

Research Application Summary

**Community/stakeholder linkages in agroforestry development: Experiences from Zimbabwe**

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**Abstract**

The need for tertiary institutions' involvement in agroforestry development is relevant now more than ever due to limited funding within the national research and extension institutions and weak community/stakeholder linkages. A study was undertaken to understand perceptions and experience of tertiary education institutions and their community linkages and to review possible models for improving the linkages. A desk study was carried out to analyse community stakeholder linkages. A case study of a communal farmer practising agroforestry technologies in Chinhamora communal area of Zimbabwe and an assessment of multistakeholder approaches in promotion of agroforestry technologies for improvement of livelihoods are presented in this paper. A qualitative research approach was adopted. The study revealed the following: age differences between the students and host farmers affected effective communication; increased diversity in opinions amongst stakeholders; and weak linkages with tertiary institutions. Recommendations proposed include review of curricula focusing on agribusiness and entrepreneurship in agroforestry training, involvement of social based institutions in the development of agroforestry, and establishment of permanent community training sites. More is expected from tertiary institutions beyond supervision of students' projects to post graduation follow ups.

Key words: Extension, multi-disciplinary skills, conservation agriculture, institutional arrangements, Zimbabwe

**Résumé**

La nécessité d'impliquer les établissements d'enseignement supérieur dans le développement de l'agroforesterie est plus que jamais importante à cause du financement limité des institutions nationales de recherche et de vulgarisation et des liens faibles entre communautés et parties prenantes. Une étude a été menée pour comprendre les perceptions et expériences des institutions d'enseignement supérieur et leurs liens avec la communauté

et examiner les modèles possibles d'amélioration des liens entre établissements. Une étude documentaire a été menée pour analyser les liens entre acteurs communautaires. Une étude de cas d'un agriculteur communal pratiquant les technologies agroforestières dans la zone communale de Chinhomora au Zimbabwe et une évaluation des approches multipartites pour la promotion des technologies agroforestières sont présentées dans ce document. Une approche de recherche qualitative a été aussi adoptée. L'étude a révélé que (i) les différences d'âge entre les étudiants et les agriculteurs des familles d'accueil ont eu un impact sur la communication; (ii) une plus grande diversité d'opinions parmi les acteurs; et (iii) des liens faibles avec les institutions tertiaires. Les recommandations proposées comprennent l'examen des programmes d'études axés sur l'agroalimentaire et l'entrepreneuriat dans les formations en agroforesterie, la participation d'institutions à vocation sociale au développement de l'agroforesterie et la création de sites de formation communautaires permanents. Il y a plus d'attente du côté des établissements d'enseignement supérieur au-delà de la supervision des projets d'étudiants.

Mots clés: Extension, compétences multidisciplinaires, agriculture de conservation, arrangements institutionnels, Zimbabwe

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## **Background**

Higher education institutions (HEIs) have an important contribution to make to agricultural led development in Africa (Cloete *et al.*, 2011). However specific roles of HEIs are often under, or even completely missing. The contribution of tertiary education to research and development of agroforestry has been a point of concern over the years. In Zambia a lot of work has been done in institutionalising agroforestry, where the focus was on improving processes for the identification of stakeholders but very little attention was paid on procedures to strengthen linkages to higher education. Much was left for individual institutions to experiment and implement. For example in an effort to improve both livestock and crop production, a number of extension service providers work with communities in Mutoko district, Mashonaland East province of Zimbabwe. Extension services are provided in a number of areas to address including food security and sustainable interventions, environmental management, and health.

In response to the many challenges faced by communities including poor livestock and crop productivity, limited funding, extension service providers from different backgrounds proposed a number of sustainable interventions in order to address the problems of food insecurity. The projects introduced in Mutoko district in Zimbabwe included agricultural input programmes, livestock restocking, moisture conservation techniques, soil erosion control, soil fertility programmes, and land rehabilitation programmes. Sustainable interventions included Conservation Agriculture (CA) and agroforestry. The Ministry of Agriculture, Mechanisation and Irrigation Development in partnership with the Food and Agriculture Organisation (FAO) and other development partners promoted conservation agriculture as one of the strategies to sustainably increase crop yields (AGRITEX, 2010). On the other hand the implementation of agroforestry technologies which received much attention in the mid 90s' has declined over the years yet the benefits from agroforestry

technologies are well documented (Kwesiga *et al.*, 2003). Agroforestry was promoted by several organisations in Mutoko including government organisations such as Department of Agricultural Technical and Extension Services (AGRITEX) and Department of Livestock and Production Department (LPD), non-governmental organisations including Plan International and Community Technology Development and Transfer Organisation (CTDTO), and parastatals such as Forestry Commission Zimbabwe and Environmental Management Agency (EMA).

A survey was carried out in 2011-2012 in Mutoko district, Mashonaland East province in Zimbabwe to evaluate the extent of implementation of agroforestry activities in the district by stakeholders. The results indicated the missing role of tertiary institutions beyond supervision of students towards strengthening of community /stakeholder linkages. The study revealed a number of factors that affect implementation of agroforestry technologies including the short term nature of projects, limited funding within national research and extension services, and lack of continued support from tertiary education. Lack of coordination and limited follow ups post graduation are issues of concern amongst other factors. This paper presents experiences from tertiary institutions and community linkages, possible models and possible suggestions for improving linkages amongst tertiary institutions, communities and other stakeholders with reference to experiences from Zimbabwe.

The objectives of this particular study was to 1) review the status of community /stakeholder linkages in agroforestry development, and examine community/stakeholder linkages with selected tertiary institutions in Zimbabwe with the view to identify effective approaches for strengthening community stakeholder linkages.

### **Methodologies and approaches**

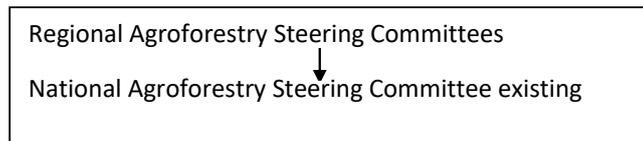
A desk study was undertaken to review experiences on stakeholder/community linkages and the role of HEIs. Project experiences from Mashonaland East Province of Zimbabwe and relevant agroforestry projects were used as case studies. Specifically, linkages between the University of Zimbabwe and communities in Chinhamora communal area of Goromonzi district as well as the multi-stakeholder implementation of agroforestry activities in Mutoko district were reviewed. The authors were personally involved in the projects and results are based on personal observations and literature review. Thematic qualitative data analysis was employed. The data collected were synthesised and grouped into main themes and sub- themes.

### **Study funding**

**Emerging issues and lessons learnt.** The study revealed that the major focus of many student theses had been on bio- physical aspects of agroforestry technologies. Emerging issues and lessons learnt are based on social issues through observations and interactions with communities and stakeholders. Figure 1 presents organisational levels for strengthening community / stakeholder linkages in the district. Although regional and national level committees functioned, there was no mechanism for coordination at provincial, district

and village levels.

Tested and implemented levels



Other recommended levels

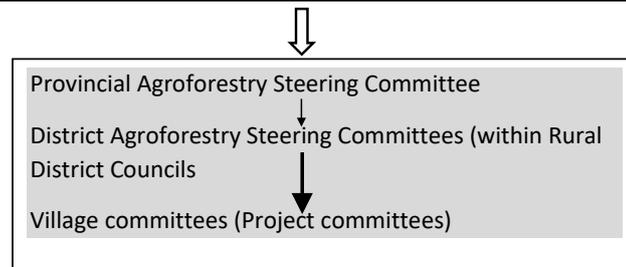


Fig 1. Organisational levels for strengthening community/stakeholder linkages

The multidisciplinary institutes that constitute the National Agroforestry Steering Committee-NASCO were drawn from tertiary institutes, NGO's, government research and extension services, amongst others. Experiences from Zimbabwe had limitations in that NASCO operated without structures at lower levels; hence the initiative was not sustainable. Once the national team stopped functioning there was no continuity at lower levels because of the missing structures at lower level.

In terms of participation were extension service providers, whilst visions and missions of different institutions were well documented there were no formal agreements at local level to harmonise the implementation of agroforestry activities. District level environmental and food security committees existed but the concepts of agroforestry were well understood by most stakeholders.

There are other issues related to inter-institutional and inter-disciplinary issues, in terms of who was responsible for agroforestry projects? Agroforestry was viewed as an isolated project with no local organisation claiming full responsibility. Theoretically agroforestry land use is linked to both agriculture and forestry and of recent the link had been extended to other disciplines including environment and health, amongst others, which was a welcome development. In terms application of agroforestry principles and concepts, the primary focus of introducing agroforestry technologies by stakeholders was found to differ from organisation to organisation posing challenges on agroforestry application within a given community. The diversity in the primary focus of introducing agroforestry amongst stakeholders working in the same community was a challenge especially on quality control and to the communities who might receive conflicting messages.

**Institutional arrangements:** Whilst AGRITEX was the major player in providing agroforestry extension services and was represented at almost all levels of service delivery, success of extension delivery depends much on the will of individual extension service provider. Introducing agroforestry committees at all levels of administration would

strengthen the existing institutional arrangements as suggested in Figure 1.

**Community /student linkages.** This was achieved through study visits to farmers practising agroforestry. One challenge faced in this initiative was the age gap between the old farmers and the students. Mr. Rusere a communal farmer from Chinhamora in Zimbabwe who has over the past 10 years hosted students from universities expressed this concern. Through his own initiative he had groomed one of his grandsons to host future students from tertiary institutions in a form of peer education in agroforestry showing casing agrosilvipastoral practices to enhance livelihoods.

**Communication amongst actors:** The main challenge of the processes was on how to carry out effective communication taking into consideration the existence of a number of actors/players. Minde in Temu *et al.* (2004) proposed the following communication process.

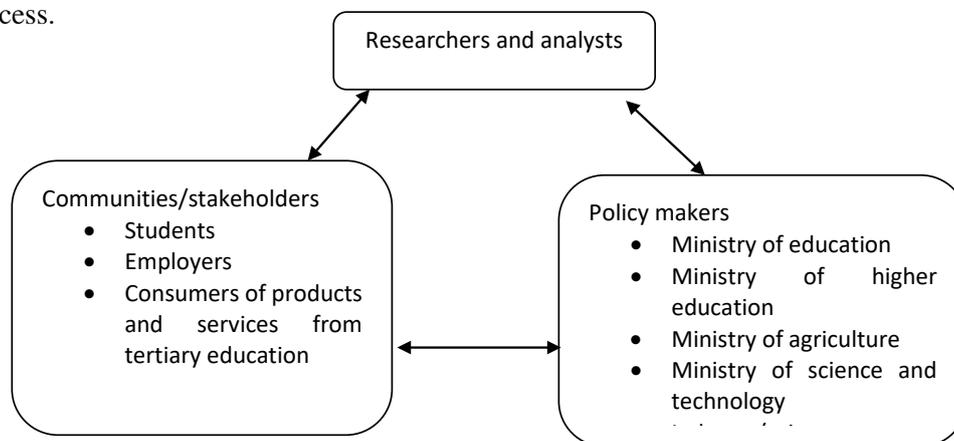


Fig 2. Process of communication among actors in the rationalisation and harmonisation of tertiary education. Adapted from (Temu *et al.*, 2004)

**Multidisciplinary approaches:** A snap short of the professional qualifications of service providers in Mutoko district of Zimbabwe indicated that they were either foresters or agriculturalists. Interactions between service providers and the communities varied depending on the mission of the service provider and approaches used for dissemination. Agroforestry concepts require integration of disciplines, of which multidisciplinary approaches and competencies are required, but were largely lacking.

### Recommendations

The demand for agroforestry technologies have increased over the years and as such tertiary educational systems have to play a key role in strengthening agroforestry use and productivity in Zimbabwe. The study recommends that;

1) Agroforestry linkages with communities is essential. At the present moment, “experiential learning” with communities by students is missing from the curricula. Chakeredza *et al.*

(2009) noted that, “Experiential learning” has been seen as the best way to prepare young graduates to enter the workforce. Institutions should make an effort to find resources to improve experiential learning components of training programmes.

2) Peer education in agroforestry is needed such as Youth farmer development programme (Temu *et al.*, 2004) which allows youth to venture into agricultural production and agribusiness and also serves to strengthen the youth and adult linkages. This can be facilitated through field tours whereby youth from tertiary institutions visit communities.

3) Value addition in agroforestry: This is very rare in agroforestry extension mostly because of lack of knowledge. Tertiary institutions can breach the gap by introducing subjects on entrepreneurship in their curricula and highlight business opportunities in agroforestry. According to Njoroge *et al.* (2004) opportunities for agroforestry business development exist in selling fodder or biomass from agroforestry species. They also noted that the major shortcomings in Kenya were due to lack of sufficient species of agroforestry trees in land use systems and this can be exacerbated in other countries like Zimbabwe where there is lack of such entrepreneurship skills.

4) Research: Linkages with communities can be strengthened by setting up permanent research sites within communities. According to Mogosti *et al.* (2004) such sites serve as useful tools for teaching and extension, at the same time the initiatives serve to empower communities. Linking with farmers will enhance land accessibility for practical demonstrations. This will also involve experimental learning with and by farmers.

5) Review of existing educational curriculum and programmes: Rudebjer *et al.* (2005) acknowledged that curriculum reviews should make an effort to focus on a balance between theory and practice and feedback from employers on graduate performance should be an important input in the review process.

6) Investment in agroforestry education and dissemination: an integrated approach which takes into account the comparative advantages of each of the service providers is recommended. Generally, because of the diversity and the expectations of different communities, the institution that addresses the current community needs should be considered to be responsible for the particular agroforestry intervention.

7) Explore models to strengthen relationship between research, extension and tertiary institutions: Alternative ways must be sought to include socio-economist in the multidisciplinary committees as extension service providers. Possible solutions include:

-Corporation with ministries with a social responsibility and tertiary education institutions can be included to fill in this gap.

-Extension service providers should be equipped with cross cutting competences and skills.

-Linkages between, agroforestry (AF) department and departments that do not teach AF can enhance the development of agroforestry by encouraging them to participate and teach AF. For example AF can be incorporated into other applied sciences.

Linkages can be established between institutions to further develop AF. This can be achieved by use of guest lecturers, faculty exchange programme, sharing equipment and facilities, student exchange programmes and sharing of learning resources (Temu *et al.*, 2004).

- Flexibility to respond to the needs of both private and public sectors: Training should also consider self employment post graduation. Curriculum on agroforestry as a subject should specifically include sections on agribusiness enterprises, business management and

marketing of agroforestry products and services (Munthali in Temu *et al.*, 2004).

## Conclusion

The missing role of tertiary education institutions has negative impacts on agroforestry research and development despite the strides achieved over the years. For instance, models on linkages with communities are well articulated yet the procedures for implementing the models are not well documented. If recommendations from past research are implemented much progress in agroforestry development will be achieved. The role of tertiary education institutions in bridging the gap and strengthening community/stakeholder linkages will go a long way in improving the livelihoods of communities, particularly in an environment of limited funding currently being experienced by national research and extension services.

## Acknowledgements

The authors would like to acknowledge all agroforestry stakeholders working in the Mutoko communal area, especially AGRITEX, LPD, Plan International, CTDTO, Forestry Commission of Zimbabwe, EMA, Zimbabwe Open University, University of Zimbabwe for their input. Mr. Rusere, the farmer from Chinhamora communal area, is thanked for his input and support.

## References

- AGRITEX. 2010. Crop and livestock report. Department of Agricultural Technical and Extension Services. Harare, Zimbabwe.
- ANAFE. 2006. ANAFE (African Network for Agriculture, Agroforestry and Natural Resources education) <http://www.anafeafrica.org>
- Chakeredza, S., Temu, A.B. and Drame-Yaye, A. 2009. Agroforestry training at postgraduate level in sub-Saharan Africa: Solutions to challenges in curriculum delivery. ICRAF, Nairobi.
- Kwesiga, F., Akinnifesi, F., Mafongoya, P.L., Mcdermott, M.H. and Agumya, A. 2003. Agroforestry research and development in Southern Africa during the 1990s: review and challenges ahead. *Agroforestry Systems @ 2003*. Kluwer Academic Publishers. Netherlands.
- Minde, I. J. 2004. Towards policies on tertiary agricultural education in Africa: key challenges, opportunities and options. In: Temu, A.B., Chakeredza, S., Mogotsi, K., Muthali, D. and Mulinge, R (Eds.). *Rebuilding Africa's capacity for agricultural development: role of tertiary education*. Reviewed papers presented at ANAFE Symposium on Tertiary Agricultural Education, April 2003. Nairobi: ICRAF, Kenya.
- Mogotsi, K.K. 2004. Agroforestry practical teaching and learning facilities as models for outreach in Africa. In: Temu, A.B., Chakeredza, S., Mogotsi, K., Muthali, D. and Mulinge, R. (Eds.). *Rebuilding Africa's capacity for agricultural development: role of tertiary education*. Reviewed papers presented at ANAFE Symposium on Tertiary Agricultural Education, April 2003. Nairobi: ICRAF, Kenya.
- Munthali, D.C. 2004. Training for self-employment in agriculture: the supervised enterprise

- projects of Botswana College of agriculture. In: Temu, A.B., Chakeredza, S., Mogotsi, K., Muthali, D. and Mulinge, R. (eds). *Rebuilding Africa's capacity for agricultural development: role of tertiary education*. Reviewed papers presented at ANAFE Symposium on Tertiary Agricultural Education, April 2003. Nairobi: ICRAF, Kenya
- Njoroge, G.N. 2004. Application of the agroforestry concept integrated natural resource agribusiness. In: Temu, A.B., Chakeredza, S., Mogotsi, K., Muthali, D. and Mulinge, R. (Eds.). *Rebuilding Africa's capacity for agricultural development: role of tertiary education*. Reviewed papers presented at ANAFE Symposium on Tertiary Agricultural Education, April 2003. Nairobi: ICRAF, Kenya.
- Rudebjer, P.G., Temu, A.B. and Kung'u, J. 2005. *Developing Agroforestry Curricula: A Practical Guide for Academic Institutions in Africa and Asia*. Bogor: World Agroforestry Centre.
- Temu, A.B., Chakeredza, S., Mogotsi, K., Muthali, D. and Mulinge, R. (Eds.). 2004. *Rebuilding Africa's capacity for agricultural development: role of tertiary education*. Reviewed papers presented at ANAFE Symposium on Tertiary Agricultural Education, April 2003. Nairobi: ICRAF, Kenya.
- Zimbabwe Agroforestry Strategy. 2004 –Agroforestry National Steering Committee. NASCO.