Information, Incentives and Institutions:
Experimenting with Private-Public Partnerships to
Link the Poor with Modern Supply Chains

Group Number: 45688

Project Countries:
Senegal, Madagascar; India and China

Proposal/Concept Note to the Bill and Melinda Gates Foundation

Raising Incomes of Smallholder Farmers in the Developing World by building Efficient and Equitable Markets

RFP# GD-AG-01

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Project Name:	**Information, Incentives and Institutions: Experimenting with Private-Public Partnerships to Link the Poor with Modern Supply Chains Group number: 45688**
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U.S. Tax Status (Refer to Tax Status Definitions):			
Geographic Location(s) of project:	Senegal, Madagascar, India, China		
Amount Requested From Foundation ($USD):	$8,000,607	Project Duration (months):	60
Estimated Total Cost of Project ($USD):	$8,000,607		
Organization's total revenue for most recent audited financial year ($USD):	Freeman Spogli Institute for International Studies, Stanford University: $21 million		

Charitable Purpose:

To lift more than 10,000 farmers directly out of poverty by developing new Best-Practice Models for linking the poor to modern supply chains and after scaling up by our private and public partners to lift more than 1 million farmers out of poverty.

Project Description

The goal is to identify external interventions capable of reducing constraints to integrate poor farmers into modern supply chains (MSCs) and do so by experimenting with different combinations of public-private partnerships. We also will put into practice our belief that if small poor farmers are provided good information; strong incentives; and a favorable institutional environment, they can become viable MSC suppliers.

We do so in Senegal, Madagascar, India and China by: a.) developing innovative ways to build private-public partnerships; b.) providing farmers information, incentives and institutional support that they can use to become effective horticultural suppliers; and c.) by using a unique experimental approach. The project will offer farmers a way out of poverty and also will identify the constraints keeping farmers from connecting to MSCs. This information will let us create a set of Best-Practice Models. Our private partners will use these Best Practice Models to scale up across thousands of communities.

Grant Narrative

Information, Incentives and Institutions: Experimenting with Private-Public Partnerships to Link the Poor with Modern Supply Chains

I. Motivation

The world is changing. So is agriculture. This transformation is the focus on the forthcoming *World Development Report* devoted entirely to agriculture. It is being recognized gradually by academics and policymakers that are scrambling to understand the new paradigm. Indeed, according to the Gates Foundations' own website, it is behind the decision to put together a concerted effort—including this grant competition—to begin to better to understand how small, poor farmers are being affected by the new global food economy revolution and what needs to be done to allow them not only to survive, but to thrive.

We used to equate agricultural development with increases in physical productivity and hence in yields. The focus was on high-yielding varieties and production techniques—the so-called Green Revolution—with much of the research, marketing and extension provided publicly.

This is no longer true.

The role of the state has been dramatically curtailed, particularly in developing countries. This means that private actors play a much more important role than they did until the 1990s. To be effective the public sector needs to find a way to collaborate with them. The results from privatization have not always matched the hopes of the promoters of market liberalization. Markets for agricultural inputs, for instance, have suffered. The most common explanation for this disappointing performance is that adequate market institutions have not emerged as quickly and as effectively as anticipated. External intervention is needed to solve the various coordination failures that hinder the establishment of an environment for efficient private trade. *It is unclear, however, what form this intervention should take.*

The knowledge gap is aggravated by profound structural changes in the demand for agricultural products and in the industrial organization of marketing and processing of food products. Consumers in rich countries want more and more sophisticated agricultural products. As consumers become more prosperous, they care more that products are safe (e.g., free of disease vectors and unwanted chemicals), respectful of the environment (e.g., organically grown, GM-free, shade-grown), and resulting from a production process that is not morally reprehensible (e.g., fair trade, free of child labor). Many of these characteristics are not immediately observable to consumers and need to be certified, a process that requires appropriate institutions. Exporting to these rich markets therefore requires more emphasis on quality (in the broad sense) and certification than was the case a decade ago. Furthermore, as incomes and urbanization rise rapidly in

developing countries, such as China and India, demand for and trade in high value products such as fruits and vegetables rises rapidly as well, and so do quality concerns, in domestic markets.

Globalization of food supply chains through trade and rapidly increasing foreign investment in processing, marketing and retail ("supermarkets") and the associated spread of private standards are reinforcing the transformation of the food system and the *growing importance of modern supply chains (MSC) for developing countries.*

This structural transformation is a challenge but also an opportunity for developing countries. Consumers are willing to pay for quality. Producing quality thus offers an avenue for raising the revenues of small farmers around the world. However, to benefit from these new opportunities, countries must provide an institutional environment that is suitable for the production of quality agricultural products and which allows poor farmers to participate in these MSC. Those that are unable to do so will be left by the wayside. Not only will non-adjusting countries and poor farmers lose market shares, they will also fail to capture the benefits of higher revenues from better quality.

Modern Supply Chains and the Poor – What have we learned?

What is the record so far of the poor in participating in these new MSC? The early literature posited that the rise of standards and penetration of MSCs could have negative effects on equity and poverty. Although mostly based on anecdotes, early studies argued that the poor were excluded and could even suffer from this process (Dolan and Humphrey; 2001; Key and Runsten, 1999; Reardon et al., 2003). For example, studies in Africa demonstrated that small farmers were being left behind in the export and supermarket-driven horticultural marketing and trade (Minot and Ngigi, 2004; Weatherspoon and Reardon, 2003).

But over time new research suggests a much more nuanced picture of the effect on poverty. For example, Dries and Swinnen (2004) found that high standards lead to vertical coordination in MSCs with contracting between companies and farmers. Contracting does not always lead to the exclusion of poorer farmers, but can improve access to credit and quality inputs for small farmers. Modern marketing chains can help overcome credit and information constraints that plague the poor. In China, work by Huang and Rozelle discovered that increasing supply of fruits and vegetables is being produced by small, poor farmers through highly competitive markets. In India, Fafchamps and Minten (2006) demonstrated that the poor might be able to participate under some circumstances. And most remarkably, Minten et al. (2005) and Maertens and Swinnen (2006) found increased contracting in newly emerging supply chain between buyers and poor, small farmers in African countries, such as Madagascar and Senegal.

The Three "I's": Information, Incentives and Institutions

So why is it that some studies find that poor, small farmers are excluded and others find that modern supply chains can embrace small farmers?

We believe that the literature has led us all astray by focusing on small versus large; and poor versus rich. Instead, as is found in so many other dimensions of development, three elements or *gaps* are likely to be keeping any farmers from participating in the emerging modern supply chains: *Information, Incentives and Institutions*. In the development literature it is well known if farm households lack one or more of the **"three I's"** that it limits effective participation in economic activities. In the case of getting poor, small farmers involved into MSC, we posit in a recent paper (Swinnen et al., 2006) that it is not because a household is small or poor that they do not participate but because:

1. an information gap: farmers in some cases lack the knowledge of how to produce what the market demands. They do not understand how to access the right technology and what is essential to producing a product that is demanded by consumers in domestic or international markets. When they learn these, farmers—even small and poor ones—can participate.

2. an incentive gap: farmers in some cases do not have an incentive to do so. They do not believe that they will be better off because the risk is too high. They do not believe that they can make money because they lack access to affordable inputs. When they gain access to credit, inputs and insurance, farmers—even small and poor ones—can participate.

3. an institutional gap: farmers in some cases do not succeed in taking advantage of the opportunities in MSCs because they cannot credibly demonstrate that they followed the requirements, in the absence of institutions for monitoring, quality evaluation, or for dispute settlement in case of disagreements over whether are not standards were met or not.

The bottom line of the new work is: all farmers can participate in modern marketing chains if they have the right information, incentives and are operating in the right institutional environment. In fact, because many poor and small farmers are endowed with relatively abundant labor and low cost land (almost by definition), when they have the *three I's*, they may even be even more competitive than richer and larger farmers.

Identifying and solving the key constraints for the poor in MSCs

While these studies are useful to show that poor farmers can participate, and do in certain sectors and certain countries, much remains to be done in order to integrate the vast majority of poor farmers in MSC. In particular, there are many places in the developing world where farmers are not yet participating in MSCa; and even where they do, only a small part of the farming population typically does. Hence, the key question is how can we remove the obstacles for the vast majority of small and poor farmers to benefit from MSC developments.

To address this issue, this project will use a highly innovative approach (a) to identify the major constraints on farmers' participation in practice, (b) to calculate the potential

benefits from removing the constraints, and (c) use the insights coming out of this analysis to propose specific measures of improving incomes of poor farmers by removing the constraints, which can then be used to scale up these effects beyond the farmers directly involved in this project.

Innovations in methodology and private sector collaboration

The approach of this project is highly innovative in two ways.

First, the proposed *analytical methodology* is cutting edge drawing upon the latest insights in project and survey design and impact analysis. It will allow to establish unbiased counterfactuals—a major problem in this field—which is an essential condition for correct impact analysis and, by consequence, for successful scaling up (this will be further explained in greater detail).

Second, also very important, the project will *work closely with highly successful private firms* in each of the target regions and sectors (see below). This collaboration will build upon earlier collaborative experiences which were unambiguously successful. For example, in Africa we will continue previous collaboration with the country's major exporting companies (such as Lecofruit in Madagascar and the organization of horticultural exporting companies—ONAPES—in Senegal). Lecofruit is the company with the largest supply base of small horticulture farmers in Sub-Saharan Africa, sourcing from almost 10,000 poor farmers. ONAPES' companies in Senegal have increased their exports more than five-fold over the past decade, sourcing high-value produce from Senegalese farms and selling into Europe. In India, we will work with ITC, a company that connects more than 4,000,000 poor farmers to high value markets. In China, we signed an agreement for collaboration with Lianhua, which procures produce from 3,000,000 small farmers. In the rest of the proposal Lecofruit, ONAPES, ITC and Lianhua are called our *private partners*.

This *private sector collaboration is extremely important* not just for the relevance and useful insights of the project but even more important also for scaling up and for the sustainability of the project's outcomes**.** The private partners in the project also have agreed to help experiment with collaborations with public partners. Since we work directly with the private sector, we ensure that the successful business models (including public/private partnerships (PPPs)) that we jointly develop are easily adopted by them and continued by them after the life of the project.

Target regions and sector

To ensure wide coverage and wide application, the project will directly cover a vast share of the world's poor farmers. Our project will be implemented in the poorest regions of the world and in countries which together account for nearly 2/3rds of the world's poverty: South Asia (India), East Asia (Western China) and Sub-Saharan Africa (Madagascar in East Africa and Senegal in West Africa). To do this effectively we have brought together a team of top experts with extensive experience in each of these countries.

The project will concentrate on the horticultural sector within these countries. The sector that we are trying to understand is immense and affects hundreds of millions of people. The global fruit and vegetables sector reached 1.27 billion tons in 2003 (Diop and Jaffee, 2003). This sector has grown rapidly: by 30% between 1980 and 1990; and by 56% between 1990 and 2003. The profits of horticulture farmers almost always are higher than farmers in other cropping sectors because there is more value added and the requirements of production are higher. The sector is also labor intensive and is thus an important sector for employment of poor laborers and for small farmers.

Horticultural production is also extremely important in developing economies—both those that are growing and those that (while stagnant domestically) are linking themselves to newly emerging global food markets. Given the high labor requirements in this sector, the low land costs and longer cultivation periods in developing countries as well as the trade incentives given by some developed countries, developing countries have been able to capture a significantly increased share of world trade: from 16% of global exports of fruits and vegetables in 1981 to 22% by 2001 (Diop and Jaffee, 2005).

In our target countries—India, China, Madagascar and Senegal—the horticultural sector is typically of those found through the developing world. It is estimated that more than 200 million people, many of them very poor, are engaged in horticultural production in our target countries. Hence, there is a great opportunity—given the rapid growth of the sector—that tens of millions of poor can benefit if the constraints keeping them out of the growing MSCs in this sector can be overcome.

Importantly, the lessons from this proposed work will pertain to more than the horticultural sector. Any of the newly emerging sectors that are being channeled into MSCs—including livestock products; dairy; aquaculture; other specialty commodities—will be able to benefit from this study. All groups of farmers—outside of those that will be unwilling to shift out of non-commercial farming (for whatever reasons)—will be able to benefit. This likely covers more than one billion farmers and their families.

Social and environmental impact of MSC

There also can be important gender effects associated with the growth of MSCs. In many parts of the world, women are more involved in horticultural production and marketing than in typical cash crops, such as coffee and cocoa, which are often exclusively marketed by men. It is unclear to what extent the growth of MSCs may change this. Some argue that men may take over high value production and incomes. However, our research on Senegal suggests that MSC benefits women more than proportionately by creating additional employment and higher income in this sector. In China, we have shown that in some areas, women are producing more and more of the high value horticultural crops—though it is not clear why (or what factors contribute to this participation).

Similarly, the MSC integration may affect the role and participation of minorities in horticultural production and marketing, especially in countries like China and India—

because some of these minority groups live in areas that are particularly well-endowed for horticultural production.

Finally, the impact on the environment, human rights and corporate practices needs further analysis, but it may also be positive as MSC, under pressure from high income consumers, are likely to put more emphasis on production practices and ethical practices (e.g., no child labor) than traditional supply chains.

In summary, the impact of MSCs on social and environmental effects needs much more analysis to come up with evidence-based conclusions. However preliminary evidence suggests that in many of these aspects there may be beneficial effects. Obviously these effects may vary substantially across countries and sectors, reflecting a variety of differences in social, cultural, natural and economic characteristics.

While not being the prime focus of the project, we will incorporate these issues into the analysis and look specifically into how the participation of the poor into MSC will affect these social and environmental effects. To ensure the implementation of this part of the project the project will appoint one person responsible for supervising the attention to these issues across the project (the Director for Gender, Minorities and Environment) and have one person within each country be responsible for incorporating these ideas into the work and following them through the course of the project.

Vision of success

Our vision of success has to be sketched out in three pictures:

First, we believe that *we can solve (not just inform—as most research projects promise) a puzzle that has dulled the response of governments, NGOs and participants in MSCs.* Based on a series of randomized interventions that use successive experimentation, we will identify the constraints that are keeping poor farmers out of MSCs. Since the different combinations of treatments—of information, incentives and institutions—will be run in a way in which they can tested experimentally against one another and against true control groups, we can identify which parts of the treatment packages work and which do not. This will allow us to demonstrate to governments, NGOs and private firms what types of models will allow them to link the poor profitably to MSC. The models will supply the key pieces to allow poor farmers access to the information, incentives and institutional support and make them one of the dominant players in global horticultural markets. As important, we will be able to eliminate elements that do not matter.

Second, this project goes far beyond research. In carrying out this project, we also have a bold vision of what we can accomplish **directly**. *Within 3 years of the proposed project period, we will have directly linked more than 20,000 small poor farm households in 500 communities in four countries to modern supply chains.*[1] The links will be made through

[1] Of course, because of the need to establish a true counterfactual, the random nature of our experiments means that there will be those—households in control groups and households in failed treatment

various public and private extension programs to improve information and skills; improve incentives through the provision of credit or inputs**;** and through the establishment of certification and dispute resolution institutions. We will have orchestrated extension programs with our government and NGO partners in more than 100 villages. We will have set up more than 100 input supply (including credit) programs. Finally, we will provide in more than 100 villages a variety of ways certification and dispute resolution services in trying to improve the marketing environment.

Third, to ensure sustainability and scalability, we will establish a public-private linkages program. Through this program that will be run with our private and public partners, we envision that we will be able *to scale up to more 10,000 communities.* The key (and convincing) part of this is that it will be the private sector—who learning unequivocally what works and what does not—will move into the new communities on their own in the course of their day-to-day businesses. If public (or NGO) partnerships are needed, we will have a basis for encouraging them (and will take actions to do so). *Our vision is that our private partners, others private firms in the industry along with the public partners will be able to benefit more than 1 million farm households.* In addition, we envision our work will help governments better understand how to harness the MSC revolution to help the poor.

II. Goals and Objectives

The first overall goal of the proposed project is *to identify external interventions capable of reducing constraints to integrate poor farmers in MSC* and do so by experimenting with different combinations of public-private partnerships. More specifically, we will assess which of three critical knowledge gaps (information, incentives, and institutions) are most critical in keeping the poor out of modern marketing chains and how one should go about investing in them.

The second overall goal is *to put into practice our belief that if small poor farmers are provided good information (which they can learn); strong incentives; and a favorable institutional environment, they can become viable (and preferred) suppliers to new modern supply chains.* Part of this will be to identify how government policy and donor projects can contribute to this and which combination of public-private partnerships will be most effective.

To meet these goals, we have four specific objectives.

First, we want to *develop innovative ways to build private-public partnerships (PPPs)* among governments (e.g., cooperative extension services); our private partners; and NGOs and other organizations that are involved with certification and dispute resolution.

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communities—that are not linked up. These communities, however, will receive priority during the scaling-up phase.

Second, we want to *provide farmers information, incentives and institutional support* that they need to become effective players in emerging horticulture markets.

Third, *by using a unique experimental design (in the context of project implementation), we will identify the constraints* keeping farmers from connecting to MSCs and in overcoming these constraints the farmers will increase (and we will document) the rises in employment, profits and better practices.

Fourth, from our successive experiments we want *to create a set of "Best-Practice Models."* When our private partners (and their competitors) use these Best Practice Models, they will find their dealings with small, poor farmers not only profitable but the links with small farmers will lead to a fall in poverty.

Measuring success

Because of the design of our project and the methodology, we will be able to monitor and evaluate successes and failures more precisely than any other group (either within the set of Gates Projects or any other project to date). Before implementing any of the interventions we will do a baseline survey (and focus groups) to document the activities, income levels and consumption levels of households in all parts of the income spectrum in both the treatment and control communities. These surveys (and focus groups) will be repeated after the interventions in both treatment and control communities. Because all of the communities are randomly assigned, systematic differences in participation in horticultural activities, income and consumption between the treated and control communities will necessarily be due to the intervention. If there are no differences between the treatment and control community, the intervention (information, incentives and/or institutional treatments) will be a failure. If there are differences, the intervention will be a success. We will test among the different treatment programs to identify what matters: information, incentives or institutions (and what form and what mix of each). We will particularly be looking for changes in participation and hours worked (of both men and women; minority or not); changes in earnings; changes in variability of earnings; changes in consumption; etc.

We also will be tracking the benefits for the private firms. Although the firms are committing to entering villages and doing business on the basis of a strict protocol (in order to be able to implement reliable treatments), we will want to understand under which (set of) interventions they are most profitable. We will want to understand the difference in profits that are earned when they implement the same protocol in richer and poorer villages (and for richer and poorer households). In the fourth year of the project (third year of implementation), we will allow the private firm freedom to make their own choices to continue the interventions and continue to work in the treatment villages. From this we will be able to get a clearer idea of what is profitable and what is not.

What is special?

- Our work will be done simultaneously across the globe: South Asia (India), Asia (China) and Sub-Saharan Africa (Madagascar in East Africa and Senegal

in West Africa). In fact, the study countries themselves account for nearly 2/3rds of the world's poverty (and more than 80 percent if we count the proposed African countries as representative of Sub-Saharan Africa). Comparisons will be very instructive. Which interventions work in which settings? There undoubtedly will be those that are robust across all settings and those that are idiosyncratic to a single country. These insights will provide invaluable lessons toward the mega-scale up that will follow.

- The project brings together the world's best experts in this field (see bios).
- The project will work closely with highly successful private firms building upon earlier collaborative experiences. In each country we already signed agreements for collaboration with four private partner that are major companies (ITC in India; Lecofruit in Madagascar; ONAPES in Senegal; Lianhua in China) which procure from more than 7,000,000 small farmers globally.
- We will use an innovative methodology of randomized intervention approach with successive experimentation to identify Best Practice Models.
- Because different treatments are provided by government agencies, NGOs and private firms, we will be examining different combinations of private-public partnerships.
- Scaling up and sustainability of the project's outcomes, as well as its relevance and insights, will benefit from close collaboration (from the start of the project) with the private sector in the design and the implementation. This will enhance the adoption and continuation of models for small farmer-business interaction and public/private partnerships (PPPs) that we plan to jointly develop.
- We will use the PPPs to launch scaling up efforts. There will be demonstrations, promotions and presentations at gatherings of industry associations. There will be no proprietary information.

III. Project Design and Implementation

The implementation of the project will be organized in four parts (steps), in line with the various objectives identified above. The three parts are, first, the formation of public-private partnerships (step 1); second, the identification, design and implementation of the treatments (or farm assistance programs—step 2); third, impact analysis and identification of best practices (step 3); and, finally, the scaling up phase (step 4).

The rest of the section documents the proposed measures that we will take to design and implement these steps. The basic methodology that we propose to use is a scientific learning process to come up with solutions that work. At the basis of this scientific learning process is the concept of *successive experimentation*. The implementation procedure are explained below. Illustrations and more details are provided in three boxes.

Step 1. [*forming the public-private partnerships*]: We have already recruited our partners. We will work with a set of representatives of modern supply chains, one per country. We

also will work with a set of extension-oriented agencies or NGOs, one per country. The list of our partners at the time of submission of the surveys is:

Country	*Modern Supply Chain Firms*	*Extension/Gov't Agency*
India	ITC	Several NGOs
China	Lianhua	China National Extension Agency
Madagascar	Lecofruit	FOFIFA
Senegal	ONAPES	UNPM

All of these have committed to participating in our project. We have attached a letter of commitment from each of these organizations (Annex A). For a more detailed description of the partner organization, see Annex B.[23]

Step 2. [*designing and implementing of the treatments*] This will involve three sub-parts.

Part 2a: we select a project area that fits the needs of the project. The area in each country must be: poor; extensive (covers a lot of villages; contains many poor farm households; currently is not integrated into modern marketing chains; and is in an areas in which our private and public partners have never worked extensively in prior to the project. These have been chosen on the basis of 5 criteria:

- The average income is near $2/day.
  [on average it is $1.8/day]
- The area covers more than 500 villages or communities (i.e., it is quite large).
  [the areas in all countries cover more than 10,000 villages]
- There are large numbers of poor farmers in the area.
  [29% of the households are under $1/day; 62% are under $2/day]
- The area is not a well-known horticultural base (less than 5% of communities have any commercial horticultural production.
  [on average, less than 5% of the sown area is sown to vegetables or fruits]
- Our private partner and our government part see untapped potential in this area.

As can be seen from the data in the brackets, the project areas meets the criteria of the project. In Annex C we include a short description of each of the locations of each of the proposed project sites.

[2] The incentive for these companies to join us will be twofold: one, we will convince them that we can provide them with access to viable sources of supply for their marketing chains (that is, they will be investing in learning about their own marketing channels); two, they will be able to count these activities as part of their corporate stewardship activities.

[3] In each country we will also contract with an organization that is involved in horticulture marketing certification and conflict resolution. Since there are a number different agencies that perform these services on a contracting basis in each of the study countries, there is no need to identify the agency at this time.

Part 2b: We select the treatment and control villages using a randomized intervention approach as to establish a correct counterfactual.[4] After the project areas are determined, a comprehensive list of all villages in project area will be constructed.[5] Once this list is chosen, we randomly will choose 100 villages and put them on list. These 100 villages are the study villages. Half of the study villages (50 of them) will then be randomly selected and be called the *treated villages*. Another part of them (20 of them) will be called the *control villages*.[6] No interventions will occur in the control villages. We will, however, do a comprehensive baseline in a set of randomly selected households before and after the interventions in the treated and control villages. The behavior of the farmers in the control villages will be the counterfactual.[7]

Part 2c: We design and implement the treatments using a randomized experimental design. As discussed in the first section, the treatments will be implemented along three dimensions.

a. Availability of information and access to extension (to improve information)

To this date there is little agreement as to what is a cost effective way of delivering agricultural advice to small farmers in developing countries. Here are some of the unresolved issues:

- Do farmers learn from each other and if yes from whom? For instance, do they learn from farmers they regard as model farmers? Does information circulate through social networks? Are there barriers to the circulation of information across gender or ethnic groups?
- Do farmers believe the information provided by extension services and other external actors? How do farmers verify the validity and relevance of the

[4] An instructive way of thinking about how we will select the villages is to conceptually think about putting a map of the project area on a wall and letting a blind-folded team member throw 100 darts at the map. Whichever villages are closest to the points in which the 100 darts struck are designated study villages. Why is this needed? Most project areas are not chosen this way. Instead, typically projects are put in areas that in which an organization has connections. Or, alternatively projects are put in areas about which a manager has "a good feeling." Or, alternatively projects are put in areas in which there is a certain set of characteristics that define the village. When villages are chosen like this and a project appears to succeed, the problem with trying to understand if this is a Best-Practice Model (worthy of scaling up or not) is that the success may have nothing to do with the project per se, but it is due the fact that the community in which it was implemented was the reason for the success (that is, any decent project could have succeeded).
[5] The China study villages in the project area have already been chosen. In the China sample, for example, our study area contains 8 counties, 122 townships and more than 1550 villages. The townships are available from on-line maps. We made 122 phone calls, one to each township administrative office, and we were read and recorded a list of the villages in each township.
[6] As an indication of the sizes of the villages, in the China sample, for example, there are more than 50,000 households in the study villages and more than 25,000 in the treated villages.
[7] We will worry about possible inadvertent "contamination" (of the control villages by the treatment). We will know if there are any control villages that border treated villages. We also will take time during the survey to discover if any of the farmers in the control villages have heard about our experiments or if they have ever visited or talked to any body from the treated villages.

information they receive? Can new information technologies (computer networks) be a tool to improve information access?

- What cognitive process do farmers—particularly those will little or no formal education—use to process new technological information? Should the focus be on simple messages—e.g., 'plant in early July'—or on relationships—e.g., 'planting in early July raises yield because the plant has more time to develop'?

In short, we are interested in understanding if extension services (provided by the government partner; or a third party partner) can provide the information that farmers need. We also want to understand **how** the extension intervention might best be made.

One set of interventions will be done by allowing the public extensions system to train horticultural farmers in some villages; allowing the partner firm to train horticultural farmers in some villages; and not training in the control village. Another set of interventions will follow the innovation described in Box 1. Computers will be set up in the treated villages to give farmers information about prices; those in the control villages will not have the information.

b. Input delivery (to improve incentives)

Although there has been a lot of work on input delivery, little is known as to why small farmers do not adopt divisible agricultural innovations such as fertilizer, improved seeds, or pesticides. In addition, why is it they can not adopt and use greenhouse technologies, IPM packages and irrigation practices? What is dampening the incentives for small, poor farmers to produce in a way that is expected of producers in modern supply chains.

- Is it because farmers are credit constraints? If so, providing credit should increase usage of modern agricultural inputs.
- Is it because there are no markets for inputs? If so, inputs may have to be provided through the MNC via interlinked contracts, or by newly created organizations.
- Is it because farmers are unable to hold onto money from one harvest to the next season? If so, providing “advance purchase facilities” (such as prepaid fertilizer coupons) and/or other savings instruments could solve farmers' self-commitment problems.

One set of interventions will occur when the partner firms offer selling inputs to farmers for credit (that is repaid at the end of the year when the harvest is procured); in another set of treatment villages the partner firms offers selling inputs to farmers but without credit; and there is a control village. In another set of interventions, the partner firm will offer a “savings plan” to farmers in one village (which is a coupon that pre-pays for inputs at the end of the previous harvest when the household still has cash and can pre-commit to buying inputs in order to insure that inputs will be available when the crop gets planted in the next cropping season); these will not be provided in the control villages.

Box 1: An example of improving "information": E-choupal in India

ITC, our private partner in India, started an innovative e-choupal business model in 2000 that already includes more than 4 million farmers. By virtually aggregating farmers, e-choupal brings the power of scale to the smallest of farmers. The firm installs a computer with solar-charged batteries for power and internet connection. By providing this service, farmers can compare prices and products and place orders on the internet. The e-choupal is breaking the monopoly of local markets which are often controlled by trade cartels or who are protected from competition by state regulations. Farmers in the village can compare prices and sell either at traditional markets and or through purchase centers set up by ITC.

Sourcing its products directly from farmers (instead of middlemen or other agents) gives the ITC and its farmers a competitive advantage in both quality and cost. It has become a unique innovative model of vertical integration where instead of buying a mixed variety of products from traditional markets and making quality segregation before processing, ITC can procure different qualities of grains separately. Quality tests are performed right in front of the farmer and any price deductions are rationalized to the farmer. Compared to traditional markets, this model is fairer and gives better incentives: weighting is done by means of electronic machines and moisture meters are used to measure moisture content. This model is good for business and has large positive effects on rural India.

This idea and the firm has won several awards, among them the prestigious inaugural 'World Business Award' in 2004, instituted in support of the United Nation's Millennium Development Goals. This is the first worldwide business award to recognize the significant role business can play in the implementation of the UN's targets for reducing poverty around the world by 2015.

c. Marketing interventions (to improve the institutional environment)

There is surprising little hard empirical work on marketing institutions and market design to allow small farmers to better participate in these modern supply chains. Little is known on how quality can be preserved or improved through the marketing chain and how information about quality can be conveyed in a credible and reliable fashion.

- Is quality certification the binding constraint? If so, instituting a certification agency could solve the problem.
- Is opportunism the binding constraint? If so, vertical integration and contract enforcement institutions–including third party dispute resolution bodies–could ease the problem.
- Is the lack of farmers' organizations limiting the access of small farmers to the modern supply chains? If so, group formation programs would help.

In one set of interventions, we will organize a local certification organization to offer certification for farmers; in another certification will not be offered. In an alternative set of interventions, there will be no certification protocol but we will offer a dispute resolution mechanism in one set of villages; and not in the control villages.

See Box 2 for a more detailed example of the design of the interventions.

Step 3. [impact analysis and identifying best practices]: Before the beginning of the project and each year at the end of the cropping year (e.g., December), the project team will conduct a household survey and firm cost accounting exercise.

The household survey will ask questions one a household's economic activities; labor allocation; income; consumption and other indicators of welfare. We will provide an examination of how well farmers understand the technology that they are using and the nature of the certification process. These indicators will be compared between treated and control and among treated categories. This will provide us with immediate feedback about what is working and what is not working.

There will be special blocks on the survey form to track the behavior of farmers as it relates to the treatment. For example, we will first identify (during the initial baseline) the "peer groups" of each household. We then will see how the nature of a household's peer group affects how much it can learn when different methods of extensions are used. In addition, we will track the solvency of farmers and their cash flow to understand how access to credit is affecting their behavior.

We also will be qualitative interviews in focus groups to get feed back on the process that is occurring and how household perceive it. This exercise will allow us to firmly document successes and failures. Special attention will be given in quantifying the impact on poor households and on female-headed households.

Box 2: Methodology of the randomized experiment

Not all treated villages will receive all treatments—information; incentives; institutional support. In fact, in only 5-10 villages will farmers be treated with all treatments. In the rest, they will receive one or two treatments. Within each type of treatment, in some areas there might be 2 variations (or sub-treatments). An experiment design might look as follows.

Treatment 1. [information treatment]: In the 50 treated villages, we will choose 30 villages to be treated with an *information treatment*. In 15 villages, extension agents will train all farmers according to a strict protocol that will be set up so that the behavior of the extension trainers will not be a factor (subtreatment 1a). In 15 other treatment villages, the private partner will do the training according to the same protocol (subtreatment 1b).

Treatment 2. [incentive treatment]: In the 50 treated villages, we will choose 20 villages to be treated with an *incentive treatment*. In these villages credit will be offered to the farmers to finance their input purchase. Half of these villages will be chosen from the villages that received the information treatment (with part from each subtreatment); half from villages that did not receive the information treatment.

Treatment 3. [institutional support treatment]. In the 50 treated villages, we will choose 30 villages to treat by providing services to help farmers deal with an environment in which production standards are important. There will be 2 subtreatments. One subtreatment (st3a) will offer certification of the farmers horticultural output; the other subtreatment (st3b) will offer dispute resolution services. In the 15 villages with st3a, some will occur in villages with information-only treatments; some in villages with incentive only treatments; and some in villages with both treatments. the rest will be in villages with no other treatments). The same will occur in the 15 villaeges with st3b.

A firm cost accounting exercise also will be conducted. Careful cost accounting will seek to track the profitability of the private firm in each village. We are particularly concerned if the firm's profitability is being affected by any of the individual or combination of the treatments. Because of the randomization, standard evaluation techniques will be able to identify these effects.

Successive experimentation will begin in year 2. If after the first round of experimentation, it is clear that certain treatments are not useful (or counterproductive), a consolidation of treatments will be carried out. Together with our partners, we will look at the lessons learnt and will move to a new set of experiments that will better focus on helping the poor getting successful access to modern supply chains.

Scalability and Sustainability

At the end of year three of project implementation (or the beginning of year 5 of the project), we will have regional workshops in each country. The purpose of the workshops will be to asses overall findings of the projects. We will examine: what works / what does not / success will be defined as: a.) what are the effects on poverty of each business model (that is: combination of information; incentive and institutional intervention); and b.) what are the effects of firm profitability of each model. The successes will be compared across regions in each country and across countries. In the end we will identify cross-country Best-Practice Models (BPMs) and country-specific BPMs.

Each paradigm will spell out the nature of the partnership:

- What is the most effective role of the extension system/or information scheume?
- What is the best practice for providing incentives for farmers to participate (e.g., credit; savings plans)?
- What are the most useful market support services (e.g., certification; disput resolution)?

The main activity of the last year of the project will be to scale up the BPMs in order to ensure that the project is sustainable.

Scaling up

We have commitments from our public-private partners that they will actively participate in the scaling up phase of the project. Our extension partners have already said that if the BPPs worked in their countries, they would be willing to greatly extend their efforts across the other poor areas. For example in India and China, the extension system will provide extension services in 50 counties/districts in year 5. This means that extension services potentially will be pushed into 2 countries x 50 counties x 10 towns x 10 villages = 10,000 villages, which would cover nearly 150,000 households or more than 750,000 people. In West and East Africa we will begin to work with NGOs and international aid

agencies to replicate these plans in the core countries and other interested national programs.

We have commitments from our private partners to continue to push their programs into other poor areas, and continue their role in the public-private partnerships. This means that they could participate in the efforts that will be done by the extension services described in the previous paragraph. It is our intention to widely publicize the BPMs and encourage other actors in MSC to participate.

The role of the *scaling up teams* (which are project team members):

1. Visit national and international MSC companies; exporting and horticultural marketing association meetings and present posters and give talks.
2. Act as a clearing house—coordinating between the government extension agencies (who will continue to provide information treatments) and private partners (who will provide the incentive treatments).
3. Find certification and dispute resolution agencies and NGOs to provide the institutional support in the scaling up regions.

Sustainability

Since extension systems (and NGOs) and private partners will both have an incentive to replicate their segments of the BPMs, we believe that given enough publicity and consulting services from the scaling up teams, this process will be able to spread across new regions. It is possible, however, that there will be certain services that will not be self-sustaining—at least not in the short term. If poverty alleviation goals make it desirable to push the BPMs any way, it is possible that there will be a role for an outside actor.

For example, the credit treatment might be shown to be effective, but the private partner could indicate that there would be too much risk in scaling up across too big of a region (or there might be liquidity constraints). In such a case, we believe the IFC section of the World Bank might be in a position to offer an on-lending credit service to facilitate the expansion of these programs. With the documentation of the profitability and poverty alleviation effects of the BPMs, this is something that the IFC would likely to embrace (and the partners involved in this project have worked with them before). In this way the original partnership would expand to a public-private-international agency partnership.

These activities would all be part of the responsibilities of the scaling up teams.

Heterogeneous Effects (on gender; minorities; etc.):

As explained in Section I, certain subsets of the population of the population may be affected differently. In order to monitor this and to ensure their participation in the implementation part of the project, there will be an overall Director of Gender, Minority and Environmental Impact. Each country team will also have a gender/minority country

director**.** It will be the responsibility of this person to monitor the extent of participation of women and minorities. The Director and Country Directors will also explicitly be responsible for analyzing the impacts of the programs on these participants once they are in the program.

The role of the GMM will be:

1. Monitor the participation of women and minority groups (this will be done by comparing the initial baseline information on composition of study villages and the participants in the treatment villages).
2. If there women and minorities are under-represented, focus groups will be convened in each village to identify the reasons for non-participation. Additional training programs will be offered in part of the underrepresentative villages.
3. Evaluate the impact of the treatment on women and minority and compare the performance of women and minorities to the rest of the population. If there are differences, a determinants analysis will be carried out. If there are constraints identified to lead to success in participation, additional interventions will be carried out in a subset of the villages in years 2 and 3 of the project.
4. A special report will be filed on women and minorities in the production of horticulture in each village.

Other Issues of Project Design and Implementation

In section III of the "instruction for the proposal narrative" there were several specific items that were requested we address. We believe the narrative has addressed the major points. To ensure that all of the points were covered, we address in a brief fashion a selected subset of these requests:

Item 4.) [**community participation**]: Community participation in the classical sense will not be part of this project (since it is based on randomized interventions). However, any households in any of the target communities will be eligible to participate. In addition, we will use participatory focus groups to elicit information from farmers about their experience. Finally, in some countries, we are planning to intervene in the information part of the program by setting up participatory farmer associations in some villages and not in others.

Item 7.) [**business models**]: In our project, the business model consist of a set of three interventions plus the "rules of the protocol." There will be an extension/information component (or not); an incentive component (or not); and a certification component (or not). From a large number of different combinations of treatments, we will use a successive experimentation method to find a set of Best-Practice Models (BPMs). In other words, we are going to let the performance of the extension agents; private partners and farming households determine the BPMs.

Item 9.) [**contracts**]: Contracts will be specified by treatment and by protocol. There will not necessarily be sign written contracts (since there rarely are in the real world), but the

protocols will be posted prominently in each village. In addition to the specific treatments, our private partner guarantees the following:

> In villages in which we have to "make markets," all output of farmers will be purchased in years 1 and 2 of the project for a set price. There will be two prices—one for product that meets standards (which will be clearly publicized in the protocol document); and a lower price for product the does not meet standards. The private partner will determine if the product meets the standard in all villages, except when there is a third party certifier (one of the institutional support treatments). If there is a dispute it will be settled by the dispute resolution committee in the villages that receive this treatment; in the other villages, the way the disputes are settled will be one of the outcomes of the project.

Item 11.) [**targeting the poor**]: Poor households will be targeted by selection of appropriate study areas. All households will be able to participate. In choosing Best-Practice Models, we will consider which sets of treatments helps the poor the best—as determined by the evaluation process.

Item 12.) [**capital investments**]: none by project.

Item 13.) [**impact on smallholder cost structure**]: this is part of outcome of the project; we will decide the Best-Practice Model in part on the basis the models that reduce costs and increase returns to poor farmers.

Item 14.) [**environmental impacts**]: As explained in section I, we expect positive environmental effects. In each country, however, we will designate an environmental impacts manager. In the baseline and in each year of the survey and during the focus group sessions, a series of questions will be asked to try to determine if the farming practices and new horticultural activities (or other complementary activities) will have (or is having) an impact on the environment.

Items 15 and 16) [**timeline & milestones**]: see attachments.

IV. Risks

A project of this magnitude and complexity—especially at this point of design and pre-implementation—has risks involved. Most importantly, we will need to establish close working relationships with both our private partners and government extension agencies (and NGO partners). At the current level of budget support request, these actors need to mostly "buy in" on their own and supply on their own accounts their parts of the input (the effort to set up new marketing chains and some of their extension efforts). We will offer some funding to defray some of the fixed cost of participation, but a lot of the effort and investment must come from our private and public partners. While our team members have long histories of close ties to key MSC companies who tell us emphatically that they are interested (see letters of commitment); and while our team members have close ties to national and local organizations and governments in the

proposed research locations (see letters of commitment), there are no signed agreements and the design of the project might have to be modified—although we would not allow the spirit of the project to be invalidated.

Because of differences among nations, we will not be able to implement all treatments in all countries. To the extent possible, in each country there will be information, incentive and institutional interventions. It is possible, however, that some of these will be irrelevant (e.g., there is no demand for certification for suppliers of horticultural products intended for domestic consumption in India. In other words, we will strive for unity among countries, but there necessarily will be differences.

V. Monitoring and Evaluation

Monitoring and Evaluation are inherent to the design and implementation of the project. Baseline surveys and focus groups will take place before any treatment in both treatment and control villages; with both participants and non-participants in the treatment villages. Each year follow up surveys and focus groups will be run on the same households. In this way, we will closely monitor and evaluate the impacts of the various treatments on the activity choice, labor allocation, income, consumption/investment, and experience in horticultural activities.

As discussed above, there will be a director or gender and minority and environment impacts for the overall project and in each country that will be specifically tasked with monitoring any adverse impacts on these vulnerable groups and on the fragile environment.

VI. Organization Capacity and Management Plan

The Project Team Organization

Project Director
Scott Rozelle
[the project will be managed out of Stanford University]

International organization

Country Director for Senegal	Johanne Swinnen
Country Director for Madagascar	Bart Minten (in collaboration with Fafchamps)
Country Director for China	Jikun Huang (in collaboration with Rozelle)
Country Director for India	Bart Minten (in collaboration with Reardon)

Monitoring and Evaluation Director: Marcel Fafchamps

International Industry Liason: Thomas Reardon

Gender, Minority and Environmental Impact Director: Miet Maerten

In-country organization

In-Country Directors (post doctoral fellows—new staff):

Senegal: Fidele Ange Dedehouanu, Center for Applied Economic Research
Madagascar: Lalaina Randrianarison, Cornell University Project Team
India: Ashok Gulati, Director, IFPRI, New Delhi Regional Office
China: Jikun Huang, Director, Center for Chinese Agricultural Policy

Experiment Management and Monitoring Teams (1 additional post-doctoral fellows—new staff)

One individual in charge of experiment coordination
One individual in charge of Monitoring and Evaluation
[one of these may also be the country director]

Gender and Minority and Environmental Country Directory

Senegal:	Miet Maertens (Catholic University, Leuven)
Madagascar:	Eliane Ralison (Fellow, FOFIFA, Madagascar)
China:	Linxiu Zhang (Deputy Director, CCAP, Beijing)
India:	Anju Negi (Senior Administrative Associate, IFPRI, India)

Credentials and Experience

It is not an overstatement to say that the project team is made up of six of the best agricultural economists that are working on the poverty implications of the globalization of modern supply chains. Tom Reardon (IFPRI/Michigan State U.) can safely be called the "father of the field." Tom has worked in Africa, Latin America (including Mexico), South, Southeast and East Asia. Johan Swinnen (University of Leuven) has done more studies in Africa (including Senegal and Madagascar), Eastern Europe and Central Asia than any body else in the field. Marcel Fafchamps (Oxford) and Bart Minton (Cornell University Project Team/IFPRI) have just completed what the World Bank calls one of the most innovative studies on modern marketing chains in India that has ever been done. Both have done extensive work on the poverty effects of marketing chain developments in East Africa (and especially Madagascar). Bart was based in Madagascar for the past 10 years is has now moved to India. Scott Rozelle (Stanford University) and Jikun Huang (Chinese Academy of Sciences and a frequent advisor of China's premiere, Wen Jiabao) have published more papers on China's agriculture than any one in the world and currently have an active program on supermarket/processing sector's impact on the poor in China. The bios and publications of the members of the project team are included in Appendix E.

The team members have the capacity to design and implement large complex projects and many have founded and are running prestigious research and academic organizations. Jikun Huang is the founder and director of the Center for Chinese

Agricultural Policy (CCAP), the most successful center for agricultural policy analysis and advising in China. In 2002, CCAP was named as the most outstanding center for social science research and policy analysis in all of China. CCAP is made up of 10 senior fellows (all with Ph.D.s in agricultural economics from universities around the world); 10-15 senior staff and post-doctoral fellows; and 50 Ph.D. and masters students. CCAP's annual budget is about 2 million US dollars. It currently has 4 projects that exceed 1 million US dollars. Rozelle is the chair of the Board and Academic Advisors of CCAP. Johan Swinnen is the director of LICOS, a center for the study of institutions and economic performance in the University of Leuven. Located in Belgium, LICOS currently has 4 program directors, 7 senior economists and more than 25 graduate students. The annual budget of LICOS is more than 2 million euros and it is currently running a 5 million euro grant won for being a Belgian "center of excellence." Bart Minten is a senior research fellow is directing the research Program on Agro-business Development in the India office for the International Food Policy Research Institute (IFPRI). IFPRI is now the largest center in the Consultative Group for International Agricultural Research (CG System). Over the past 10 years Bart has been involved in and run projects that have totaled more than 5 million dollars.

The team has been involved in working on many projects which involve modern supply chains and the poor. These are detailed in Annex 4.

Expertise in Supply Chain Management and Extension Services

While the Director and Country Directors have experience in managing large institutions and managing complex projects (including a large body of work on modern supply chains), we do not pretend to be able to operate horticultural supply firms or run agricultural extension project. For this reason we are creating partnerships with those that have the skills and track record to do so. In each country, our private partners are fully functional firms working in the horticultural sector: an agro-food conglomerate (second largest in India), a supermarket chain (largest in China), a processing enterprise (largest in Madagascar) and an association of exporting firms (the largest in Senegal). In each country our public/NGO partners have experience in delivering extension and information services (in China—the China National Extension Service; in Inida—ITC information division—a part of the food firm's organization that has been in charge of supply on-line, internet pricing services to villages in India; in Senegal—the UMPM, nationwide farmers association group, which is a national union of horticultural producers; and in Madagascar—an NGO that has been involved in training horticultural producers that want to become involved in the export economy).

During the project design and implementation phase, our main job will be to coordinate the efforts of our partners in the different treatment villages. During the scaling up phase, our job will be to provide information on the Best-Practice Models and provide linkages to other organizations (such as the World Bank's International Finance Corporation) that can facilitate their scaling up.

[**end of grant narrative**]

Annex A : Letters of Commitment

Senegal (pp. 22-23)

Private partner: ONAPES (*Organisation National des Producteurs Exportateurs de Fruits et Légumes de Sénégal*)

[this letter was too light to scan / copy available upon request]

Public partner: UNMP (*Union Nationale des Producteurs Maraîchers du Sénégal*)

Madagascar (pp. 24-27)

Private partner: Lecofruit
Public partner: FOFIFA (Center for Applied Agricultural Research)

China (pp. 28-31)

Private partner: Lianhua Supermarket Holdings CO., LDT.
Public partner: The National Agricultural Technology Extension Service Center

India (p. 32)

Private partner: ITC
Public partner: Several NGOs [no letter yet]

UNPM - *Union Nationale des Producteurs Maraichers*

January 9, 2007

Dear Gates Proposal Administrator:

This letter contains a statement of our sincere interest in participating in the Gates Foundation-supported program on "Raising Incomes of Smallholder Farmers in the Developing World by Building Efficient and Equitable Markets" for the Foundation's Agricultural Development Initiative.

In specific, we would like to express our support to the research and practice-implementation team (group number 45688) that is organizing the proposed project:

> "Experimenting with Public-Private Partnerships: Getting the Poor Into Modern Marketing Chains"

This proposed project aims at understanding and addressing the constraints that are keeping poor farm households from participating more actively and profitably in modern marketing chains - an issue which we are indeed confronted with in the horticulture sector in Senegal. We are very interested to cooperate as a partner in this large project.

To introduce ourselves in the briefest of terms, my staff and I represent the organisation UNPM (*Union Nationale des Producteurs Maraichers*) in Senegal. We are an association of non-governmental farmers' organisation representing small horticulture farmers in the main horticulture regions of the country. We are one of the members of the national organisation CNCR (*Conseil National de Concertation & de Coopération des Ruraux*) and involve in farm extension, provision of credit, facilitating access to inputs, etc. specifically for the horticulture sector. We currently implementing activities that link small farmers to the agro-processing and exporting industry as to improve farmers' access to inputs and facilitate the marketing of their products. Participation in this large project would give us an opportunity to go much further in this and improve the well-being of a large number of small farmers by linking them to modern market chains.

While there are still a number of details to be worked out, we are intrigued with the proposed project. We believe that this project can help our organization UNPM in a number of ways:

- We can learn about our market.
- We can meet others who are interested in expanding the role of modern marketing chains for farmers—especially the poor—in developing countries.

- We can participate in partnerships that will potentially help change both our business practices and public policy for the better.
- And, we can make this part of our organization's stewardship commitment.

We understand that in committing to work with the project team that we will be asked to do things in a way that may be new and untried. While we reserve the right to work out the exact role that we will play in this project, we are looking forward to the challenge and learning that may come from this project. In short, we are enthusiastically committing to helping the Gates Foundation; the Stanford/Oxford/Leuven/World Bank/IFPRI team and their other partner organizations in Africa, South Asia, Southeast Asia and East Asia try to better understand how the poor can take advantage of the opportunities in the emerging markets for high value agricultural crops in the world.

If you need any other information, please do not hesitate to contact me or my staff.

Massèye DIONGUE
Président UNPM
Union Nationale des Producteurs Maraîchers du Sénégal
Siège social à Gorom I km 18 route de Sangalkam Département de Rufisque Dakar
Tel : D ☹ 00221 836 19 60 B ☹ 00221 893 65 48 M ☹ 00221 652 86 85 / 546 04 68
Sénégal
E-mail : unpmth@yahoo.fr BP 249 RP Dakar

Antananarivo, 17th of January 2007

Dear Gates Proposal Administrator:

This letter contains a statement of our sincere interest in participating in the Gates Foundation-supported program on "Raising Incomes of Smallholder Farmers in the Developing World by Building Efficient and Equitable Markets" for the Foundation's Agricultural Development Initiative.

In the past several weeks we have been communicating with the research and practice-implementation team (group number 45688) that is organizing the project:

> "Experimenting with Public-Private Partnerships: Getting the Poor Into Modern Marketing Chains"

In the course of our discussions with the project team about playing a role in understanding the constraints that are keeping poor farm households from participating more actively and profitably in modern marketing chains, we have made a decision that we may be able to help as a partner to this larger project. To introduce ourselves in the briefest of terms, my staff and I represent the firm Lecofruit in Madagascar. We are in Madagascar the biggest exporter of vegetables to Europe. We buy these vegetables from almost 10,000 small farmers in Madagascar and with these farmers, we have contracts in place where we advance for inputs (seeds, fertilizer, pesticides), assure quality monitoring and guarantee the price for the products afterwards. These products are then sold to European supermarkets. To our knowledge, we are one of the biggest firms in Sub-Saharan Africa that is procuring its goods from such a large small-scale farmers supply base. Like all organizations, however, we would like to do more, especially if it could end up in a win-win situation wherein we could do something that is good for our business while helping those that in need.

While there are still a number of details to be worked out, we are intrigued with the proposed project. We believe that this project can help our organization in a number of ways:

.../...

24, Rue Radama - BP 297 - Antananarivo Madagascar
Société Anonyme au capital de Ar 1 500 000 000
Siège : 261 20 22 223 73 - Usine : 261 20 22 464 25
Fax : 261 20 22 280 64 - E-mail : lecofruit@oimjb.com

- We can learn about our market.
- We can meet others who are interested in expanding the role of modern marketing chains for farmers—especially the poor—in developing countries.
- We can participate in partnerships that will potentially help change both our business practices and public policy for the better.
- And, we can make this part of our organization's stewardship commitment.

We understand that in committing to work with the project team that we will be asked to do things in a way that may be new and untried. While we reserve the right to work out the exact role that we will play in this project, we are looking forward to the challenge and learning that may come from this project. In short, we are enthusiastically committing to helping the Gates Foundation; the Stanford/Oxford/World Bank/IFPRI team and their other partner organizations in Africa, South Asia, Southeast Asia and East Asia try to better understand how the poor can take advantage of the opportunities in the emerging markets for high value agricultural crops in the world.

If you need any other information, please do not hesitate to contact me or my staff.

Karim BARDAY
Managing Director
LECOFRUIT

MINISTERE DE L' EDUCATION NATIONALE ET DE LA RECHERCHE SCIENTIFIQUE

N° 830 -MENRS/CEN/DG

REPOBLIKAN' I MADAGASIKARA
Tanindrazana – Fahafahana – Fandrosoana

28 December 2006

Dear Gates Proposal Administrator:

This letter contains a statement of our sincere interest in participating in the Gates Foundation-supported program on « Raising Incomes of Smallholder Farmers in the Developing World by Building Efficient and Equitable Markets" for the Foundation's Agricultural Development Initiative.

In the past several weeks we have been communicating with the research and practice-implementation team (group number 45688) that is organizing the project:

"Experimenting with Public-Private Partnerships: Getting the Poor into Modern Marketing Chains".

In the course of our discussions with the project team about playing a role in understanding the constraints that are keeping poor farm households from participating more actively and profitably in modern marketing chains, we have made a decision that we may be able to help as a partner to this larger project. To introduce ourselves in the briefest of terms, we are the National Center for Applied Research on Rural Development (FOFIFA). Our responsibilities include developing new agricultural practices in Madagascar and assure that they are being adopted by local farmers. For this, we have a regional network of collaborators spread all over the country. We have divisions that are specialized in livestock, fruits and vegetables, rice, socio-economic evaluations etc. We have lots of experience working with farmers and trying to teach them new agricultural practices. Like all organizations, however, we would like to do more, especially if it could end up in a win-win situation wherein we could do something that is good for local business while helping those that in need.

While there are still a number of details to be worked out, we are interested in the proposed project. We believe that this project can help our organization in a number of ways:

- We can learn about the need of our clients.
- We can meet others who are interested in expanding the role of modern marketing chains for farmers-especially the poor-in developing countries.

FOFIFA

Centre National de la Recherche Appliquée au Développement Rural

Direction Générale

Route d'Andraisoro
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Madagascar

22 401 30
22 402 70
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- We can participate in partnerships that will potentially help change both our business practices and public policy for the better.
- And, we can make this part of our organization's stewardship commitment.

We understand that in committing to work with the project team, we will be asked to do things in a way that may be new and untried. While we reserve the right to work out the exact role that we will play in this project, we are looking forward to the challenge and learning that may come from this project. In short, we are enthusiastically committed to helping the Gates Foundation, the Stanford/Oxford/World Bank/IFPRI team and their other partner organizations in Africa, South Asia, Southeast Asia and East Asia try to better understand how the poor can take advantage of the opportunities in the emerging markets for high value agricultural crops in the world.

If you need any further information, please do not hesitate to contact me or my staff.

With best regards,

Dr. RAZAFINJARA Aimé Lala *(Ph.D)*
Ag. Director-General
FOFIFA

Dear Gates Proposal Administrator:

This letter contains a statement of our sincere interest in participating in the Gates Foundation-supported program on "Raising Incomes of Smallholder Farmers in the Developing World by Building Efficient and Equitable Markets" for the Foundation's Agricultural Development Initiative.

In the past several weeks we have been communicating with the research and practice-implementation team (group number 45688) that is organizing the project:

> "Experimenting with Public-Private Partnerships: Getting the Poor Into Modern Marketing Chains"

In the course of our discussions with the project team about playing a role in understanding the constraints that are keeping poor farm households from participating more actively and profitably in modern marketing chains, we have made a decision that we may be able to help as a partner to this larger project. To introduce ourselves in the briefest of terms, my staff and I are working in the fresh food processing and distribution centre of Lianhua Supermarket Holding CO., LTD, and with responsibility of procurement, processing and distribution of fresh food. Lianhua is one of the largest domestic supermarket chains in China. Our responsibilities include assuring that our stores in China have a continuous flow of high quality, safe and reasonably priced fresh food, so consumers will be attracted to our stores and they will be able to lead a healthy and prosperous life. We have a number of different buying practices, some of which do involve procuring fruit and vegetables produced by farming households that are poor, so this is something we have experience in. Like all organizations, however, we would like to do more, especially if it could end up in a win-win situation wherein we could do something that is good for our business while helping those that in need.

While there are still a number of details to be worked out, we are intrigued with the proposed project. We believe that this project can help our organization in a number of ways:

- We can learn about our market.

- We can meet others who are interested in expanding the role of modern marketing chains for farmers—especially the poor—in developing countries.
- We can participate in partnerships that will potentially help change both our business practices and public policy for the better.
- And, we can make this part of our organization's stewardship commitment.

We understand that in committing to work with the project team that we will be asked to do things in a way that may be new and untried. While we reserve the right to work out the exact role that we will play in this project, we are looking forward to the challenge and learning that may come from this project. In short, we are enthusiastically committing to helping the Gates Foundation; the Stanford/Oxford/World Bank/IFPRI team and their other partner organizations in Africa, South Asia, Southeast Asia and East Asia try to better understand how the poor can take advantage of the opportunities in the emerging markets for high value agricultural crops in the world.

If you need any other information, please do not hesitate to contact me or my staff.

Mr. Liu Fusheng

Vice General Manager of Lianhua Supermarket Holding CO., LTD

January 5, 2007

农业技术推广改革试验合作项目
Agricultural Extension Pilot Reform Collaborating Agreement

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项目单位意见	本单位对以上内容的真实性和准确性负责，特申请立项。 负责人签名：（单位公章） 2006 年 8 月 10 日
主管单位意见	同意。 负责人签名：（单位公章） 2006 年 8 月 28 日
备注	支持 CCAP 参加由 Stanford University 向 Gates Foundation 申请的项目

I T C Limited

ITC Limited
INTERNATIONAL BUSINESS DIVISION
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17th January, 2007

Dear Gates Proposal Administrator:

This letter contains a statement of our sincere interest in participating in the Gates Foundation-supported program on "Raising Incomes of Smallholder Farmers in the Developing World by Building Efficient and Equitable Markets" as part of the Foundation's Agricultural Development Initiative. In the recent past, in our dialogue with the research and practice-implementation team (group number 45688) that is organizing the project "Experimenting with Public-Private Partnerships: Getting the Poor into Modern Marketing Chains", we thought we may be able to contribute as a partner in the project.

To introduce ourselves in the briefest of terms, I represent the firm ITC Limited (www.itcportal.com) in India. As part of one of our businesses, we have set up a system called *eChoupal*, through investments in computers and electronic networks in rural India, which connects more than 4 million small farmers to the markets. These farmers are now better aware of different market opportunities and they are able to better negotiate prices as well as save on transaction costs. This initiative has thus helped to significantly improve the quality of life of these farmers. In line with our corporate philosophy of 'commitment beyond market', we would like to do more that is good for our business while helping those that in need. While there are still a number of details to be worked out, we believe that this project can help our organization in a number of ways:

- We can learn about our market from different perspectives.
- We can meet others who are interested in expanding the role of modern marketing chains for farmers – especially the poor – in developing countries.
- We can participate in partnerships that will potentially help change both our business practices and public policy for the better.

We understand that in committing to work with the project team that we will be asked to do things in a way that may be new and untried. While we reserve the right to work out the exact role that we will play in this project, we are looking forward to the challenge and learning that may come from this project. In short, we are enthusiastically committing to helping the Gates Foundation; the Stanford/Oxford/World Bank/IFPRI team and their other partner organizations in Africa, South Asia, Southeast Asia and East Asia try to better understand how the poor can take advantage of the opportunities in the emerging markets for high value agricultural crops in the world.

If you need any other information, please do not hesitate to contact me.

Sincerely,

S. Sivakumar
Chief Executive – Agri Businesses

Annex B: Description of partners

Senegal (description of private and public partners)

Private partner: *ONAPES*

ONAPES (*Organisation National des Producteurs Exportateurs de Fruits et Légumes de Sénégal*) is a professional organization of horticulture exporting companies. Established in 1999, the organization groups the main horticulture exporting companies in Senegal, representing together more than 80% of the exported volume. ONAPES aims at organizing horticulture exporters to diversify exports and increase the volume; and involves in providing technical assistance to its members, training of recruited staff for production and conditioning, as well as providing assistance with export logistics and in general defends the material and moral interests of its members.

The member companies of ONAPES are particularly concerned with quality and food safety issues and the increasing requirements in the EU market. In fact the organization was founded with the specific aim of complying with traceability standards and other standards, and become EurepGAP certified.

Public partner: *UNPM*

UNMP (Union Nationale des Producteurs Maraîchers du Sénégal) is a non-profit organization created in 1997 and representing smallholder horticulture producers in Senegal. UNMP gathers 475 village associations of horticulture farmers in 9 departments and 16 rural communities. Their mission is to defend the particular and general interests of their members by developing the horticulture sector, introducing new technologies in order to increase outputs and to improve product quality. They assist their members in finding credit and financial means to improve horticulture production. We have collaborated with this organization for the implementation of households surveys in the framework of research projects on the horticultural sector in Les Niayes.

Madagascar (description of private and public partners)

Private partner: *Lecofruit*

The firm that we will collaborate with is Lecofruit. Currently, the company processes mostly French beans: in the 2004/5 season, the firm exported 3,000 tons of produce, of which 70% were French beans. 90% of this tonnage was processed and put into jars in its plant in Antananarivo and was shipped to Europe by boat. The other 10% were fresh French beans and peas (pois mangetout) shipped by plane. The company has production contracts in place in the highlands of Madagascar with almost 10,000 small farmers. It is thus one of the biggest firms that produces vegetables for exports from smallholders in Sub-Saharan Africa. The vast majority of high value vegetable exports from Madagascar go through this company. Two-thirds of the products handled by the company are exported to European supermarkets. Half of this is sold directly by the company to seven main supermarket chains in France, Belgium and the Netherlands. The company has regularly contracts with five of these chains. The other half is sold through industrial distributors which then organize the sales to supermarkets. One-third of the produce is directly sold to retail outlets and restaurants - mostly in the neighborhood of Paris - through European wholesalers.

We have worked closely with the firm in the past as they asked us to evaluate the impact of the contracts that they have currently in place on the welfare of the farmers and on land use (Minten et al., 2005, 2006). They have further requested us to help them better understand the rural economy in Madagascar as they are eager to export more and they state that they would have no problem selling this produce in Europe.

Public partner: *FOFIFA*

The Center for Applied Agricultural Research (FOFIFA) is part of the Ministry of Education. It has a special mandate though as is partly funded by public as well as private money. It houses the best agricultural scientists of the country and has specialists in different agricultural divisions, including rice, livestock, economic and social analysis, fruits and vegetables, plant diseases, etc. It has experimental offices in different locations all over the country. FOFIFA has over the years been working with different World Bank projects as well as other donor funded activities by USAID (e.g. in collaboration with Cornell University, IFPRI, IRRI), FAO, the French Development Assistance, etc. They have valuable experience in working with farmers and in trying to teach them new agricultural practices.

China (description of private and public partners)

Private partner: *Lianhua Supermarket Holdings CO., LDT.*

Lianhua Supermarket Holdings is China's largest grocery group. Its revenues reached CNY14.3 billion (USD1.7 billion) in 2005. The supermarket is owned by retail giant Shanghai Bailian Group. While Lianhua has focused on the Yangtze River Delta region, including its home market Shanghai, recently the company has planned to expand its business to China's inland regions, particularly Sichuan. Currently, the retailer runs more than 3,700 stores.

Public partner: *The National Agricultural Technology Extension Service Center*

China's agricultural technology extension service center is a national center under the Ministry of Agriculture with the following three mandates: 1) coordinating the national agricultural technology extension and training program; 2) formulating the policies related to agricultural extension for the Ministry of Agriculture; 3) providing policy guidelines and services to local agricultural technology extension centers at provincial and county levels. Currently, there are about 100 extension officials at the national center (CNATES) and nearly 1 million at local centers (provincial, prefecture and county centers).

India (description of private and public partners)

Private partner: *ITC*

ITC is one of India's leading private companies – it is India's second largest exporter of agri-products, with annual revenues of US$2 billion.[8] Its International Business Division was created in 1990 as an agricultural trading company; it generates US$150 million in revenues annually. ITC's unique strength in this business is the extensive backward linkages it has established with the farmers and its highly cost effective procurement system. Aiming to integrate more closely with its rural suppliers, while also developing new markets for its own and third-party goods, the company has initiated this e-choupal effort. Today there are 6100 choupals in 35,000 villages linking 3,5 million farmers covering 8 states of India. In each state, ITC has set up its own purchase centers. The firm has plans to expand by 2010 towards 20,000 choupals, 100,000 villages, 10 million farmers. We plan to work closely with them to make this happen.

Following the success of e-choupal, the company also unveiled the first 'choupal saagar' in 2004. The choupal sagaar is a rural hypermarket which provides multiple services under one roof. It creates a platform for farmers to sell their produce. Farmers can also buy quality products for their farm or their household. These rural malls also provide farmers the additional services of soil testing, banking, insurance, medical facilities and restaurants. Such malls, in synergistic combination with the e-choupal network would serve as the core infrastructure to support ITC's rural distribution strategy. By 2010, ITC plans to open 700 such hypermarkets.

Public Partner: *Several NGOs*

ITC works with several NGOs in several states. We are planning to work closely with several of them for the implementation of our activities. However, the decision with which NGO to work and the specific sub-regions (within the two states we have already jointly agreed upon to implement our project – see Annex C) will have to be made jointly with ITC and us. Therefore, we will identify the exact NGO partners afterwards.

We are also in discussion with the Indian National Extension Service to collaborate with them on this.

[8] It currently exports feed ingredients (soyameal), foodgrains, coffee, black pepper, edible nuts, marine products and processed fruits.

Annex C: Description of project locations

Senegal (description of project locations)

Located on the west coast of Africa, Senegal has an estimated population of 11.6 million people of diverse ethnicities. Despite relatively high economic growth for the past decades, poverty remains high in the country with an estimated 49% of the population living under the national poverty line (National Household Survey of 2003). Senegal has a particularly low literacy rate - 39% compared to an average of 62% for low income countries – with a large gender gap in education: 51% males for versus 29% for females. Child mortality is high with an under-five mortality rate of 137 per 1000 – which is higher than the average for low income countries. Access to improved water and to improved sanitation is relatively low: 72% and 52% respectively.

Exports of goods and services account for 28% of GDP and have been growing at annual rates of about 3% in the past couple of years. Agriculture accounts for 35% of total merchandise exports. The development of a high-value horticulture sector has been an important element in Senegal's export diversification strategy. FFV exports from Senegal more than tripled during the past decade from 4,500 ton in 1994 to almost 16,000 ton in 2005, and are now the third main export product. The main crop is French beans accounting for 42% of the total export volume, followed by cherry tomatoes (23%) and mango (16%). These are exported to the EU under preferential trade agreements, such as the Everything But Arms agreement. They are especially destined for France (40%), the Netherlands (35%) and Belgium (16%). Competition in the EU market is increasing and Senegal has opted for a strategy of quality upgrading. The Senegalese government has played a role in this quality upgrading through the validation of the label *Origine Sénégal* as a tool to promote Senegal's horticulture exports as a high-quality produce.

FFV are predominantly exported from two main agro-ecological zones in Senegal: "Les Niayes" (stretching over a width of some tens of kilometers along the coast north of Dakar) and "La vallee du fleuve" (the valley of the Senegal River – the area along the Senegal river in the northeast of Saint-Louis and along the border with Mauretania). The production of export crops is largely concentrated in rural communities with good access to the main cities Dakar and Saint Louis. The proposed project will focus on expanding the production of high-value FFV for export into poorer and more remote villages in these areas.

From previous studies in the regions "Les Niayes" and "La vallee du fleuve", we know that the majority of households in these areas are horticulture farmers producing a large variety of vegetables for the local market, next to food crops (mainly) for direct consumption and the local market. The incidence of poverty (based on the national rural poverty line, calculated from the National Household Survey) in the studied communities in these areas was estimated to be 46% for the area "Les Niayes" and 64% for the area "La vallee du fleuve". The average farm size is around 5 ha[9]. Agriculture is the main

[9] An average farm size of 5 ha might seem rather large but taking into account that the average (extended) household in these areas has 15 members, in fact per capita landholdings are very small.

source of income but farmers face many constraints for increasing productivity and incomes. Access to credit and inputs, and risk related to weather variability and harvest failure were mentioned by farmers to be the most important constraints. Many farmers are constrained to realize high-standards production of export quality and exporting companies have in general chosen to contract with the relatively larger and better-off farmers among the smallholders.

FFV are exported by around 20 companies – and the project will work with the most important of them (see Annex B). There is a mixture of smaller and larger exporters, and domestic and foreign firms (including one multinational company). For the procurement of produce, the companies rely on contract-farming with smallholders, vertically integrated large-scale production on their own fields, or a mixture of the two. Contracts with smallholders typically include the provision of inputs on credit, technical assistance and extension to the farmers. Since 2000, FFV contract-farming with smallholders has decreased and large-scale integrated estate production grown. On the one hand, this led to the exclusion of small farmers from these MSC but on the other hand increased the employment opportunities (especially for women) on large industrial farms in these rural areas. Increasing requirements on food quality, food safety, and supply chain traceability in the EU market have played an important role in the reorganization of these supply chains. The project will analyze which factors are crucial in affecting the organization of the MSC in these regions and its implications; and use these as important components in developing Best-Practice Paradigms.

Madagascar (description of project location)

Madagascar is an island country with 17 million inhabitants divided over 18 ethnic groups. Poverty is high, especially in rural areas: the overall poverty headcount ratio was 70% in 2001, 77% in rural areas and 44% in urban areas. Education levels are low and it is estimated that only about half of the population is able to read and write. Malnutrition levels are equally high and 45% of the children under three are growth-retarded. Madagascar is largely an agricultural economy with agriculture counting for a quarter of GDP and 80% of employment. Farm sizes in Madagascar are very small – estimated to average about 1 ha in the national household survey of 2001 – and large mechanized agricultural farms are rare.

Transport costs are high, often due to bad infrastructure. The high transport costs negatively affect agricultural performance and exports. However, it is not the only constraint in competitiveness. Largely due to a poor scoring on indices of governance and institutional quality, Madagascar ranked last out of 25 countries on an index of competitiveness in 2000 (World Bank, 2004).[10] In a recent investment climate analysis, it is found that unskilled Malagasy workers earn one of the lowest wages compared to other surveyed countries in sub-Saharan Africa and Asia. In an effort to allow the poorest countries to better participate in international trade, Madagascar has some trade advantages as it has been given preferential access to European and US markets. Under the Everything but Arms (EBA) initiative, 48 UN-defined least developed countries – including Madagascar - have duty-free and quota-free access into the European Union (EU). Madagascar also enjoys preferential access to the US market through the African Growth Opportunity Act (AGOA).

While agricultural exports from Madagascar have been declining over the last decades in value as well as in quantity, there are however some success stories. For example, Madagascar has been able to successfully export different types of vegetables to European supermarkets and this activity has become more important over the years. These exports are realized by one exporting company that relies on the use of micro-contracts with small farmers. The contracts put in place are combined with a heavy emphasis on monitoring as to ensure that the required standards are being met. As in other modern supply chains where the processor or trader provides inputs to farms which are constrained in their access to these essential inputs, seeds, fertilizer and pesticides are distributed as part of the contract.

The proposed study area we are planning to work in is situated in the central highlands of Madagascar, mainly the rural areas of the province of Antananarivo. The Merina are the major ethnic group in this area. While the province is better off than other provinces with respect to access to infrastructure, the basic indicators are still worrisome. For example, it was estimated in 2004 that 68% of the rural population in this province is poor, based on a poverty line of 0.42$ per capita per day (the poverty line that is used by the

[10] It ranked higher in the Transparency International Corruption Perception index in 2003 (88th out of 133 countries).

government). If we use a poverty line of 1$/capita/day (2$/capita/day), it is estimated that 94% and 99% respectively of the rural population would be deemed poor. Given that almost all Malagasy farmers are poor by international standards, the project will thus focus without any doubt on poor farmers and improve their living standards.

A previous study in this area showed that producing vegetables under a micro-contract with the FFV exporting company actually have large benefits for farmers (in terms of reduced risk, stable incomes, and access to inputs on credit). Lack of access to capital is often mentioned as a major constraint to increased agricultural production. Credit use in Madagascar remains very limited but is improving with intensive efforts being made to expand the presence of micro-finance institutions in rural areas. However, based on data from micro-finance institutions and expert opinions, it is estimated that the overall penetration rate in rural areas is only about 3%. Given the micro-contracts - the average input value per contract or per are (0.01 ha) is estimated at about 10,000 Ariary or 5 US dollar. This compares to an average value of produce sold under one contract of 20 US dollar -, only relatively smaller farmers will often accept these.

There are further potentially high beneficial environmental spillovers from contract farming for exports: the existing agricultural land is more intensively used as land is cultivated in the off-season and production is higher in the main season. This is an important finding given that land extensification and deforestation has been the norm in Madagascar as to feed a rapidly growing population. It is estimated that, over the last forty years, about 20% of the increase of agricultural production was achieved through intensification of the existing land and 80% through land extensification often at the expense of forested land. This is even more dramatic given the unique biodiversity that is found in the forests in Madagascar.

Farmers in the highlands of Madagascar are faced with different types of risks and instability due to macro-events (exchange rate depreciation, inflation), international price shocks (export crops, gasoil) and natural disasters (cyclones, plant diseases, insect damages such as locus invasions). Large unpredictable variability creates an environment where there is little room for long-term investment to sustainably increase production. Through linkages with these emerging value chains, farmers might be able to reduce exposure to this variability as indicated in their reasons for why they sign these production contracts.

In contrast with other African or Asian countries, there are seemingly few gender issues in Madagascar as e.g. women are equally educated and men participate equally in agricultural activities (the activities that they participate in might sometimes be different though). It is unsure what the effect of the new activities will be on gender issues. Our survey with the contract farmers shows for example that especially men take on the responsibility of these production contracts. It is unclear to what extent this is just a signature issue or to what extent men completely manage and perform the work for these contracts. We will work closely with the firm to ensure that women are equally represented in these activities.

China (description of project location)

Despite the rapid economic growth that has been associated with unprecedented progress in poverty reduction, China is still the second largest national concentration of poor in the world (after India). Based on China's official poverty line, which is about US$ 0.7 per day, the extremely poor by global standards, there were more than 26 million poor in China in 2004. However, based on World Bank's $1/day (in PPP terms) poverty line, the number of poor is about 135 million, accounting for 10% of the world's poor.

China's poverty is a rural phenomenon. The large majority of poor live in rural areas; most of them in the western provinces. The poorest people are concentrated in resource-deficient areas, comprising entire communities in the uplands of northern, northwestern, and southwestern China. Since the Chinese government allocated land to all of China's rural population, there are no landless farmers. However, land is often of such low quality that it is not even possible to achieve subsistence levels of production. The poor typically depend on agricultural incomes and are disadvantaged by high dependency ratios, ill health, and other difficulties. Minorities are known to represent a highly disproportionate share of the poor. Although there is no evidence that women are overrepresented among the poor, poverty adversely influences female schooling, female infant mortality, and maternal mortality.

The project will be implemented in several counties in Sichuan province in western China. Sichuan is still primarily rural and one of the largest agricultural provinces. Some of its regions have grown at the rapid pace common across much of China, but many have lagged behind. The diversity of Sichuan counties' economic experience, resources, and food market makes it an interesting ground for study.

Sichuan is often considered as one of the poorest regions in China – along with Guizhou, Yunnan, and Tibet. While the province accounts for nearly one-tenth of the national population, its share of arable land is only 6.5 percent. More than 80 percent of the population lives in rural (mostly hilly and mountainous) areas and largely depends on agriculture for their livelihoods.

More specifically, the project will focus on a number of counties within the province that are officially designated as poor counties. In the 1980s, Sichuan officially designated the remote and mountainous areas in the north and the west of the province, around the Chengdu plain, as poor counties. In the mid-1990s, also southern minority counties were officially designated as poor. These minority counties now represent the majority of Sichuan's poor counties. Although many of these poor counties have developed rapidly in the past 20 years, still 20% of villages have no access to roads, infrastructure is poor, markets develop slowly, and many poor still live subsistence livelihoods. Certainly in Sichuan, poverty alleviation remains as great challenge.

hile China's entire agricultural economy has performed well in terms of growth over the past two decades, we focus on the horticulture sector because of the particularly rapid growth and significant marketing restructuring. In response to rising demand by

consumers and the new policy environment, China's producers responded in a way that would have been difficult to predict. Between 1990 and 2000 the cultivated area vegetables more than doubled or increased by more than 8 million hectares (or 20 million acres). To put it in perspective, this increase is equivalent to a new California every two years. Moreover, there has been a rise of almost every major type of vegetable crop.

Recent studies by CCAP and its collaborators show that farmers in poor villages are not being excluded in the growth of horticulture in China. In fact, the poor – especially the very poor – are often the driving force behind the rise in the supply of fruits and nuts. This trend is occurring not only in the coastal areas such as Beijing and Shangdong but also in western China, including our study area Sichuan.
A typical farm size in Sichuan is about 0.26 hectare, which is less than half of the national average farm size (0.6 hectare), of which 0.03 hectare allocated for vegetable production. Average per capita income was about 2800 yuan (or US$ 350), less than US$ 1/day (in official exchange rate) in 2005. Nearly one third or about 30 million farmers in Sichuan are living under US 1/day (in PPP). Average annual per capita income of the bottom third (33%) farmers was only about 1480 yuan (US$ 188), or US$ 0.51/day in official exchange rate and US$ 2/day in PPP. One third of their income is from off-farm activities. The farmers plant 2 crops per year. Rice, wheat, maize, vegetable and sweet potato are major crops produced by the poor. Despite small farm size (0.27 hectare), they still sold about 40% of the produce. On the average, these farmers allocate about 0.04 hectare land for vegetable production. After own household consumption (690kg, or 156kg/person), farmers sell on average about 1 ton vegetables in the local market.

India (description of project locations)

India has more poor people than any other country in the world. We will work in the rural areas of two of the poorest states in India, the northern state of Uttar Pradesh (UP) and the central state of Madhya Pradesh (MP). With 166 million people, UP is India's most populated state. It covers a large part of the highly fertile and densely populated upper Gangetic plain. UP is a very fertile region and a major contributor to the national foodgrain stock. However, UP is one of India's poorest states and has some of India's lowest human development indicators. It was estimated (based on the on the National Sample Survey of 1999-00) that 34% of the population - accounting for 60 million people or 8% of the world's poor - live below the poverty line. The vast majority (80%) of these poor households live in rural areas. The literacy rate in UP is 57% but female literacy is dismal. More than half the children below 3 years of age are underweight. Infant mortality is 85 per 1000 live births and more than half of the children below the age of 3 are underweight.

The central state of MP has a population of 60 million with one of the highest concentration of ethnic minorities in India. Agriculture in this state accounts for 80% of employment but only 35% of GDP and is characterized by very low levels of technology, low yields and high weather risks. Poverty is wide-spread with 37% of people below the poverty line and is substantially higher among ethnic minorities. Infant mortality is 88 per 1000 births and more than half of the children below the age of 3 are malnourished. Almost half of the households in the state do not have access to safe drinking water.

India stands second in the world for production of fruits and vegetables, and owing to the diversity of its geographical conditions, produces a great variety of these invaluable horticultural produce for common use. The country produces about 50 million tons of fruits (covering almost 4 million ha) and 85 million tons of vegetables (covering 7 million ha) per year, but just about 2% of this goes for processing, while over 25% is spoiled due to improper handling and storage. Its share of international trade in horticultural products is yet less than 1%.

Production and consumption of fruit and vegetables have grown rapidly in India in the past twenty years, and considerably faster than the average of agriculture and food products (in all segments of the population, including the poorest one) – to the extent that some experts speak of this as the "silent revolution" in the Indian rural economy. Production grew at an average rate of more than 2% over the past two decades, while consumption more than doubled over this period. The most profitable part of this growth comes from the rise of the export of high-value fruits and vegetables. Exports of processed fruits and vegetables (F&V are mostly exported in processed form) increased by 145% between 1993 and 2000.

The two states in our project (Uttar Pradesh and Madhya Pradesh) have important potential for fruit and vegetable production. Fruit and vegetable processing units are mainly concentrated in those states where the supply of raw material is easy. Uttar

Pradesh and Madhya Pradesh accounted in 2000 for respectively 10% and 2% of the processing units in India.

With the growth of higher value products, the demand for information, inputs, credit, certification, etc is changing. It is well-known that India has one of the world's most extensive formal rural credit systems, with nearly 46,000 rural banks and about twice as many cooperative credit outlets in rural areas. Generally speaking, outreach of rural finance is not an issue in India. Yet, access to rural financial services is. Less than half of the credit used by rural households comes from formal sources. A recent World Bank report (2004) estimates that 87% of India's rural poor have no access to formal credit.

Access to credit, to information, and markets can be improved through accessing the ITC e-choupal networks with which we will collaborate. ITC, a private company, started an innovative e-choupal[11] business model in 2000 that includes now already more than 4 million Indian farm households. The firm installs computers with solar-charged batteries for power and internet connection. The e-choupal provides to farmers and the local community five distinct services: 1/ purchase facilities: seeds, fertilizers, pesticides and other products and services; more than 35 companies have already become partners in the e-choupal; 2/ sales: farmers can sell crops to ITC centers or local markets after checking prices; 3/ information on weather forecasts, prices of crops and access to e-mail; 4/ knowledge on farming methods, soil testing, and expert advice; 5/ development initiatives: cattle improvement, water harvesting, formation of women self-help groups and access to land records are also being delivered through e-choupal. In addition, ITC has, in collaboration with local NGOs, set up micro-credit groups in some of the villages they work in.

By providing this infrastructure, farmers can pool together their demand, compare prices and products and place orders on the internet. This is breaking the monopoly power of local traders and improving access to finance for farmers. Every e-choupal is run by a local farmer who becomes the farmers' point men for information, sales and purchases. He gets a fixed commission on products and services that the farmers sell or buy through e-choupal. By linking his welfare, the welfare of the farmers and that of the firm ITC, the e-choupal has found a way of linking farmers, community and corporate with little transactions costs.

The firm ITC is sourcing its products directly from farmers which gives them a competitive advantage in both quality and cost. It has become a unique innovative model of vertical integration where instead of buying a mixed variety of products from traders and making quality segregation before processing, ITC is now in a position to procure different qualities of grains right at the purchase centre separately. Quality tests are performed right in front of the farmer and any price deductions are rationalized to the farmer. Compared to traditional markets, this model is fairer and gives better incentives: weighting is done by means of electronic machines and instruments like moisture meters are used to measure moisture content. This model is not only good for agro-business but

[11] *Choupal* means gathering place in Hindi.

it is having large effects on rural India, and we will focus on the implementation of this system in Uttar Pradesh and Madhya Pradesh.

Annex D: Experience in Running Projects on Marketing Supply Chains

- *Huang and Reardon are directing a major segment of the Regoverning Markets project, a large, multi-national program (2 country studies on Africa; 3 country studies on Asia; 1 country study on Latin America) on understanding how modern supply chains can best be put to work for the poor (funded by DFID, ODI, IDRC and others).*
- *Rozelle and Huang have had four major grants to examine the penetration of modern supply chains into China and there impact on the poor:*
    - *Food and Agricultural Organization (FAO) of the United Nations*
    - *Regoverning Markets—China Country Study*
    - *University of California Competitive Grants Program*
    - *World Bank Research Grant*
- *Swinnen directed the World Bank's program on understanding the implications of the emergence of modern supply chain on the poor in Sub-Saharan Africa, Central Asia, and East Asia. He also has coordinated survey work in collaboration with local institutes and the private sector in this field in the following countries:*
    - *Senegal*
    - *Madagascar*
    - *Kazakhstan*
    - *Albania and Moldova*
    - *Bulgaria and Romania*
    - *Etcetera*
- *Fafchamps, one of the world's leading development economists, has brought his skills to collaborations that have examined agricultural supply chains in a number of different settings:*
    - *India: directed a study of non-staple agricultural markets on four Indian states, collecting survey data on growers, wholesalers, markets, processors, and exporters.*
    - *Uganda: directed a study of the coffee value chain, with surveys of growers, traders, and exporters.*
    - *Sub-Saharan Africa: directed a study of agricultural trade with surveys of agricultural traders in Benin, Malawi, Madagascar and Ethiopia.*
    - *Nepal: directed a study of the spatial division of labor, with an emphasis on agricultural activities and their interaction with nearby urban centers*
- *Minten was the Chief Of Party (COP) of a 1.5 million dollar Cornell University program on poverty alleviation in Madagascar. He also has run a WWF/World Bank project on the impact of global retail chains on the welfare of the poor.*
- *Reardon is a globally recognized pioneer in the study of the relation of the rise of supermarkets, value chain restructuring, and impacts on small farmers in developing countries. He has undertaken a mix of "action" and "research" projects on this theme over the past decade. For example:*
    - *Co-founded in 2000 the USAID Cooperative Agreement "Partnerships in Food Industry Development (PFID)-Fruits and Vegetables.*

- *Coordinated the Central American regional and Nicaragua and Guatemala PFID activities*
- *Designed or co-designed research projects (funded by USAID, Rockefeller Foundation, the World Bank, DFID, USDA, and IDRC).*

Appendix A. Vision, Objectives, Activities and Outcomes Summary Table

Vision of Success:	Within 4 years, we will have directly linked more than 10000 poor farm households in 400 communities in four countries—including Senegal, Madagascar, China and India—to modern supply chains (providing households/communities with information, Incentives and market institutional structure to invest); after year 5 and following the scaling up movement, we expect more than 1 million poor to be linked to modern supply chains. To do so, we will have built a series of Best Practice Models through a series of experimental interventions through private-public partnerships that themselves will create extension and computerized marketing links to farmers in more than 100-200 villages; provided credit and savings programs to farmers in more than 100-200 villages and provided certification and dispute resolution activities to farmer in more than 100-200 villages. During the scaling up phase, we envision activity to indirectly spreading into 10,000 communities. The vision is to prove to the world (the private sector and public sector) that the poor—when provided with information, incentives and institutional support—not only can compete with richer households but will be the preferred suppliers.
Project Objectives:	The two overall goals of the proposed project are a.) *to identify external interventions capable of reducing constraints to integrate poor farmers in MSC* and do so by experimenting with different combinations of public-private partnerships; and b.) *to put into practice our belief that if small poor farmers are provided good information (which they can learn); strong incentives; and a favorable institutional environment, they can become viable (and preferred) suppliers to new modern supply chains.* To meet these goals, we have four specific objectives. First, we want to *develop innovative ways to build private-public partnerships (PPPs)* among governments; our private partners; and NGOs and other organizations that are involved with certification and dispute resolution. Second, we want to provide farmers information, incentives and institutional support that they need to become effective players in emerging horticulture markets. Third, by using a unique experimental design (during project implementation), we will identify the constraints keeping farmers from connecting to MSCs and in overcoming these constraints the

	farmers will increase (and we will document) the rises in employment, profits and better practices. Fourth, from our successive experiments we want to create a set of "Best-Practice Models" that will be at the core of the scaling up phase of the project.

Activities	Outputs	Outcomes (Short- and Long-Term)
1. Convene an International Conference on Best Practices for Linking the Poor with Modern Supply Chains (invite representatives from Industry, Extension, Cooperative Movements, Certification Organizations and Academics 2. Hold Intensive In-country Workshops on Linking the Poor with Modern Supply China 3. Finalize Partnerships / Hold Series of Meetings to Determine Nature of Experiments and Prioritization of Business Models 4. Choose project area 5. Choose treatment and control villages 6. Implementing the Information, Incentive and Institutional Support Treatments (creating Business Models) 7. Creating the baseline / measuring successes and failures 8. Eliciting opinions thru focus groups 9. Tracking Costs and Profitability of Private Partners (MSC firms) 10. Scaling up private partnerships 11. Scaling up public partnerships	• [information]: 100-200 new extension programs / computer marketing programs and cooperatives • [incentives]: 100-200 new credit and saving plans programs • [institutions]: 100-200 new certification and dispute resolution programs • 10000 poor farm households with access to better Incentives; Information and Infrastructure participate in MSCs directly • 10000 poor farm households enjoy higher incomes directly • Produce set of Best Practice Models which will be publicized to50 business associations, extension systems, local governments • Scaling up activities extend private-public partnerships to more than 1 million farmers in 10,000 villages.	• More than 10,000 farm households receive training • More than 10,000 households gain access to input and participate in MSCs. • More than 10,000 farm households that gain experience in certification and other modern marketing institutions. • Partner firms learn about new Best Practice Models • Partner extension agents learn about New Best Practice Models. • Expansion of cooperative movement • Increases in income, consumption and reduction of poverty of 10,000 farmers directly and more than a million indirectly

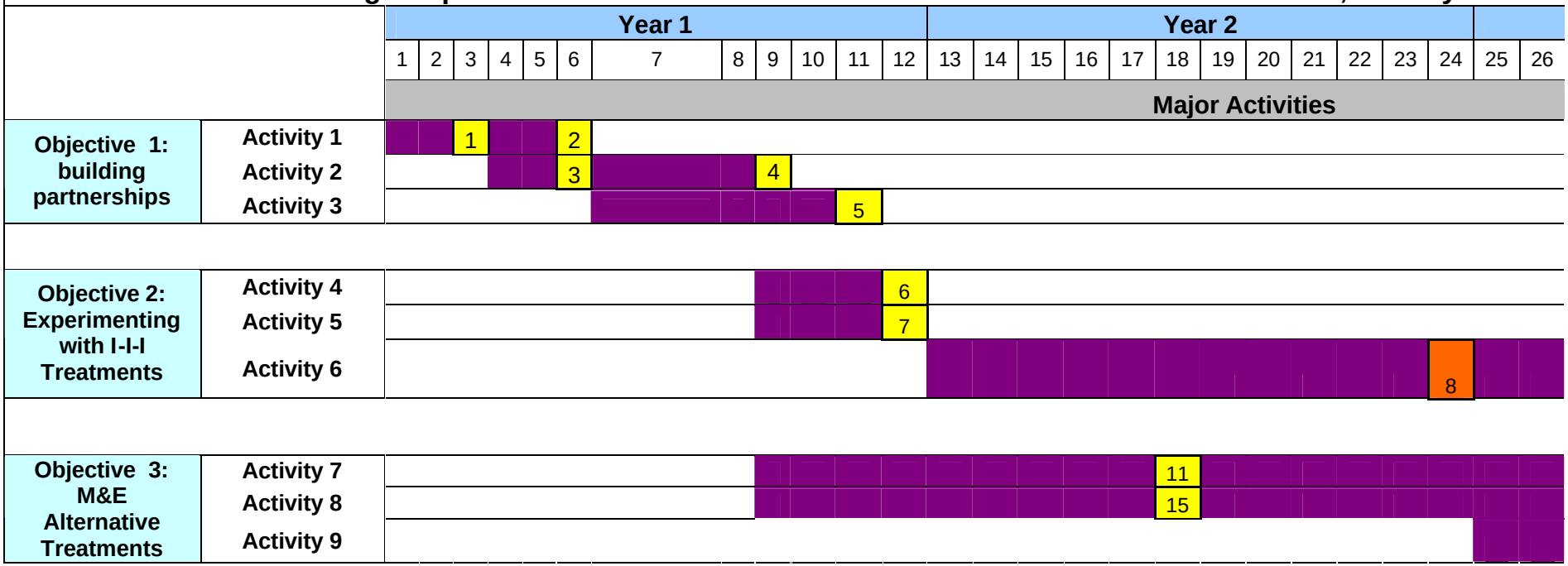
For complete document (the original does not fit), see "Timeline_Template_jan22_group45688.xls"

Appendix B - Timeline and Milestones

Project Name: Information, Incentives and Institutions: Expe rimenting with Private-Public Partnerships to Link th

Group Number: 45688

Vision of Success: T hrough Experimentation with Information/Incentive/Institutional T reatments, Identify Public-



Objective 4: Scaling Up	**Activity 9** **Activity 10**		
Annual Budget:	***$x,xxx,xxx***	***$x,xxx,xxx***	

Milestones **Milestone of Special Importance**

Objective 1: Statement of Objective 1: Develop Innovative Ways to Build Private -Public Partnerships

Activity 1: **Statement of Activity: Convene an International Conference on Best Practices for Linking the Poor with Modern Supply Chain Extension, Cooperative Movements, Certification Organizations and Academics**

Milestones:
1. Create Agenda and Send out Invitations
2. Hold Conference

Activity 2: **Statement of Activity: Hold Intensive In-country Workshops on Linking the Poor with Modern Supply Chinas (same type of au**

Milestones:
3. Create Agenda and Send out Invitations
4. Hold Conference

Activity 3: **Statement of Activity: Finalize Partnerships / Hold Series of Meetings to Determine Nature of Experiments and Prioritization o**

Milestones:
5. sign agreement with Private Partners and Public/NGO Extensions

Objective 2: Statement of Objective 2: Give Farmers Information, Incentives and Institutional Support

Activity 4: **Statement of Activity: Choosing Project Areas**

Milestones: 6. Create Maps of Project Area; Create Descriptive Reports

Activity 5: **Statement of Activity: Selecting Treated and Control Villages**

Milestones: 7. Create Maps of Treatment and Control Villages; Create Descriptive Reports of Income Levels; Distribution; Poverty Rates

Activity 6: **Statement of Activity: Implementing the I-I-I Programs (or Treatments)**

Milestones: 8. Participation of at least 20,000 new households into extension/information/credit/certification programs / AND participation of at leas
Design--Year 1 /
9. Participation of at least 40,000 new households into extension/information/credit/certification programs / AND participation of at leas
Year 2
10. Increase income of 20,000 participating households (of which 10,000 households are poor) by an average of 25% (which would pu

Objective 3: Statement of Objective 3: Monitoring and Evaluating Alternative Practices (or Treatment Combinati

Activity 7: **Statement of Activity: Creating Baseline and Tracking Progress (and Identifying Determinants of Success)**

Milestones: 11. Produce Comprehensive Report of State of Farming Household s--pretreatment
Milestones: 12. Produce Brief of Impact of Year 1 Treatments
Milestones: 13. Produce Brief of Impact of Years 1+ 2 Treatments
Milestones: 14. Produce Comprehensive Report of Impact of Years 1+2+3 Treatments

Activity 8: **Statement of Activity: Eliciting Opinions of Farmers on Various Treatments (Practices) through Focu s Groups**

Milestones: 15. Produce "Mosiac of Opinions" on Horticultural Production --pretreatment
Milestones: 16. Produce "Mosiac of Opinions" on Horticultural Product ion--after Year 1 Treatments
Milestones: 17. Produce "Mosiac of Opinions" on Horticultural Production --after Years 1+ 2 Treatments
Milestones: 18. Produce "Mosiac of Opinions" on Horticultural Pro duction--after Years 1+ 2 + 3 Treatments

Activity 9: **Statement of Activity: Tracking Costs and Profitability of Private Partners**

Milestones: 19. Produce Cost Accounting Reports on Cost of Doing Business -- after Year 1 Treatments
Milestones: 20. Produce Cost Accounting Reports on Cost of Doing Business -- after Years 1+2 Treatments
Milestones: 21. Produce Cost Accounting Reports on Cost of Doing Business -- after Years 1+2+3 Treatments

Objective 4: Statement of Objective 4: Scaling Up

Activity 10: **Statement of Activity: Scaling Up Private -side of Partnerships**

Milestones: 22a. Best-Practice Paradigms Spread to 10,000 villages and more than 1 million households / 5 million people will participate in Best -F

Activity 11: **Statement of Activity: Scaling Up Public -side of Partnerships**

Milestones: 22b. Best-Practice Paradigms Spread to 10,000 villages and more than 1 million households / 5 million people will parti cipate in Best-F

For complete document (the original does not fit), see "Budget_Template_SO-1_jan22_group45688.xls"

Appendix B: Budget Spreadsheet

Organization Name: Org Name
Project Title: Project Title
Total Requested Amount (US $)[1]: **$8,000,607**
Date: Jan. 22, 2007
Indirect Cost Rate 10%

Budget Line Items	Year 1	Year 2	Year 3	Year 4	Year 5	Total	% of Total
Total Personnel	**84,750**	**87,716**	**90,786**	**83,964**	**52,499**	**399,715**	**5%**
Major Activity 1-3:	84,750	0	0	0	0	84,750	
Major Activity 4-5:	0	0	0	0	0	0	
Major Activity 6:	0	0	0	0	0	0	
Major Activity 7-9:	0	87,716	90,786	83,964	0	262,466	
Major Activity 10-11:	0	0	0	0	52,499	52,499	
Total Fringe Benefits	**21,793**	**22,556**	**23,345**	**24,162**	**16,733**	**108,589**	**1%**
Major Activity 1-3:	21,793	0	0	0	0	21,793	
Major Activity 4-5:	0	0	0	0	0	0	
Major Activity 6:	0	0	0	0	0	0	
Major Activity 7-9:	0	22,556	23,345	24,162	0	70,063	
Major Activity 10-11:	0	0	0	0	16,733	16,733	
Total Travel	**223,000**	**51,000**	**51,000**	**51,000**	**120,000**	**496,000**	**6%**
Major Activity 1-3:	223,000	0	0	0	0	223,000	
Major Activity 4-5:	0	0	0	0	0	0	
Major Activity 6:	0	0	0	0	0	0	

Major Activity 7-9:	0	51,000	51,000	51,000	0	153,000	
Major Activity 10-11:	0	0	0	0	120,000	120,000	
Total Consultants	**0**	**0**	**0**	**0**	**0**	**0**	**0%**
Major Activity 1-3:	0	0	0	0	0	0	
Major Activity 4-5:	0	0	0	0	0	0	
Major Activity 6:	0	0	0	0	0	0	
Major Activity 7-9:	0	0	0	0	0	0	
Major Activity 10-11:	0	0	0	0	0	0	
Supplies	**10,000**	**10,000**	**10,000**	**5,000**	**5,000**	**40,000**	**0%**
Major Activity 1-3:	10,000	0	0	0	0	10,000	
Major Activity 4-5:	0	0	0	0	0	0	
Major Activity 6:	0	0	0	0	0	0	
Major Activity 7-9:	0	10,000	10,000	5,000	0	25,000	
Major Activity 10-11:	0	0	0	0	5,000	5,000	
Subtotal of Modified Direct Costs	339,543	171,272	175,131	164,126	194,232	1,044,304	
Indirect Costs on Modified Direct Costs	33,954	0	17,513	16,413	19,423	104,430	**1%**
Subtotal of Modified Direct Costs and Indirect Costs	**373,497**	**171,272**	**192,644**	**180,539**	**213,655**	**1,148,734**	
Total Contracted Services	**0**	**0**	**0**	**0**	**0**	**0**	**0%**
Major Activity 1-3:	0	0	0	0	0	0	
Major Activity 4-5:	0	0	0	0	0	0	
Major Activity 6:	0	0	0	0	0	0	
Major Activity 7-9:	0	0	0	0	0	0	
Major Activity 10-11:	0	0	0	0	0	0	

Total Sub-grants to Others Organizations	**1,676,000**	**1,884,000**	**1,884,000**	**1,080,000**	**340,000**	**6,864,000**	**86%**
Major Activity 1-3:	836,000	0	0	0	0	836,000	
Major Activity 4-5:	0	0	0	0	0	0	
Major Activity 6:	0	600,000	600,000	140,000	0	1,340,000	
Major Activity 7-9:	840,000	1,284,000	1,284,000	940,000	240,000	4,588,000	
Major Activity 10-11:	0	0	0	0	100,000	100,000	
Subtotal of Sub-grants/contracts	1,676,000	1,884,000	1,884,000	1,080,000	340,000	6,864,000	
Allowable Indirect Costs on Sub-grants/contracts [2, 3]							**0%**
Subtotal of Sub-grants/contracts and Allowable Indirect Costs	**1,676,000**	**1,884,000**	**1,884,000**	**1,080,000**	**340,000**	**6,864,000**	
Total Equipment	**5,000**	**0**	**0**	**0**	**0**	**5,000**	**0%**
Major Activity 1-3:	5,000	0	0	0	0	5,000	
Major Activity 4-5:	0	0	0	0	0	0	
Major Activity 6:	0	0	0	0	0	0	
Major Activity 7-9:	0	0	0	0	0	0	
Major Activity 10-11:	0	0	0	0	0	0	
Total Direct Costs	2,020,543	2,055,272	2,059,131	1,244,126	534,232	7,913,304	**99%**
Total Indirect Costs	33,954	0	17,513	16,413	19,423	**87,303**	**1%**
Grand Total Costs	**2,054,497**	**2,055,272**	**2,076,644**	**1,260,539**	**553,655**	**8,000,607**	**100%**

[1] All amounts must be in US $

[2] Indirect rates are only applicable to the first $25,000 for sub-grants and certain sub-contracts (see narrative)

[3] Indirect allocation is not allowed on equipment costs

Appendix C (continued): Budget Narrative)

Budget Narrative

Project Title: Project Name: Information, Incentives and Institutions: Experimenting with Private-Public Partnerships to Link the Poor with Modern Supply Chains

Group Number: 45688

Note: There are some items in the budget that contribute to more than one activity. The activities are listed in column one. In order to avoid double counting (of course), we record the item in the budget under the activity that is **displayed in bold**.

Activity	Year(s)	Budget Category	Total amount requested	Budget Narrative
Year 1				
1-3/4-5/7-8	1	Salary	$84,750	Stanford will provide: 1 postdoctoral fellow and part time admin. staff for each year during the FIRST FOUR YEARS of the project to help manage project and work with Rozelle on producing Cross-country M&E / opinion and Cost Accounting Postdoc: 39,000 Admin. stf.: 32,000 Rozelle will get 1 month salary per year (**13,750/month**) Total: $84,750
1-3/4-5/7-8	1	Fringe Benefits	$21,793	Indirect rate (Post doc--18.4%): $7176 Indirect rate (Admin stf+PI—31.95%) PI: $ 4,393 Adm. Sff: $10,224 Total: $21,793
1-3/4-5/7-8	1	Trave1	$223,000	International Conference in New Delhi: Participants Project Team (7) Country Teams (4 – 1/ country) Private Partner/Public Partner (8-2/country) Special Speakers (5) 24 economy class trips x $2000 30 per diems times 5 days (includes kick-off trip to country side) x $300 1 Venue+ Fixed Conference Fee: $10K **Total: 48+45+10=$103** Country Workshops (x4): For each workshop:

				7 economy class international trips for project members x $2000 10 domestic travel x $300 20 per diems times 2 daysx$200 1 venue+fixed workshop fee: $5K Subtotal: 14+3+8+5=$30K/country **Total for 4 countries: $120K**
1-3/4-5/7-8	1	Supplies	$15,000	Supplies / communication /etc. For each year **$15,000**
1-3/4-5/**7-8**	1	Subcontracts	$1,676,000	For each country: Within each subcontract: **Year 1:** **Activities 1-5** SALARIES/FRINGE: [for each year] 2 postdoctoral fellows (one for Experiment coordinator / one for M&E coordinator): $75/yearx2 Subtotal: 150K/year TRAVEL: Selecting Project Areas and Target Villages: For each country: 10 trips for 3 project area / target village selectionx500/trip: Subtotal: $9K [travel for startup workshop in Stanford funding] EQUIPMENT 2 computer / printer / fax / copy machine / backup equipment: Year 1, only: Subtotal: $25K SUPPLIES: $5000/year General in-country office support: $20,000/year Subtotal: $25K Subtotal—activities 1+2, year 1, per country team: $209 **Sum of above:: 209x4=836**

				Activity 7+8 (M&E baseline) For each country: Household baseline survey Focus group baseline (include pretest / survey instrument development / recruiting enumerators / training / survey, proper / data entering / data cleaning / data analysis / report creation $200,000/team for baseline Subtotal: 4x200K=$800k Stipend for M&E Director (Fafchamps) 2 monthsx15000=30K 2 international tripsx2000=$4K 2 sets of per diems: 2x10daysx300=$6K SubTotal: M&E director: $40K **Total: $800K+40K=840K**
Year 1 TOTAL			$2,020,543	
Year 2				
6 / **7-9**	2	Salary	$87,716	Stanford will provide: 1 postdoctoral fellow and part time admin. staff for each year during the FIRST FOUR YEARS of the project to help manage project and work with Rozelle on producing Cross-country M&E / opinion and Cost Accounting Postdoc: 40365 Admin. stf.: 33120 Rozelle will get 1 month salary per year (**14231/month)** Total: $87,716
6 / **7-9**	2	Fringe Benefits	$22,556	Indirect rate (Post doc--18.4%): $7427 Indirect rate (Admin stf+PI—31.95%) PI: $ 4,547 Adm. Sff: $10,582 Total: $22,556
6 / **7-9**	2	Trave1	$51,000	**International Travel for Project Team: Annual Meeting at Stanford** Project Team (7) Country Teams (4 – 1/ country)

				11 economy class trips x $2000 10 per diems times 5 days (includes time working on analyzing data x $300 1 Venue+ Fixed Conference Fee: $2K Subtotal: 22+15+2=$39 **Additional Travel for Rozelle:** 2 international trips: 2x2000 air=4000 2x10daysx300/day=6000 Other travel: 2000 Subtotal: 12K
6 / **7-9**	2	Supplies	$10,000	Supplies / communication /etc. For each year
6 / 7-9	2	Subcontracts	$1,884,000	For each country: Within each subcontract: **Year 2:** **Activities** 6/**7-9** SALARIES/FRINGE: [for each year] 2 postdoctoral fellows (one for Experiment coordinator / one for M&E coordinator): $75K/yearx2 Subtotal: $150k/year TRAVEL for project management: For project leaders: 1 international trip x 2k 1x10x300 per diem=3k Domestic travel: In-country team: $15k Subtotal: 20K SUPPLIES: $6000/year General in-country office support: $20,000/year Subtotal: $26,000 Subtotal—activities 1+2, year 1, per country team: Sum of above: $196 *SubTotal: 196x4=784K*

				Activity 7+8 cont. (M&E baseline) For each country: Household round 2 brief survey Focus group round 2 (include pretest / survey instrument development / recruiting enumerators / training / survey, proper / data entering / data cleaning / data analysis / report creation $100,000/team for baseline *Subtotal: 100,000x4 = $400K* Stipend for M&E Director (Fafchamps) 2 monthsx15000=30K 2 international tripsx2000=$4K 2 sets of per diems: 2x10daysx300=$6K 1 M&E assist (60K/year) *SubTotal: M&E director: $100K* **TOTAL (activities 7-9): $1,284K** **Activity 6** (I-I-I experiments) Private Partnership Fees: 75,000/year [this is a payment to firm in year 2 and year 3 for coordination / office set up / record keeping] in conjunction with experiment treatments Extension support: 50,000 payment/year in year 2 and 3 to public partner for coordination / office set up / misc. Travel and meeting fees ...in conjunction with experiment treatments Certification support: 25,000 payment/ year in year 2 and 3 to certification partner for coordination / office set up / misc. Travel and meeting fee in conjunction with experiment treatments 150000/team/year **Subtotal: 150Kx4=600K**
YEAR 2 TOTAL			$2,055,272	
Year 3				
6 / 7-9	3	Salary	$90,786	Same as Year 2 [except annual meeting in Senegal + salary increase of 3.5%
6 / 7-9	3	Fringe	$23,345	Same as Year 2 [except salary increase

		Benefits		of 3.5%]
6 / 7-9	3	Trave1	$51,000	Same as Year 2
6 / 7-9	3	Supplies	$10,000	Same as Year 2
6 / 7-9	3	Subcontracts	$1,884,000	Same as Year 2
YEAR 3 TOTAL			$2,059,131	
Year 4				
6 / **7-9** / 10-11	4	Salary	$83,964	Stanford will provide: 1 postdoctoral fellow and part time admin. staff for each year during the FIRST FOUR YEARS of the project to help manage project and work with Rozelle on producing Cross-country M&E / opinion and Cost Accounting Postdoc: 43240 Admin. stf.: 35479 Rozelle will get 1 month salary per year (**15245/month)** Total: $83,964
6 / **7-9** / 10-11	4	Fringe Benefits	$24,162	Indirect rate (Post doc--18.4%): $7956 Indirect rate (Admin stf+PI—31.95%) PI: $ 4,871 Adm. Sff: $11,336 Total: $21,162
6 / **7-9** / 10-11	4	Trave1	$51,000	**International Travel for Project Team: Annual Meeting at Beijing** Project Team (7) Country Teams (4 – 1/ country) 11 economy class trips x $2000 10 per diems times 5 days (includes time working on analyzing data x $300 1 Venue+ Fixed Conference Fee: $2K Subtotal: 22+15+2=$39 **Additional Travel for Rozelle:** 1 international trips: 1x2000 air=2000 1x10daysx300/day=3000 Other travel: 1000 Subtotal: 6K
6 / **7-9** / 10-11	4	Supplies	$5,000	Supplies / communication /etc. For each year

6 / 7-9 / 10-11	4	Subcontracts	$1,080,000	For each country: Within each subcontract: **Year 4:** **Activities** 6/**7-9** SALARIES/FRINGE: [for year 4, drop to 1 postdoctoral fellow … and no staff] 1 postdoctoral fellows (one for M&E coordinator): $80K/year Subtotal: $80K/year TRAVEL for project management: For project leaders: 1 international trip x 2k=2000 1x10x300 per diem=3000 Domestic travel: In-country team: $10,000 SUPPLIES: Subtotal: $3000/year General in-country office support: $10,000/year Annual total—activities 6, year 4, per country team: $108 *SubTotal: 108x4=440K* **Activity 7+8+9—cont (M&E baseline)** For each country: Household round 4 final survey Focus group round 4 (include pretest / survey instrument development / recruiting enumerators / training / survey, proper / data entering / data cleaning / data analysis / report creation $100,000/team for baseline *SubTotal: 100,000x4 = $400K* Stipend for M&E Director (Fafchamps) 2 monthsx15000=30K 2 international tripsx2000=$4K 2 sets of per diems: 2x10daysx300=$6K 1 M&E assist (60K/year) *SubTotal: M&E director: $100K* **Sum of activities 7-9: $940K** **Activity 6**/10-11 (I-I-I experiments are

				done) Smaller fee … Private Partnership Fees: 20,000 [this is a payment to firm in year 2 and year 3 for coordination / office set up / record keeping] in conjunction with scaling up Extension support: 10,000 payment/year in year 4 to public partner for coordination Travel and meeting fees ... in conjunction with scaling up Certification support: 5,000 payment/ year in year 4 for coordination / Travel and meeting fee in conjunction with scaling up 35,000/team/year **Subtotal: 35Kx4=140K**
Year 4 Total			$1,244,126	
Year 5				
7-9 / **10-11**	5	Salary	$52,499	Administrative staff: $36,721 Rozelle will get 1 month salary per year (15,778/month)
7-9 / **10-11**	5	Fringe Benefits	$16,773	Indirect rate: 31.95% 16,773
7-9 / **10-11**	5	Trave1	$120,000	Final International Conference in London and Oxford, England: Country Final Workshops (x4): For each: 7 economy class international trips for project members x$2000 10 domestic travelx$300 20 per diems times 2 daysx$200 1 venue+fixed workshop fee: $5K Subtotal: 14+3+8+5=$30K/country Total: $120K
7-9 / **10-11**	5	Supplies	$5,000	Supplies / communication /etc. For each year
7-9 / 10-11	5	Subcontracts	$340,000	**Activity 7-9** / Final M&E work and

				analysis: Final set of focus groups: $50,000 / year / team *Subtotal; 4x50K = $200K* Stipend for M&E Director (Fafchamps) 2 monthsx15000=30K 2 international tripsx2000=$4K 2 sets of per diems: 2x10daysx300=$6K *SubTotal: M&E director: $40K* **Sum of Activities 7-9: $240K** **Activity 10-11** Scaling Up Meetings; Publicity; Travel to trade association shows; lobby IFC and other organization to **Subtotal: $25,000x4=$100,000**
Year 5 Total			$534,272	
ALL YEARS				
TOTAL ALL 5 YEARS			See budget template	

List of Subcontracts.

Contract Purpose	Subcontractor	Co-PI	Amount of Contract
Support activities of M&E Director (do M&E work)	Oxford University	Marcel Fafchamps	$ 380,000
Country Study:			
Senegal	University of Leuven	Johan Swinnen	$ 1,621,000
China	Chinese Academy of Science	Jikun Huang	$ 1,620,000
Madagascar	IFPRI	Bart Minton	$ 1,621,000

India	IFPRI	Bart Minton		$ 1,621,000	

Transmission coefficients …

Appendix D: Financial and Tax Information

(faxed separately)

Appendix E: Bibliographic information

Rozelle, Scott - General Director

Current positions
Senior Fellow and Professor, Helen Farnsworth Chair, Shorenstein Asia-Pacific Research Center, Freeman Spogli Institute, Stanford University, 2006

Professor, Department of Agricultural and Resource Economics, University of California, Davis (on leave without pay, July 2006 to June 2007)

Prrevious positions
Associate Professor, Dept. of Agricultural and Resource Economics, University of California, Davis (1997-2000)

Assistant Professor, Department of Economics, Stanford University (1996-1998)

Assistant Professor, Food Research Institute, Stanford University (1990-1996)

Research focus on China, including on agricultural policy, the emergence and evolution of markets and other economic institutions in the transition process, and the economics of poverty and inequality.

Education
Ph.D., Cornell University, Ithaca, New York, 1990.
M.Sc., Cornell University, Ithaca, New York, 1983.
Department: Agricultural Economics / Development Economics
B.Sc., University of California, Berkeley, 1979
Major: Finance / Labor Relations

Publications
Jacoby Hanan G, Guo Li and Scott Rozelle, 2003, "Hazards of Expropriation: Tenure Insecurity and Investment in Rural China," *American Economic Review* 92, 5: 1420-1447.
Huang Jikun, Carl Pray and Scott Rozelle, 2002 "Enhancing the Crops to Feed the Poor" *Nature* 418, 6898: 678-684.
Huang Jikun, , Ruifa Hu, Carl Pray and Scott Rozelle, 2005, "Insect-Resistant GM Rice in Farmers' Fields: Assessing Productivity and Health Effects in China," *Science* 308: 688-690.
Rozelle Scott, Albert Park, Jikun Huang and Hehui Jin, 2000, "Bureaucrat to Entrepreneur: The Changing Role of the State in China's Transitional Commodity Economy," *Economic Development and Cultural Change* 48, 2: 227-252.
Wang Honglin, Xiaoxia Dong, Scott Rozelle, Jikun Huang, and Tom Reardon, 2007, "Producing and Procuring Horticultural Crops with Chinese Characteristics: A Case Study in the Greater Beijing Area," *World Development*, forthcoming.

Fafchamps, Marcel - Monitoring and Evaluation Director

Current positions
Professor of Development Economics, Economics Department, Oxford University, UK, 1999

Professorial Fellow at Mansfield College, Oxford, UK, 1999

Deputy Director of the Centre for the Study of African Economies, Oxford University, UK, 1999

Previous positions
Visiting Research Fellow, The World Bank, 1998-1999.

Assistant Professor, Department of Economics, Stanford University, 1989-1999, and Food Research Institute, Standford University, 1989-1996

Research on risk coping strategies and poverty, market institutions and trade, intrahousehold allocation and gender issues, and spatial economics.

Project management and coordinator:
Current and projected research activities include:
- Non-staple food markets – various collaborations (Uganda, India)
- Producer organizations – various collaborations (Senegal, Burkina Faso, Kenya)
- Spatial issues – various collaborations (Nepal, Morocco)
- Risk sharing networks – various collaborations (Philippines, Tanzania, Zimbabwe)

Education
Ph.D. in Agricultural and Resource Economics, 1989, UC, Berkeley, USA.
Licencié (master) in Economics, 1980, Institut des Sciences Economiques, Catholic University of Louvain, Belgium.
Licencié (master) in Law, 1978, Faculty of Law, Catholic University of Louvain, Belgium.

Publications
Fafchamps, Marcel, 2004, *Market Institutions in Sub-Sahara Africa: Theory and Evidence*, MIT Press.
Fafchamps Marcel and Flore Gubert, 2006, "The Formation of Risk-Sharing Networks", *Journal of Development Economics*, forthcoming.
Fafchamps Marcel and Ruth Vargas Hill, 2005, "Selling at the Farm-Gate or Travelling to Market", *American Journal of Agricultural Economics*, 87(3): 717-34
Fafchamps Marcel, Eleni Gabre-Madhin and Bart Minten, 2005, "Increasing Returns and Market Efficiency in Agricultural Trade", *Journal of Development Economics*, 78(2): 406-42
Fafchamps Marcel and Susan Lund, 2003, "Risk Sharing Networks in Rural Philippines", *Journal of Development Economics*, 71: 261-87

Swinnen, Johan F.M. - Country Project Director for Senegal

Current positions
Professor of Development Economics & Director of LICOS-Centre for Institutions and Economic Performance, University of Leuven (KUL), Belgium, 2002
Previous positions
Lead Economist, The World Bank, Europe and Central Asia Region, 2003-2004

Vice-Chair, Department of Economics & Director, Center of Economic Studies (CES), University Leuven, 2002-2003

Economic Advisor, European Commission, DG-Economic and Financial Affairs, 1998-2000

Assistant/Associate Professor of Agricultural Economics and Food Policy & Director, Policy Research Group (PRG-Leuven), University Leuven, 1993-1997

Research on various aspects of processes of development, transition, and globalization and in particular in the field of agriculture, the food chain, foreign investment and trade, institutional change and its implications for development and poverty; with a regional focus on Sub Sahara Africa, Central and Eastern Europe, East and Southeast Asia.

Project management and coordinator:
Coordinated several projects on these issues, the most relevant of which are:
- "The dynamics of vertical integration in the agrifood chain" (World Bank)
- "Competition and interlinking contracts in value chains" (FAO)
- "Contracting and vertical coordination in the agrifood sector" (FWO)
- "Globalization and poverty in horticulture trade in Senegal" (VLIR/Univ Leuven)
- "Institutional constraints in micro credit for poverty reduction in Vietnam" (VLIR)
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Education
Ph.D. in Agricultural Economics 1992, Cornell University, USA
MSc in Agricultural Sciences 1985, University Leuven, Belgium

Publications
Dries Liesbeth and Johan F.M. Swinnen, 2004, "Foreign Direct Investment, Vertical Integration and Local Suppliers: Evidence from the Polish Dairy Sector" *World Development*, 32(9), pp. 1525-1544

Gow Hamish and Johan F.M. Swinnen, 2001, "Private Enforcement Capital and Contract Enforcement in Transition Countries" *American Journal of Agricultural Economics*, 83(3): 686-690

Maertens Miet and Johan .F.M. Swinnen, 2006. "Trade, Standards and Poverty: Evidence from Senegal" LICOS Discussion Paper No 177, LICOS - Centre for Institutions and Economic Performance, Leuven.

Minten Bart, Lalaina Randrianarison and Johan F.M. Swinnen, 2007, "Global retail chains and poor farmers: Evidence from Madagascar" *World Development*, forthcoming

Swinnen Johan F.M. (ed.), 2007, *Global Supply Chains, Standards, and the Poor*, CABI Publications

Minten, Bart - Country Project Director for India and Madagascar

Current position
Senior Research Fellow, International Food Policy Research Institute, New Delhi, India, 2006
Previous positions
Senior Research Associate, Representative Cornell Food and Nutrition Policy Program in Madagascar, 2000 – 2006

Assistant Professor Agricultural and Environmental Economics, Catholic University of Leuven, Belgium, 1998 – 2001.

Consultant, World Bank, Policy Research Department, Washington DC, USA., 99-00.

Post-Doctoral Fellow, International Food Policy Research Institute, USA/Madagascar, 1996 – 1998.

Research in agricultural, natural resource and environmental economics, specifically related to the effects of agri-business development and changes in agricultural marketing on the structure of food systems in South Asia and Africa.

Responsible for the management and implementation of several research projects on poverty dynamics, labor markets, agricultural productivity, environmental degradation, rural poverty, food security, health care, education in Madagascar funded by USAID, WWF, European Union, World Bank and on the marketing, processing and export of non-staple crops in India funded by the World Bank and DFID.
Coordinator for a USAID funded research on agricultural input and output markets and response to agricultural reforms by rural households in Madagascar.

Education
Ph.D in Agricultural and Resource Economics, 1995, Cornell University, USA
MSc Agricultural Sciences, 1985, University Leuven, Belgium

Publications
Fafchamps Marcel and Bart Minten, 1999, "Relationships and traders in Madagascar" *Journal of Development Studies*, Vol. 35 (6), pp.1-35
Fafchamps Marcel, E. Gabre-Madhin and Bart Minten, 2005, "Increasing returns and market efficiency in agricultural trade" **J***ournal of Development Economics*, 78:406-422
Minten Bart and Steven Kyle, 1999, "The impact of distance and road quality on food collection, marketing margins, and traders' wages: Evidence from the former Zaire" *Journal of Development Economics*, vol. 60(2), pp. 467-495
Minten Bart, Lalaina Randrianarison and Johan F.M. Swinnen, 2007, "Global retail chains and poor farmers: Evidence from Madagascar" *World Development*, forthcoming
Minten Bart, Lalaina Randrianarison and Johan F.M. Swinnen, 2007, "Spillovers from high-value agriculture on land use in developing countries" *Agricultural Economics*, forthcoming

Huang, Jikun - Country Project Director for China

Current positions
Professor and Director, Center for Chinese Agricultural Policy (CCAP), Chinese Academy of Sciences (CAS), Bejing, China, 2000.

Professor and chief scientist, Institute of Geographical Sciences and Natural Resources Research (IGSNRR), Chinese Academy of Sciences (CAS), Bejing, China, 1996.

Agricultural policy advisor to the State Council, China

Advisor to the Minister, Ministry of Agricultural and Rural Development, Vietnam

Research on China's agricultural R&D policy, resource and environmental economics, food consumption and marketing, poverty, and trade liberalization.

Coordinator of over 40 international and domestic research projects, including the DIFD/UK's global program on "Regoverning Markets" in China, India, Indonesia, Mexico, Poland, South Africa, Turkey, and Zambia; and the FAO's project on "Small Farmers and Agri-Food Market Restructuring" in China.

Education
Ph.D in Agricultural Economics, 1990, University of the Philippines (Los Banos)
B.S. in Agricultural Economics, 1994, Nanjing Agricultural University, China

Publications
Huang, Jikun, Ruifa Hu, Scott Rozelle, and Carl Pray, 2005, "Insect-Resistant GM Rice in Farmer Fields: Assessing Productivity and Health Effects in China", *Science*, Vol. 308, pp: 688-690.

Huang, Jikun, Ruifa Hu , Hans van Meijl, and Frank van Tongeren, 2004, "Biotechnology Boosts to Crop Productivity in China: Trade and Welfare Implications" *Journal of Development Economics*, Vol.75(2004):27-54.

Zhang, Xiaobo, Shenggen Fan, Linxiu Zhang and Jikun Huang, 2004, "Local Governance and Public Goods Provision in Rural China" *Journal of Public Economics*, Volume 88(12): 2857-2871.

Huang, Jikun, Scott Rozelle, Carl Pray, and Qingfang Wang, 2002, "Plant Biotechnology in China" *Science*, Vol. 295: 674-677.

Huang, Jikun, Scott Rozelle, and Carl Pray, 2002 "Enhancing the Crops to Feed the Poor" *Nature*, Vol. 418: 678-684.

Reardon, Thomas – Industry Liaison

Current positions
Associate Professor, Michigan State University

Research on the economics and management of agrifood supply chains, globalisation and supply chain development, agricultural development and poverty.

Co-director and coordinator of several research projects including:
- IFPRI-MSU Joint Program on "Markets in Asia"
- World Bank project "Smallholders and Modern Supply Chains in Indonesia: Challenges and Opportunities"
- DIFD/UK's global program on "Regoverning Markets" in India, Indonesia, Zambia, South Africa, Turkey, Poland, and Mexico
- USAID-funded research on "Small-farmer organizations and dynamic market access in Africa"
- USAID, DFID, and Common Commodity Fund funded research project "Access by Small and Medium Producers of Tomatoes and Beef to Dynamic Markets in Central America,"
- USAID, World Banks, GTZ, and DFID-funded Projects, "Supermarkets and Agricultural Development", with case studies in Guatemala, Nicaragua, Kenya, Zambia, Indonesia.
- USAID and USDA-funded Project, Partnerships in Food Industry Development-Fruits/Vegetables – Nicaragua and Guatemala.

Education
Ph.D. in Agricultural and Resource Economics, 1984, UC Berkeley, USA.
MSc. in International Affairs, 1979, Columbia University, New York, USA
Diplôme (masters level), 1977, Institut Européen des Hautes Etudes Internationales, Université de Nice, France

Publications
Hernández Ricarod, Thomas Reardon and Julio Berdegué. 2007. "Supermarkets, Wholesalers, and Tomato Growers in Guatemala," *Agricultural Economics*, 36(3), forthcoming May.

Reardon Thomas, Peter C. Timmer, Christopher B. Barrett and Julio Berdegue. 2003. "The Rise of Supermarkets in Africa, Asia, and Latin America," *American Journal of Agricultural Economics*, 85 (5): 1140-1146.

Reardon Thomas and Peter C. Timmer, 2007. "Transformation of Markets for Agricultural Output in Developing Countries Since 1950: How Has Thinking Changed?", chapter 13 in R.E. Evenson, P. Pingali, and T.P. Schultz (editors). Volume 3 *Handbook of Agricultural Economics: Agricultural Development: Farmers, Farm Production and Farm Markets*. Amsterdam: Elsevier Press.

Reardon Thomas and Julio Berdegué, 2006. "The Retail-led Transformation of Agri-food Systems and its Implications for Development Policies". Background Report for the *World Development Report 2008* of the World Bank.

Maertens, Miet - Social and Environmental Impact Director

Current Position
Senior Economist, LICOS – Centre for Institutions and Economic Performance, University Leuven, Belgium, 2003

Previous positions
Research associate, IRE – Institute for Rural Development, Georg-August University of Goettingen, Germany, 2000 – 2003

Research associate, Department of Agricultural Economics, University of Leuven, Belgium, 1998 – 1999.

Consultant, The World Bank, Policy Research Group & The World Bank Institute, Washington DC, USA, 1999 & 2006

Research on the impact of the globalization and the transformation of food systems on poverty, land use, and human rights in developing countries (Africa and Asia)

Coordination and implementation of research projects on globalization and poverty, agricultural supply chains, food standards, rural credit markets and gender issues in Africa and Southeast Asia; including VLIR (Flemish Interuniversity Council) funded projects on "Globalisation and poverty: implications of horticulture trade in Senegal" and on "Institutional constraints for the efficacy of micro credit for poverty reduction in Vietnam"; University Leuven funded projects on "International agreements and development" and on "Globalisation and human rights".

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Education
PhD in Agricultural Sciences, 2003, Georg-August University Goettingen, Germany.
MSc. in Economics, 1999, University Leuven, Belgium.
MSc in Agricultural Sciences, 1998, University Leuven, Belgium.

Publications
Maertens Miet, Manfred Zeller and Regina Birner, 2006, "Sustainable Agricultural Intensification in Forest Frontier Areas" *Agricultural Economics.* 34, 1-10.

Maertens Miet, Liesbeth Dries, Fidele A. Dedehouanou and Johan .F.M. Swinnen, 2007, "High-value Supply Chains, Food Standards and Rural Households in Developing Countries" In: Swinnen, J.F.M (ed) *Global Supply Chains, Standards and the Poor,* CABI publishing.

Maertens Miet and Johan F.M Swinnen, 2007, "Standards as Barriers and Catalysts for Trade and Poverty Reduction" *Journal of International Agricultural Trade and Development,* forthcoming

Maertens Miet and Johan F.M. Swinnen, 2007, "Trade, Standards and Poverty: Evidence from Senegal" LICOS Discussion Paper No 177, LICOS - Centre for Institutions and Economic Performance, Leuven.

Swinnen Johan F.M and Miet Maertens, 2007, "Globalization, Privatization, and Vertical Coordination in Food Value Chains in Developing and Transition Countries" *Agricultural Economics***,** forthcoming.

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Birthal, P.S., Joshi, P.K. and A. Gulati, 2005, "Vertical Coordination in High-Value Food Commodities: Implications for Smallholders". MTID Discussion Paper no 85, International Food Policy Research Institute, Washington D.C.

Diop, N. and S.M. Jaffee, 2005, "Fruits and Vegetables: Global Trade and Competition in Fresh and Processed Product Markets" In: Aksoy, M.A and Beghin, J.C. (ed.) *Global Agricultural Trade and Developing Countries.* World Bank, pp. 237-257.

Dolan, C. and J. Humphrey, 2000, "Governance and Trade in Fresh Vegetables: The Impact of UK Supermarkets on the African Horticulture Industry" *Journal of Development Studies* 37(2), pp. 147-176.

Dong, X., H. Wang, J. Huang, S. Rozelle and T. Reardon. 2006, "The Emergence of Horticultural Marketing Chains with Chinese Characteristics: Impact of Poor, Small Farmers and Traders," paper presented at the 2006 IAAE Conference, Gold Coast, Australia, August 12-18.

Dries, L. and J. Swinnen, 2004, "Foreign Direct Investment, Vertical Integration and Local Suppliers: Evidence from the Polish Dairy Sector" *World Development,* 32(9), pp. 1525-1544

Fafchamps, M., Vargas-Hill, R. and B. Minten, 2006, "Food Quality in India", CSAE Working Paper Series, Centre for the Study of African Economies, Oxford

Farina, E.M.M.Q. and T. Reardon, 2000, "Agrifood Grades and Standards in the Extended Mercosur: Their Role in the Changing Agrifood System" *American Journal of Agricultural Economics* 82(5), pp. 1170-1176.

Henson, S.J., Brouder, A-M. and W. Mitullah, 2000, "Food safety requirements and food exports from developing countries: the case of fish exports from Kenya to the European Union" *American Journal of Agricultural Economics*, 82, 1159-1169.

Humphrey, J., McCulloch, N., and M. Ota, 2004, "The impact of European market changes on employment in the Kenyan horticulture sector" *Journal of International Development, 16*(1), pp. 63-80.

Key, N. and D. Runsten, 1999, "Contract farming, smallholders, and rural development in Latin America: the organization of agroprocessing firms and the scale of outgrower production" *World Development* 27(2), pp. 381-401.

Maertens, M. and J.F.M. Swinnen, 2006, "Trade, Standards and Poverty: Evidence from Senegal", LICOS Discussion Paper No 177, Leuven, Belgium.

Maertens, M. and J.F.M Swinnen, 2007, "Standards as Barriers and Catalysts for Trade and Poverty Reduction", *Journal of International Agricultural Trade and Development*, forthcoming

Minot, N. and M. Ngigi, 2004, "Are Horticultural Exports a Replicable Success Story? Evidence from Kenya and Côte d'Ivoire" EPTD/MTID discussion paper, IFPRI, Washington, DC.

Minten, B., Randrianarison, L. and Swinnen, J., 2006, "Spillovers from Globalization on Land Use: Evidence from Madagascar", paper presented at the 2006 IAAE Conference, Gold Coast, Australia

Minten, B., Randrianarison, L., Swinnen, J., 2006, "Global retail chains and poor farmers: Evidence from Madagascar", LICOS Discussion Paper No 164, Leuven, Belgium.

Reardon, T., 2006 "Rural Nonfarm Income Diversification to Help the Rural Poor: Challenges and Strategies", plenary paper presented at the 2006 IAAE Conference, Gold Coast, Australia

Reardon, T., Timmer, C.P., Barrett, C. and J. Berdegué, 2003, "The Rise of Supermarkets in Africa, Asia, and Latin America" *American Journal Agricultural Economics* 85(5), pp. 1140-1146.

Rozelle, S., Swinnen, J., and J. Vercammen, 2006, "A Theory of Standards-Driven Development", paper presented at the 2006 Annual AAEA Conference, Long Beach, California

Swinnen, J., 2006, *Global Supply Chains, Standards, and the Poor*, CABI Publications, forthcoming

Swinnen J.F.M and M. Maertens, 2006, "Globalization, Privatization, and Vertical Coordination in Food Value Chains in Developing and Transition Countries", *Agricultural Economics*, forthcoming

Weatherspoon, D.D. and T. Reardon, 2003, "The Rise of Supermarkets in Africa: Implications for Agrifood Systems and the Rural poor" *Development Policy Review* 21(3), pp. 333-356.

Weatherspoon, D., Cacho, J. and R. Christy, 2001, "Linking Globalization, Economic Growth and Poverty: Impacts of Agribusiness Strategies on Sub-Saharan Africa" *American Journal of Agricultural Economics* 83(3), pp. 722-29