
KENYA: TOWARDS A NATIONAL CROP & LIVESTOCK INSURANCE PROGRAM

SUMMARY OF POLICY SUGGESTIONS

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**Disaster Risk Financing
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ILRI
INTERNATIONAL
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KENYA: TOWARDS A NATIONAL CROP AND LIVESTOCK INSURANCE PROGRAM

SUMMARY OF POLICY SUGGESTIONS

A. EXECUTIVE SUMMARY

THE PROBLEM:

The large majority of farmers in Kenya remain vulnerable to natural disasters, a fact that poses a significant social and economic problem. More than two thirds of the Kenyan population is dependent on agriculture, livestock, fisheries, and related production for their livelihoods. Over 75 percent of Kenyan farmers are smallholder subsistence farmers who are highly vulnerable to the economic effects of natural hazards like drought and flooding.

Severe drought, in particular, strikes northern Kenya approximately every three to five years, and the losses are major. For example, during the very severe droughts between 2008 and 2011, the Kenyan economy lost an estimated KShs 968.6 billion (US\$12.1 billion). The livestock sector alone incurred 72 percent of that loss, or KShs 699.3 billion, followed by the agriculture sector at 12.5 percent, or KShs 121.1 billion. Such devastating disasters push better off farmers and pastoralists into poverty, and the already poor into destitution, and can take years to recover from. They can also make it more costly or simply impossible for them to take out loans, limiting opportunities for agricultural producers to invest in better tools and technologies to increase productivity.

Agricultural insurance can provide much-needed protection to keep farmers out of extreme poverty, and enable them to invest in their future; however the current agricultural insurance market in Kenya is suffering from a clear market failure. Like much of sub-Saharan Africa, the development of successful and large-scale agricultural insurance markets is constrained by:

- a lack of timely, audited data, needed to accurately estimate premiums and payouts;
- very little understanding of and trust in insurance by agricultural producers; and

- the inability of insurers to adequately access international reinsurance markets—which allow insurance companies to off-load some risk off their balance sheets—leaving private, national- or local-level insurers exposed to catastrophic risk and much higher premiums.

THE SOLUTION

Large-scale agricultural insurance, if implemented as a public-private partnership, can smooth agricultural income during shocks and thereby provide protection for vulnerable populations. International experience shows that sustainable, scaled up agricultural insurance programs that benefit vulnerable farmers and herders require engagement, innovation and action from both the public and the private sector.

OUR PROPOSAL

Against this background, the Government of Kenya may wish to partner with counties and the private sector to implement an agricultural insurance public-private partnership to protect farmers and pastoralists.

- For crop insurance, we recommend that the Government of Kenya consider implementing an “area-yield index insurance” approach, initially for maize and for wheat. Under such an approach, insured farmers would receive a claim payment if the area average yield, as measured through a series of crop cutting experiments, was critically low.
- For livestock insurance, the Government may consider purchasing on behalf of some of Kenya’s most vulnerable pastoralists index insurance that relies on free, international satellite data which tracks the amount of green forage on the ground. When data indicates there is not enough forage to keep animals alive, herders receive a payout. Such an initiative could be complemented by a market for livestock insurance over and above the cover purchased by Government. For this, it can build on previous substantial experience made by the International Livestock Research Institute (ILRI) in the arid and semi-arid lands.

COSTS AND BENEFITS

Implementing a public-private partnership in agricultural insurance could be a way for Kenya to simultaneously address the agricultural sector’s vulnerability, and to double crop yields in some regions. For example, the Government could encourage agricultural lenders—including national- and local-level banks and credit unions—to bundle credit provision to farmers with agricultural insurance. Such an approach would not only reach

a great number of potential policyholders but could also boost agricultural productivity since it encourages farmers to take the risk of borrowing more money to invest in improving their farms, such as buying better seeds and fertilizer. By helping pastoralists to keep their livestock, particularly their breeding livestock, alive, livestock insurance could help pastoralists to protect their herds, supporting them in building large, resilient herds.

Providing financial support to agriculture insurance could be an effective way of restructuring disaster relief response efforts that happen in Kenya on a regular basis, making them more affordable, faster, and more effective. Indeed, the Government of Kenya and donors are already financially protecting rural livelihoods during times of disaster. Over the last 10 years drought and flood response mechanisms have cost the Government and donors US\$57 million and US\$102 million respectively per year on average. Most of that support was spent on humanitarian food assistance, but the financing of this cost has typically been sought after a drought or flood has already been declared. Through using insurance markets and the broader financial system, a market mediated approach to agricultural insurance and scalable social protection can reduce the uncertainty and increase the speed of humanitarian response expenditure (leading to potential welfare gains), while at the same time crowding in private insurance and reinsurance markets in Kenya.

The Government may consider taking on a number of functions to support the creation of a sustainable agricultural insurance market. This would require both a financial investment and a range of support measures to correct market failures, such as:

- The Government could ensure the timely collection and provision of reliable agricultural insurance data for commercial insurers through relevant government agencies such as the Ministry of Agriculture, Livestock and Fisheries. This would involve conducting more and better reporting of “crop cutting experiments” to enable more localized—and thus accurate—average yield estimates.
- The Government could also support commercial insurers in reaching out to potential policyholders by:
 - providing financial support to help reduce the cost of premium payments; enabling distribution of agricultural insurance through publicly supported distribution channels, such as publicly supported agricultural credit or cash transfer programs like the Hunger Safety Net Program; and
 - through public information marketing campaigns.

We analyze the costs and benefits of a program under which government covers 50 percent of the cost of crop insurance for wheat and maize farmers and up to 100 percent of the cost of livestock insurance premiums, depending on beneficiary income levels. Government would cover premium payments at rates ranging from 100 percent to none at all.

Over the first five years of operation, we estimate that the annual average fiscal cost to national and county governments of such a program would be KShs 519 million, making agricultural insurance affordable for approximately 136,000 agricultural producers. We analyze the costs and benefits of a program under which government covers 50 percent of the cost of crop insurance for wheat and maize farmers and up to 100 percent of the cost of livestock insurance premiums, depending on beneficiary income. The fiscal cost to government would slowly rise as more producers purchase insurance every year. Other Government fiscal costs include covering the operational costs of insurance companies and increasing the number of crop cutting experiments. Part of the fiscal cost of agricultural insurance may be seen as upfront financing for Government's existing contingent liability in respect of ad hoc financial protection to farmers and pastoralists against droughts and floods.

TABLE 1. ILLUSTRATIVE FISCAL COSTING FOR AGRICULTURAL INSURANCE PROGRAMS OVER THE FIRST FIVE YEARS OF OPERATION (KSHS MILLIONS)

Program description	Estimated annual average fiscal cost to national and county governments over first five years (KShs millions)	Assumed average number of producers covered over first five years	Average cost per producer per year (KShs)
Maize: area yield index insurance	273	54,900	5,000
Wheat: area yield index insurance	37	3,900	9,500
Pastoralists: satellite-based livestock protection insurance (fully subsidized)	200	72,000	2,800
Pastoralists: satellite-based livestock protection insurance (partially subsidized)	9	5,500	1,600
TOTAL	519	136,300	

THE WAY FORWARD

The most important policy decisions that need to be taken by the Government include whether to move forward with program design and implementation, which agricultural commodities and farmers to prioritize, and how national and county governments would share costs with farmers. The next steps that could be undertaken are listed in Annex 1.

INTRODUCTION

At the request of and with the guidance of the Government of Kenya, a team of national and international experts conducted an appraisal of different agricultural insurance options for Kenya. This appraisal, as set out in this document and the accompanying technical analysis, lays out the costs and benefits of developing large-scale agricultural insurance that involves both the public and private spheres. The appraisal team includes representatives from the World Bank's Agricultural Insurance Development Program (AIDP), the International Livestock Research Institute, and Kenya's Financial Sector Deepening Trust. The analysis builds on the 2013 Situational Analysis jointly conducted by the Ministry of Agriculture, Livestock, and Fisheries and the German Federal Enterprise for International Cooperation's (GIZ) Adaption to Climate Change and Insurance (ACCI) Project, and has included analysis of potential structures, the fiscal cost to government and the economic impact on farmers, thus providing a suite of evidence that may be useful for Government deliberations.

The World Bank-led analysis, as outlined in this policy note, includes an analysis of potential structures for large-scale agricultural insurance in Kenya, the fiscal cost to the Government of Kenya, and the economic benefits for farmers and pastoralists. It is intended to provide the government with important information for future deliberations on this issue. This work on agricultural insurance fits within a broader agricultural risk assessment being conducted in parallel by the World Bank's Agricultural Risk Management Team.

THE PROBLEM: THE AGRICULTURE SECTOR'S VULNERABILITY TO NATURAL DISASTERS

1. ***Agriculture is the mainstay of Kenya's economy.*** The agricultural sector accounts for 61 percent of employment and 29 percent of GDP. Over three-quarters of Kenya's population lives in rural areas and 61 percent are dependent on agriculture, livestock, fisheries, and related production for their livelihoods. In Kenya's northern and central regions, pastoralism accounts for 90 percent of employment and 95 percent of family incomes.
2. ***Most crop and livestock production in Kenya is rain-fed and as such is highly exposed to the weather-related perils of drought and flooding as well as to pests and disease.*** According to international scientific consensus, weather-related natural hazards will become even more unpredictable and greater in scale in the coming years.
 - Since 1970, Kenya has experienced a total of 41 flood events and 12 drought events, affecting 6.9 million people and 47 million people respectively over this period.
 - Drought in particular is the most significant cause of losses to crop and livestock production in Kenya, accounting for KShs 699 billion in livestock losses and KShs 121 billion in crop losses between 2008 and 2011 alone.¹
 - Government statistics show the loss of nearly one million heads of cattle between 2008 and 2009, accounting for five percent of the country's national herd.¹
3. ***Disaster-related expenses are often unpredictable and can be of significant size, but post-disaster relief is often inefficient.*** For example:
 - Over the past 12 years, the Government of Kenya has spent on average KShs 4.2 billion per year on disaster relief funding. During the catastrophic

¹ Government of Kenya Post-Disaster Needs Assessment (PDNA) for the 2008-2011 Drought.

drought years from 2008 to 2011 this unbudgeted funding requirement rose to KShs 9.3 billion per year.²

- Post-disaster funding is often prone to lengthy delays (up to 9 to 12 months or more).
- Post-disaster relief can be poorly targeted and distributed in a way that those farmers most in need of financial assistance do not receive the funds.

Employing agricultural insurance as a financing instrument and thereby planning for disaster before it strikes can help overcome these problems.

4. ***Against this background, the Government of Kenya has identified the agricultural sector as an important area of focus under its Kenya Vision 2030 plan, which aims to transform Kenya into a middle-income country.*** Agricultural insurance is a stated priority of government, as reflected in the Medium Term Plan II.

PUBLIC-PRIVATE AGRICULTURAL INSURANCE AS PART OF THE SOLUTION

5. ***Agriculture insurance can help to soften the economic blow of natural disasters.*** Agricultural insurance programs that are carefully designed and implemented can increase farmers' access to credit, improve agricultural productivity, reduce the economy's vulnerability to the effects of natural hazards, and provide much-needed social protection to the poor.
6. ***Some agricultural insurance products are already being offered in Kenya by commercial insurers.*** Largely in the absence of government support so far, eight local insurers currently underwrite two kinds of agricultural insurance programs in Kenya:
 - (i) Traditional indemnity-based crop and livestock insurance products—in which insurance companies reimburse policyholders for their losses, up to the limiting amount of the policy—marketed to medium-sized and large commercial cereal producers and commercial dairy farmers; and

² Ministry of Agriculture, Livestock and Fisheries/GIZ Adaption to Climate Change and Insurance Project 2013 Situational Analysis

- (ii) Pilot programs for index insurance—which depend on an index, such as rainfall, to determine pay outs—that are being developed with donor assistance and are specifically tailored for small and semi-commercial crop producers and pastoralists who have the potential to go fully commercial.³

However, the agricultural insurance market in Kenya is still very small and those who would benefit most—subsistence and small commercial farmers and pastoralists—are largely excluded from it. Despite the products already on offer, less than one percent of Kenyan farmers have some form of crop or livestock insurance cover. This is largely because most of the currently offered agricultural insurance products in Kenya do not cater to the needs of the smallholding and mainly subsistence-based crop and livestock producers who make up more than 75 percent of the agricultural population.⁴ These producers are mainly located in the arid and semi-arid lands (ASAL) of Kenya and are particularly vulnerable to losing their livelihoods during the severe droughts that affect Kenya every three to five years.⁵ Instead of safeguarding themselves with insurance products, they depend on support from the Government and donor partners through disaster relief assistance. Without scale, very few insurance companies in Kenya are covering their administration and operating costs for their agricultural insurance business lines, let alone generating profits on a sustained basis. Going forward there are major challenges for these companies as to how to reach more potential policyholders, make a profit, and achieve long-term sustainability.

- 7. **A strong partnership between the public sector and the private sector could provide the foundation for a scaled up and sustainable agricultural insurance program in Kenya.** The importance of both government and the private sector being involved has been shown time and again through the experiences of other countries with developing economies. For example, when only private sector insurance companies are involved in providing agricultural insurance without

³ For a detailed review of these programs see 'Review of FSD's index-based weather insurance initiatives' (FSD, July 2013)

⁴ FAOSTAT 2014

⁵ Exceptions include the ILRI-IBLI-Takaful livestock predicted mortality index insurance program which is targeted as resource poor pastoralists located in northern Kenya and the UAP-Syngenta Weather Index Insurance program for small scale commercial crop producers - this program is, however, mainly located in higher rainfall regions of south western and southern Kenya as opposed to subsistence farmers in the ASAL regions.

government support, often the necessary insurance data is unavailable. This includes, for example, crop yield data, which can be expensive and technically difficult for the private sector to gather without support from government.

Meanwhile, when the government alone offers agricultural insurance, it often faces difficulty in distributing policies, delivering payouts, and paying claims because of lack of infrastructure and expertise in these areas. Experience from agriculture insurance schemes developed across the world (for example in India, Mongolia and Morocco) shows that public-private partnerships can overcome these challenges by building on the comparative advantages of the respective sectors.

8. *Agricultural insurance suffers from market inefficiencies that government involvement can help overcome.* Some typical market inefficiencies found in Kenya that could be addressed through government intervention include:

- (i) Data required for agricultural insurance, including weather data, yield data, and livestock ownership and mortality data, is currently not collected and made available to insurance companies in a reliable, audited, and systematic manner;
- (ii) Many times, commercial insurers cannot reinsure their agricultural insurance portfolio on international markets because of poor quality or untested data collection systems. International reinsurance is critical to ensure that large-scale agricultural insurance initiatives are financially sustainable. Otherwise companies may face massive losses; and
- (iii) Products are typically complex and potential policyholders are often unable to differentiate between good and bad products, weakening incentives for insurers to invest in better products.

9. *Government contributions through a public-private partnership in agricultural insurance could solve market inefficiencies.* (See Box 1 on Mongolia.) For example, government can support:

- (i) The collection and management of reliable agricultural insurance data;
- (ii) Reaching out to potential policyholders through financial literacy campaigns or by bundling agricultural insurance with existing distribution channels, such as publicly supported agricultural loans;
- (iii) Partial public reinsurance for private insurers;
- (iv) The promotion of a coinsurance pool through which private sector insurers can collaborate in areas in which it is economically efficient for them to do so;
- (v) Provide technical expertise in insurance product design and development;

- (vi) The establishment and implementation of an enabling legal and regulatory environment, for example by ensuring that consumers are protected against potential abuse by insurers.

BOX 1: HOW GOVERNMENT SUPPORTS LIVESTOCK INSURANCE IN MONGOLIA

Since 2005, the World Bank has supported the Government of Mongolia in setting up a public-private partnership with domestic insurance companies to offer affordable and cost-effective insurance coverage to herders. Today, 16 percent of the approximately 1 million herders in the country are insured under the Index-Based Livestock Insurance Program (IBLIP).

While the Government of Mongolia significantly subsidizes the national program, the subsidization does not take the form of direct premium subsidies. Instead:

1. The Government pays for the collection of all data used in the livestock insurance scheme, and provides audited data to accredited insurance companies in a timely manner.
2. The Government also provides a “social layer” of reinsurance to all farmers at no additional cost. While farmers purchase insurance priced commercially against relatively frequent shocks, the social layer protects against infrequent catastrophic losses when the insurance is exhausted. In other words, the Government guarantees payouts in extreme natural disaster situations, allowing insurance companies to offer affordable premiums to policyholders. Additionally, thanks to this publically funded extra layer of insurance, policyholders possess additional coverage beyond that of the insurance they purchase.
3. Finally, government extension workers provide education to herders about livestock insurance and its potential use as part of a holistic approach to herd risk management.

10. ***Meanwhile, private sector insurers provide the necessary expertise to implement large-scale agricultural insurance successfully, since providing insurance is, of course, their core business.*** International experience shows that agricultural insurance is most effective when private insurers contribute to certain tasks, including:

- Collecting, auditing and managing data;
- Marketing and distributing insurance products;
- Designing and pricing insurance products; and
- Underwriting the risk;

- Claims management and loss adjustment; and
- Making decisions concerning risk retention and reinsurance strategies.

OUR PROPOSAL AND ITS BENEFITS

A PUBLIC-PRIVATE AGRICULTURAL INSURANCE PROGRAM FOR KENYA

11. ***We propose that the Government of Kenya considers establishing a public-private partnership covering both crop and livestock insurance.*** The accompanying technical report *Kenya: Agricultural Insurance Solutions Appraisal* suggests an agricultural insurance public-private partnership for maize, wheat, and pastoralist livestock—including cattle, goats, sheep, and camels—to show the concrete potential costs and benefits if Kenya were to adopt a large-scale agricultural insurance program aimed at these target segments of the agricultural community. Our proposal could then be extended to cover other agricultural commodities such as coffee or horticulture, with appropriate modifications.
12. ***The intended beneficiaries of the large-scale public-private agricultural insurance program include both the very large numbers of subsistence crop and livestock producers located in the low rainfall ASAL regions of Kenya as well as Kenya's emerging class of smallholder commercial crop producers.*** This latter group in particular is extremely important for the production of food and cash crops, and their success is crucial to achieving Kenya's Vision 2030. However, because of lack of money and access to credit, these farmers mostly use outdated and low-quality seed and fertilizer technology. A package of insurance and inputs on credit could help to remedy this problem.

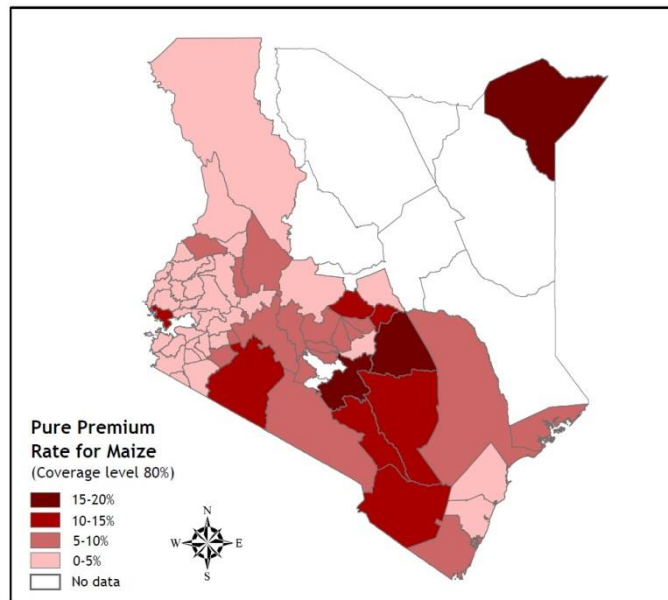
CROP INSURANCE

13. ***For crop insurance, an insurance program based on an area average approach would be most appropriate for small commercial crop producers in Kenya.*** Specifically, we propose a large-scale “area yield index insurance” program. In such a program the actual average yield of the insured crop across the pre-defined geographical area is measured through audited crop cutting experiments, and is compared to a pre-agreed threshold yield. If the measured average yield for an area is lower than the threshold yield, all insured farmers within that area are eligible for the same rate of claim payment. Individual crop insurance would be

prohibitively expensive, or even impossible on technical and administrative grounds, for small-scale semi-commercial farms in a country such as Kenya.

14. ***We propose that the Government of Kenya considers initially piloting the agricultural insurance public-private partnership for wheat and maize farmers in selected counties.*** The accompanying background report explicitly investigates insurance for maize and wheat and finds that area yield index insurance would be the most appropriate product. Analysis of product design has not yet been conducted for other crops.
15. ***Crop insurance will be most effective if linked to production loans that farmers take out to invest in their crop yield.*** Bundling agricultural insurance with production loans results in four key benefits:
 - (i) ***It can help the insurance program to achieve scale quickly:*** Many large-scale agricultural insurance programs in low- and middle-income countries (for example China and India) have achieved scale—meaning at least a fifth of farmers are protected—In part due to banks or government bundling insurance with agricultural credit on a compulsory basis
 - (ii) ***It can increase rural lending and thus agricultural productivity:*** As Figure 1 shows, the production risk faced by crop producers in Kenya, as measured by the fair cost of insuring the risk (the ‘pure premium rate’), varies significantly from division to division. Without a way to put a price on this risk and manage it, banks typically restrict their lending to farmers, referred to as “risk rationing.” Agricultural insurance can both put a price on risk and allow banks to transfer the risk off of their balance sheets, enabling greater lending to support investments in better seeds, fertilizers, and new technologies.
 - (iii) ***It protects farmers:*** Agricultural insurance can protect farm income and revenue in times of severe crop losses and ensure that the farmer is able to repay his/her loans, thereby remaining creditworthy.
 - (iv) ***It improves the solvency position of rural banks:*** Agricultural insurance reduces the vulnerability to natural hazards of both farmers and the banks that lend to them, protecting them against agricultural shocks.

FIGURE 1. PURE PREMIUM RATE AT 80% COVERAGE LEVEL OF MAIZE CROP IN KENYA



- We estimate that an area yield index insurance program linked to seasonal production credit for maize farmers could bring about significant productivity gains, up to double in medium and high potential areas of Kenya.*** Such an increase would strengthen Kenya’s food security and, if implemented on a large-scale—meaning 20 percent of farming households can access coverage—would move between one-third and two-thirds of poor maize farmers out of poverty. Such a program for wheat could support an increase in productivity of 65 percent.

LIVESTOCK INSURANCE

- For livestock insurance, we suggest the Government considers purchasing an index insurance cover against drought on behalf of selected vulnerable pastoralists in Mandera, Marsabit, Turkana, and Wajir counties.*** Building on the existing experience of Kenya’s International Livestock Research Institute (ILRI), we propose that the Government purchases, on behalf of selected vulnerable pastoralists (meaning a 100 percent subsidy), an insurance product that issues payouts based on a livestock mortality index. This kind of insurance where a government completely subsidizes the cost of the product is referred to as “macro coverage.” In case of a drought, the insurance companies would pay claims directly to the beneficiaries, allowing them to keep their livestock, particularly their breeding stock, alive. The Government could use the existing census conducted by the National Drought Management Authority for the Hunger Safety Net Program (HSNP)—which currently provides cash transfers to the 100,000 poorest

households across the four counties— to identify who would qualify for this free insurance coverage. The Government could also use the HSNP payment system as a way to distribute the payouts. In this way, existing infrastructure could be used to facilitate both identifying the beneficiaries and distributing the financial protection.

18. ***In addition, we propose that Government supports the development of a voluntary livestock insurance market beyond fully subsidized coverage for the very poor, based on ILRI's existing index insurance product.*** This product has been designed to finance the cost of replacing dead animals ('asset replacement'), rather than keeping them alive ('asset protection') and is currently already being marketed in two of the targeted four counties (Marsabit and Wajir) and could be extended to the other two. The Government could subsidize these additional policies, which would cover the slightly less vulnerable, at 50 percent. Over time it may be possible to investigate the possibility of offering an asset protection policy on a voluntary basis, but experience suggests that it could take between 18 and 24 months to design, test, and put in place the operating systems and procedures to market, underwrite, and administer such a product.
19. ***To be cost effective the Government-subsidized livestock macro coverage will need to be integrated into the framework of existing social protection and insurance programs.*** In the four suggested northern counties, two other relevant programs are already being operated – the Hunger Safety Net Program (HSNP) cash transfer for the 100,000 poorest households and the ILRI livestock index insurance program currently covering approximately 300 pastoralist households. To avoid overlap between the three programs, we propose that the State Department of Livestock utilizes the National Drought Management Authority's classification of households according to wealth status, and provides livestock insurance to the people immediately above the HSNP's target beneficiaries. The ILRI coverage (or, in the medium term, the Government index product) could cover wealthier households. This layering approach is illustrated in Table 2.

TABLE 2. PROPOSED LIVESTOCK SAFETY NET AND INSURANCE PROGRAM FOR KENYA'S FOUR HUNGER SAFETY NET PROGRAM COUNTIES: MANDERA, MARSABIT, TURKANA, AND WAJIR.

Form of financial protection against disasters	Income level of beneficiary	Number of pastoralists expected to be covered across four counties over next five years (out of 400,000 total)	Government's contribution to cost of premium or welfare payments	Cost per beneficiary for Government (KSh/year)
Unsubsidized livestock insurance	Middle-income (\$1/day or more)	0	0%	N/A
Partially-subsidized livestock insurance	Low-income (below US\$1/day)	5,500	50% ²	1,600
Wholly-subsidized livestock insurance	Ultra poor (below national rural poverty line of US\$0.5/day)	72,000	100% ²	2,800
Hunger Safety Net Program scalable cash transfers	Hardcore poor (below national food poverty line of US\$0.3/day)	100,000	100% ¹	21,000

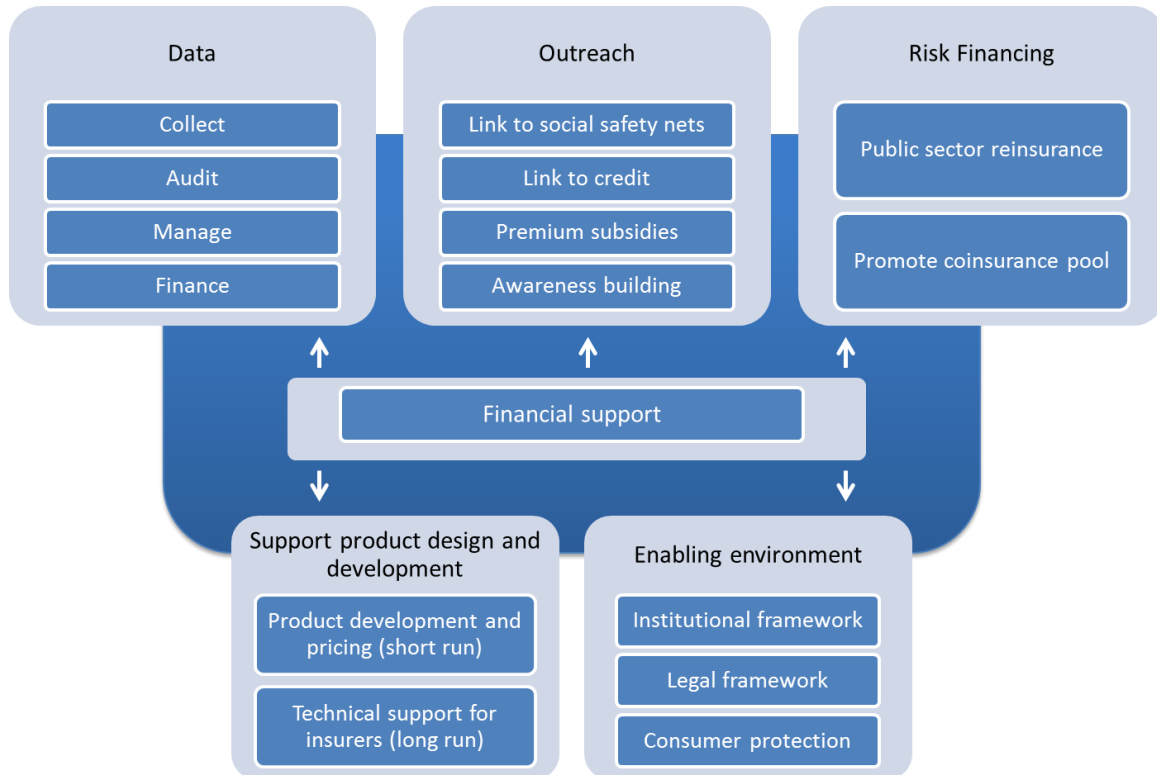
Notes: 1. National Drought Management Authority; 2. State Department of Livestock, based on annual assumed budget of KShs. 200 million per year.

20. ***We estimate that a large-scale program that insures pastoralists against drought and includes different levels of Government subsidies for premiums—to complement existing social protection to the poorest—would significantly reduce the risk that the poorest households would be forced into destitution during catastrophic droughts and could allow vulnerable households to grow their viable herd.*** The program reduces up to 80% the probability that vulnerable households would be forced into irreversible losses of viable herd that could trap them in long-term poverty. These impacts would greatly reduce food insecurity and chronic poverty in the region.

ROLE OF GOVERNMENT IN THE PROPOSED PUBLIC-PRIVATE PARTNERSHIP

21. **Figure 3 shows the roles and responsibilities that the Government of Kenya could consider taking on to bring about the development of sustainable agricultural insurance markets.**

Figure 2. Potential Roles for the Government of Kenya to consider in supporting agricultural insurance development in Kenya



22. **With regards to data, we propose that the Government consider increasing the number of crop cutting experiments for insurance purposes.** Crop cutting experiments are sample assessments of crop yields that are conducted in selected locations. They provide the data baseline that enable insurers to offer area yield insurance. In Kenya, crop cutting experiments are conducted by Ward officers.

However, in order for crop cutting experiments results to better represent actual yields, we recommend the Government considers expanding beyond the current number of crop cutting experiments to enable more localized yield estimation, as this would enable more accurately priced and designed insurance products to be offered to farmers. If the increased workload is too much for Ward officers, the Government may consider outsourcing some crop cutting experiments to private

companies, as has been done in India for example, with Ward officers providing oversight.

23. ***In addition, we recommend that the Government works with local insurers to establish an audit process for yield data that is acceptable to international reinsurers.*** Currently, the collection of agricultural production data is already being coordinated by government agencies, and work is underway to further enhance the data collection system. However, to be useful for insurance purposes, the data will need to be subject to a strict audit mechanism acceptable to international reinsurers.

For example, crop cutting experiment data can be shared electronically with insurers on the day of the cutting via cell phone, enabling real-time data auditing and therefore lower insurance premiums. This has been successfully piloted in India (see Box 2). In addition, insurers and government can conduct spot checks, and freely available satellite data can be used as an additional check. Without such an audit mechanism insurance will be too expensive for companies to offer, since without affordable access to international reinsurance markets they will be unable to off-load some of the risk from their balance sheets.

BOX 2: IMPROVING THE QUALITY OF YIELD DATA IN INDIA

For the past eight years, the World Bank has been providing technical assistance to improve the Government of India's agricultural insurance programs, which cover approximately 34 million farming households. The National Agricultural Insurance Scheme suffered from a number of problems, including a lack of consistency in the way crop cutting experiments were conducted and recorded, a scarcity of trained personnel, and insufficient monitoring of crop cutting experiments. As a result, the Scheme suffered from significant delays in paying claims to farmers, and did not always pay claims when farmers had been severely affected.

To address these challenges, the World Bank joined forces with the Agricultural Insurance Company of India to establish a pilot program where crop cutting experiments were video recorded with GPS-tagged footage using mobile phones. The data, along with the yield estimates, was then provided to insurance companies by text message at the time of the crop cuttings to allow real-time monitoring. This innovative use of technology greatly improves the quality of data collected and thus the trust of insurers and reinsurers and ultimately lowers the insurance and reinsurance premium. It is also an example of how the speed and auditing of data can be significantly improved through using developments in technology.

24. **The national and county governments may consider becoming involved with reaching out to potential policyholders.** Currently less than one percent of Kenyan agricultural producers are insured against the impact of natural disasters, mostly through small, fragmented donor-supported pilots. Our analysis, however, shows that 20 percent of farming households (approximately one million households) could be covered within the next five to eight years under public-private partnership programs. Achieving such large-scale coverage is fundamental to the sustainability of agricultural insurance programs as this enables costs of provision to be spread among numerous policyholders.

We recommend that the Government consider supporting greater insurance coverage rates by:

- Building on the existing infrastructure of the HSNP (specifically for the livestock insurance program);
- Encouraging credit institutions to make insurance compulsory for farmers who take out agricultural credit from agricultural banks (specifically for the crop insurance program);
- Providing financial support to reduce farmer premiums; and
- Launching public awareness campaigns through extension services.

25. ***Through other, more technical types of assistance, the Government of Kenya could further promote agricultural insurance.*** The highly specialized and technical nature of insurance solutions requires a great deal of technically sound support, both in the form of capacity within commercial insurance companies and in the form of a supportive regulatory and legal environment. The Government of Kenya could provide such support by:

- Offering technical expertise to insurers, such as how to design products and implement actuarial pricing;
- Acting as the insurer of last resort should damages and claims reach extreme levels; and
- Enacting legislation that enables the Insurance Regulatory Authority to establish and implement an appropriate regulatory framework.

26. ***We recommend that a Task Force is established to examine options for an institutional framework and that the Task Force should include representation from the Government of Kenya and the private sector.*** Among other things, the Task Force should consider both international experience and the local context to suggest the appropriate functions of the public and private sectors, and make recommendations for the development of an institutional framework to accommodate them. For the latter, as recommended by the ASCU report, the Task Force could consider whether a separate entity should be established with roles that include coordinating public policy and providing support to the individual private sector companies that elect to sign up for the PPP.
27. ***We recommend that the Task Force consider whether the Government of Kenya should promote the establishment of a coinsurance pool by interested insurers, which would enable the pooling of risk.*** Given the high costs of designing and distributing agricultural insurance to small farmers, some form of cooperation between insurers is desirable as it creates economies of scale and thereby cost savings for insurers. We therefore recommend that the Task Force consider whether Government of Kenya should consider promoting the establishment of an agricultural coinsurance pool by interested insurers. This would also enable the pooling of risk, which could ultimately result in making policies more affordable for farmers. Box 3 gives an example of such a coinsurance pool in Turkey.

BOX 3: SETTING UP A COINSURANCE POOL IN TURKEY

Prior to 2006 only 0.5 percent of farmland in Turkey was insured. A number of private insurance companies provided limited crop and greenhouse insurance, while livestock insurance was as-yet poorly developed. At the time, the Government did not support agricultural insurance, but rather provided limited ad hoc post-disaster relief to crop and livestock producers after catastrophic losses.

In 2006, the Government of Turkey established the Tarsim Agricultural Insurance Pool. Established by law, it comprises 16 private commercial companies, each with a 6.25 percent share in the company. Tarsim underwrites crop and livestock risk on the behalf of coinsurers. The Government subsidizes half of most premium payments. No other companies are allowed to offer agricultural insurance. With Tarsim operational, the number of policy sales has increased from 218,938 to 744,093 (an increase of 240 percent) and premium income for participating companies has increased from TL 47 million to TL 273 million (USD 23 million to USD 131 million, a 482 percent increase). Turkey has grown to be the third largest

agricultural insurance market in Europe by premium volume.

The advantages of Tarsim include:

- (i) Cost savings, since administrative and operating costs of all insurers are shared through the pool;
- (ii) Better reinsurance rates, as the pool can buy coverage for a more diversified portfolio than if each insurer tried to do it individually;
- (iii) The ability to maintain underwriting and data quality standards;
- (iv) Easier coordination of government support.

COST

28. ***Any large-scale agricultural insurance program aiming to benefit at least 20 percent of Kenyan farmers and livestock producers will entail a substantial fiscal cost to the Government.***
29. ***The fiscal implications of a large-scale insurance program depend on who the beneficiaries are, how much they contribute to the cost of financial protection, and the ratio of cost sharing between national and county governments.*** Everyone needs financial protection against disasters, but the Government may be willing to share a greater or lesser share of the costs depending on the commodity or geographical area. Firstly, the size of fiscal implications depends on how many policyholders will be eligible for insurance coverage. Secondly, the size of public subsidies determines the size of fiscal implications. Thirdly, public cost could be shared between central and regional governments. For example, counties could be offered the choice to opt in or opt out of any national agricultural insurance program, whereby counties that opted in would participate in cost sharing with national government and farmers.
30. ***The Government already offers some financial protection to farmers and pastoralists through drought and flood response mechanisms, and part of the fiscal cost of agricultural insurance may be seen as upfront financing for this existing contingent liability.*** Traditionally, government and donors have financed disaster responses ad hoc after a disaster has struck. Under an insurance solution, government and donors could shift the financing to ex-ante expenditure over a

longer time period through premium payments and/or subsidies. In this way, funds would be more readily available in the case of disaster.

31. ***Our calculations suggest that over the next five years, the Government could enable insurance coverage for an average of 59,000 crop producers and 78,000 pastoralists per year for an annual average total cost of KShs 519 million per year (see Table 1).*** These calculations take into account the cost of risk and the charges required to cover data, reinsurance fees, administration cost, tax, profits, and any other cost of doing business. They assume that the Government will subsidize 50 percent of maize and wheat insurance premiums, achieving average market penetration over the five year period of 6.4 percent and 9.3 percent, respectively. For livestock insurance, it is assumed that the Government covers from the start 100 percent of macro cover premiums and from year three, 50 percent of top-up cover premiums and 25 percent of voluntary cover premiums.

MOVING FORWARD

32. ***If the Government wishes to partner with the private sector to prepare and implement a large scale agricultural insurance program we would suggest the following next steps.***
33. ***We suggest that the Government of Kenya, building on the recommendations by the Task Force, takes the lead in formulating a national policy on agriculture insurance, in cooperation with county administrations and private insurance companies.*** The policy should address the objectives for agricultural insurance, including social objectives, the functions and roles of each party to the PPP and the institutions most suitable for delivering those functions. Once finalised, the policy will provide the blueprint for the institutional framework.
34. ***We propose that the Government of Kenya develops a roadmap for establishing the required institutions to enable large-scale agricultural insurance programs, with the goal of covering at least a fifth of Kenya's agricultural producers.*** In order to offer livestock insurance by early 2015, interim responsibilities for relevant tasks should be assigned within the Government until an institutional solution is established.
35. ***As next steps for establishing livestock insurance, we recommend that the Government of Kenya decides on a number of outstanding questions on how to integrate the proposed insurance product with other existing protection***

mechanisms. In order to purchase coverage by early 2015, we recommend that the Government of Kenya finalize the design of the envisaged insurance coverage and make implementation decisions such as:

- Determining the amount of financial support available;
- Deciding on who the beneficiaries will be and defining the registration process (the required decisions are described in full in Annex 1).
- Defining carefully how to fit the proposed policy into the existing framework to ensure complementarities with other mechanisms, as there are other insurance and social safety net instruments in place in the HSNP counties.

36. ***As next steps for crop insurance, the Government of Kenya may want to seek consultations with agricultural banks and work with private sector insurers to develop a data audit system acceptable to international reinsurers.*** Reaching scale for crop insurance will depend on how well it is integrated into existing distribution channels, such as production credit. Thus, the Government should enter consultations with commercial agricultural banks with the aim to establishing an agricultural insurance partnership. Equally, government should promote the timely availability of reliable crop cutting experiment data to insurers, for example through same day text messages.
37. ***Annex 1 contains a summary of the actions and the timeframe for the preparation and implementation of the proposed large-scale public-private partnership for livestock and crop insurance for the Government of Kenya to consider and decide upon.***

ANNEX 1. SUMMARY OF NEXT STEPS FOR THE GOVERNMENT OF KENYA

	Type of actions	Short term actions (before January 2015)	Medium term actions (before January 2016)
Institutional Design	National policy on agriculture insurance	MALF taskforce to coordinate development of national policy on agricultural insurance which will define functions of government, counties, and the private sector.	Implement the national policy on agricultural insurance
	Government institutions	Allocate responsibilities between GOK and private sector in short term so as to enable implementation of livestock insurance by January 2015.	MALF Agricultural insurance task force to evaluate proposed institutional options and adopt one for sustainable operation of agricultural insurance in Kenya.
Risk Financing	Coinsurance pool	Facilitate negotiations with private sector insurance and reinsurance companies on initial method of developing a livestock coinsurance pool in Kenya. Investigate possibility of coinsurance pool acceptable to both Takaful and other insurers.	Develop roadmap to pilot coinsurance pool, refine, and ultimately potentially institutionalize
Enabling Environment	Monitoring and Evaluation	Define appropriate Monitoring and Evaluation (M&E) framework and M&E data collection mechanisms	Implement M&E framework
	Consumer Protection	The Insurance Regulatory Authority to advise on the state of consumer protection under envisaged insurance program.	Address any potential shortcomings, e.g. through appropriate regulation.
Livestock Insurance	Fiscal Support	Determine the amount of available resources to provide financial support to crop and livestock insurance programs.	
	Support product design and development	Analysis and design of features of macro level asset protection product.	Further test and refine macro level asset protection product.
	Integration with HSNP	Define coordination between insurance and social safety net mechanisms in HSNP counties with relevant GoK agencies	Ensure complementarity of various mechanisms.
	Product design	Design timing and amount of potential claim payments,	

Kenya: Summary of Policy Suggestions, June 2014

		and develop second triggers if appropriate.	
		Liaise between MALF and NDMA to: (i) enable registration via HSNP system; (ii) secure access to HSNP database	Institutionalize partnership.
	Outreach	Define collaboration with service providers (risk carriers, distributors, etc)	
		Design and implement registration process	Institutionalize process.
		Consult with county governments to define their role in outreach process and how national government can support.	Institutionalize role of national and county governments in outreach
		Liaise with county governments on the role of extension workers in consumer awareness campaigns	Define roles between GoK and private sector in awareness creation
	Support product design and development	Analysis and design of features of macro level asset protection product.	Further test and refine macro level asset protection product.
Crop Insurance	Fiscal Support	Determine the amount of available resources to provide financial support to crop insurance program, including but not limited to, premiums subsidies.	Develop strategy to provide support to crop insurance, including level of premium subsidies by target segment of market, risk-financing strategy, data investments and financial education / consumer awareness
	Data	Select size and shape of insurance unit, number of crop cutting experiments per insurance unit, and resourcing	Implement expanded yield data collection methodology.
	Data	Define changes in agricultural data collection and auditing to ensure of reinsurance quality (and speed), including liaising with private sector to determine private sector role.	Implement changes in data collection and auditing.
	Eligibility	Decide on crop types and locations to pilot GoK crop insurance program in Kenya (Maize / wheat, subsistence farmers / commercial crop producers, Districts / Divisions)	Launch pilot crop insurance program in target locations

Kenya: Summary of Policy Suggestions, June 2014

Outreach	Link to Credit: Liaise with banks, rural lending institutions and MFIs to establish partnership for crop insurance linkage to agricultural credit.	Implement credit linkage approach.
Outreach	Link to Credit: Liaise with GoK lending institutions to the rural sector on linkage of agriculture insurance to credit.	Distribute agricultural insurance through a range of publicly and privately managed distribution channels.
	Liaise with county governments to understand county government role in crop insurance outreach, in addition to counties to pilot in first year of operation.	
Risk Financing	Develop strategy for public sector support to risk financing of crop insurance risk, including (but not limited to) provision of reinsurance, supporting development of co-insurance pool, establishing a risk financing fund	Establish and capitalize public sector risk financing fund.
Support product design and development		Analysis and design of features of area yield index insurance solution.