



ALTERING POVERTY DYNAMICS WITH INDEX INSURANCE: NORTHERN KENYA'S *HSNP*⁺

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Altering poverty dynamics through risk mitigation

THE HUNGER SAFETY NET PROGRAM (*HSNP*), sponsored by the Government of Kenya and the United Kingdom's Department for International Development, will provide reliable monthly cash transfers of approximately US\$15 to households that live in extreme poverty in northern Kenya. These cash transfers should improve the capacity of beneficiary households to meet immediate, essential needs.

Yet will these transfers place households on a footing from which they can craft a pathway from poverty? If the processes that cause destitution in the first place are not altered, it is unlikely that *HSNP* transfers will, *by themselves*, generate sustainable poverty reduction.

Risk and realization of droughts and other large shocks in northern Kenya drive households into extreme poverty and make it difficult for them to escape once they are destitute. Mitigating risk should help alter these dynamics. Augmenting the *HSNP* program with an insurance-based productive safety net should offer the following three key effects.

Stem the downward spiral of vulnerable households. Because it provides indemnity payments after a shock, insurance should help stem the collapse into extreme poverty of vulnerable but non-poor households following a drought or related crisis. Insurance can help safeguard *HSNP* resources for the most needy by

keeping their ranks from swelling to the point that they overwhelm the program following a crisis, when *HSNP* transfers are most needed.

Stabilize pathways from poverty through asset accumulation. By protecting assets against catastrophic loss, insurance strengthens incentives for *HSNP*-eligible households to build their asset base. If limited asset accumulation among the poor in northern Kenya is due not only to insufficient access to cash (which the *HSNP* can help resolve) but also due to the high risk of investment in this setting (which the *HSNP* cannot address), then insurance that mitigates these risks should provide a helpful stimulus for households to climb out of poverty.

Crowd-in finance for investment and growth. Private creditors that presently do not finance potentially high-return ventures due to drought risk might become willing to lend if the assets that secure loans could be insured. Insurance can thereby "crowd-in" much-needed credit for enterprises in the region without leaving poor residents excessively vulnerable to losing assets when nature fails them.

While this risk mitigation logic is clear, less clear is how to actually implement the needed insurance mechanism. Working with the *HSNP* team, BASIS researchers are creating and piloting a program that adds an index insurance mechanism to the *HSNP* cash transfer program in an effort to fundamentally alter poverty dynamics. We call this effort *HSNP*⁺.



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Feasible risk mitigation through satellite-based index insurance

At the heart of *HSNP*⁺ is an index insurance contract based on data routinely collected through satellite-based imagery. Conventional insurance contracts require measurement and calculation of individual losses and indemnities. In contrast, index insurance contracts are innovative financial instruments that can be implemented in the remote areas of northern Kenya where it would be prohibitively costly to observe, verify, and indemnify the losses experienced by specific households.

The idea of index insurance is straightforward. Payouts are not based on individual outcomes but on an aggregate index (for example, average livestock mortality rates) that is correlated with individual outcomes. Because this correlation is likely to be imperfect, index insurance covers only a fraction of the risk that the individual producer faces. The uncovered risk is referred to as “basis risk.”

Using an index that is based on data that is promptly, reliably, and inexpensively available (and not manipulable by either the insurer or the insured), the insurance contract makes compensation payment to insured beneficiaries whenever the data source indicates that the index reaches the insurance activation level, or “strike point.”

In northern Kenya, BASIS researchers have found that satellite-based measures of vegetative cover can be used to precisely predict the average livestock mortality experienced by local communities. Importantly, the quality of that prediction is highest for more catastrophic events. Provisional predictions have 85-88% accuracy for average losses of 20% or more, climbing to 95-98% accuracy for average losses of at least 40%.

A predicted livestock mortality index based on vegetative cover indices is under development and will be used as the basis for an index insurance contract offered as a supplement in *HSNP* cash transfer program areas. A broad range of households should

benefit from this index insurance contract: *HSNP*-eligible households that need a feasible incentive to help in the effort to escape destitution, vulnerable households at risk of a collapse into destitution, and better-off, *HSNP*-ineligible households. National insurance companies and international reinsurance companies have shown high initial interest in this new product.

HSNP⁺ for smarter development

While there are strong theoretical arguments supporting the claim that insurance mechanisms can alter poverty dynamics, there is little direct empirical evidence. In cooperation with the *HSNP* team, BASIS researchers are implementing a rigorous impact evaluation to test hypotheses about the effectiveness of index insurance in altering poverty dynamics in risk-prone environments subject to widespread extreme poverty.

An important aspect of this evaluation will explore whether or not the asset accumulation and productivity effects of insurance are sufficiently robust that they create a case for subsidizing insurance premiums as an alternative to cash transfers or food aid. Background subsidies also will be used to explore the sensitivity of insurance demand to price. The initial rollout of the insurance is programmed for late 2009, and initial learning from this pilot project should be available by early 2010.

Further reading

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