



The Environment for Development initiative is a capacity building program in environmental economics focused on international research collaboration, policy advice, and academic training. It consists of centers in Central America, Chile, China, Colombia, Ethiopia, Ghana, India, Kenya, Nigeria, South Africa, Sweden (University of Gothenburg), Tanzania, Vietnam, Uganda, and the US (Resources for the Future). Financial support is provided by the Swedish International Development Cooperation Agency (Sida).

RESEARCH BRIEF

Farmers Prefer Post-Harvest Grazing Restrictions but Demand Policy Incentives to Increase Forage Production.

BY HAILEMARIAM TEKLEWOLD, ALEMU MEKONNEN,
TAGEL GEBREHIWOT, AND MINTEWAB BEZABIH
RESEARCH BRIEF 19-16, FEBRUARY 2020

While livestock is an integral component of the mixed crop-livestock farming system in Ethiopia, there is competition between crops and livestock for the limited feed resources. The residue after harvest is one source of livestock feed but has other potential uses, including leaving it on the field to conserve soil and water and reduce weeds. The current practice is open access grazing, in which any farmer's livestock can eat the residue left on another farmer's fields. This study investigated farmers' preferences for open access post-harvest grazing on private lands and the value they place on incentives that the government might provide for them to produce their own forage, in order to feed their own livestock on their own property. We found that a majority of the farmers surveyed would prefer a change from the open-access status quo to two-way grazing restrictions, where a farmer may exclude others from grazing on their parcel, but then cannot freely graze their livestock on others' parcels. The result supports the need for multiple policy incentives for smallholder forage production systems, such as cash subsidy for labor, distribution of subsidized seed, and subsidized insurance coverage.

In Ethiopia, with the expansion of cultivated land and resultant decline in grazing resources, crop residues are becoming an increasingly important component of livestock feeds. This brings a conflict between cultivation and grazing, where cultivated lands after harvest are considered as grazing lands without access restrictions. As a result, livestock graze largely on crop residues on private cultivated fields after harvest, in the dry season. This access is primarily communal. The practice of letting livestock search for edible crop residues on farm plots is often referred to as post-harvest grazing. The traditional practices that allow open access to grazing on private agricultural lands are challenging for agricultural development, since investment in agricultural practices (such as conservation agriculture) cannot flourish. Despite the general recognition of trade-offs and competition for scarce crop residues between crop and livestock production, little is known about farmers' perceptions.

One goal of this study is to formulate policies and strategies that will allow farmers to keep residue on their fields as part of conservation agriculture. We examine the value that farmers place on incentives such as cash subsidy for labor, provision of subsidized insurance, and subsidized

Key Points

- Farmers in Ethiopia traditionally allow their livestock to graze on crop residue after the harvest.
- Most farmers surveyed would like to change this "open access" post-harvest grazing system.
- This would give them the option of leaving crop residue on the field to conserve soil and moisture.
- To feed their own livestock, most farmers would value potential government help to boost production of livestock feed crops.

RESEARCH BRIEF

Farmers Prefer Post-Harvest Grazing Restrictions but Demand Policy Incentives to Increase Forage Production

improved forage seeds. We asked farmers to choose between hypothetical forage production alternatives to estimate the value of the attributes outside the farmers' current set of experiences. These address the interest of policy makers as well as other stakeholders who are concerned about the adoption and diffusion of conservation agriculture, which is considered as one of the key climate change adaptation practices in Ethiopia's climate resilient green economy strategy.

This brief is based on data from the farm household survey conducted in the Ethiopian Nile Basin area in 2017. The area survey covered about two-thirds of the country's land mass, representing different agro-ecological settings. The respondents registered their perceptions for variants of post-harvest grazing options: reciprocal grazing, two-way grazing restrictions, free riding (they would keep other farmers off their land but let their livestock graze on others' land) and altruistic opportunities (they would let other farmers' livestock graze on their land but not allow their own animals to graze on other farmers' land). In spite of the notable variations in response patterns across the different options, overall, the response pattern indicates that 81% of farmers support options contrary to the current practice. Surprisingly, a majority of the farmers (about 71%) show a preference for two-way grazing restrictions, where, if someone restricts their parcel, they may exclude others from grazing on it, but that individual cannot freely graze their livestock on others' parcels.



Cattle grazing in Gambella region, Ethiopia (Photo credit: ILC Rangelands Initiative)

The results also show that the average farmers are willing to substitute a larger portion of their gross returns from forage (about 17%) for a higher level of subsidized improved forage seed distribution and subsidized insurance coverage and are willing to substitute 8% of their profit to get a higher level of subsidy for hiring labor for forage production. Those farmers who prefer reciprocal grazing and those who prefer grazing restrictions say they would derive the same

RESEARCH BRIEF

Farmers Prefer Post-Harvest Grazing Restrictions but Demand Policy Incentives to Increase Forage Production

benefit from a hypothetical cash subsidy for hiring labor. These groups of farmers, those who prefer reciprocal grazing access and those who prefer post-harvest grazing restrictions, place the highest value on subsidized insurance compared with other choices. However, compared to those farmers who prefer reciprocal grazing access, those farmers who prefer grazing restriction would need to derive the most value from subsidized insurance coverage. Free rider and altruistic farmers are the least reluctant farmers to adopt the proposed changes. Thus, the results of this choice experiment support the assumption that, in general, forage production system incentives would provide private benefits to the farm households of the study areas.

Conclusion: The Need for Multiple Policy Incentives

The study concludes with the need for multiple policy incentives for smallholder forage production systems, such as cash subsidy for labor, distribution of subsidized seed, and subsidized insurance coverage. Especially, distribution of subsidized improved seed and partial insurance coverage provide more benefits to the farm households. These findings have implications for the current policy of promoting adoption and diffusion of conservation agriculture in Ethiopia, which is a cornerstone of the country's climate resilient green economy strategies.

ABOUT THIS BRIEF

This brief is based on "Farmers' preferences for post-harvest grazing access on private agricultural lands in the mixed farming system of Ethiopia," EfD Discussion Paper Series 19-16, by Hailemariam Teklewold, Alemu Mekonnen, Tagel Gebrehiwot, and Mintewab Bezabih

CONTACT

Dr. Hailemariam Teklewold, hamtekbel@yahoo.com, Environment and Climate Research Center (ECRC), Policy StudiesInstitute (PSI), Addis Ababa, Ethiopia

Environment for Development Initiative, www.efdinitiative.org, info@efdinitiative.org, University of Gothenburg, Sweden