Malawi

Livelihoods in Malawi depend on the environment – there is a need to promote sustainability

Key Messages

- 18% of rural and peri-urban households' incomes come from ENR products such as charcoal, fuel wood, honey, mushrooms and agriculture. This demonstrates the economic importance of ENR products to household livelihoods across Malawi.
- Access to land, level of education and the age of the head of the household are key determining factors for household food security and agriculture production.
- Male-headed households are 18 % more food-secure than female-headed households. This implies that food and nutritional challenges are more likely to be prevalent in female-headed households.
- There is a need to accelerate the certification of legal land rights for smallholders, especially women, and to increase investments for, and education efforts around, sustainable natural resource use.

Introduction

The heavy dependence of Malawi's economy and the livelihoods of Malawians on the environment and natural resources **(ENR)** sector is well recognized. The country's agriculture sector accounts for 30 percent of the Gross Domestic Product **(GDP)** (Ministry of Finance, Economic Planning and Development, 2014). Moreover, 98.7 percent of the country's population is dependent upon fuel wood and charcoal to meet energy needs.

It is clear that a two-way complex cause-and-effect relationship exists between Malawi's poverty levels and ENR utilization and degradation. On the one hand, poor households depend on ENRs for their livelihoods and, on the other hand, the country's high poverty rate, estimated at 50.7 percent (Malawi Growth and Development Strategy (MGDS), 2012), contribute to ENR degradation. For example, poor households tend to turn to charcoal production as a coping mechanism against food insecurity (Kambewa et al., 2007). This contributes to Malawi having the highest deforestation rates in Southern Africa, estimated to range between 1 percent and 2.8 percent (Ministry of Natural Resources, Energy and Environment, 2010).

Sustainable ENR use and agriculture productivity have been found to have the highest poverty-reducing effects when compared to industry and services sectors (Martin, 2013; Schneider and Gugerty, 2011). In this regard, Yaron et al. (2011) point out that soil erosion is a major cause of hunger and poverty in Malawi. The reason is that soil erosion leads to reduced agricultural yields. Conversely, if soil erosion had been significantly reduced, 1.88 million people could have been lifted out of poverty between 2005 and 2015. In addition, a clean environment is essential for human health, while unsafe water sanitation, indoor air pollution by smoke from solid fuels, and climate change are increasingly posing health risks (WHO, 2009).

Review of Poverty-Environment linkages

Given the above background, the Ministry of Finance and Economic Planning, with the support of the UNDP-UNEP Poverty Environment Initiative **(PEI)**, commissioned a study in 2015 to quantify the linkages between poverty and environment and to identify policy options to reduce poverty through sustainable ENR management. This policy brief draws on the empirical investigations and findings from the micro-level analyses of the study focusing on the role of ENRs for household income, productivity, food security and health

The detailed analyses involved investigations into the role of ENRs in determining multidimensional poverty (including household incomes, food security, productivity, health outcomes and access to water). Analyses were done using unbalanced panel data econometric modelling techniques with correction for household self-selection bias. In addition, the analysis examined the factors that influence household decisions to participate in sustainable ENR management activities. The ENR management activities of particular interest in this study include: management of a village or community woodlots, water catchment area conservation, forest nursery management, tree planting and practising conservation agriculture etc. .

The study was conducted in 10 of 17 disaster-prone districts, thus sampling 36 percent of the country's 28 districts, or 59 percent of the country's disaster-prone districts. The sampled districts include Karonga and Nkhata Bay in the North; Salima, Dedza, and Ntcheu in the Centre; and Blantyre, Zomba, Phalombe, Balaka and Mangochi in the South. Primary data was collected for the period 2011-2014 through household interviews involving 801 households and focus group discussions conducted in 40 villages across the 10 districts. From each village, 20 households were sampled for household interviews using systematic random sampling method; thus, a total of 801 households were sampled. Of the sample, 79.4 percent of the respondents were male-headed households, while 20.6 percent were female-headed households.

Key Findings

The main findings from the microeconomic analysis of the study are concentrated in two areas, the importance of ENR for household incomes and factors impacting household food security and agricultural productivity.

ENRs products are important sources of household incomes across Malawi. Analysis of sources of household incomes shows that 18 percent of the sampled households' incomes come from ENR products such as charcoal, fuel wood, honey and mushrooms, amongst others, compared to 17 percent from agricultural produce, while off-farm economic activities such as business are the largest contributors to household incomes (65 percent). Interestingly, ENR incomes for households in peri-urban areas were double (MK62,195) the incomes from ENR for rural households (MK30,962). This demonstrates the economic importance of ENR products to household livelihoods across Malawi. These findings are in line with the results of similar studies in different countries, which have found that approximately 22 percent of household income could be attributed to ENR (e.g., World Bank (2007) reports of studies by Vedeld et al. (2004)).

Household participation in sustainable ENR management. At the grassroots level, there are various efforts to implement more sustainable practices for environment and natural resource use in order to reverse environmental degradation and declining ENR yields. Such initiatives include management of a village or community woodlots, water catchment area conservation, forest nursery and tree planting and conservation agriculture. The study found that on average about 67 percent of households participate in such interventions; of these, 55 percent were male-headed households and 12 percent were female-headed households. Participation in forest programmes shows the highest proportion (68 percent), while natural water fisheries is second (66 percent). The least is participation is in wildlife (59 percent).

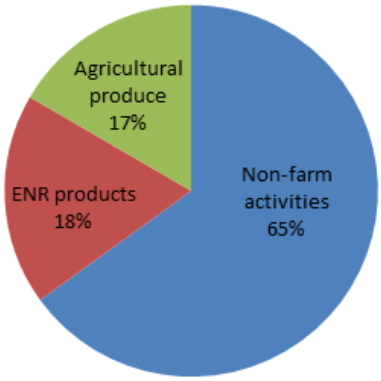


Figure 1. Household Income Structure

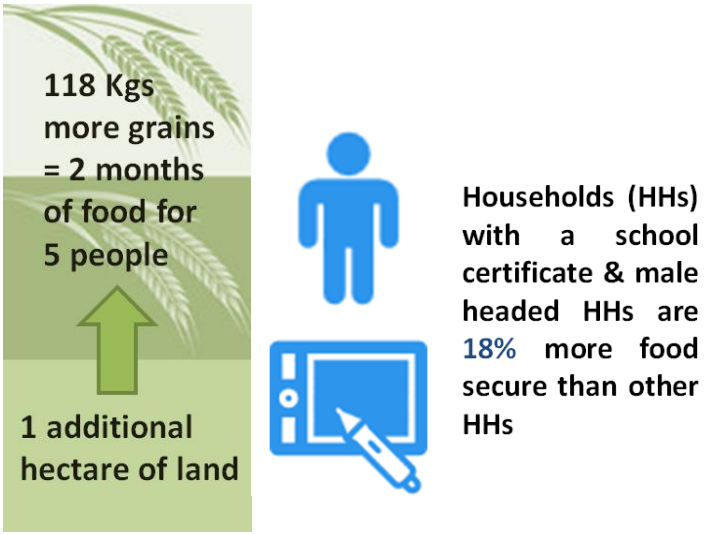
Food security and agricultural productivity

With regards to food security and agricultural productivity, the analysis of the results shows that access to land, gender, age and education of household head, as well as the farm soil types are the major determining factors.

Households' access to land is key for food security: The analyses show that there is a positive and significant relationship between landholdings and household food security, such that making available about 1 ha of land, representing an increase of 33 percent on the mean household land holding, is likely to result into an additional 118 kg of grains (equivalent to two months' consumption for an average household of five people). This is an 18.5 percent increase in household food security, computed on the basis of mean maize yield of 1.45 t/ha.

Gender differences in household agricultural productivity: The findings show that male-headed households are likely to be 18 percent more food secure than their female-headed counterparts. These findings agree with those of the UN Women, World Bank, and PEI (2015), which found that the gender gap in agricultural productivity in Malawi is between 28 percent and 31 percent. The gender gap is attributed to differences in access to agricultural implements, labour and crop choices and could if closed lift 238,000 people out of poverty and increase crop production by 7.3 percent (ibid.).

Rural-urban difference in household agricultural productivity and production: Analysis of geographical differences in rural and peri-urban households shows that there are no productivity differences. Households in both locations achieve maize productivity averaging 1.4 t/ha, which is far below the potential yield (maximum agricultural yield of land input) of 8.0 to 10.0 t/ha. The findings imply that rural and peri-urban households alike are susceptible to food insecurity. However, the fact that the peri-urban households have relatively higher incomes than their rural counterparts justifies the prevalence of public food security interventions targeting rural households compared to the peri-urban areas.



Level of education is key for household food security: Household education levels are key determinants in enhancing productivity and production. A household with the equivalent education level of a Malawi School Certificate of Education (seven years of schooling) is likely to be about 18 percent more food secure, or produce an extra 264 kg/ha, as compared to households with lower education levels. Further, a 10 percent (about one year) increase in years of education results in 1.4 percent (140 kg/ha of maize) increase in household agricultural productivity (yield per ha) and 1.7 percent (11 kg) in household total food production.

Age of household head has significant agricultural productivity effects: Agricultural productivity increases with the age of the farmer, which is most likely linked to the years of experience of the farmer, implying that a youthful labour force is yet to have significant productivity impacts. With the average sample household age of 41 years, the study results show that a 10 percent (equalling four years) increase in the age of the household head, likely to represent farming experience, leads to a 1.4 percent to 3.0 percent (or 20 kg to 43 kg of maize) increase in household agricultural productivity. This underscores the need for dedicated capacity-building for the youth, particularly those involved in agriculture, for skills acquisition that can increase their labour productivity and possibly contribute significantly to the food security and poverty reduction agenda of the GoM. This could also incentivize youth to remain in agriculture and thus help to reduce the high unemployment rate among youth in the country.

Conclusions

The findings of the report clearly demonstrates that rural and peri-urban households' rely on ENR products such as charcoal, fuel wood, honey, mushrooms for their incomes and livelihoods. The sustainable use of these ENR is hence crucial to sustain local livelihoods. Further information, investments and participation in practices that promote sustainable ENR use is hence needed.

Access to land, level of education and the age and gender of the head of the household are key determining factors for household food security and agriculture production. Hence there is a need to accelerate the certification of legal land rights for smallholders, especially women, and increase information and education efforts around sustainable natural resource use.

Policy Recommendations

The following policy prescriptions emerge from the micro analysis of the PEI commissioned study to quantify the linkages between poverty and environment and to identify policy options to reduce poverty through sustainable ENR management:

1) **Committing to increased ENR sector investments for sustainable income growth and poverty reduction.** In view of the findings from micro-analysis demonstrating that ENR investments have positive multidimensional impacts on poverty reduction, the GoM is encouraged to re-prioritize public expenditure in such a way that more resources are allocated to the ENR sector (ENR sector covers environment and climate change, land, agriculture, forestry, fisheries, water and wildlife). Efficient resource allocation to ENR-sector institutions should help address challenges such as income poverty, land and water degradation, sedimentation and siltation of water courses, deforestation, depletion of fish stocks and wildlife management.

2) **Reviewing the current resource envelope for the agricultural sector with a view to unlocking the full potential of the sector to contribute to sustainable poverty reduction and economic growth.** The findings show that investments in the agriculture sector are key to poverty reduction, hence the need for continued public investments in the sector. While the agriculture sector already enjoys prioritization of public expenditures, there is need to review the resource allocation patterns within a given sector (intra-sectoral resource allocation review) to prioritize investments in agricultural research and development, agricultural extension services and training to improve smallholder productivity and sustainability.

3) **Develop and generate sustained and effective information, education and communication (IEC) to all stakeholders on the poverty reduction outcomes of ENR investments.** In view of the study findings on the low level of education and non-participation in ENR programmes, it is imperative to undertake sustained IEC activities that would mobilize national support and behavioural change towards

ENR management programmes and sustainable use of natural resources. While a number of avenues could be explored and used in this respect, effective use of the available reporting systems and websites would be the first ideal step. For instance, official reports such as Annual Economic Report, the State of Environment Report and the climate change website should regularly report on the poverty impacts of the various ENR interventions at national and local levels. The reporting of ENR impacts should use the standard poverty and environment indicators.

4) **Accelerate the certification of legal land rights for smallholders in order to enhance the commercial value of land as a factor of production.** The study has confirmed that land has significant impact on improving income and food security at household levels. Land is one of the primary means of generating livelihood for most of the poor in rural areas. As an important asset, it constitutes a main vehicle for investment, wealth accumulation and transfer between generations. Hence, there is a need to continue land access initiatives. As a result, the GoM is encouraged to explore land tenure issues by scaling up land registration and certification for sustainable land use and management.

5) **Further investigations are needed on the poverty impacts of household participation in own-farm ENR management programmes versus participation in communal/village ENR management programmes.** Such a study would help guide the policymakers and ENR stakeholders in planning for appropriate types of the most effective grassroots ENR management programmes to address household poverty levels, that is ., whether to focus on household plot level ENR management programmes, on community-level ENR management programmes or on both.

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