

FOREWORD

RESPONDING TO THE WORLD FOOD CRISIS

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No single factor has caused the current food crisis, and no single solution exists to resolve it. To that end, the Global Livestock CRSP is responding with a comprehensive approach that encourages valuable partnerships and addresses risk management, market access, micro-enterprise and diversified livelihood strategies, health and nutrition, and capacity building and leadership to promote sustainable livelihood improvement in developing countries and help the poor adapt to increased food costs.

The Food Crisis: A Multi-faceted Dilemma

Over time, events and circumstances have contributed to what is now known as the “World Food Crisis.” Decades ago, the prospect of famine led many to believe the world would soon run short of food. India and China faced continued famine throughout the 1950s. In the 1960s, investments in research that produced advances in technology and production methods greatly increased food production in important areas of Asia and parts of Latin America. Known as the Green Revolution, this effort became a landmark event that improved food availability for so many of the world’s poor and hungry.

In the decades following the Green Revolution, the world assumed that the newfound food abundance would continue, and blame for global hunger was shifted from production to distribution. The quote, “There is plenty of food on the planet; it is just a problem of distribution” became well known in donors’ halls. Few crop varieties or production systems were designed or adapted for the dry and marginal lands. Increases in food production occurred largely by extensification of agriculture into marginal lands. Governments and most international organizations cut back on agriculture development expenditures in developing countries. In 1990, about 12 percent of global Official Development Assistance (foreign aid) was for agriculture; now it is about four percent. In the early 1980s, 30 percent of World Bank lending was for agricultural purposes; but by the early 2000s it was down to 10 percent, despite the fact that about 75 percent of the world’s poor live in rural areas².

At the same time, the donor community shifted its focus from long-term investment in fundamental development activities to short-term interventions and from core economic development issues to many of the problems created by a lack of broad-based economic development.

Food demand, however, continued to increase in the most disadvantaged communities, and world population increased steadily. Incomes in developing countries increased, especially in the more populated countries of Asia. Higher incomes meant people could afford more food and adapt their diets to include more meat, dairy products and processed foods, which require more energy and inputs than are necessary to produce

¹ National Association of State Universities and Land Grant Colleges

² Paper produced by the Agriculture and Natural Resources Team of DFID, the UK Department for International Development, “Official development assistance to agriculture,” November, 2004.

cereals alone. The result has been a dramatic rise in the global demand for cereals destined for animal feed, accelerated further by recent income increases in China.

Furthermore, agriculture around the world is often a subsidized and controlled industry. That practice has restrained market forces from driving comparative cost and production advantages. The subsidies encourage production in some countries but reduce production in others that may have a natural comparative advantage but cannot compete with subsidized food production in less efficient countries. In the face of global shortages, many countries have imposed trade restrictions that further hamper the ability of markets to elicit appropriate responses from buyers and sellers.

Finally, although it is not easy to determine the exact effect of biofuels on food prices, the use of maize in biofuel production has increased demand for maize and arable land, which further stimulates price increases. The World Economic Outlook from the International Monetary Fund states that higher fuel prices have played a role in the increased cost of food production. Higher prices in maize are predicted to increase the costs of partial substitutes (including wheat, rice and other edible oils) and increase the costs of animal rearing, as maize is an important ingredient in feedstock³.

Complex Problems Require Complex Solutions

Without appropriate interventions, the food crisis is not likely to resolve itself. In determining the proper response we must take into consideration that “Food crop prices are expected to remain high in 2008 and 2009 and then start to decline as supply and demand respond to high prices; however, they are likely to remain well above the 2004 levels through 2015 for most food crops. Forecasts of other major organizations (FAO, OECD and USDA) that regularly monitor and project commodity prices are broadly consistent with the projections.”⁴ It is unlikely that demand will decline markedly in the future so to lower prices supply needs to be increased. Increasing agricultural production will require input from developing countries, international organizations, and donors.

While many parts of Asia and Latin America benefited substantially from the Green Revolution and subsequent developments, a good number of African countries did not experience the same technological advancements. Over half of the people in Sub-Saharan Africa live in rural areas where they spend 80 percent of their income on food. Three-quarters of what the International Food Policy Research Institute (IFPRI) calls “the world’s ultra-poor” live in Sub-Saharan Africa, and there has been little success in decreasing this number⁵. In the recent past, African heads of state committed to increase expenditures of their national budgets dedicated to agriculture to 10 percent. Although this pledge represents a laudable goal, many countries have been unable to attain it. Strong action by developing country governments to support increased agriculture production and rural income generation is essential if the food crisis is to be successfully addressed.

Just as it did in the decades surrounding the Green Revolution, the United States government can contribute to solving the current world food crisis as well. Unfortunately, funding for agricultural research and development has been notably diminished in recent years, whereby the 2008 allocation of USAID funds includes no core

3 “The World Economic Outlook: Spillovers and Cycles in the Global Economy,” paper by the International Monetary Fund, April, 2007.

4 Paper of the World Bank, “Rising Food Prices: Policy Options and World Bank Response,” April, 2008.

5 IFPRI, “The World’s Most Deprived: Characteristics and Causes of Extreme Poverty and Hunger,” <http://www.ifpri.org/media/20071106Deprived/mostdeprivedfindings07.asp>.

funding for the Consultative Group for International Agricultural Research; and funding for Title XII, the Famine Prevention and Freedom From Hunger Improvement Act that engages U.S. universities in building agriculture capacity in developing countries, has been reduced to only a small fraction of what it was two and three decades ago. The 2009 budget submitted by the President does not appear to increase agriculture funding above 2008 levels. (The supplemental bill does have new funds for agriculture, but a large fraction is for emergency food aid rather than long-term development investments). To reverse this trend and be instrumental in ending the current situation, the U.S. government and USAID should rediscover their previous commitment to agriculture and specifically food production.

The World Bank and the U.S. should lead the way back to sustained and substantial support for long-term agricultural development. In the last several years, USAID monies have increasingly been used to respond to critical immediate needs, including an array of natural disasters, with goods and services. While no one would argue the need for short-term relief, investment in the longer-term provides the capacity for people to deal with their short-term challenges. Most people at USAID believe that producing more food in the developing world is central to healthy and better lives and would welcome additional resources for that purpose. Programming funded by USAID needs to be integrated to support both the short-term relief efforts and longer-term agricultural development initiatives current world food crisis and as a whole. This approach effort to build scientific institutional, in developing be generated within those to not only solve the food to dynamic economic and

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research and sustainable to adequately address the sustainable development should include a major capacity, both human and countries so solutions can countries as a major step crisis, but enable transition social growth.

The GL-CRSP Response

The CRSP model was designed in the late 1970s specifically to address these longer-term fundamentals through agricultural research, education and capacity training, and what would later become sustainable development. Through research conducted over the past decade, the Global Livestock Collaborative Research Support Program (GL-CRSP) has developed a comprehensive livelihood enhancement and support strategy that both assists rural households in responding to short-term shocks, as well focusing on longer-term capacity development and research essential to sustainable development. In a food crisis situation, GL-CRSP programming, developed around the theme of risk in a changing environment, is ideally suited to mitigate the consequences of rising food costs for rural households, while also supporting the households in their ability to take advantage of higher food prices.

Risk Management. The ability of households to respond to increasing food prices is, in essence, dependent on the extent to which the household is reliant on purchased food for subsistence. Pastoral producers in East Africa have become increasingly reliant on purchased foods, mainly cereals, due to population growth in the absence of corresponding increases in livestock productivity. The effect of diminished tropical livestock units per capita forces pastoralists to rely increasingly on non-livestock products for survival. This reliance on cereals puts pastoralists at high risk of food insecurity and malnutrition, especially during times of drought, when domestic grain markets are low in supply, and forage and water availability for livestock are increasingly scarce. Higher food prices reduce the purchasing power of pastoral households reliant on livestock sales, and drought significantly reduces the opportunities for transforming livestock assets into cash. In the face

of such challenges, enabling vulnerable communities to respond requires a multi-tiered strategy combining diversified income generating activities that support pastoral production with capacity building and training programs that help develop the group governance and management skills to mitigate risk.

GL-CRSP projects have developed a comprehensive risk management strategy focusing on diversifying livelihoods through income generating activities and the development of collective action groups to engage markets and improve incomes. Based on the research of the GL-CRSP Pastoral Risk Management (PARIMA) project, collective groups in Ethiopia have been successful in microfinance and livestock marketing and have since graduated into legally recognized producer cooperatives. The original PARIMA groups are located across five districts on Ethiopia's Borana Plateau and contain over 2,200 members, 76 percent of whom are women. The model has been so successful that organization of livestock collective action groups is ongoing across the border in northern Kenya and has been incorporated into a separate project focused on enhancing child nutrition in Ghana. These programs enable pastoral and agricultural households to develop strategies to cope with risk by increasing income generating activities and minimizing adverse impacts associated with external shocks, including rising food prices.

Market Access. Livestock represent a significant asset to pastoral and agro-pastoral communities throughout Sub-Saharan Africa. Transforming this asset into monetary income, however, requires access to markets and market information that enable producers to take advantage of preferable terms of trade. A main contributing factor to the rising cost of food is increasing global demand for livestock products, especially in rapidly growing economies, which diverts agricultural production away from food crops towards livestock feed. This presents a unique opportunity for pastoral producers to benefit from changing terms of trade, as extensive rangeland-based livestock production systems have the capacity to supply growing consumer demand at a considerably lower cost.

The fundamental obstacle to linking pastoral and agro-pastoral African producers with growing global livestock demand is market access. Imperfect information, infrastructural challenges, quality control and weak regulatory mechanisms, all contribute to arresting the possibilities of smallholder producer participation in regional and international livestock markets. The GL-CRSP has invested considerable resources in the development of appropriate and sustainable solutions to the market access challenge, culminating in the establishment of Livestock Marketing Information and Early Warning Systems (LINKS-LEWS) currently active in Ethiopia, Kenya, Tanzania, and Uganda. The LINKS-LEWS programs provide real-time forage availability, water resource, conflict, and market price information via Internet, radio, Short Message Service, and other channels, to policy makers, market traders and middlemen, and livestock producers throughout East Africa. The LINKS-LEWS technology suite has provided the necessary framework for pastoral producers to become informed, forewarned, and empowered in order to make production and marketing decisions that mitigate risk associated with adverse environmental and economic shocks.

GL-CRSP Livestock Early Warning and Market Information research has also been extended to Mongolia, where it has been successfully incorporated into eight aimags and institutionalized as a tool for improved prediction of forage availability, management of pastoral migration, and early detection of drought and other rangeland management concerns. A major step in ensuring the effective utilization of early warning and market information technologies is the education of herders and pastoralists on the benefits of LINKS-LEWS technologies. Activities focus on the development of herder cooperatives based on the American herder cooperative model. The success of these cooperatives is intended to improve pastoral livestock marketing thereby increasing herder income and livelihood and minimizing the possibilities for resource degradation and conflict.

Most recently, the USAID Mission in Mali identified an overall goal of improving productivity and income of producers in the northern region of Mali by enabling them to access technologies and build capacity through the development of an extensive livestock information system. In response to this goal and with strong Mission support, the GL-CRSP Mali Livestock and Pastoralist Initiative (MLPI) project was formed in early 2008. The objective of this effort was to take successful technologies and tools developed and implemented in East Africa and transfer them to Mali with emphasis on the northern regions of the country. MLPI will utilize LINKS technologies and PARIMA risk assessment tools to establish a livestock market information system (LMIS) and build capacity for improving options for marketing and fattening of livestock in the region. Through this integrated approach combining market access with improved income generating potential and risk management capability, the GL-CRSP has better insured pastoralists in East Africa, Mongolia and now West Africa against risks stemming from both internal and external sources.

Micro-enterprise and Diversified Livelihood Strategies. A critical component of adapting to rising food prices is the ability to both generate and accumulate capital and resources. Without this ability, households risk significant decline in purchasing power contributing to greater food insecurity and malnutrition, thus driving vulnerable populations into deeper cycles of poverty. For rural households, diversifying livelihood strategies offers a risk management mechanism that protects against over-reliance on a single production system. In the event of drought-induced crop failure, for example, a household may fall back on charcoal production for food purchases. Furthermore, diversified strategies allow a household facing rising food prices to revert to other livelihood strategies (e.g. collecting wild honey, or marketing crafts and other non-agricultural products) along with crops.

The GL-CRSP recognizes the critical contribution that diversified livelihood strategies make in risk management but has identified capacity building and social organization development as crucial elements in supporting the success of such strategies. Through comprehensive training and capacity building programs targeted at diverse groups of rural producers throughout Sub-Saharan Africa, GL-CRSP projects have developed women's collective action groups, producers organizations, water resource user associations, herder-alliances, and cooperatives that support income generating activities, micro-credit, and other livelihood enhancement programs, and provide social networks and resources for households to collectively manage risk.

Through GL-CRSP supported programs, these groups have successfully marketed thousands of livestock products to the Middle East, established nurseries and reforestation projects in the Rift Valley, launched successful micro-enterprises in water filtration technologies and agricultural processing, and provided credit and loan opportunities for previously marginalized populations. By supporting the development of social networks and organizations, GL-CRSP programs have enabled rural communities to develop greater market interconnectivity, both within and among villages and regions, thereby increasing the opportunities for livelihood diversification through greater access to regional markets.

Health and Nutrition. Higher food prices lower the purchasing power of the rural poor and can change household food consumption patterns. If rising costs of food are coupled with drought or poor harvest, the impact on rural communities can be devastating. Food insecurity is not only defined by the lack of access to a large enough quantity of food, but also by the lack of access to food of high, nutritious quality.

Households facing rising food prices may react by downsizing portions, eliminating meals, or substituting high calorie per unit cost foods, such as cereals, for other more nutritious foods, such as milk, meat, and horticultural products. Despite increasing the caloric terms of trade, households risk diminishing nutrition, especially in children and immuno-compromised populations. Malnutrition is a serious threat to capacity



and economy as it increases overall risks of disease and contributes to lower income generating potential through lost labor hours, compounding the effects of higher food prices.

Throughout its history, the GL-CRSP has been committed to understanding the linkages between nutrition, health, and human capacity and has developed several programs targeting enhanced nutrition through income generating activities, social network and organizational development, and improved livestock production, especially among children and mothers infected with HIV. GL-CRSP programs in Ghana and Kenya are actively employing interdisciplinary teams and public-private partnerships in efforts to spur community empowerment, centered on nutrition education and livelihood enhancement. Experimental field trials are underway to assess the potential use of animal source foods in diets of HIV-infected mothers and their children to support healthy immune system function and cognitive capacity development.

In addition, a nutrition extension course, the first of its kind, developed through the GL-CRSP, is being offered at the University of Ghana and is expected to assist in nutrition education efforts at the village level to minimize adverse health impacts associated with a low quality diet. While recognizing that education alone cannot protect against malnutrition in resource-constrained households, the GL-CRSP has integrated education, outreach, capacity building, and livelihood enhancement to enable women to use income generating activities to buffer rural households against risk, and in the face of this new crisis, against rising food prices. Remarkably, previously poor women in the program have successfully saved \$1000 in a year, attracting the attention of rural banks that now want to spread the program and are investing in training using the GL-CRSP approach and materials.

Capacity Building and Leadership. Primary, secondary and higher education are all necessary contributors to building a country's human capacity, including a strong agriculture sector. People trained and capable of performing in today's information-based global economies, able to create the standards, the laws, and the technologies that are essential for stable societies and economic growth, are much needed in developing countries to drive progress in the private and public sector. Development is about helping people acquire the necessary knowledge and tools so that their creativity and motivation can be harnessed as an important source of power for economic growth.

The Global Livestock CRSP recognizes human capacity building as a fundamental and essential component of development and our national security. The CRSP model, with long-term commitments and an interdisciplinary, problem-solving focus, embodies the essential characteristics that result in high rates of return of host country students (96 percent), well-trained individuals with vision and creativity, and potential leaders for their nation's scientific and political future.

In complementary fashion, our U.S. students not only participate in the solving of development problems, but also become globally competent to fill leadership roles in international endeavors. The GL-CRSP design provides for a wide range of training possibilities and employs both traditional and innovative strategies to achieve its training goals. From 1998-2007, the GL-CRSP has supported 252 students from 26 countries (40 percent women) in fields ranging from Rangeland Ecology and Management to Civil Engineering, Nutrition, and Veterinary Medicine. The GL-CRSP has also provided job, education, and life skill training to approximately 19,500 individuals (51 percent women) from 27 countries in various fields including, but not limited to: poultry production, micro-finance and credit, natural resource management, fiber production and quality assessment, zoonotic disease prevention and response, and child nutrition.

Partnerships in Knowledge are Critical

Extending new knowledge to farmers and livestock producers in developing communities, especially in African countries, is a challenge. Personnel-intensive U.S. style extension systems have not been financially sustainable in most of Africa. New combinations and approaches to extension are required. Finally, universities have a critical role to play in development. The agriculture education and the problem solving capacity of African universities should not go unnoticed and should be supported as contributors to growth of the agricultural sector.

Host country universities and higher education are thus critical to development and form an integral part of the GL-CRSP model through partnerships and collaborations. It is these types of partnerships, that include public institutions, private enterprise, civil society, international and host country organizations and individuals, united to enhance livelihoods and develop a sustainable and profitable agriculture sector, that will have the capacity to appropriately respond to the world food crisis and significantly improve food production in the developing world.