

Research Application Summary

University community linkage: selection and piloting of agro-innovation enterprise clusters to enhance income of households in rural areas of Tigray region, northern Ethiopia

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Abstract

This study was designed to select and pilot agro-innovation clusters in the mandate areas of Mekelle University, namely Enderta, Raya Azebo and Wukro kiltewlaelo. Farmers at the grass root level and stakeholders at different levels identified a criteria for the selection of agro-innovation enterprise clusters. These are: 1) profitability, 2) potential for growth (affected by input or product supply), 3) job creation specially for youth and women, 4) potential for value chain development, 5) sustainability, 6) demand or social acceptance, and 7) policy support. The relative importance of the criteria was also determined qualitatively. The potential and most feasible enterprises were selected using the seven criteria and ranked based on the scores given by the farmers. In the process, each of the enterprises were assigned a score between 1 and 5 where the highest score meant that the enterprise was the best in terms of the criterion (e.g. profitability), and the lowest score mean that the enterprise hardly fulfilled the criterion. The commodity with the highest weighted score was ranked 1, the second highest ranked, 2 and so on. Among the ranked enterprises, agricultural commodities that involve demand, sustainability and profitability were selected. Finally, the enterprises selected for agro-innovation enterprise clusters piloting were Cabbage for Enderta district and Tomato for both Wukro kiltewlaelo and Raya Azebo districts. The participatory selection of enterprise is of paramount importance to enhance the income of the rural households in the region. The University-community linkage could be sustained by using this opportunity as a tool to strengthen mutual benefit of University and local community in the study sites. The study sites should be used as potential pilot sites for outreach programmes or students attachment for outreach and experiemental learning. Hence, this would be a good way of sharing experience and strengthening unversity - community engagment to catalyse rural transformation.

Key words: Agro-innovation clusters, Mekelle University, university outreach

Résumé

Cette étude a été conçue pour sélectionner et piloter des groupes d'agro-innovation dans les domaines de compétence de l'Université de Mekelle, à savoir Enderta, Raya Azebo et Wukrokiltewlaelo. Les agriculteurs au niveau de base et les parties prenantes à différents niveaux ont défini des critères pour la sélection des groupes d'entreprises agro-innovantes. Il s'agit de : 1) la rentabilité, 2) le potentiel de croissance (affecté par l'apport ou l'offre des produits), 3) la création d'emplois spécialement pour les jeunes et les femmes, 4) le potentiel de développement de la chaîne de valeur, 5) la durabilité, 6) la demande ou l'acceptation sociale, ainsi que 7) l'appui aux politiques. L'importance relative des critères a également été déterminée qualitativement. Les entreprises potentielles et les plus faisables ont été sélectionnées en utilisant les sept critères et classées en fonction des scores donnés par les agriculteurs. Dans le processus, chacune des entreprises a reçu un score entre 1 et 5, où le score le plus élevé signifiait que l'entreprise était la meilleure en termes de critère (par exemple, la rentabilité), et le score le plus bas signifiait que l'entreprise ne remplissait guère le critère. Le produit ayant le score le plus élevé a été classé 1, le deuxième plus élevé, 2 et ainsi de suite. Parmi les entreprises classées, on a sélectionné les produits agricoles qui impliquent la demande, la durabilité et la rentabilité. Enfin, les entreprises sélectionnées pour le pilotage des groupes d'initiative en agro-innovation étaient celles du « chou » pour le district d'Enderta et de la « tomate » pour les districts de Wukrokiltewlaelo et Raya Azebo. La sélection participative de la sélection des entreprises est d'une importance primordiale pour améliorer le revenu des ménages ruraux dans la région. Le lien entre la communauté universitaire sera soutenu en utilisant cette opportunité comme un outil pour renforcer les avantages mutuels de la communauté universitaire et la communauté locale dans les sites d'étude. Les sites d'étude devraient être utilisés comme des sites pilotes potentiels pour les programmes de sensibilisation ou l'implication des étudiants pour la sensibilisation et l'apprentissage expérimental. Par conséquent, ceci serait un bon moyen de partager l'expérience et de renforcer l'engagement entre l'université et la communauté afin de catalyser la transformation rurale.

Mots clés: groupes d'agro-innovation, Université de Mekelle, approche universitaire

Background and Literature Summary

One of key developmental challenges in Africa today is how to harness the resident capacities in African universities to support development, especially agricultural transformation in rural areas. In response to this need, one of the themes of the ongoing action research in universities championed by the Regional Universities Forum for Capacity Building in Agriculture is to strengthen the linkage between the farming community and the Universities with win-win approach. Selection of agro-innovation clusters could serve University as demonstration sites and would additionally be used as outreach areas for students on programs in agriculture and innovation. Similarly, the

farming community would be able to get scientific methods of agricultural production. Farmers are considered as partners starting from problem identification to monitoring and evaluation. In line with this, the Ethiopian government is also focusing on the shift from subsistence agriculture to agro-innovation enterprises with emphasis on market orientation.

So far, emphasis of agricultural research has been to enhance productivity rather than linking produce with market. However, currently the importance of linking farmers to market has been recognized and is in practice by many agricultural research systems for enhancing farmer income (Sanginga *et al.*, 2004; Njuki *et al.*, 2005; Mapila *et al.*, 2011).

On the other hand, a study conducted in Uganda, Tanzania and Malawi with the theme “Enabling Rural Innovation (ERI)” revealed that smallholder farmers did not only use economic return for selecting enterprise but considered a combination of economic and non-economic criteria. The steps followed in ERI is building and managing partnership, developing community visions of desired future condition, identification of market opportunities, enterprise selection, building social capital, promoting gender equity, participatory and evaluation and its potential for scale up (Sanginga *et al.*, 2004). Lessons and experiences from this study could be used to help farmers in other areas to improve their livelihoods. This study was therefore carried out to select and pilot agro-innovation enterprise clusters to enhance income of households in rural areas of Tigray, Ethiopia and use them as potential outreach sites for agriculture students of Mekelle University.

Study description

The study was conducted in three districts, namely Enderta, Raya Azebo and Wukro kiltewlaelo of Tigray region, Ethiopia. Farm households who were engaged in production of commercial crops were interviewed to select a commodity that could be ideal in the specific study area. The selection of the ideal commodity was made based on the following criteria: profitability, growth potential, job creation (mainly for women), potential for value chain development, sustainability, demand/ acceptance, and less capital requirement. Accordingly, commodities were ranked based on the scores given by the farmers for each criteria. The scores for the criteria ranged from 1 to 5, where 5 showed that the enterprise was the best while score of 1 showed that the enterprise hardly fulfilled the criteria. Finally, the commodity or enterprise with the highest weighted score was ranked first and the least weighted score was ranked last.

Results

The summary of the rank of each enterprise/commodity is displayed in Table 1. This rank was given based on the weighted score of each criteria given for the commodities or enterprises. For instance, cabbage was ranked first in Enderta based on the highest weighted score 25 (Table 2). The same is true for tomato in Raya Azebo and Wukro kiltewlaelo (Tables 3 and 4).

Table 1: Summary of enterprises/commodities selected according to districts

No.	Enterprise/commodities	Rank		
		Enderta	Raya Azebo	Wukro kiltewlaelo
1	Shoat fattening and/or production	4	5	7
2	Poultry production	5	6	4
3	Cattle fattening / production	6	8	8
4	Diary production	6	7	6
5	Onion	4	2	4
6	Tomato	2	1*	1*
7	Cabbage	1*	4	2
8	Pepper	3	3	3

*Represents the first ranked enterprise/commodity in each of the districts

Table 2: Weighted enterprise selection in Enderta

S/N	Enterprises/Commodities	A	B	C	D	E	F	G	Total score	Rank
	Weight	4	3	3	4	5	5	3	27	Sample
1	Shoat fattening and/or production	3	2	2	3	4	4	1	19	5
2	Poultry production	3	2	1	3	2	5	1	17	5
3	Cattle fattening / production	2	3	1	3	1	2	1	13	6
4	Diary production	2	3	1	3	1	2	1	13	6
5	Onion	4	3	1	3	3	3	2	19	4
6	Tomato	4	3	2	3	4	3	2	21	1*
7	Cabbage	4	3	2	4	5	5	2	25	4
8	Pepper	4	3	2	3	3	3	2	20	3

A= profitability, B=Growth potential C=Job creation (mainly for women), D=potential for value chain development E= sustainability, F=Demand/Acceptance G=less capital requirement, * Represents the first ranked enterprise/commodity in Enderta district

Table 3: Weighted enterprise selection in Raya Azebo District

S/N	Enterprises/Commodities	A	B	C	D	E	F	G	Total score	Rank
	Weight	4	3	3	4	5	5	3	27	Sample
1	Shoat fattening and/or production	3	2	2	3	4	4	1	19	5
2	Poultry production	3	3	1	3	3	4	1	18	6
3	Cattle fattening / production	2	3	1	3	1	2	1	13	8
4	Diary production	2	3	1	4	1	2	1	14	7
5	Onion	4	3	1	3	3	5	2	21	2
6	Tomato	4	3	2	2	4	5	2	22	1*
7	Cabbage	3	3	1	3	4	3	2	18	4
8	Pepper	4	3	2	3	3	3	2	20	3

A=profitability, B=Growth potential, C=Job creation (mainly for women), D=potential for value chain development, E= sustainability, F= Demand/Acceptance G=less capital requirement, * Represents the first ranked enterprise/commodity in Raya Azebo district

Table 4: Weighted enterprise selection in Wukro kilte awlaelo District

S/N	Enterprises/ Commodities	A	B	C	D	E	F	G	Total score	Rank
	Weight	4	3	3	4	5	5	3	27	Sample
1	Shoat fattening and/or production	3	2	2	3	2	4	1	17	7
2	Poultry production	3	2	1	3	2	5	2	19	4
3	Cattle fattening / production	2	3	1	3	1	2	1	13	8
4	Diary production	2	3	3	4	1	2	1	18	6
5	Onion	4	3	1	3	3	3	2	19	4
6	Tomato	4	3	2	4	5	5	2	25	1**
7	Cabbage	4	3	2	3	4	3	2	21	2
8	Pepper	4	3	2	3	3	3	2	20	3

A= profitability, B= Growth potential, C=Job creation (mainly for women), D=potential for value chain development, E= sustainability, F= Demand/Acceptance G=less capital requirement , ** Represents the first ranked enterprise/commodity in Wukro Kilte awlaelo district

Discussion

The score given for each of the enterprise or commodity differs a lot between districts. This is because different enterprises require different criteria for their successful implementation. The criteria themselves depend on other factors that may be area specific. This implies that location specific selection criteria are important for selecting agro-innovation enterprise clusters. Participatory enterprise selection that focuses on both productivity and market linkage is the appropriate method for sustaining the livelihood of the farming community. Moreover, the University could also use this opportunity as a practical outreach program for the students in the area of Agriculture. The study is on-going.

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