely than men to seek immediate benefits (e.g., financial rewards from converting current land uses to monoculture systems) over long-term returns from ecosystem services (e.g. carbon sequestration). If women are to be fully included as partners in soil health efforts, such differences must be better understood and accounted for in projects and policies. Extension and education efforts in particular must consider women's goals and preferences.
- **Addressing demographic changes and underlying conditions:** Demographic changes (such as male out-migration) are transforming gender norms in agriculture, and considerations like women's access to and control over land, time poverty, and unequal access to information can determine the success or failure of soil health programs. Studying these—as well as underlying gender inequities—is crucial to devising approaches to improve soil health
- **Considering intersectionality:** different aspects of one's identity can compound struggles. For example, women in male-headed households face different obstacles than women heads of households. These nuances are important to capture to ensure holistic analysis and effective policy implementation.

In addition to gender awareness in agricultural development programs, gender analysis could contribute to more attention for equity and equality in decision making at policy level. Suggestions for mainstreaming gender analysis include:

- Consistent, systematic collection of gender-disaggregated data
- Formulating policies that take into consideration time-demands of women, knowledge available to them, and financial access afforded to them
- Implementing multi-pronged approaches where promotion of the adoption of sustainable soil management for healthy soil is done simultaneously while working to uplift social and institutional barriers women face (in agricultural contexts and otherwise).

Key terms

- **Gender equality -** this refers to the state in which access to rights and/or opportunities is equal for all genders. This includes rights to and opportunities for economic participation, decision-making spaces, etc.
- **Intersectionality -** this refers to how a person's multiple identities interact with one another, and with marginalizing or empowering structures around them
- **Soil health -** this refers to the condition of soil in a specific place, determining its ability to function as an ecosystem and sustain plants/animals/humans, and enhance or maintain air and water quality. Sustainable soil management is essential to ensure soil health for future generations.
- **Soil productivity -** this refers to the soil's capacity to sustain a specified set of plants under a specific management system. These specific parameters are important since no soil can produce optimal yields for all crops
- **Sustainable land management (SLM) -** this refers to the use of resources such as soil, water, animals, plants, etc. to meet current human needs while simultaneously 1) maintaining these resources' environmental functions, and 2) preserving their productive capacities so as not to jeopardize future generations' ability to meet their needs

Key references

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