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Malawi

Reducing poverty through macro-level investments in environmental sustainability

Key Messages

- Investments in ENR have positive impacts on economic growth and poverty reduction. A 1% increase in ENR expenditure (US\$ 300, 000) results in a GDP increase of US\$ 17 million.
- ENR degradation results in national income loss. A 1% (317 sq km) increase in lost forest cover translates to a loss in income of nearly US\$24 million per year
- Agriculture is central for Malawi's economy and poverty reduction efforts. Sustainable ENR use holds the key for agricultural productivity and food security. A 1% (US\$1,000,000) increase in agriculture value-added will likely increase GDP by US\$90 million.
- Poverty reduction strategies should aim to sustain and expand vulnerable groups' incomes from ENRs and enhance the efficiency with which the poor utilize ENR assets.
- A 1% increase in access to clean water (150,000 people) would lead to a 2.8% decrease in deaths. There is a need to scale up public-private partnerships to increase access to clean water.

Introduction

Malawi's environment and natural resource (ENR) base (land, water, forests, wildlife, biodiversity etc.) is the foundation of the country's economic development, food security and other basic necessities of its people. Smallholder agriculture is the dominant sector, providing over 85 percent of total employment and approximately 30 percent of the gross domestic product (GDP) (Malawi Government Economic Report, 2014).

Malawi's population was estimated at around 16.3 million in 2015, almost 85 percent of whom were living in rural areas. In the long term, Malawi's population is projected to reach around 26.1 million in 2030 (National Statistical Office, 2008). This has major implications for poverty reduction and development prospects, including the sustainability of the country's valuable ENR base. Thus, there is a strong desire to understand the nature of poverty and environment linkages, their interrelationships and what can be done to ensure sustainable development. Of particular interest to policymakers are policy recommendations that effectively alleviate poverty and promote the sustainable use and management of ENR.

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 findings from the report and makes an economic case for investing in ENRs to reduce poverty within the context of what is generally known as the 'poverty-environment nexus.'



The study used the local multidimensional nature of poverty to include utility-based and capability-based aspects. The poverty dimensions incorporated in the analysis included income, food security, health and access to water and sanitation facilities. Hence, five econometric models were constructed to analyse (1) income-poverty and ENR nexus, (2) agriculture productivity and ENR nexus, (3) food security and ENR nexus, (4) health and ENR nexus, and (5) access to water and ENR nexus.

Time series data from 1980 to 2013 were obtained from various sources, including from the Malawi Government Annual Economic Reports and Financial Statements, Reserve Bank of Malawi, National Statistics Office, World Bank (World Economic Indicators), Food and Agriculture Organization (FAOSTAT) and World Health Organization.

Key Findings

Public investments in the ENR sector are pivotal for national growth. The study findings show that a 1 percent (US\$300,000) increase in government expenditure on the ENR sectors (ENR sectors covers environment and climate change, land, agriculture, forestry, fisheries, water and ¹



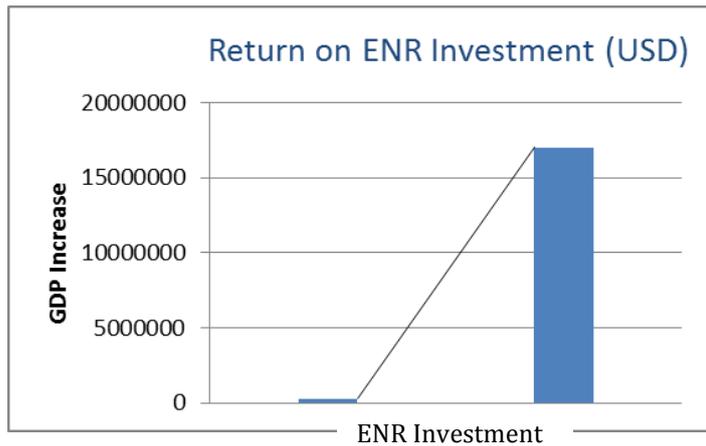
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wildlife) leads to 0.43 percent increase in per capita GDP, which is equal to a nearly US\$17 million increase in GDP annually. The econometric results further show two way relationships between GDP per capita and the variables of fish catch, government expenditure on ENR, agriculture value-added¹ and gross capital formation.



Forests are critical for the economy and poverty reduction.

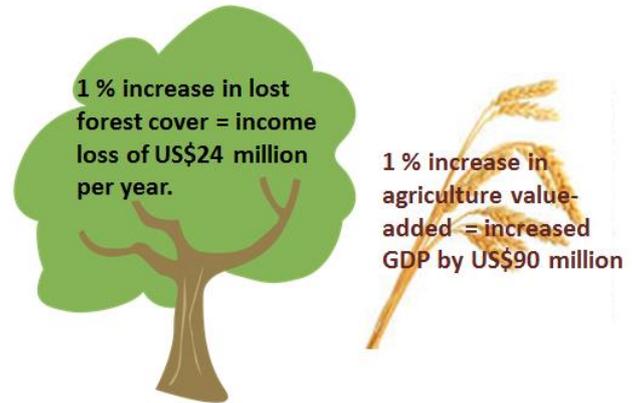
The findings of the study confirm that complex relationships exist between economic activity and ENR. The study results show that a 1 percent (317 sq km) increase in lost forest cover in the long run² is likely to reduce GDP per capita by 0.6 percent. In real terms, this translates to a loss in income of nearly US\$24 million per year. It follows from this finding that a lack of investments in the conservation and sustainable management of forests is likely to undermine the critical role of forests as an important source for achieving economic growth and poverty reduction.

The agriculture sector remains central for growth and poverty reduction.

Investigations into the linkages between the agriculture sector and national income per capita growth show that, in the long run, positive changes in the agriculture value-added have significant positive poverty reduction effects. This is evidenced by the fact that a 1 percent (US\$1,000,000) increase in agriculture value-added will likely increase GDP per capita by 2.3 percent, or an increase of GDP of US\$90 million. This finding confirms that sustained growth in agricultural sector is critical for national growth and poverty reduction.

In addition, the analysis shows that there is a positive impact of changes in commodity price on agricultural productivity. A 1 percent increase in the consumer price index results in a 0.67 percent (0.2 t/ha) increase in national crop productivity. Such findings confirm the importance of market prices in providing

incentives for the production of various agricultural commodities and the need for government to avoid interventions that distort market prices of agricultural commodities.



Access to clean water reduces incidence of death.

Macro-level investigations into health outcomes showed that access to clean water has positive short- and long-term health impacts, including reduction in infant mortality. The findings show that on the average, a 1 percent (150,000 people) increase in the number of people with access to clean water will decrease the incidence of death by about 2.8% in the long run.

Conclusions

The policy implications of these findings are that inclusive and sustainable ENR management needs to be at the core of development policy. ENR related policies also need to consider cross-cutting issues such as gender, poverty and health that are directly or indirectly affected by ENR management.

Additionally, poverty reduction strategies should aim to sustain and/or expand vulnerable groups' incomes from ENRs and enhance the efficiency with which the poor utilize ENR assets. The challenge is to use the ENRs appropriately to (1) generate inclusive growth and (2) enable the poor to benefit from this growth while (3) sustaining the resource base and its continued capacity for pro-poor growth.

Considering that government expenditure on ENR is competing with other budgetary needs, the study underscores the inherent trade-offs faced in public resource allocation. This notwithstanding, the study findings demonstrate the significant net national economic benefits from investments in ENR sectors for poverty reducing and sustainable growth.

¹ Value added agriculture is the net output of agriculture sector after adding up all sectoral outputs and subtracting intermediate inputs.

² In the context of this study, 'long-run' refers to a period of at least one year because the analysis is using annual time series data



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Policy Recommendations

The study sought to quantify the ENR-poverty nexus in Malawi in terms of the impact on various aspects of multidimensional aspects of poverty. The study has identified critical issues that will need to be addressed by the Government of Malawi (**GoM**) with the support of cooperating partners. In particular, inclusive and sustainable ENR management should be given priority in national development planning and budgetary allocation, including devising strategies for attracting private investment. For this reason, the GoM is encouraged to:

1. Commit to increased ENR sector investments for sustainable income growth and poverty reduction: The GoM is encouraged to re-prioritize public expenditure in such a way that more resources are allocated to the ENR sector (the ENR sector covers environment and climate change, land, agriculture, forestry, fisheries, water and wildlife). There is growing agreement that pro-poor environmental change is urgently needed in institutions and governance, investment and partnerships. This is further strengthened by the benefit-cost analysis of some of the ENR projects, whose benefits accrue over a long period of time but are still viable using a discount rate of up to 30 percent. Hence, it is important to have a long-term perspective when undertaking such expenditures

2. Review 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 keys 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 a need to review the resource allocation patterns within the sector to prioritize investments in agricultural research and development, agricultural extension services and training to improve smallholder productivity and sustainability.

3. Further research in order to identify the specific economic connections between forests and household water resources. This research can be used to: a) put advance planning for water supply and forest management at the forefront of community issues; b) make the case for forest conservation to protect drinking water; c) encourage the use of incentives for forest conservation and tree planting that are more reflective of their true value; and d) factor in the costs of drinking water supply and treatment when evaluating development alternatives.

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