

Food Crisis & Land

The World Food Crisis, Land Degradation, and Sustainable Land Management: Linkages, Opportunities, and Constraints

In recent years, world food prices have skyrocketed, causing severe hardship for poor and vulnerable people throughout the world. Between 2005 and 2008, world prices of rice, wheat, and maize more than doubled, pushing more than 100 million people into poverty, including nearly 30 million people in Africa.

The causes of the food price crisis include many factors affecting the global supply, demand, and trade of food commodities. Among the most important factors were rising oil prices, leading to increased costs of producing, processing, and transporting food; increased use of food crops for biofuel production; poor harvests in some major producing regions; rapid economic growth in many developing countries; and decades of underinvestment in agricultural research and development.

Even though much less has been said about the impacts of land degradation in the contribution to the food crisis, it is actually one of the important medium to longer term factors directly affecting food prices, coupled with low investments in agricultural research.

With regard to this global situation, the issue paper “**The World Food Crisis, Land Degradation, and Sustainable Land Management: Linkages, Opportunities, and Constraints**” provides background information, highlights, and considerations for national decision makers and their development partners to elaborate more direct appropriate policies and investment programs in support of SLM.

The objective of this paper is to investigate the linkages among food prices, land degradation, and land management in Sub-Saharan Africa. It addresses the following issues:

- **The impacts land degradation has on food production and prices**
- **The impacts food and other prices have on land management and land degradation**
- **The impacts that sustainable land management can have on addressing land degradation and food prices priorities.**

This issue paper was prepared in the context of the TerrAfrica partnership platform and under the leadership of the International Food Policy Research Institute, with funding from the GTZ Convention Project to Combat Desertification (CCD Project) on behalf of the Federal Ministry for Economic Cooperation and Development (BMZ) and the World Bank on behalf of the TerrAfrica partnership.



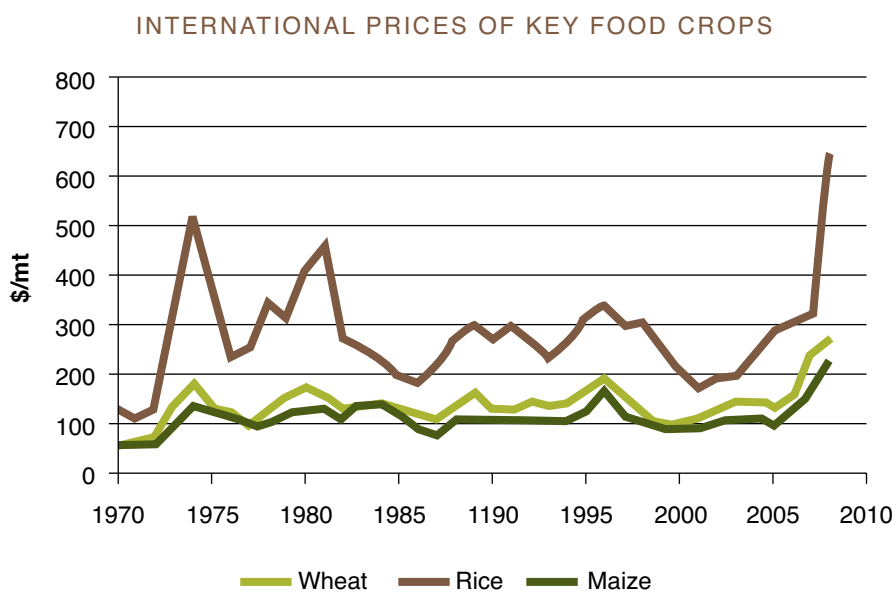
The paper includes a comprehensive executive summary. Chapters include specific details, statistics, figures, and specific messages. The conclusion implies how sustainable land management can play an important role in helping to mitigate and prevent some of the impacts of rising world food prices on poor people in Africa. It suggests appropriate actions governments and development partners can take. A thirteen page bibliography lists the depth of research and literature review, and four annex tables illustrate additional research to aid decision makers and technical staff.

The paper maintains that the impacts of sustainable land management practices on land degradation and food prices depend upon the scale of their adoption, their impacts on land degradation and production where they are adopted, and the aggregate impacts of these practices compared to aggregate food production and land degradation. Decentralized approaches to development and natural resource management will contribute to successful SLM.

Key questions addressed in the document include:

What are the prospects for food prices?

- **Food prices are likely to be higher and more variable in the next few decades than they have been for the past few decades**, although prices are declining from the high levels seen earlier in 2008.



What impact does land degradation have on food production and prices?

- **Land degradation is contributing to higher food prices by reducing available land and agricultural productivity over the long term.** Current world food production may be as much as 12 percent lower and food prices may be as much as 30 percent higher as a result of land degradation that has occurred over the past several decades. Land degradation also contributes to vulnerability to extreme weather events and to variability of production and food prices. The impacts of land degradation on food prices may be even larger for particular commodities and countries, and are likely to increase in the future, unless substantial up-scaling of SLM occurs.



What impacts do higher food and other prices have on land management and degradation?

- **Higher food prices are increasing the profitability of many improved land management practices. Inorganic fertilizer is an exception, because fertilizer prices have risen even faster than food prices.** Even when fertilizer subsidies are used, the ability to dampen impacts of rising fertilizer prices is limited by the high costs of such subsidies and the difficulties of implementing them cost-effectively. By contrast, the profitability of organic or integrated soil fertility management, SWC investments, conservation agriculture, and other practices that economize on energy-intensive inputs is increasingly relative to conventional technologies.
- **Increased profitability will not necessarily result in adoption of sustainable land management approaches and practices, although some increase in adoption is likely to occur.** Many other factors constrain adoption of such approaches in particular contexts, such as farmers' lack of awareness or training in use of improved practices; lack of access to organic materials or other inputs; land tenure insecurity; labor constraints; poverty, and other constraints. Hence, although increased food prices will help to promote up-scaling of sustainable land management practices, it is unlikely to be sufficient to ensure widespread adoption.
- **Increased food prices also may cause increased expansion of agricultural activities into forests, rangelands, and wetlands, causing land degradation and environmental damages in these areas.** Available evidence from several studies in developing countries shows that higher food prices are generally associated with expansion of agricultural area and deforestation. Increased fertilizer prices appear to have a more limited impact on agricultural expansion.

What impacts can sustainable land management have on land degradation and food prices?

- **Increased adoption of organic or improved low external input land management practices can help to boost and stabilize agricultural production, buffer rising food prices, and improving food security in Sub-Saharan Africa.** Many studies show that improved land management approaches increase yields by 50 percent or more where these replace traditional production practices. However, the scale of adoption of such practices is still relatively small and the reported yield impacts in many studies may be overstated. Hence, such measures likely are increasing aggregate agricultural production in Sub-Saharan Africa by no more than a few percent. Studies of the potential impacts of future adoption of SLM measures in Sub-Saharan Africa predict that this could increase food production by 4 to 6 percent and reduce the number of people with caloric deficiencies by as much as 8 percent.

Implications of the above mentioned findings for policy and decision makers:

Research concludes that **sustainable land management plays an important role in helping to mitigate the impacts of rising world food prices on poor people in Africa**, although major impacts on food prices in the near term cannot be expected. This is supported by the fact that sustainable land management approaches represent an entry point for halting and reversing land degradation, improving resilience to climate hazards and mitigating climate change.

Promotion of the use of inorganic fertilizers through subsidies and other programs will not be sufficient to address problems of land degradation, low productivity, and rising food prices in Africa. Given the low and declining profitability of fertilizer use in many areas of Africa, and the prevalence of other land management problems not addressed by inorganic fertilizer, **a broader integrated approach to soil fertility management is needed.**



© Arne Heel/The World Bank

Higher food prices can facilitate increased adoption of many low-external input sustainable land management approaches by increasing their profitability. This will help improve the sustainability and productivity of agricultural production, reduce poverty, and preserve important ecosystem services, even if it does not have large impacts on world food production and prices.

Although the potential of adoption of many sustainable land management approaches has increased as a result of rising food prices, achieving this potential requires identifying and addressing the key constraints that limit adoption of SLM practices where they are profitable. **Governments and development partners must adopt a continuous investment and learning cycle to identify key SLM opportunities and improve the effectiveness of future interventions.**

In addition to promoting investments to overcome constraints to profitable SLM, governments and development partners must also pursue measures to limit the environmental impacts resulting from agricultural expansion. The extent of agricultural expansion and the damages caused can be limited by well-implemented land use policies and planning, with local resource users given a major role in developing and implementing such plans, and an economic stake in preserving resources that provide valuable services. Such efforts can build upon the process of decentralization of development planning and natural resource management taking place in much of Sub-Saharan Africa, by also implementing a continuous cycle of planning, implementation, learning, and adaptation.

A concerted effort is needed to scale-up SLM and mitigate the food prices crisis and land degradation.

Although national policies are important to consider when dealing with cross-sectoral issues such as climate change, land degradation, or food security, a regional effort will most likely generate a positive and determinant influence. This effort includes regional concentration and coordination, participation of stakeholders of all sectors, and knowledge exchange. Partnership platforms like TerrAfrica and regional frameworks such as NEPAD CAADP allow partners to efficiently address these issues.

The TerrAfrica partnership develops and implements SLM activities within national investment frameworks, which strengthen coalition building for improved SLM at the country level. Several national investment frameworks are being developed in Ethiopia, Mali, Mauritania, Ghana, Uganda, etc. These frameworks will integrate the food security issue to ensure a better up-scaling of SLM investment in Sub-Saharan Africa and avoid the bottleneck of sectoral approaches.

TerrAfrica is a partnership that aims to address land degradation in Sub-Saharan Africa by scaling up harmonized support for effective and efficient country-driven sustainable land management (SLM) practices.



TerrAfrica Secretariat

The World Bank
1818 H Street, NW
Washington, DC 20433
(P) 202.473.6179
(F) 202.473.5147
www.worldbank.org

NEPAD
1258 Lever Road, Headway Hill
P.O. Box 1234 Halfway House
Midrand 1685 South Africa
(P) +27 11 256 3600
www.nepad.org

gtz

**Deutsche Gesellschaft für Technische
Zusammenarbeit (GTZ) GmbH**
Convention Project to Combat
Desertification (CCD Project)
Dahlmannstr. 4
53113 Bonn, Germany
(P) +49 228 24934 264
(F) +49 228 24934 256
ccd-projekt@gtz.de
www.gtz.de/desertification