

## Enhancing Equitable Technology Access for Socially and Economically Constrained Farmers: Experience from Gununo Watershed, Ethiopia

**Local negotiations, by-law reforms and in-kind credit can go a long way in overcoming gender and wealth biases in agricultural extension, and enhance farmer-to-farmer dissemination of technologies.**

Seed supply systems are critical in ensuring food security in Africa. A viable agricultural development process rests on an efficient seed supply system. Demand for income-generating technologies in rural communities of eastern Africa is high, independent of internal socio-economic differences. Yet some groups have been historically disadvantaged due to their limited ability to invest in costly technologies and related inputs, low resource endowments, and social biases exhibited by communities themselves and by approaches used by agricultural extension agencies. During focus group discussions with male and female farmers in Areka, southern Ethiopia, biases in benefits derived by formal research and development agencies were identified (Table 1). In addition to identifying equitable technology access as a priority in Gununo, such biases were found to be widespread throughout many AHI benchmark sites. This was therefore a priority



Plate 1. Female head of household signing off on newly received improved seed

cesses for seed access in Areka (i.e., limited ability of the poor and women to repay loans). State-run and private sector seed systems have hindered technology access by some sectors of society. To make technology access equitable and sustainable, systems for seed multiplication and distribution should be developed with the involvement of farmers, ensuring equitable participation by wealth and gender.

**Table 1. Formal institutions with perceived *unequal* benefits to local residents in Gununo Watershed**

TYPE OF CA	AREKA
Agricultural Research	Benefits few farmers who have enough land and labor.
Agricultural Extension	Benefits farmers with a lot of land and labor; male farmers.
Cooperatives	Poorest farmers who cannot invest benefit least.

topic for action-based research at both site and regional levels.

Experiences suggest that the formal seed sector rarely considers women and poorer households in dissemination of improved seed, as evidenced by erroneous assumptions that influence farmer selection pro-

### Strategy for Enhancing Equitable Technology Access in Gununo

To put in place equitable systems for local seed multiplication and farmer-to-farmer dissemination, local by-laws were seen by the community as a necessary pre-condition. Box 1 illustrates the key steps followed in

## Box 1. Steps followed in enhancing equitable technology access in Gununo

- Community meetings at village level to identify and prioritize local problems and suggest possible solutions
- Review and approval of proposed solutions at watershed level
- Formation of Farmers Research Groups (FRGs) through village meetings, with the number of FRGs varying according to the area to be covered
- Formulation of draft by-laws through focus group discussions with representative farmers (by wealth and gender)
- Validation of draft by-laws at watershed level (Plate 1)
- Authentication of agreed upon by-laws through governmental administrative structures (PAs)
- Participatory evaluation of crop varieties by FRGs for subsequent dissemination of proven technologies and acquired experience
- Distribute starter seed for proven varieties to selected farmers within and outside the FRG following the established by-laws. These farmers are required to repay their credit in seed, which is in turn transferred to the next selected farmers until the desired coverage is achieved.
- Follow-up by FRG leaders to by-law implementation, including reporting of accused parties to the local administration and ensuring seed authenticity
- Monitoring and evaluation with FRG leaders, FRG members, and other male and female watershed residents at various stages

negotiating equitable rules for technology access and their endorsement as formal by-laws in Gununo Watershed.

### Lessons

Technology dissemination through negotiation support, by-law establishment and in-kind credit, gave better results in terms of equitable access (Table 1) and repayment performance relative to the formal credit service. The repayment rate has been substantially improved (from 43% to 97% for wheat, and 100% for newly introduced taro), with variations in performance depending on the type and productivity of crops. The success was mainly due to by-laws which were formulated by male and female farmers and backed by local government units. Moreover, those technologies that are applicable and widely accepted by

the farming community have played a great role in improving credit repayment performance. It is therefore important to involve both farmers and local government in efforts to enhance equitable technology access and sustain farmer-to-farmer transfer of seed.

To conclude, efforts to counter the gender and wealth bias in agricultural extension in the region are sorely needed. Experiences from Gununo Watershed suggest that local negotiations involving diverse local interest groups, participatory by-law reforms to establish and enforce rules for equitable access, and in-kind credit are important elements to extension reforms.

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**Table 1. Farmers' perceptions of the equitability and benefits of the AH1/HARC approach as an alternative to the approach of the formal extension service by village in Gununo Watershed (%<sup>1</sup>)**

Indicator	Formal Extension Service						AH1 / AARC <sup>2</sup>					
	V1 <sup>3</sup>	V2	V3	V4	V5	Ave.	V1	V2	V3	V4	V5	Ave.
Equitable access by women farmers	15	20	15	0	17	13.4	85	80	85	100	83	86.6
Equitable access by poor farmers	20	26	25	40	22	26.6	80	74	75	60	78	73.4
Form of credit	0	26	34	20	8	17.6	100	74	66	80	92	82.4
Awareness of technology prior to wider dissemination	20	0	0	20	32	14.4	80	100	100	80	68	85.6
Quality and frequency of technical support	10	26	25	20	37	23.6	90	74	75	80	63	76.4

<sup>1</sup> Results were derived from group-based matrix ranking of the two approaches, with fifty seeds divided among the two approaches for each indicator (with more seeds representing better performance).

<sup>2</sup> AARC stands for the Areka Agricultural Research Centre; the AH1/AARC approach included negotiation support to agree on mechanisms and rules for equitable access; participatory by-law reforms to support local agreements; and in-kind credit.

<sup>3</sup> Villages (V1=Chare, V2=Ofa, V3=Laybusha, V4=Gegecho, V5=Tachbusha).



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