Expert Group Meeting Report

Innovative Finance for Sustainable Development

United Nations Headquarters
New York, October 18-19, 2007

Organized by:

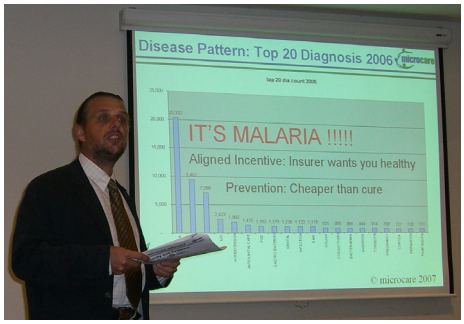
Division for Sustainable Development
Financing for Development Office
United Nations Department of Economic and Social Affairs
(UN DESA)

This is a report of the proceedings of the Innovative Finance for Sustainable Development Expert Group Meeting held in United Nations Headquarters, on October 18-19, 2007.

The speeches and discussions have been edited for reasons of space.

The presentations made by the speakers can be accessed on the meeting website, http://www.un.org/esa/sustdev/sdissues/finance/egm2007/index.htm

The opinions expressed in this report are those of the participants and do not reflect the position of the United Nations.



Contents

Conference Speakers and Panelists

Day 1: Thursday, October 18 2007

Session 1: Financing agricultural R&D

William Masters, Professor of Agricultural Economics, Purdue University. E-mail: wmasters@purdue.edu

Nienke Beintema, Program Head, IFPRI. E-mail: N.Beintema@cgiar.org

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Session 2: Index-based insurance for agriculture

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Jerry Skees, The HB Price Professor of Policy and Risk, University of Kentucky, USA. E-mail: jskees@uky.edu

Joanna Syroka, World Food Programme/World Bank. E-mail: jsyroka@worldbank.org

Christina Ulardic, Vice-President, Swiss Re, Switzerland. E-mail: Christina_Ulardic@swissre.com

Hemanth Valvekar, Associate Vice President, BASIX, India. E-mail: hemanth.v@basixindia.com

Day 2: Friday, October 19 2007

Session 3: Micro health insurance in Africa

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Rupalee Ruchismita, Director, Institute of Financial Management and Research, India. E-mail: rupalee.ruchismita@ifmr.ac.in

Session 4: Sub-national instruments for financing basic utilities

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Glossary

ENSO	El Niño Southern Oscillation
GHG	Greenhouse Gas
IPR	Intellectual Property Right
MFI	Micro-Finance Institution
MHI	Micro-Health Insurance
NGO	Non-Governmental Organization
PPP	Public-Private Partnership
R&D	Research and Development
SSA	Sub-Saharan Africa
ULB	Urban Local Body

Foreword

Financial innovations are crucial for development. For policy makers in developing countries as well as for development practitioners, keeping abreast of new developments in financial instruments and practices represents a real challenge, given the broad diversity of such instruments and their variations across sectors essential to development such as health, agriculture, and basic utilities.

The Expert Group Meeting on Innovative Finance for Sustainable Development, organized jointly by the Division for Sustainable Development and the Financing for Development Office of the Department for Economic and Social Affairs at UN Headquarters in New York on October 18-19, 2007, constituted an effort to make accessible to a large public recent developments taking place in developing countries in the financing of select sectors. The meeting brought together the perspectives of academics, development institutions, practitioners in the field, and private sector actors. The mix of conceptual and practical approaches made for fruitful discussion on the challenges of implementing innovative financial concepts and approaches in practice. The meeting comprised four sessions covering:

- Financing instruments for agricultural R&D;
- Index based insurance products for agriculture;
- Micro health insurance in Africa;
- Sub-national instruments for financing basic utilities.

The choice of these sectors was based on their importance in the development agenda of developing countries, as well as on the agenda of ongoing or upcoming discussions at the international level. Specifically, the Division for Sustainable Development, which acts as Secretariat to the Commission on Sustainable Development (CSD), organized the first three sessions as a way to inform the review that will take place in the discussions at CSD-16 in May 2008. The Financing for Development Office organized the session on financing basic utilities, reflecting past and ongoing work on that issue as part of the Office mandate. The outcome will also serve as a substantive input to the Follow-up International Conference on Financing for Development to Review the Implementation of the Monterrey Consensus in Doha, Qatar, from 29 November to 2 December 2008.

The meeting was open to all country delegations at the United Nations, UN Agencies, Funds and Programmes and accredited NGOs, as well as other interested practitioners from academia and the private sector. Overall, more than fifty people participated in the meeting.

The meeting gave rise to a rich dialogue. It is our hope that such dialogue may be continued, as there seems to exist a genuine need for communication and exchange of innovative experiences and practices in the domains covered by the conference as well as other related domains. The Financing for Development Office and the Division for Sustainable Development are ready to contribute to such efforts.

David O'Connor
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Introduction

The meeting was structured in four half-day sessions. Each session gathered 3 to 5 presenters, representing different categories of actors/participants in the field: (i) Policy-makers or international development institutions; (ii) Practitioners, project leaders; and (iii) Private sector actors.

The first session covered issues related to the financing of agricultural R&D. The recent years have witnessed a shift in the way agricultural R&D is financed, with a declining role of public funds. In Africa, additional problems relate to scarce and scattered human and financial resources. The session included an overview of new tools aimed at stimulating agricultural research, notably royalty-type cash-prizes for proven new technologies.

Session 2 considered recent developments in index-based insurance products, which aim at providing farmers, banks, and governments in developing countries with ways to cover risks associated with weather/climate shocks. These products are based on weather indexes, which serve as the objective measure for the determination of the risk covered by the insurance. Through an extensive presentation of examples, the session covered elements such as concept, implementation, scope and limits of this class of products, risk sharing between government and beneficiaries, and potential for development.

Session 3 focused on the potential of micro health insurance, with a focus on India and Uganda. Africa has the world's highest maternal mortality, while malaria, HIV/AIDS, and tuberculosis continue to undermine the hope and vitality of its people. Increasingly, there is recognition that the private sector can play a key role to improve health. Finding sustainable business models for private health care provision in Africa is therefore a high priority. This session covered in detail the case of a very successful micro-health insurance business in Uganda. Lessons from years of practice in India with different models for service provision were also presented.

The last session dwelt on the issue of financing basic utility services at the local level. Participants from South Africa, India, Mexico, and the USA described ongoing successful experiences with municipal financing, as well as the changing financial market environment and central-local government relationships in which these experiences take place

Presentations made at the conference are accessible online on the website of the Division for Sustainable Development (http://www.un.org/esa/sustdev/sdissues/finance/egm2007/index.htm). Therefore, this report does not cover in detail the material presented by participants. Instead, it tries to present a concise summary of the main points discussed in the four sessions.

This report was written by Monica Kjöllerström and David Le Blanc (sessions 1 to 3), Division for Sustainable Development, and Daniel Platz (session 4), Financing for Development Office.

Session 1: Financing agricultural R&D

Investment Trends in and Funding Options for Agricultural Research with Focus on Sub-Saharan Africa

Nienke Beintema,
IFPRI, USA

There has been a significant change in R&D trends between the 1980s and 2000. Developing countries as a group now spend more than developed countries on agricultural R&D. Sub-Saharan Africa (SSA), however, shows a declining share. Public R&D expenditures are increasingly concentrated in a small number of countries, both in developed regions – United States and Japan; and in developing regions – Brazil and China. In SSA, spending is concentrated in South Africa.

In absolute terms, total spending in the whole of SSA is half that of China. Growth rates are also substantially lower in SSA compared to other developing regions. In fact, in most countries in SSA expenditures on agricultural R&D have declined. While the number of researchers has gone up, expenditures have not grown in proportion, so that expenditures per researcher have decreased.

Another commonly used indicator is the intensity of spending, defined as the ratio of agricultural spending to agricultural output. In developed countries, the average intensity is equal to $0.53/$100 of output. Despite a rapid increase in agricultural R&D spending in developing countries as a group, the intensity of agricultural R&D spending remained fairly stable as a result of growth in agricultural GDP. In SSA only a handful of countries exhibit relatively high spending intensity growth rates (e.g. South Africa, Kenya, Mauritius).

Private spending on agricultural R&D accounts for roughly 50% of total spending in developed countries, but only around 5% in developing countries, where it is highly concentrated in a few middle-income countries like Brazil, China and India. In SSA the share of the private sector in total R&D spending is only 2.3%, and two-thirds of total private spending is accounted for by South Africa alone. Thus, in SSA most agricultural R&D is government-funded, but there are important differences within the region, with donor funding (including World Bank funding) being the main source in a number of countries.

Although a consistent source of data is not available, the existing information for USAID and the World Bank indicates a declining trend in donor funding since the mid-1980s.

Overall, and despite proven high returns to investment in agricultural R&D, funding is well below needs in SSA. Alternative funding mechanisms have been tried with varying degrees of success in the region:

- Greater participation of universities. In SSA, their share in agricultural R&D has increased from 9% in 1971 to 16% in 2000. However, both the number of researchers and budgets remain insufficient.
- Competitive funding. Strongly promoted by the World Bank and implemented with success in Latin America and Asia, this approach has proven problematic in SSA. This system tends not to work well in small countries because of high transaction costs, being biased towards big firms, and lack of local capacity.
- Commercialization of research products of public institutions. Often there is a lack of financial incentives for public institutions to commercialize the results of R&D, as the revenues from commercialization would usually go back to government budget, as opposed to being reinvested in those institutions.
- Levies on production. Levies raised by growers/commodities associations to conduct their own research or to fund research in other organizations have been successful in some countries (Colombia, Kenya) with a strong commercial/export sector, but are not a feasible option to finance R&D in staple crops, which are produced by small-scale farmers for domestic consumption.
- More private sector involvement and public-private partnerships. Ms. Beintema emphasized the importance of IPRs in order for the private sector to participate actively.

- Research foundations: Foundations such as the Rockefeller Foundation, the Ford Foundation, and the Bill and Melinda Gates Foundation are increasingly important players, especially in the funding of R&D for products of little interest to the private sector.
- Regional and international partnerships (e.g. CGIAR, etc.).

Finally, there is a general problem with data quality. Data collection is under-funded (e.g. agricultural census). Much more needs to be done in this area.

Innovative Finance for Agricultural R&D

William Masters,
Purdue University, USA

Compared to other continents, Africa is "late" by 40-50 years in the adoption of new varieties, fertilizers, etc., but otherwise shows a "perfectly normal" trajectory.

Genetic improvements in crop varieties were key in the Green revolution in Asia. However, in order to increase agricultural productivity, technology improvements must go along with the improvement of farming practices. Because of idiosyncratic differences in local conditions (soil quality and temperature, organic matter, rainfall, etc.), the interaction of farming practices supported by well-functioning extension services with technology is the key to improved productivity. In drylands in Africa (e.g., in Burkina Faso), successful farm level innovations, such as labour-intensive *zaï* micro catchments that enhance moisture retention and intercropping (cereals intercropped with legumes) have been key in the successful adoption of improved varieties and have allowed much higher returns to genetically improved seeds and fertilizers than traditional techniques.

Where genetic improvements are worthwhile pursuing, new finance mechanisms can help. There are however some basic problems. Firstly, private investment is determined by the capacity to capture the value of improvements (not simply by how much value the innovation can create). This ability is limited in the context of agriculture. Private R&D will develop only in areas where trade secrets allow companies to keep the value of improvements for themselves (e.g. hybridization). This calls for public R&D systems. The US agricultural R&D system is still half public. Secondly, research success is difficult to predict, so public investment is limited to trusted institutions.

Mechanisms based on the prize concept can work but have to be adapted. If one does not know a priori who to fund, then a typical remedy is a 3rd party prize, paid by a philanthropic donor and rewarding success after it is observed. However, only a few kinds of technologies and R&D are best funded with such prizes, as they do not reward incremental achievements or those that may be very relevant but that fall out of the scope of the pre-specified criteria. Moreover, the prize contest itself can be very costly.

Advanced market commitments were introduced in the field of health (M. Kremer) to promote work on vaccines for neglected diseases. The award is proportional to the number of doses sold, with the prize donor defining the criteria of effectiveness and the price per dose.

Agriculture is different from health, essentially because there is no "one cure, one disease" context (many solutions can work, and different solutions work in different places), and productivity improvements can be measured quite easily.

W. Masters has developed a prize concept akin to a royalty payment, where donors agree to pay a lump-sum divided among winners in proportion to the value of their innovations, measured as the incremental improvement in production or sale price of crops. The prize amount represents a small proportion of total activity (3% in Mr Master's example) but is still sufficient to stimulate R&D and growth, with the prize award acting as a signalling device to attract public and private sector R&D. The concrete implementation of this proposal is underway, with advisory work supplied by FARA

(Forum for Agricultural Research in Africa) and financing from the Adelson Family Foundation and IFPRI.

In conclusion, the data show that private investment in agricultural R&D appears at later stages of the development path. In order to emerge and develop, it needs a pre-existing public R&D platform. Investments in education, basic science, and public laboratories are necessary conditions for the emergence of a private R&D capacity.

Bayer CropScience and Agricultural R&D

Annik Dollacker,
Bayer CropScience, Germany

Bayer CropScience has increasingly gone from being a product provider to becoming a provider of crop technology and services with a focus on improved plant health, rather than on treatment of diseases and pests.

Developing a new crop protection product takes on average ten years and costs some 200 million USD. High costs are partly due to the need to undertake environmental impact tests in addition to toxicity testing, contrary to what happens in the pharmaceutical industry.

They also come from the long and uncertain screening process of potentially effective chemicals. Only one out of 200,000 chemical products provides a lead. This ratio used to be one out of 15,000 in the past, when more general use products were developed. The recent trend has been to develop products targeted at specific pests, as opposed to products aimed at treating many different pests.

Bayer increasingly focuses on seed (as opposed to plant) treatment. This results in particular in decreased environmental impact, less GHG emissions, and labour savings as well.

Although current treatments on crops now help avoid substantial losses, it was estimated that losses that could still be avoided with more adequate treatments are even larger than the gains already achieved. Bayer Crop Science has taken the decision to introduce genetically modified, pest-resistant crops. But the first crops will be put on the market only in 2015.

Due to the high fixed costs associated with private R&D activities, private firms are only interested in big markets. Investment decisions are based on return on investment considerations. Also, finding chemical products that might qualify for crop protection is a highly-skilled activity, which needs long and high-cost training. In this context, it was stressed that governments have a major role to play in creating the framework conditions for such R&D investments to take place, including in maintaining a strong IPR protection regime and science-based regulations. Furthermore, governments in low income countries can play a major role in capacity-building and awareness-raising among farmers. In many countries, private companies are currently substituting for absent governments in this respect.

Finally, there is a need to redefine the role of the private sector in partnerships with the public sector and NGOs, which so far has to a large extent been limited to funding. In fact, there is a wealth of expertise in the private sector that is currently under-used.

Session 2: Index-based insurance for agriculture

Using Index-based Risk Transfer Products to Facilitate Rural Lending in Mongolia, Peru, Vietnam

Jerry Skees,
University of Kentucky, USA

The ability to understand empirically the relationships between natural disasters and defaults on loans is greatly hampered by data limitations. Catastrophic events are infrequent and lenders adapt or change their behavior based on their knowledge of natural disasters and potential cash flow problems.

Index-based risk transfer products are designed to overcome some of these problems. The main characteristics of an index are that it is observable and easily measured, objective, transparent and independently verifiable, available in a timely manner, as well as stable and sustainable over time.

Mongolia, Vietnam and Peru are at different points in their development process. Each country has recently experienced a major catastrophe, which has created interest for index-based risk transfer products able to mitigate similar risks in the future.

- Mongolia is a transition economy since 1991. Very high death rates of animals brought on by extreme drought and harsh winters have resulted in exponential growth of loans to herders since the last major disaster.
- Vietnam experienced early flooding in the Mekong Delta, brought on by heavy rains upstream.
- In Peru, catastrophic flooding in the northern regions brought on by El Niño devastated the agricultural sector and rural communities, killing crops and livestock, destroying drainage and irrigation systems, eroding arable land, and undermining ability to manage droughts in the future. Insuring farmers against floods allows them to access credit or access credit at lower costs.

Traditionally, insurers begin with individual products for smallholders and then consider financing the catastrophic risk. Dr. Skees' suggested an alternative model for development of weather insurance for lower income countries This approach, which basically "turns the development process on its head", includes 4 steps:.
Step 1: Find the big risk and create an index insurance to provide *ex ante* financing for major catastrophes
Step 2: Find an appropriate role for government to share in the catastrophic risk as a means of 'crowding in' the market
Step 3: Link the index insurance to the banking or value-chain activity at various levels
Step 4: Allow the market to develop more sophisticated insurance products for small farmers over time.

Not all risk can be managed by insurance, especially in the case of small farmers in low income countries. Rather, risk mitigation issues, including support to implementing good agricultural practices, should be a priority. For example, the livestock insurance programme supported by the World Bank in Mongolia was part of a much larger programme on promoting sustainable livelihoods e.g. through improved livestock management techniques.

At a conceptual level, policy makers and development practitioners need to be aware that risk mitigation (by adjustment of the production system) and insurance are not always compatible. Indeed, insurance constitutes an incentive to increase risk, thereby decreasing incentives for risk mitigation.

Promoting Innovative Sovereign Catastrophic Risk Financing Solutions

Olivier Mahul,
The World Bank

Olivier Mahul presented recent developments in index-based products for insuring catastrophic risks. The traditional approach to natural disasters has been ex-post finance. This approach suffers from several shortcomings. First, disbursement often takes too long, compared to the short-term need of relief funds after a disaster. Second, the funds are often earmarked according to donors' priorities. Lastly, the funds obtained are often insufficient. Therefore, there is a need to shift to more proactive, ex-ante disaster risk management frameworks.

Adopting an insurance approach requires, first of all, better data. Even in middle income countries, awareness of risk of economic loss, as well as knowledge of the loss potential in case of disaster, are often very low.

Second, it is important to focus on risk mitigation first, and then on risk insurance. Insurance is adequate to address liquidity gaps following a disaster, but is not a solution to long term systemic problems. Moreover, insurance may not be the best solution to address all types of risks. In this context, there is a delicate balance to achieve between the two approaches of "adaptation to climate change" and "insurance against climate change".

The Caribbean Catastrophe Risk Insurance Facility, promoted by the World Bank, provides macro level catastrophic risk insurance. The underlying index is based on sea temperature measurements done by a credible third party. The product is parameterized to withstand one-in-20-year events. That is, it is built to address catastrophes, not disasters. Mr Mahul mentioned that, when more frequent events are insured, basis risk increases.

The Facility was set up so that funds can be disbursed quickly. It follows transparent rules based on weather and involves no cross subsidization. That is, each Caribbean country's contribution to the Facility is based on their own country risk. However, all countries benefit from lower insurance costs, because the risks are pooled. The facility is run by a Caribbean insurance company, which ensures local ownership of the project. There are already requests from Pacific Islands and Central America for the development of similar instruments.

Applying the insurance concept is also a powerful tool for raising awareness on the advisability and opportunity costs of growing specific crops in specific places. For example, in the case of rice growing in an Indian state, the calculation of actuarial premium for crop insurance based on observed risks highlights tremendous variations of the premium between districts. By contrast to this actuarial approach, current insurance programs offered by the government charge the same premiums to all rice growers, which amounts to cross-subsidizing high risks with low risks. For some districts the premium calculated under the actuarial approach is as high as 30% of crop value, which clearly shows that this particular crop is not viable in that place. In such extreme cases, the best strategy would be to change crops, instead of looking for crop insurance.

BASIX & Weather Insurance

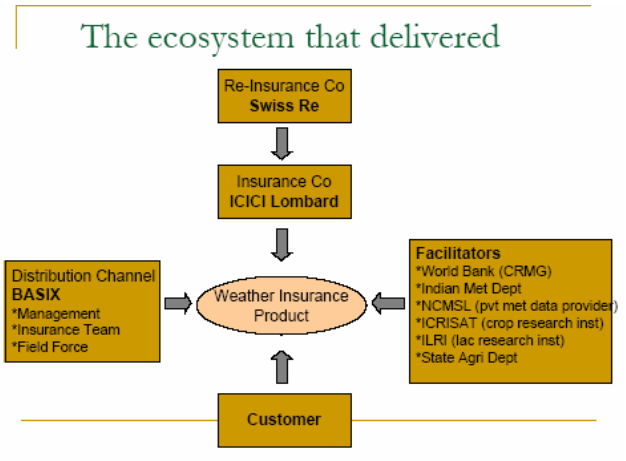
Hemanth Valvekar,
BASIX, India

BASIX's mission statement is to promote a large number of sustainable livelihoods, including for the rural poor and women, through the provision of financial services and technical assistance in an integrated manner. BASIX operates in over 12,000 villages spread over 9 states in India, serving half a million customers in the poorer and arid districts, where agriculture is the predominant source of livelihood for households.

Credit alone has a limited impact on livelihoods. Adding risk mitigation services to the basic microcredit provision makes a significant difference. Such services include insurance and others such as agri-business development services for productivity enhancement, value addition and market linkages, and non-financial risk mitigation services like vaccination. BASIX provides such a range of products to its customers.

The development of weather insurance products was rapid. Between 1999 and 2001, BASIX carried out research and undertook small pilots in testing an in-house crop insurance scheme. The first pilot of rainfall insurance was carried out in 2003, with 230 policies sold. Two years later, BASIX moved to a generic weather insurance product, while introducing more complexity in the products (e.g. dynamic cover start date). In 2006, products were designed for 50 weather station locations in 7 states, and policies were sold to 11,500 customers.

The success of the development of weather insurance was made possible by a combination of factors, including what Mr. Valvekar called an "ecosystem" of stakeholders, as illustrated in the following figure.



Although BASIX has expanded significantly, and is now operating in 7 states with highly sophisticated insurance products offered to farmers, high basis risk remains a concern. Addressing this challenge requires expanding the network of weather stations in order to make the weather data more relevant to farms that are scattered over wide areas, as well as to improve performance (results are sometimes available only several months after the event).

It is also necessary to improve the design of insurance products for different crops, while keeping the products simple enough for the easy comprehension of farmers, the majority of whom are illiterate; to further integrate business services with insurance provision; and to raise awareness among farmers.

Finally, it was noted that there is room for taking advantage of the synergies between different products for rural dwellers living in scattered areas. Distribution costs can be reduced by providing multiple services through a single window, making the products more affordable for rural customers.

Experiences in Index-Based Weather Insurance for Agriculture: Lessons Learnt from India & Malawi

Joanna Syroka
World Food Programme & World Bank

As early as 1999, weather index-based insurance was being discussed in academic papers as an alternative solution for developing agricultural economies. In 2002, donors began to finance the piloting of these ideas of weather insurance for farmers to complement price risk management work in commodity markets.

The World Bank's Commodity Risk Management Group (CRMG) has been involved in many weather risk management technical assistance projects to commercial entities in the developing world. There have been several completed pilots in India, Ukraine, Ethiopia, and Malawi, and upcoming pilots in Kenya, Tanzania, Thailand and Central America. Successes like the market growth in India have had significant demonstration effects and have proven that weather risk management for farmers in the developing world is possible through insurance-type instruments.

From these experiences, CRMG has begun to synthesize some best practices on how to create successful weather insurance schemes for farmers and how to make such initiatives sustainable and scalable, particularly in Africa.

In 2005, 892 groundnut farmers in Malawi bought weather insurance to increase their ability to manage drought risk and in turn access credit for better inputs. The National Smallholder Farmer Association of Malawi (NASFAM), in conjunction with the Insurance Association of Malawi and the CRMG of the World Bank, designed an index-based weather insurance contract that would pay out if the rainfall needed for groundnut production in four pilot areas was insufficient. Because these contracts could mitigate the weather risk associated with lending to farmers, Opportunity International Bank of Malawi and Malawi Rural Finance Corporation agreed to lend farmers the funds necessary to purchase higher-yielding seed if the farmers bought weather insurance as part of the loan package. These loans stipulate that the bank will be the first beneficiary if there is a payout from the insurance. NASFAM served to identify the participant farmers, provide training to farmers on the products (in conjunction with the banks), and provide marketing services at the end of the season.

The pilot program, while successful, highlighted a variety of challenges related to both contract design and program implementation. For example, farmer education surrounding issues such as basis risk needed to be increased. When farmers do not understand the underlying foundation of the contract, viz. indexing, this can lead to dissatisfaction with the program, and in some cases to loan defaults.

Weather insurance is not enough to make agricultural credit markets work. In the case of Malawi's weather index-based insurance project, transaction costs have been extremely high. Learning from that experience, the World Bank has decided to focus now on creating products for established supply chains where delivery channels already exist (starting with tobacco). Supply chains could also be used as agents that bundle the numerous small risks that are of little interest to large reinsurers.

In conclusion, CRMG piloting has shown that weather insurance for farmers in developing countries is feasible. Sustainability and scalability will not be achieved unless product development is owned locally and data limitations can be overcome. Successful weather risk markets need strong local partners; local ownership building through capacity building and technology transfer; a "win-win" approach for all stakeholders; robust product delivery channels to farmers; linkages to finance or supply chains, as well as additional farmer products and services; and investment in data and weather infrastructure.

Weather insurance is not a panacea. It can only enhance existing agricultural supply chains and businesses, not create them. It can help support expansion of rural finance and agriculture, but must go hand in hand with investment in extension

services, irrigation, strengthening of input and output markets, and other financial services and products.

Index Based Insurance for Agriculture

Christina Ulardic,
Swiss Re, Switzerland

Ms. Ulardic presented the position of Swiss Re on agricultural risk markets and the reason for Swiss Re's engagement in those markets in developing countries. She also offered reflections on the conditions for engagement of private reinsurers in those markets.

Reinsurance companies are usually not interested in small transactions. Swiss Re's investment in pilot operations in emerging markets is not based on return considerations. In fact, the transaction costs associated with putting pilots together often offset any profits that could be made from small operations such as the ones Swiss Re has been financing. Although emerging markets are very small, from the company's point of view there are two interesting aspects. First, participating in pilot operations is worthwhile from a CSR/public relations point of view. Second, those pilots allow the company to keep abreast of new developments and technological innovations, such as the use of new indexes (e.g. the normalized difference vegetation index, or NDVI), learn from these experiences and eventually scale them up.

In emerging markets, the first involvement of Swiss Re in index-based insurance products was in 2004 with BASIX (an Indian microfinance institution – see above). The insurance product was designed for castor and groundnut crops in Mehbubnagar, Andhra Pradesh, against deficit rainfall and covered 1,500 farmers. Since then, 44 reinsurance contracts have been closed, providing coverage for 320,000 people. These products offer a viable alternative to the traditional crop insurance market and have the potential to extend beyond business with smallholder farmers into agri-corporates and other industry sectors. SwissRe is currently working on solutions for agricultural input companies, wind farms, tea plantations, hydro power projects, sugar production, salt production, various crops and vegetables, contract farming, etc.

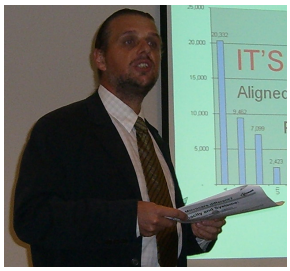
Swiss Re also participates, in partnership with NGOs, in the development of weather derivative contracts protecting several villages in Kenya, Mali and Ethiopia against severe drought. The contracts protect smallholder farmers against drought-related livelihood shocks such as food shortages and famines. About 150,000 people will benefit from the coverage.

Weather index-based insurance for agriculture products differ from other insurance products in some key aspects. First, the probability of risk occurrence is much higher than for other types of hazards, e.g. earthquakes and pharmaceutical product lawsuits. Second, index-based products are associated to fixed payments – as opposed e.g. to an indeterminate amount only determined ex-post in a class action suit against a pharmaceutical company. Third, as the trigger for payment is based on satellite data, there is the possibility that no physical losses actually occur – this has to be consistent with whatever the regulator has defined a drought to be in order to avoid problems in claims. Fourth, data quality is a problem, and investments in local weather stations as well as in data calibration (to account, for instance, for changes in how measurements are done) are necessary. Lastly, the amounts involved, especially in small countries, are too small to interest reinsurers on a stand-alone profit basis – there is thus need for bundling portfolios.

Finally, echoing the previous speaker, Ms. Ulardic stressed that insurance should really be a "last port of call". A good indication of whether insurance is or not the most appropriate solution is the size of the insurance premium. If it is so high that it is unaffordable to potential users, then other risk management options such as risk mitigation are probably more warranted.

Session 3: Micro-Health insurance

Affordable Access to Quality Healthcare



Gerry Noble,
MicroCare, Uganda

MicroCare is a micro-health insurer that started as a not-for-profit organization in 2000 by providing group medical schemes priced for low income earners in Uganda. MicroCare is now the largest health insurer in Uganda with 62,000 formal sector clients from 170+ corporations and 23,000 informal sector community group clients. It is financially profitable, and is reinsured by Africa Re and PTA Re. Premiums charged vary from around $15 per family per year in the poorest communities to $30 per person in urban areas. These rates include inpatient/outpatient treatment. The poorer groups are cross-subsidized, but recovery rates for those groups reach 80%. Subsidies to public hospitals allow the rates to be lower than pure market rates. Payment collection is handled by banks and micro-finance institutions.

The foremost health issue is malaria, as it is widespread and affects the capacity of households to earn income, thus being a major cause of descent into poverty. HIV/AIDS is an insurable risk in Uganda, due to not so high prevalence rates.

Prevention is a critical aspect of the health insurance business. It is typically much less expensive than treatment, so that the insurer's incentive is to ensure that prevention, early detection and early treatment occur. For example, MicroCare provides insecticide-treated mosquito nets and water cleaning tablets as part of its package. From the company's perspective it is a rational decision, because mosquito nets cost about $5, whereas basic malaria curative treatment costs $15. Such strategy also has the benefit of showing clients that they get "something" for their premiums.

Controlling fraud is one of the most important factors of viability of a health insurance business, because the costs of fraud in the system directly impact affordability. Traditionally, fraud is very high. MicroCare uses recent technology such as chip cards, associated with biometric fingerprint readers, to identify policy holders and treat data in real time to process claims. This results in particularly clean data records that can be used to build information about risks and price products adequately. Importantly, the cost of these technologies is now very low, so that the return to adopting advanced IT technologies is very high.

Good data is also a prerequisite for success. MicroCare has created its own software company, based in Chennai, India. This allows the company to change systems and introduce new products and services very rapidly. MicroCare also makes use of the mobile phone network to attain real-time processing of claims, with SIM cards on cell phones allowing connectivity in a wide range of places. The IT strength and quality data of MicroCare was critical to obtaining reinsurance.

In the experience of MicroCare, the poor are insurable but only in groups (e.g. taxi drivers association, whole village), because adverse selection is too important in models based on individual uptake.

Volume is key to profitability, due to economies of scale. Volume decreases the importance of administrative costs in the expenses. MicroCare's target is to spend less than 15% of premiums in administrative costs. Reinsurance costs are 10-15 % of premiums. This leaves about 65% of premiums to be spent on care expenses strictly speaking.

The rollout of insurance products is quicker and easier in the formal sector. MicroCare's strategy was first to address the formal market, and then to expand by going down market. The poor are not a good place to start a financially viable business.

Micro insurance is only one of the ways to deal with poverty traps and low income/low assets populations. It is not adapted to deal with frequent, low-loss events. It is not either the most efficient way to help the very poor at the bottom of the pyramid. It can however have a tremendous impact in moderate-

income populations, by preventing the poor from becoming destitute, as the main cause of falling into economic distress in Uganda is illness of a breadwinner.

Thus, micro health insurance (MHI) should be seen as an efficient mechanism to deliver health care to low income strata in society who do often do not have *de facto* access to the universal/public health care system because of high access and transaction costs. The insurance model encourages output-focused and demand-driven health care, as opposed to traditional donor models which inject money at the top of the system.

Governments have an important role to play in supporting the poorest of the poor, and in regulating the insurance/financial markets. As data on health accumulates with the help of MHI providers, governments can support the compilation and dissemination of this data to all MHI providers, thus allowing premiums to go down. Governments also have a major role to play in retaining trained health care professionals.

Drugs account for 70% of health costs in Uganda, as in other parts of SSA. Unlike India, where local pharmaceutical companies exist, Uganda must purchase drugs at world market prices, where large mark-ups are applied. Drug prices are 3 to 4 times those in India. A major role for the government is thus to take measures to reduce the cost of drugs.

Proliferation & Penetration of Micro Health Insurance- A Few Lessons

Rupalee Ruchismita,
Director, IFMR, India

The Millennium Development Goals would be more achievable with greater penetration of social protection, as poverty and vulnerability reinforce each other in a downward spiral. Low-income households are exposed to unexpected shocks that temporarily disrupt the ability to generate income, often caused by health events.

India's basic healthcare infrastructure is insufficient. Public health spending has declined from 1.3% (1990) to 0.9% (1999) of GDP. Emigration of health professionals (doctors and nurses) to industrialized countries, largely due to insufficient incentives in the public system, is a basic constraint to offering quality health care to growing populations.

By contrast, private health care spending stands at 4.2% of GDP. Due to the direct and indirect costs of public health care (rationing, absenteeism, transport costs), people already massively choose private health care systems. The majority of health expenses are paid in the form of out-of-pocket expenses.

Improving the quality of public expenditures on health is a key policy area in many developing countries. With a classical tiered health system (hospitals, then care centers, rural areas are less well served than urban areas), so that there is a systematic bias to rich, urban people. In traditional financing models, higher tiers receive the lion's share of public funding, effectively subsidizing rich customers. Financing needs to be redirected to lower tiers.

Micro-insurance is only one tool, and there needs to be coherence and complementarity with other tools such as with universal benefits and other forms of social insurance.

The MHI sector is still in its infancy, with a number of hurdles to cross including product innovation, information gaps, and distribution channels. To jumpstart growth in this sector, there is a need for catalytic infrastructure.

IFMR's approach focuses on four pillars: (i) promote so-called "hybrid channels" (internet kiosks, mobile phone access) to share costs and scale up; (ii) use IT efficiently for data management, to lower operating costs; (iii) use community-based models; (iv) offer multiple product lines, in order to achieve economies of scope and stimulate product innovation.

Ms. Ruchismita presented in detail a pilot project called the Health Ecosystem model. This public-private community partnership model provides "cashless" complete health care in a defined geography. The project addresses access barriers like transportation, drugs and diagnostics. It aims at developing a comprehensive health database with individual Electronic Health records. Fraud control is handled through Health cards and strong MIS systems.

Government's roles in creating an enabling environment for the micro-insurance sector encompass providing smart subsidies to technological investments in the sector for the creation and dissemination of health history data; facilitating the standardization of products as well as health and medical procedures; sensitization of stakeholders (government departments, service providers, insurers, and communities); and under certain circumstances providing incentives to sell health services to address high transaction costs. Governments should also spend money on building insurance literacy.

Session 4: Sub-national instruments for financing basic utilities

Sub-National Instruments for Financing Basic Utilities: the City of Johannesburg

Jason Ngobeni
City of Johannesburg,
South Africa

The focus of Mr. Ngobeni's presentation was Johannesburg's experience in funding capital investment through municipal bonds. The speaker highlighted the city's great capital expenditure demands, including FIFA World Cup related capital investments, the renewal of existing and rolling out of new power and electricity, as well as water and sanitation reticulation networks. All key ratios (debt/revenue, interest/operating and salaries/operating) have been increasing since 2006 and are expected to evolve towards their benchmarks by the middle of 2011. The city's funding instruments to meet these expenditure demands comprise short term bank loans, commercial paper, vanilla bonds, revenue bonds, retail bonds, project financing, asset backed finance and public private partnership funding. Accessing capital markets makes sense since the City's capital investment requirements are too large for traditional bank loans. Moreover, the cost of funding would be reduced, funding liquidity management would be enhanced, and interest rate risk management strategies would be confined to a simpler debt portfolio by making use of debt market instruments. Furthermore, this strategy ensures transparency and frequency of reporting to investors and stakeholders. The panellist listed a variety of reasons that help explain the scarcity of municipal bond issuances in South Africa, including the availability of traditional funding mechanisms such as bank loans and a lack of adequate skills and expertise at the municipal level. He underscored that there are often few real and immediate short-term benefits that can be used as sell points to politicians whose office tenure may be prohibitive. Moreover, many municipalities do not have a history of credit ratings. Slow real capital expenditure growth, is another important reason that prevents municipalities from raising long-term funds. Conversely, Johannesburg's fairly optimum maturity profile of its debt instruments, and a prudent redemption strategy, which included the use of a "sinking fund," make it a suitable candidate for further municipal bond issuances.

The Role of International Credit Ratings in Financing Utilities: The Case of Mexico

Isaura A. Guzmán L.,
Fitch Ratings, Mexico

Ms. Guzmán's presentation focused on recent changes in Mexico's subnational debt markets. Mexico comprises of 31 States, the Federal District and 2,444 municipalities. Significant changes in the legal environment that were introduced in April 2000 changed the subnational debt market. Before 2000, the Mexican Ministry of Finance (SHCP) served as a guarantor for subnational entities in case of default, which led to excessive borrowing by subnational entities. Consequently, there were few incentives to develop debt market instruments. Banks applied no credit risk differentiation among subnational borrowing entities and there was a low level of transparency regarding disclosure of financial information. After April 2000, new financing and credit underwriting structures have been in effect. As a result, subnational entities do not receive any implicit or explicit credit guarantees from the national government. Capital requirements for banks are put in place that are based either on two ratings from authorized rating agencies, an issuer rating by municipalities themselves, or an endorsement from the state or municipal government. The regulatory reform has lead to a

diversification of alternative borrowing sources, including municipal bonds and pooled arrangements, better terms and conditions and a diversification of payment resources, covering payroll tax revenues, vehicle control fees, vehicle tax, water fees, revenues from highway tolls. Additional benefits include better disclosure of the financial positions of subnational borrowers, better risk differentiation and more use of external audits. Overall, the subnational debt market has grown in size and sophistication and benefits from an increasing interest of a range of financial actors.

Case study from India- Tamil Nadu Urban Development Fund

Vikram Kapur,
Tamil Nadu Urban Infrastructure Financial Services Ltd., India

Mr. Kapur focused on Tamil Nadu's experience with innovative financing mechanisms for infrastructure investment. The Tamil Nadu Urban Infrastructure Financial Services Ltd (TNUIFSL) is the trustee of the Tamil Nadu Urban Development Fund (TNUDF), which is a public-private partnership (PPP) arrangement, in which the government of Tamil Nadu holds the majority share. TNUIFSL itself, which serves as the asset manager for TNUDF, is also a PPP, although with the private sector as the major shareholder. Its core strengths are assistance with project development, project appraisal, innovative financial structuring, access to capital market and flexibility in its operations. TNUIFSL utilizes a series of innovative financing instruments, including taxable/tax free municipal bonds and pooled bonds. Particularly noteworthy is the Water and Sanitation Pooled Fund (WSPF) bond, as it is the first of its kind in India. The bond pooled the funding requirements of thirteen urban local bodies (ULBs), raising million 304.1 INR at 9.20% p.a. for 15 years. The pooled bond receives a positive rating due to a variety of factors, such as credit enhancements through escrows of tax revenues, and the creation of a Bond Service Fund. Moreover, USAID provides a guarantee for 50% of the principal amount and the state has agreed to intercept its transfers to the ULBs in case they fail to honor their commitment. The speaker mentioned several lessons to be learned from the TNUDF model. He highlighted the need for a commitment to urban reforms at the level of the state that would help enhance the fiscal, technical and management capacities of ULBs. Moreover, state level financial intermediaries need to apply transparent rules of engagement with ULBs, and assist with project development, appraisal, and management. Other critical factors for successfully raising finance are prudent risk management, information disclosure on ULBs' financial position, capacity building among ULBs, line agencies and contracting firms, as well as timely project implementation.

Lessons from the U.S.-Muni Bond Market Inefficiencies & What to do About Them

Randall Dodd,
International Monetary Fund

Mr. Dodd's presentation focused on municipal bond market inefficiencies in the US and proposals to overcome them. The panellist highlighted that governments and investors do not adequately scrutinize the underwriting and issuance of municipal bonds. Issuing governments often leave "a lot on the table" as underwriters capture huge, risk-free profits. For instance, New Jersey sold its city issues of 'tobacco bonds' at a slight discount of 97% of the principal although within days these bonds were trading at104%. As a result, the city lost 7% of its principal to the underwriter. Moreover, secondary market trading in municipal bonds occurs with inadequate transparency and so investors often pay too much for bonds. According to estimates of the Security and Exchange Commission, municipal transaction costs are 200 basis points in comparison to Over-the-Counter equity market transaction costs

of 40 basis points. Higher transaction costs raise the cost of funding through municipal bonds and these costs are passed on to local governments. The speaker suggested various regulatory measures to remedy the situation. In his view, there should be a prudential regulatory framework for municipal bond issuance and secondary market trading reporting requirements for prices in order to have transparent markets. The trade confirmation statements of investors should include information on what is paid for the bond by dealers and brokers. Furthermore, dealers should promptly report transaction prices and post them immediately so that investors can observe market prices in order to see whether they receive fair prices. In order to promote the efficiency of municipal bond markets Mr. Dodd encouraged the use of bond banks by municipal governments, as they help improve credit ratings, add to market liquidity, allow for professional, sophisticated management of issuances and promote larger and regularly scheduled issuances.

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* The list includes only participants who gave their detailed contact information during session 1. The audience changed significantly between sessions.