



Papaya Policy Brief B

Policy for Equity in Malawian Agriculture 2002 - 2016

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Executive Summary

This Policy Brief summarises initial analysis of trends in agricultural intensification and district-level actors engagement with gender and generation within Ntchisi and Dedza districts, Malawi, via analysis of panel data from 2002 - 2013 and stakeholder workshops in December 2016. AFRINT data from 2002 - 2013 show that women-headed households in Malawi have lower levels of education, less land, livestock, access to adult household labour and adult equivalence scores than their married counterparts. Furthermore, they hire less labour and are less mobile (as proxied by bicycle ownership). Nevertheless, despite fewer assets and less mobility, women-headed households have shared in maize productivity improvements from 2002-2013 and have matched married households maize performance in many ways. The data shows different dynamics of intensification taking place in Dedza and Ntchisi districts. In Dedza, one village increased both area and fertilizer application leading to much greater production, yields and sales. In the other three villages production stagnated. Contrary to the national-level data, in Dedza farms managed by women showed lower production increases and lower yield increases than those managed by men (due, in part, to lower increases in available labour). Farms managed by women also increased maize sales between 2008 to 2013.

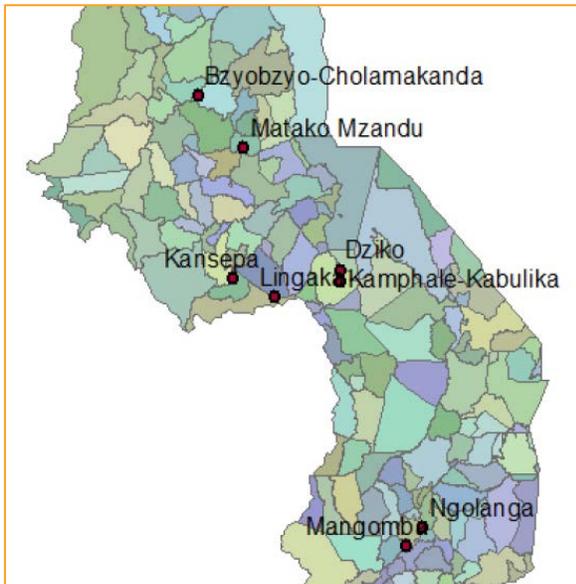
The stated goals of key policy documents, such as Vision 2020, the Malawi Growth and Development Strategies I and II and the Agricultural Sector Wide Approach (ASWAp), state that women and youth are prioritized groups, and include the aim of reaching 50% participation of women in programmes and projects. However, national evaluations of the Malawian Farm Input Subsidy Programme highlight how the poorest households, including women and youth, continue to encounter barriers in accessing subsidies. The key group of actors not integrating gender and generation into their intensification activities in Dedza are those marketing produce, such as the Agricultural Commodity Exchange (ACE) and crop traders. This is significant in that the marketing of produce is particularly problematic for women in women-headed households. District stakeholders suggested that ACE could be providing women-specific services rates, such as reduced storage fees, to encourage women's involvement in marketing of crops. In Ntchisi district agricultural trends were similar to the national level: maize area declined slightly; production increased slightly; yields increased considerably. Farms managed by women reduced the area under maize by a significantly greater amount than married households; had a slight reduction in able workers; and had a slightly lower increase in the amount of NPK applied to maize. Whilst this led to a slight reduction in maize production, productivity of women-headed households was slightly higher than that of married households. All actors in this district include an explicit gender perspective in their work and some include specific measures targeted at the youth. Participants of the district-level workshop suggested putting in place mentorship programmes and encouraging women and youth to compete for leadership positions.

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This Policy Brief is the result of an initial analysis of equity in sustainable intensification in Ntchisi and Dedza districts via analysis of panel data from 2002 - 2013 and stakeholder workshops in December 2016. Our two districts were selected based on AFRINT¹ villages using NDVI analysis to select communities demonstrating variance in environmental management.² Afrint data comprises three waves of panel data which forms the backdrop for stakeholders to investigate how to increase equity in sustainable intensification.

National Level Policy Framework and Agricultural Trends

The Malawi agricultural framework is guided by Vision 2020, the Malawi Growth and Development Strategies I and II and the Agricultural Sector Wide Approach (ASWAp). The Malawian government thus continues to provide strong support to the smallholder sub-sector. Currently, the two key implementation programmes running under ASWAp, the Farm Input Subsidy Programme (FISP) and the Green Belt Initiative, both prioritise smallholders. But although government programmes have succeeded in increasing agricultural output, analysis has shown that beneficiaries tend to be from the middle-income bracket while the poorest households are left behind due, *inter alia*, to barriers in accessing subsidies.³ In relation to maize, the main food crop in Malawi, substantial production increases over the past decade have kept pace with population growth such that production per capita has not declined.⁴

In terms of addressing gender and generational equity, women and youth are singled out in policy documents as prioritized groups, including measures such as 50% participation of women in programmes and projects, enhancing the capacity for gender analysis within agricultural institutions and explicit recognition of the importance of responding to the needs of young farmers. Women tend to be grouped together as a single category with the occasional mention of 'vulnerable' women-

¹ AFRINT See <http://www.keg.lu.se/en/research/research-projects/current-research-projects/afrint>

² See Papaya document C13: Sampling Report for more information.

³ FAO (2015), FAPDA Country Fact Sheet of Food and Agriculture Policy Trends, retrieved from <http://www.fao.org/3/a-i4491e.pdf> 2016-10-25

⁴ Prowse and Hillbom (forthcoming), *Maize and Gender in Malawi and Zambia, 2002-2013*, Oxford University Press

headed households. This fails to recognize differing roles and motivations of wives and women who live on their own (with children) such as widows.⁵

AFRINT Malawian data 2002-2013 show a considerable increase in the proportion of women-headed households in the 2013 cross section, from 27% in 2002, 25% in 2008 to 35% of households in 2013. Table 1 shows that women-headed households in the sample have lower levels of education, less land, livestock, access to adult household labour and adult equivalence scores than their married counterparts. Furthermore, they hire less labour and are less mobile (as proxied by bicycle ownership).⁶

Table 1: Trends through time for key assets 2002 - 2013

		Malawi		
Paired sample T-tests		2002	2013	Sig.
Land in hectares	Overall	1.30	1.30	
	Married	1.43	1.47	
	WHH	1.06	0.98	
Livestock TLU	Overall	0.48	0.81	**
	Married	0.51	1.07	***
	WHH	0.42	0.32	
Adult able workers	Overall	2.30	2.86	****
	Married	2.40	3.16	****
	WHH	2.10	2.29	
Hired labour - Yes	Overall	35	78	
	Married	27	59	*
	WHH	8	19	

Source: AFRINT III dataset, Department of Human Geography, Lund University, Sweden

Table 2: Maize area, production and yield for all, married and WHH in Malawi and Zambia, 2002 - 2013

Paired sample T-tests	Malawi	Mean	Sig.	
Area under maize, 3 year average, hec	All	2002	0,88	0.17
		2013	0,81	
	Married	2002	0,93	**
		2013	0,82	
	Women HH	2002	0,72	
		2013	0,79	
Maize production, kgs	All	2002	723,85	***
		2013	920,93	
	Married	2002	796,49	*

⁵ See Papaya Baseline Policy Brief, 2016, available at:

http://media.wix.com/ugd/Oc2eb6_1405f35e43b14e57978ec0a52ca05d75.pdf

⁶ Prowse and Hillbom (ibid).

		2013	979,14	
	Women HH	2002	531,86	**
		2013	767,07	
Yields, kg per hectare	All	2002	873,94	****
		2013	1232,18	
	Married	2002	902,74	****
		2013	1263,21	
	Women HH	2002	798,66	**
		2013	1151,06	

Source: AFRINT III dataset, Department of Human Geography, Lund University, Sweden

Despite fewer assets and less mobility, Tables 2 and 3 show how women-headed households increased maize production considerably between 2002–2013, by 236kgs compared to 361kgs for married households. When we consider the low base figure for women-headed households in 2002 (531kgs) compared to 796kgs for married households, we can see that in percentage terms, women-headed households have increased production by the same proportion (44%) as married households (45%).

Table 3: Trends in maize cultivation, married and women-headed households

Two-sample T-tests		No.	Mean	Sig.
Area under maize, 3 year average, change 2002 - 2013	Married	193	-0.11	*
	Women HH	72	0.06	
Maize production, change 2002 - 2013	Married	185	182,65	
	Women HH	70	235,21	
Yields, kgs per hec, change 2002 - 2013	Married	183	360,47	
	Women HH	70	352,39	

Source: AFRINT III dataset, Department of Human Geography, Lund University, Sweden

Women-headed households appear to have slightly increased land dedicated to maize, whereas married households have intensified production on smaller areas of land. Similar productivity increases are observable in both household types: women-headed households have increased productivity by 353kgs/hec compared to 361kg/hec for married households. In fact, the only significant difference between household types (as shown in Table 3) is in area under maize where married households have reduced land allocated to maize slightly in contrast to women-headed households. Overall, we can see that women-headed households have shared in productivity improvements from 2002-2013 and have matched married households. We now turn to the district-level trends in maize production and the actors involved in sustainable intensification.

Village-Level Trends

Dedza District

Villages in Dedza district included Lingaka, Kansepa, Kabulika and Dziko. In three of the four villages the area under maize cultivation decreased during the 2002-2013 period with no significant difference between farms managed by men and women (see Figures 1 and 2).

Fig 1: Trend in maize area 2002-2013

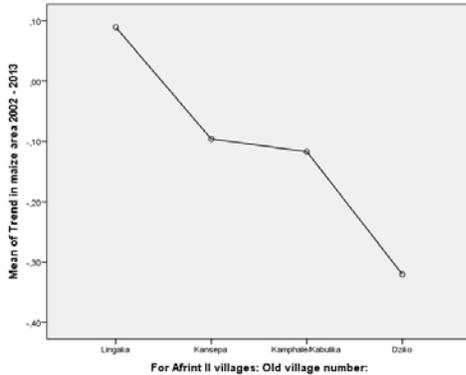
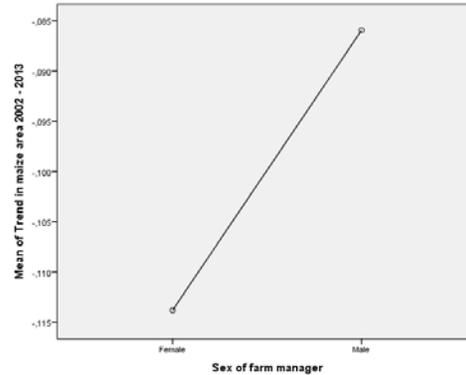


Fig. 2: Maize area trend by gender 2002-2013



It could also be observed that there was a slight increase in adult able workers, especially in Kabulika, with the greatest increase in households with men managing farming (Figures 3 and 4).

Fig. 3: Trend in able workers, 2001-2013

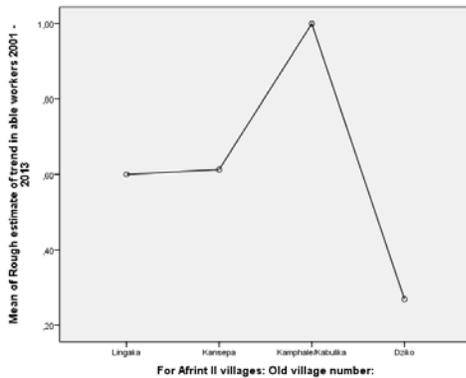
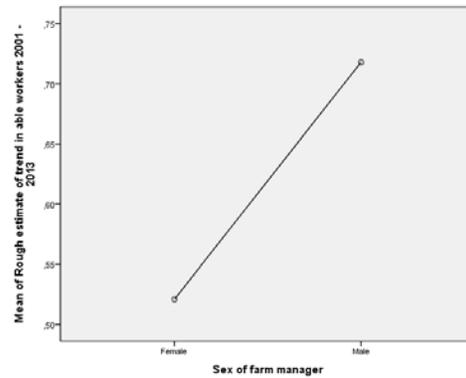


Fig. 4: Able workers according to household type



There was also a general increase in fertilizer use in the four villages, especially in Lingaka, with female farm managers increased use to a greater extent than men (see Figures 5 and 6).

Fig. 5: Trend in fertilizer use, 2002-2014

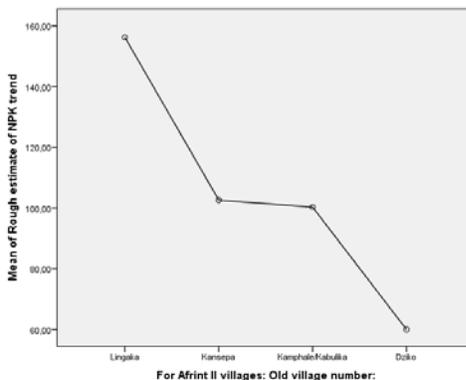
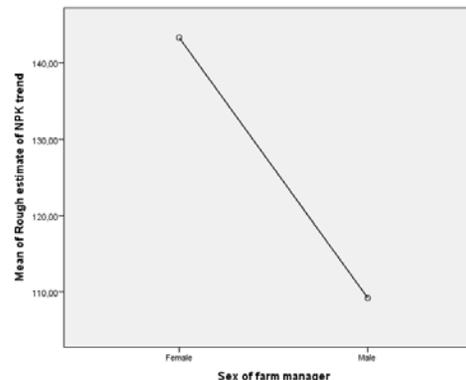


Fig. 6: Fertilizer use by HH gender, 2002-2013



However, when it came to maize production only Lingaka showed an increase, whereas the other villages did not due to a reduction in land area and smaller increases in fertilizer application. The increase was on average lower for farms managed by women (see Figures 7 and 8).

Fig. 7: Trend in maize production 2002-2013

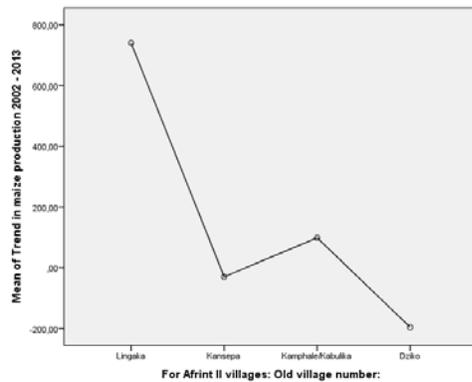
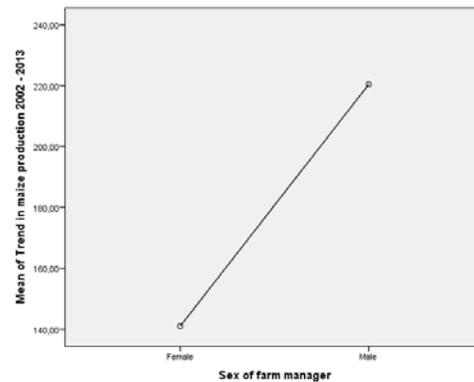


Fig. 8: Maize production by gender, 2002-2013



In relation to maize yields, Lingaka again showed a very substantial increase, whereas the other villages showed a slight or no increase. The yield increases on farms managed by women were lower than on those managed by men (see Figures 9 and 10).

Fig. 9: Trend in maize yield, 2001-2013

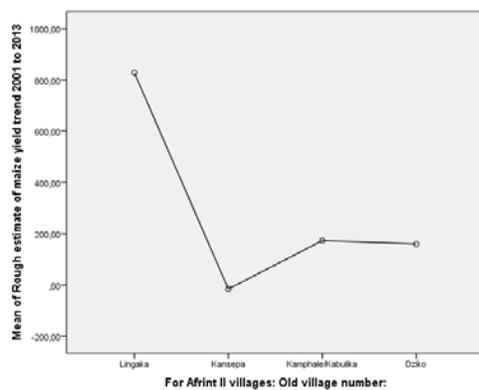
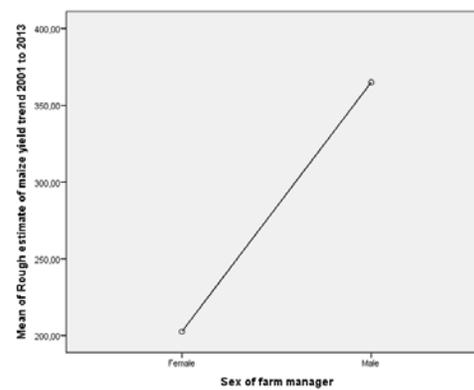


Fig. 10: Trend in maize yield by gender, 2001-2013



Interestingly, in relation to sales of maize for each village between 2008 - 2013, Lingaka increased sales of maize to a greater extent than other villages, which showed low or negative trends in maize sales. Farms managed by women sold significantly more maize than their married counterparts (see Figures 11 and 12).

Fig. 11: Trend in maize sales, 2008-2013

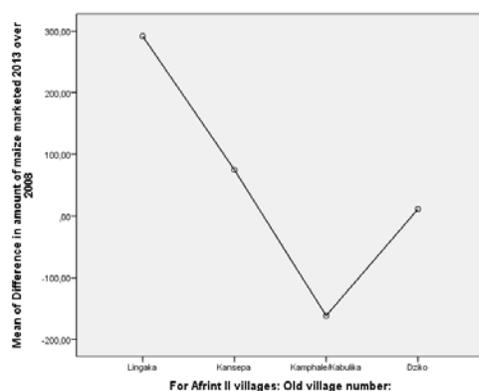
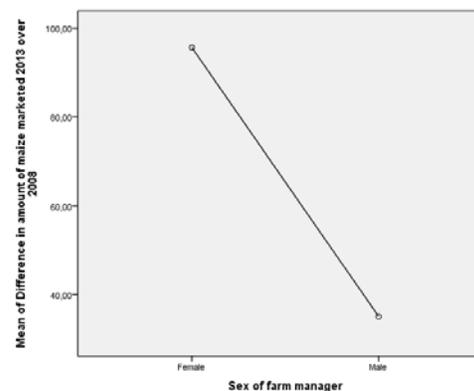


Fig. 12: Maize sales by gender, 2008-2013



The data shows different dynamics of intensification taking place in Dedza district. Lingaka increased both area and fertilizer application leading to much greater production, yields and sales. The other three villages all reduced the land area dedicated to maize and whilst they slightly increased productivity (through slightly greater application of fertilizer), production stayed more or less stagnant.

The findings on gender in Dedza are interesting. Contrary to the national-level data, farms managed by women reduced land area to maize and applied more NPK than married households. This led to lower production increases and, surprisingly, smaller increase in yields in absolute terms than on farms managed by men (due, in part, to lower increases in available labour). Despite lower production and yields, women-headed households increased maize sales more between 2008 to 2013.

Table 5 shows a comprehensive list of actors working in the agricultural sector in Dedza. Discussions with stakeholders highlighted how the majority of actors focus on the production and marketing of produce. Most actors already take gender and generation into consideration, either as a demand of their funders or for compliance with national laws and policies prohibiting discrimination. Notable exceptions are those working with marketing such as the Agricultural Commodity Exchange (ACE) and crop traders. This is significant in that the marketing of produce is particularly problematic for women in women-headed households. They are less likely to have frequent access to markets, less likely to own a means of transport and can therefore not take advantage of price differences outside of the village. Instead they often rely on mobile traders that travel between farms offering below the market price. District stakeholders had a number of suggestions to mitigate this, such as the ACE providing women-specific rates such as reduced storage fees. Other measures suggested include encouraging traders to buy maize from clubs rather than directly from farmers and that the Area Stakeholder Panel could establish committees for women and youth to increase their participation and voice. When identifying obstacles to increased equity in intensification, stakeholders emphasized a general lack of extension services in the area. Cultural and social norms were also singled out as standing in the way of equitable participation and benefit as women and youths are expected to defer to men and not speak out in meetings. Furthermore, market liberalization was identified as problematic in that women and youth are unable to compete in the market on the same terms as men.

Table 4: Actors in agricultural intensification in Dedza as identified by stakeholders convened on 2016-12-08

Actor	Activities/areas of focus	Gender and youth measures
Ministry of Agriculture, Irrigation and Water Development (MOAIWD)	Conservation agriculture Extension services Provision of inputs Promotion of agribusiness	Has a section that deals with gender mainstreaming. At district level, there is an officer and all the way to Ministry Deputy Director. Encourages groups to be gender inclusive in IGAs. Promotes labour saving technologies deliberately to reduce workload of women and encourage them to take part, e.g. use of pesticides in CA
Malawi Improved Seed Systems Technologies (MISST)	Legumes (soya) seed production	<i>No information</i>
CADECOM	Promote production of groundnuts, legumes, (soya), orange, fresh sweet potato Livestock production (small ruminants – goats and chicken) Irrigation farming Afforestation	Provides seed and livestock integrating gender and age, also no discrimination on basis of HIV/AIDS
Agricultural Commodity Exchange (ACE)	Market identification of farmers' produce Warehouse management (keeping farmer's produce for sale)	No gender awareness
International Potatoes Centre (CIP)	Promotion of Irish potato and orange fresh sweet potato production – including seed multiplication	Want women and youth to participate in their activities e.g. production of sweet potatoes
Farmers World	Marketing of produce	Sell farm inputs and carry out research on soil analysis in a gender inclusive manner
Concern Universal (CU)	Manure making Inputs provision on pass-on scheme - Livestock production (small ruminants) Conservation agriculture (No till), Marker ridges (<i>kalozero</i>) Crop diversification (maize, soy, Irish potato, vegetables, beans for both rain fed and irrigation) Crop post-harvest management Tree planting/afforestation Promotion of irrigation agriculture Energy saving stoves (training people in own production)	Multiple activities which integrate gender and generation

Seed companies (Panaar)	Supply cereal and legume seeds	Provide seed for demonstration, no discrimination on basis of gender, age
NASFAM	Promote legume production	<i>No information</i>
ICRISAT	Crop production – legumes (soy, pigeon peas) and groundnuts (rain fed)	Involves men, women and youth in their demonstration plots, also provide basic seed multiplication for groundnuts and pigeon peas
COMSIP	Fruit production (peaches and avocado pears)	Provide tree seedlings, sometimes village savings groups for fruits like mangoes to all groups of people
FUM	Crop production: soy beans, orange fresh sweet potato, Irish potato, maize (both rain fed and irrigated)	Encourages farmers to work in groups and to present their issues as groups based on gender and generation
IITA (Africa Rising Project)	Legume production Dairy production	Gender inclusive and aim for 40% women, share lessons on nutrition and cooking. Promotion of crop production and response to climate change, baby trials, gender inclusiveness, balanced diet in households – 6 groups
Africa Rising	Double-up legumes – inter-planting legumes	<i>No information</i>
CIAT	Bean production	Identify farmers to work with in a gender inclusive manner
Malawi Milk Producers Association (MMPA)	Dairy production	Promote livestock production
Area Stakeholder Panel (ASP)	Promote extension services and pass on farmers' challenges to responsible office	Area Stakeholder Panel (ASP) sub-committee of development at TA level promotion of agric. composition is 50% of farmers without voice or marginalized and women and youth
NZ – Africa	Soy production demonstration e.g. double rows, fertilizer application and use of rhizobium	<i>No information</i>
Crop Traders		Marketing of farm produce but women are at a disadvantage because of illegal purchase, inappropriate scales

Ntchisi District

In Ntchisi district agricultural trends were similar to the national level: maize area declined slightly; production increased slightly; yields increased considerably (see Figures 13 – 17). The two villages that were part of the Afrint data in this district show slight variations. The increased production in Cholamakanda was explained by participants as stemming from better climatic conditions including soil fertility and rainfall patterns, in addition to the use of compost manure and better crop management including better access to extension services. Participants in the workshop also highlighted how higher levels of commercialization in Mzandu can be explained by the lower tobacco yields in the village, thus farmers need to sell maize for cash. In Cholamakanda more land is available for tobacco production resulting in less need to sell maize. Furthermore, there is limited access to extension services on food budgeting in Mzandu.

Fig. 13: Trend in maize area, Ntchisi, 2002-13

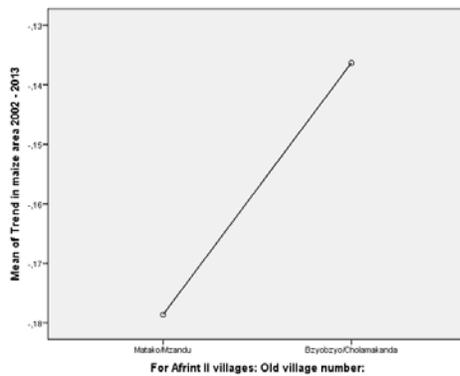


Fig. 14: Trend in able workers, 2002-13

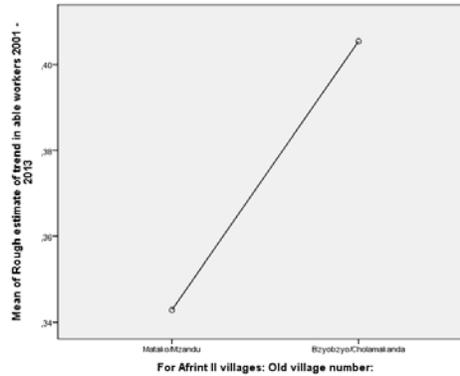


Fig. 15: NPK on maize, 2002-13

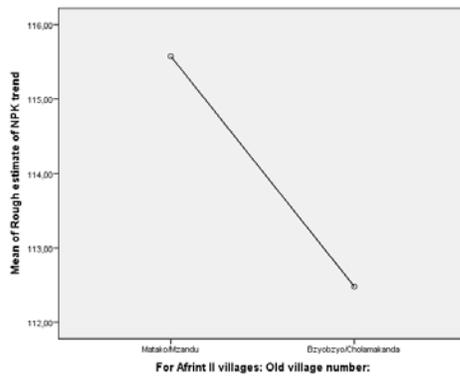


Fig. 16: Trend in maize production, 2002-13

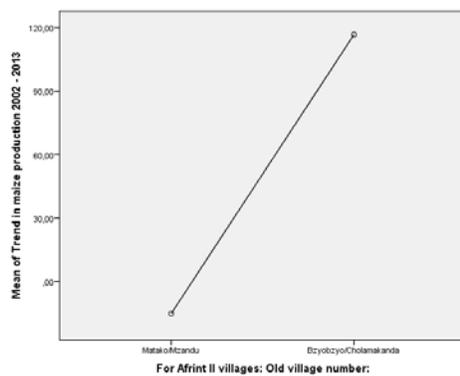
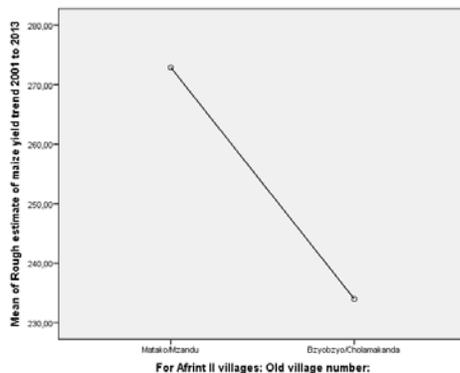


Fig. 17: Trend in maize yield, 2002-13



In terms of gender, Figures 18–22 show how farms managed by women reduced the area under maize by a greater amount than married households; had a slight reduction in able workers; and had a slightly smaller increase in the amount of NPK applied to maize. Whilst this led to a slight reduction in maize production, productivity of farms managed by women was slightly higher than that of married households.

Fig. 18: Trend in maize area, Ntchisi, 2002-13 *

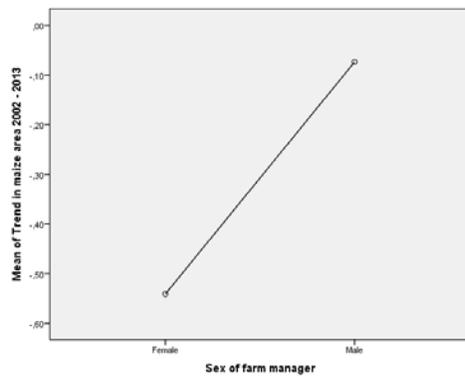


Fig. 19: Trend in able workers, 2002-13

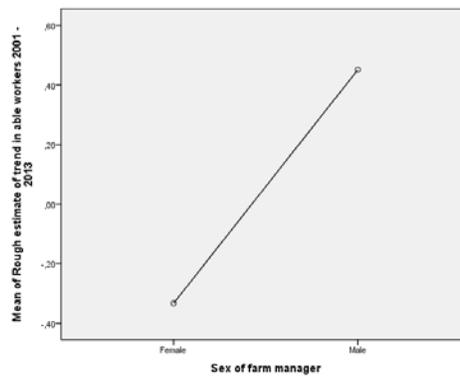


Fig. 20: NPK on maize, 2002-13

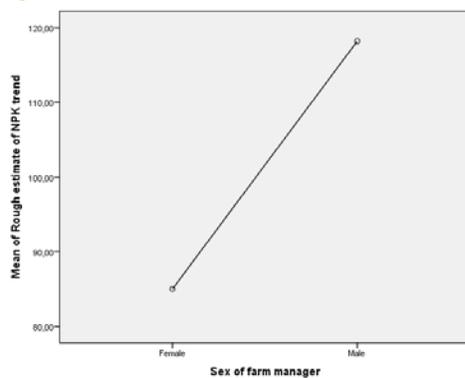


Fig. 21: Trend in maize production, 2002-13

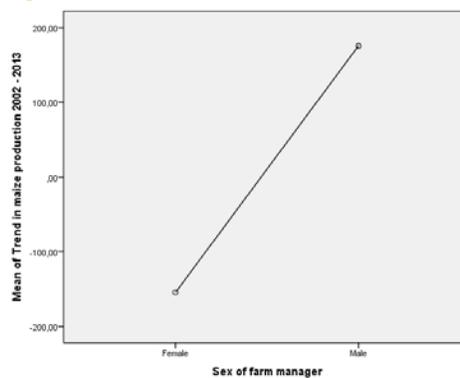
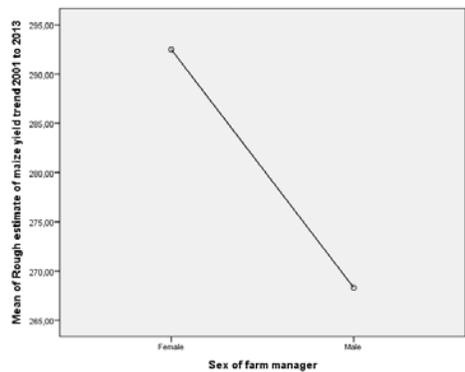


Fig. 22: Trend in maize yield, 2002-13



During the workshop, participants explained that the smaller plots for women managed farms to grow maize was partly due to the fact that widows who remain in their patrilocal village often struggle to maintain access to land. Participants in our district-level workshop explained how several actors are involved in agricultural intensification in this area, the majority of which are non-governmental organizations working with farmers on production, marketing and storage, crop diversification and the provision of inputs. All of these actors include an explicit gender perspective in their work and some include specific measures targeted at the youth (see table 7).

Stakeholders at the district level put forward a number of suggestions on what they, as actors within the sector, could do to improve equity in sustainable intensification. These included establishing village banks for women to help them access group loans as start-up credit, the provision of loans to youths, putting in place mentorship programmes and encouraging women and youth to compete for leadership positions. The majority of actors were able to include gender and youth measures in their work, but would like to see more resources available for this purpose.

Table 5: Actors in agricultural intensification in Ntchisi as identified by stakeholders convened on 2016-12-07

Actor	Activities/areas of focus	Gender and youth measures
Ministry of Agriculture, Irrigation and Water Development (MOAIWD)	Productivity, Food budgeting, Nutrition promotion, Land conservation, Conservation agriculture, Livestock production, Extension services, Provision of inputs, Promotion of agribusiness, Policy making	Ensure inclusiveness of all gender categories (women, men and youth) in all farming groups e.g. membership. Encourage women and youth participation in leadership positions such as lead farmers. Encourage all – women, men and youth to take part in agricultural training activities.
RLEEP	Production, Marketing, Accessibility (roads and bridges), Promotion of Irish potato production, Extension services	General inclusion: All gender categories with a bias to women – 60%
World Vision International (WVI)	Input provision to farmers (livestock, fruit trees, planting materials), Nutrition and food security, Livestock production, Backyard gardening, Marketing, Afforestation	Establish youth clubs. Encourage women and youth participation in their meetings. Encourage gender inclusiveness in development activities.
Agricultural Commodity Exchange (ACE)	Market identification Warehouse management (keeping farmer's produce for sale) Extension services Promotion of farmers' cooperatives Seed bank management	Capacity building for all gender categories. Management is gender sensitive. Aggregation of produce from all gender categories including the youth.
NOYD	Groundnut production (seed multiplication) Promotion of Irish potato production	Specifically targets the youth (production of Irish potato and groundnuts)
NECCOSS	Village savings loans (VSL), Marketing	No information
Total Land Care (TLC)	Input provision Conservation agriculture (No tilling) Livestock production (small ruminants) VSL Tree planting/afforestation Promotion of irrigation agriculture Energy saving stoves (training people in own production)	Consider gender balance (50:50 ratio) in their activities e.g. in promotion of livestock production, conservation agriculture and VSLs.
Clinton Foundation	Soy production and marketing, Afforestation, Farm implement distribution, Extension services	No information
NASFAM	Farm input provision, Groundnut production, Extension services, Marketing,	Consider gender balance (50:50 ratio) in their activities e.g. input distribution

	Climate smart agriculture	and market offers.
Ladder for Rural development	Marketing of Irish potato	No information
TAPP	Conservation agriculture	Collective action gender inclusiveness in conservation agriculture, manure making, livestock production and afforestation initiatives. Management is gender sensitive.
World Relief	Food security and good nutrition, processing, preparation and utilization; Backyard gardening; Livestock production (small ruminants); Promotion of cassava and sweet potato production; Input provision (livestock and planting materials –sweet potato and cassava); Promotion of integrated homestead farming	Focus on women (60%) in promotion of backyard gardening and nutrition lessons, Also focus on the youth in training 'promoters'.



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