

Micro Health Insurance in Rural Cambodia:

An evaluation of the impact on the stabilization of incomes and enhancement of agricultural productivity and asset accumulation

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Abstract

The world's rural poor have the highest risks of ill health and the lowest rate of health insurance. The result is that injuries and illnesses – and the resulting loss of income and health care expenditures – often push households into poverty and lead them to sell productive assets. These problems are especially pressing for workers in the agricultural sector, as illness or injury often directly reduces income. Lower income, in turn, frequently reduces agricultural assets, which can reduce future farm productivity.

Thus, micro-health insurance is a promising product to help the rural poor, as it has the ability to stabilize incomes and prevent the sale of assets. This proposal is for a *randomized controlled trial* of the GRET/SKY micro-health insurance program in rural Cambodia. AFD is sponsoring GRET and co-sponsoring the proposed evaluation.

This evaluation will provide the first rigorous evidence on the effectiveness of micro-health insurance on the ability of the rural poor to protect their economic well-being and livelihoods while maintaining access to quality health care. As importantly, this evaluation will help understand whether people with high average medical costs are heavy purchasers of health insurance. This information is crucial in designing financially sustainable insurance products. Results of the evaluation will be relevant to micro-health insurers, donors, and policymakers both in Cambodia and globally.

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A. Narrative

I. Introduction

Health insurance is one of the most important policy issues facing the developing world today. Developing countries face 90 percent of the global disease burden, but represent only 12 percent of the world’s spending on health care. Worse yet, more than half of health expenditures in poor countries come from out-of-pocket payments by individual households. (Gottret and Schieber, 2006) This situation is particularly burdensome to the poor, because high medical costs (or forgone treatment) strike when people need care the most. Furthermore, the poor face the burden of loss of income while incapacitated. This one-time shock can lead to persistent poverty if the household has to sell productive assets such as livestock and can lead to a cycle of poverty if they reduce investments in their children’s health or education.

Despite the vulnerability of the poor to illness and injury, health insurance remains rare. Policymakers and aid agencies face many concerns about how well health insurance programs reach their targets, encourage appropriate health care, and improve health and economic outcomes. At the same time, questions remain about how financially sustainable insurance can be, especially when private insurance is subject to “adverse selection” – where those with high costs are more likely to buy insurance.

The SKY program is an innovative health insurance program, run by GRET,¹ offering one of the only health care insurance options to the poor Cambodian population. We propose to evaluate the impact of the SKY micro-health insurance program in Cambodia using a *randomized controlled trial*. SKY has been supported by the French aid agency AFD,² who are also co-sponsoring this rigorous evaluation.

Our first goal is to measure how well health insurance protects the poor from the risks outlined above: high medical costs, loss of income, and reductions in investments and productive assets.

Rigorously documenting the impacts of this program—both what works and what does not—will allow

¹ The French NGO, Groupe d'échange et de recherche technologiques or Research and Technological Exchange Group.

² Agence française de développement, or French Development Agency.

Ministries of Health, donors and policymakers around the globe to learn from GRET's innovation. The initial investment in health insurance for the needy in Cambodia can multiply to improve health insurance, and, more broadly, health and economic outcomes, in developing countries around the world. The evaluation will also allow us to measure how insurance affects health utilization behavior, and whether this increased utilization in turn leads to positive health outcomes.

Second, the evaluation will study who purchases insurance at different premium levels (e.g., those with high expected costs, those who are most cautious, or both). This information, along with impacts on utilization, is crucial for health insurance to be financially sustainable. Answering these questions will also give us greater understanding of how the poor deal with risk both with and without insurance, and how insurance can help to mitigate the vulnerability of the poor.

As part of this evaluation, we will also be able to measure impacts of health insurance on various demographic groups. Understanding how family composition affects take-up of insurance, and how insurance affects outcomes for different demographic groups (specifically, women, children, and the elderly) will be an important outcome of the evaluation.

The central methodological tool of our evaluation is the use of randomization of insurance premium levels to vary treatment conditions among households within a village. A pre-intervention baseline survey of approximately 3,000 households with over 12,000 individuals and follow-up surveys of the same households will be conducted over the 4 year experimental period. The survey will cover the multiple areas that the health insurance program attempts to influence: health, asset vulnerability, investment and saving decisions, and risk management. We will examine how baseline characteristics affect purchase of insurance and examine how health insurance affects these outcomes.

This evaluation will also help increase the capacity of local researchers and practitioners. In our evaluation we will be partnering with two researchers from the Royal University of Phnom Penh (RUPP): Dr. Nhung Hema, Professor and head of the psychology department, and Ian Ramage, Lecturer and advisor at RUPP. Throughout our evaluation, we will be training RUPP students in the importance of

rigorous evaluation, and in the latest methodology of program evaluation. This training will enable future evaluations of developmental programs to be locally-run.

The evaluation of SKY's health insurance program coincides directly with the stated goals of USAID, both globally and in Cambodia. One of USAID's key objectives is promoting global health (USAID, 2006b), and in Cambodia one important goal is "increasing use of high impact...family health services and appropriate health seeking behavior" (USAID, 2006c). The SKY program is directly targeted at increasing access to health care by eliminating the per-visit cost of visiting public facilities, encouraging the use of only high quality public facilities, and encouraging women to give birth at health care centers. By encouraging early treatment at qualified facilities, SKY has the potential to increase health seeking behaviors and improve health outcomes. A rigorous evaluation of the SKY program provides lessons to USAID and policymakers that can be used to determine the best way to increase health and utilization in Cambodia and other developing countries.

In addition to supporting USAID's goals, an evaluation of the SKY program is directly in support of the goals of the Cambodian government. In particular, the SKY program has become a model that the Ministry of Health hopes to learn from in expanding Cambodia's health insurance system (ILO 2005). We have already met with Ministry of Health officials to collect information on questions they find particularly important to answer in the evaluation of SKY. Throughout the evaluation, we will continue to be in contact with Ministry of Health officials to get inputs on design of the study and to report on results.

Finally, an evaluation of a project of this sort has the potential to influence policy in other developing countries as well. The evaluation of this innovative insurance product will thus serve as a global public good; As health insurance is a new product in these regions, the results of this evaluation can be used to by other governments and aid organizations to determine if voluntary health insurance is an effective way to meet some of the health goals of the developing world, and if future projects of the sort should be funded.

II. Objectives/Intellectual Context

It is not easy to evaluate how health insurance affects peoples' health and economic outcomes. Most obviously, the purchasers of health insurance are likely to be those who expect to have high medical costs. Thus, a simple comparison of the health outcomes of those who do and do not purchase insurance might show that the insured are less healthy – even if the *causal* effect of the insurance were to increase health substantially. We will use a *randomized controlled trial* to evaluate how health insurance affects individuals and households, avoiding the problems of causal inference in non-experimental data.

This issue of “adverse selection” is not just a problem for evaluation. Voluntary health insurance cannot be financially sustainable if adverse selection is severe, since risks will not be pooled and premium levels will not be able to cover the high costs of care. Thus, it is crucial to measure the extent of adverse selection. Such measurements should inform policy-making towards health care globally.

There are reasons to believe that health insurance may improve health and economic outcomes among poor Cambodians. Past research has shown that the impacts of health insurance or changes in the price of health care on health are large (e.g., Wagstaff and Pradhan 2005 in Vietnam), and most studies also find that the effects are largest among the poorest (in the U.S. see Manning, et al., 1987 and Currie and Gruber 1996; in Indonesia see Dow, et al., 2000).

Health insurance can influence economic outcomes in various ways. First, good health increases labor supply and productivity (Thomas, et al., (2003) and Dow, et al. (2000) for two separate studies in Indonesia). Second, health insurance may influence a family's economic well-being by preventing families from selling investment assets or increasing child labor to cover medical expenses.³ For example, Kenjiro (2005) studies two Cambodian villages and finds that illness shocks and the associated high medical expenses often result in the sale of land. Such sales of productive assets imply that a one-

³ Cambodia currently has a very high rate of child labor, even compared to its South-east Asian neighbors. The 2001 Cambodian Child Labor Survey estimated that over 20% of children aged 5-9 and around 48% of children aged 10-14 were working in the last 12 months. See Cambodian Child and Labor Survey (2001). See Neri, et al. (2005) for a study of how temporary shocks can influence child labor.

time health shock can lead to long-term increases in poverty. Finally, health insurance can stabilize consumption by decreasing the amount of spending on health care (Wagstaff and Pradhan, 2005).

In addition to answering questions on the impacts of health insurance, this study can measure adverse selection and other types of selection. To our knowledge, there are no experimental studies of adverse selection in health insurance markets in poor nations, and existing studies in rich nations provide mixed results. Positive selection, where risk averse people (who also have low medical costs due to other risk-averse behaviors), is also possible. The randomized nature of the study in Cambodia will allow empirical tests of adverse and other types of selection, thus contributing to an important current theoretical debate in economics.

Our study will help us understand questions including:

- Is adverse selection an obstacle to a financially sustainable private health insurance market?
- What insurance prices and contracts minimize adverse selection, promote financial sustainability, and improve outcomes for the poor?
- Is health insurance a good way to increase health outcomes?
- Is health insurance a good way to decrease the vulnerability of poor populations?

III. What is the intervention?

a. Cambodian Context

Cambodia is among the world's poorest and unhealthiest nations. It ranks 168 out of 233 nations in GDP per capita, has the 40th highest infant mortality rate, and the 47th lowest life expectancy. (CIA World Factbook, 2006) Health shocks are a major factor in loss of land, and can push households into deeper poverty if high quality and affordable health care is not available. (World Bank 2006, Kenjiro 2005) Most (70%) of health care spending is spent out of pocket. (WHO, 2006c)

Poor quality of care, large distance to facilities, and prohibitive expenses have led to low utilization of health care. Fewer than 60% of the poor in need of health care actually use it. (Cambodian Socio-Economic Survey, 2004) Only 47% of women receive at least two antenatal consultations during

their last pregnancy, and only 32% of deliveries are attended by a trained practitioner (World Bank, 2006).

b. The SKY Program

Since 1998 GRET has been experimenting with micro-insurance schemes by examining responses to different premiums and benefits. In the current program, households are offered insurance at a rate ranging from \$0.50 per household per month for single-person household to \$1.83 per household per month for a household with 8 or more members. Households must purchase insurance for a minimum of six months. To join SKY, households pay their first month's insurance premium plus two months premium in advance, to be held as reserve in case of under-payment. To encourage initial take-up, households offered insurance for the first time are offered lower premiums for the first six-month period. With their insurance, household members are entitled to free services and prescribed drugs at local health centers; free services at hospitals with a referral; and a small death benefit. (SKY Health Insurance Schemes, 2005)

The SKY program aims to provide protection from catastrophic health expenses, while at the same time encouraging the use of public health facilities that meet minimum quality standards. SKY also hopes to increase the quality of care at public facilities by providing them with a steady and predictable income stream.

SKY currently offers insurance to households in several rural districts in Takeo and Kandal provinces, and has recently expanded into the capital, Phnom Penh, targeting specific groups (garment workers, market vendors, etc.). In December 2005 the program had 4,392 beneficiaries from 917 households, up over 160% from the previous year. Take-up of insurance ranges from 2% in regions where insurance has been only recently introduced to 12% in the longest-served regions. (SKY briefing note, 2005) SKY is now planning to expand to additional districts in Takeo province (which covers a total of 70 health centers, 5 hospitals, population of 870,000). (SKY Website, 2006) Lessons learned

from the evaluation can influence whether the rest of Cambodia is targeted. SKY is currently being funded by AFD and other donors, but plans to become financially sustainable.

c. Policy Relevance

Improving the health of the people and increasing access to quality health care is a top priority for the Cambodian government. At the same time policymakers seek to protect the population from the negative economic consequences of health shocks.

The SKY program has the potential to help the Cambodian people and government meet these goals. By partnering with only quality facilities and insisting on quality health care, they guarantee a reliable source of care for members. By paying health facilities in advance for each insured member and by increasing utilization at public facilities, SKY has the ability to improve public health workers' incomes and work patterns, allows for investment in new equipment, and can improve the overall quality of care. By prepaying for health care in exchange for no-fee utilization, SKY improves access to care and can lower out-of-pocket costs just when liquidity is lowest (after an injury). Both improved quality of care and improved access to care can in turn lead to better health outcomes. By covering medical costs in the event of a catastrophic health shock, SKY can prevent people from selling off productive assets, depleting savings, and reducing investments in children's health and education to pay medical bills. By ensuring that medical bills can be paid for, SKY can help to free up resources so that households can make additional investments, contributing to asset accumulation.

Despite the potentials for improvement that SKY offers, very little is known about the ability of micro-insurance programs to improve health and economic outcomes. The proposed project gives Cambodia and policymakers around the world a unique opportunity to test a promising method of increasing utilization of health care services and preventing descent into poverty. This type of information will be particularly relevant to the Cambodian Ministry of Health, since they have been actively seeking ways to guarantee the health of their population, as stipulated by the Cambodian

constitution. (Ministry of Health, 2002) In particular, the Ministry of Health approved the Master Plan for Social Health Insurance in 2005, which includes voluntary insurance through the development of community-based health insurance schemes. (Ministry of Health, 2003) The SKY program in fact “informed, and is an element of,” this master plan. (ILO, 2005) In addition, the National Forum on Social Health Protection, held December 5-6, 2006 in Phnom Penh, was held specifically to raise awareness of health insurance and learn from the experiences of other countries in the region.

Considering the importance of the issue to the government of Cambodia, one major goal of the evaluation is to provide feedback to Cambodian policymakers on the strengths and weaknesses of micro-insurance as a means of contributing to the health care needs and economic stability of the population. As mentioned, we have already met with Ministry of Health officials to discuss plans for the evaluation, and we plan to continue this relationship throughout the project. If the SKY method of micro-insurance is found to be effective, the Ministry of Health can use it to encourage the formulation of similar insurance plans, and as a model for future national health care plans.

Results of this evaluation also have policy implications outside of Cambodia. Various countries in the region have been experimenting with health care insurance, both community-based and government-run, including the Philippines, Laos, China and Vietnam. Many of these countries had representatives at the National Forum on Social Health Protection in Phnom Penh. In addition, developing countries throughout the globe have been looking for ways to protect their most vulnerable populations from the negative consequences of health shocks. A study of the SKY program will enable governments around the world to learn from the experiences of Cambodia. By comparing the successes and failures of the SKY program to other programs, policymakers can learn how to best provide health care to their populations while protecting them from negative economic shocks.

IV. Research Methodology

a. Evaluation plan

As mentioned in section II, due to the differences between the insured and uninsured in a voluntary insurance program like SKY, it is difficult to find a valid comparison group to which the insured group can be compared. Our evaluation will use the randomization of premium levels at the household level to create a control group for the insured that eliminates the bias resulting from selection into insurance.

Before SKY enters a new village, we will choose a random sample of the village and perform a baseline survey. This survey will include health, health behaviors, past health care utilization, past spending on health care, risk behaviors and attitudes, and will also collect information on general economic and demographic characteristics of the household.

Our randomized evaluation will be implemented as the SKY program is rolled out to the Takeo province beginning in approximately October of 2007. To introduce their program into a village, SKY holds a village meeting where the program is introduced to village members. At the end of the meeting, SKY will hold a “Lucky Draw” lottery for meeting participants. Of all households at the village meeting, 20% will win a coupon for 3-months free insurance and 20% will win a coupon for 5-months free insurance. The remaining households will be entitled to a 1-month discount on insurance, which is the usual policy for the SKY program. At the village meeting, a SKY representative will record the name of each household attending and the value of the coupon they win.

Following the meeting, a portion of the households that attended the village meeting (and were not already given it) will be administered the baseline survey. This wave of the baseline will go to a random selection of households receiving each level of coupon.

Also following the village meeting, a SKY Insurance Agent will visit each household attending the village meeting to explain more about the SKY program and collect premiums for those who wish to sign up. At this time, winners of the Lucky Draw can redeem their coupons.

Using data from the baseline survey, we will be able to answer questions on what characteristics of households induce them to buy insurance, shedding light on competing theories of selection. We can also compare the characteristics of households willing to buy insurance at different prices. We hypothesize that households that are willing to buy insurance at higher costs (without coupons) would be more adversely selected (that is, they will have greater health needs). We also hypothesize that those who buy insurance may have fewer alternative ways to mitigate risk.

Thirteen months after each village meeting we will carry out follow-up surveys of all households originally interviewed. The Research Team will use multiple techniques to ensure a high response rate. The follow-up survey will contain similar questions to the baseline survey as well as (for insurance purchasers) questions concerning their experience with the SKY program. In particular, this survey will give us information on how SKY changes utilization behavior, and will measure economic impacts of SKY such as changes in out-of-pocket expenditures. A second follow-up a year later will repeat most of the same topics, emphasizing changes in health outcomes and catastrophic expenditures as a result of SKY membership.

b. Methods

The randomization of coupon offers enables us to do three things. First, it allows us to eliminate the effect of selection in our analysis of the impacts of health care. Second, it allows us to measure selection by comparing characteristics of the insured to the uninsured, and by comparing the characteristics and utilization of those who chose to buy insurance at different prices. Finally, it allows us to sketch out a demand curve for insurance, as we will know the rate of take-up at different price levels.

The coupons will allow us to identify the impact of health insurance on the insured in the following way. Let Y_{ivct} be an outcome for individual or household i in village v in year t . We cannot simply compare Y_{ivct} for households with and without insurance. However, by randomly assigning coupons to some households, we have an exogenous source of variation in take-up that helps us measure the causal effects of health insurance.

People who receive a large (3 or 5 month) coupon can be considered the “Treated” group (T). People who receive the standard (small) coupon are the control group. The idea behind the analysis is the following: in general, people who buy insurance are different than those who don’t buy insurance. However, people who receive a large coupon at random are more likely to buy insurance than those who don’t, but for a reason that is not related to any of their own characteristics.⁴

A simple comparison of average outcomes of those who received the high coupon to those who did not will give us the “intention-to-treat effect”; that is, the effect on health and other outcomes of being offered a lower price for insurance. Because the coupons were distributed randomly, any systematic differences in mean outcomes between the two groups can be attributed to the insurance (or the decreased price of insurance).

In fact, our data collection strategy permits us to do better than just comparing mean outcomes of the high- and low-coupon groups. First, we have data on villages over time, so we can include a vector of village fixed effects (**village_{vt}**) as well as a vector of year fixed effects (**year_t**). We can also control for *J* individual and household level covariates (X_{jivct}) that might affect health, health care utilization, and other outcomes. These controls will only include baseline characteristics such as maternal education or exogenous characteristics such as gender, not endogenous variables such as current household income. Thus, we can estimate:

$$Y_{ivct} = \beta \text{post}_{vt} * \text{high-value-coupon-value}_{ivct} + \sum_{j=1}^J \alpha_j X_{jivct} + \mathbf{village}_v + \mathbf{year}_t + U_{vt} + \varepsilon_{ivct} \quad (1)$$

In this specification, post_{vt} indicates follow-up observations, U_{vt} represents village-level shocks, and ε_{ivct} is a random error term representing individual variation from the mean. The coefficient β is the difference-in-difference estimate of the effect of being offered a high-value coupon.⁵ With equation (1) we will

⁴ If the initial coupons at village meetings do not induce a high enough take-up of insurance, we will use other methods to increase take-up, such as incentives to sales people and coupons given outside of village meetings.

⁵ We will adjust our estimates for any correlated shocks that affect everyone in a village during a year (U_{vt}). In estimating individual-level outcomes we will also adjust for household-level clustering, when feasible.

When appropriate (as in studying individual-level outcomes such as BMI (Body Mass Index, or weight-for-height, a measure of nutritional status), we will use individual-level fixed effects. Other specifications may use household-level fixed effects. These analyses will examine how SKY’s intervention has affected rates of change of individual- or household-level outcomes.

estimate the causal effects of expanding health insurance coverage via lower prices on the outcomes discussed above: health care utilization, health care expenditures, health, asset accumulation, and so forth.

To understand this estimate, suppose we compare the average health care utilization rates of the group of households with low coupons versus high coupons. Assume that 10% of those at a village meeting with a low-value coupon purchased insurance, and 50% of those with a high coupon purchased insurance. Now suppose that by the follow-up interview the group that received a low coupon at the village meeting has 1.1 medical visits per year on average and the group that received a high coupon has 1.5. Such a pattern implies that offering insurance at a discount price raises medical care utilization by 0.4 visits per year (a bit over 33%). This is the “intention to treat” estimator of the causal effects of the high-value coupon plus the GRET insurance program.

Even when selection effects are present, we can estimate the effect of the health insurance on those who purchase insurance due to the lower price provided by coupons. To see this possibility, consider the case where the treatment group (with high-value coupons) has 300 more clinic visits than a similarly-sized group with low-value coupons (the control group), and that the high-value coupon group has 100 more insured households. In this case we can estimate that insurance increases clinic visits by 3 visits per household (at least for the sorts of households affected by a valuable coupon). In practice we would use what is known as an “instrumental variable” estimator similar to Equation (1), but using high-value-coupon-value_{ivt} as an “instrument” for insurance coverage instead of as an independent variable:

$$Y_{ivct} = \beta \text{insured}_{ivt} + \sum_{j=1}^J \alpha_j X_{jivt} + \mathbf{village}_v + \mathbf{year}_t + U_{vt} + \varepsilon_{ivct} \quad (2)$$

(Instrumental variable = post_{vt} * high-value-coupon-value_{ivt})

Equation (2) is the standard way to estimate causal impacts with experimental data.⁶

Note that those who receive high-value coupons have slightly higher purchasing power than the control group. We will adjust our estimates for any income effects and/or provide compensatory purchasing power to those who receive low-value coupons.

⁶ Our instrumental variable analysis involves a two step procedure. In the first step the value of the coupon is used to predict insurance purchase:

$$\text{Insured}_{ivt} = \gamma \text{post}_{vt} * \text{high-value-coupon-value}_{ivt} + \sum_{j=1}^J \alpha'_j X_{jivt} + \mathbf{village}_v + \mathbf{year}_t + u_{vt} + e_{ivct} .$$

An important feature of our study is that we can also study the characteristics of the groups that buy or decline insurance at different prices. Recall that at a high price, insurance is most valuable to those with high expected health care costs. This analysis will have two components. First, we will test for adverse selection by testing if those who choose to purchase health insurance already had poor health, unsafe health behaviors, and high health care utilization. Second, assume that in the follow-up survey of those with low-value coupons, those who purchase insurance have higher medical care utilization than those who did not purchase insurance. This gap could be due to higher utilization because of insurance, or due to adverse selection. If adverse selection is responsible for the gap, then the gap should be smaller when we look at health care utilization of those who purchased insurance with high-value coupons, as adverse selection should be smaller for this group.

We will complement this statistical analysis with a qualitative evaluation of the SKY program. This evaluation will involve interviews and focus groups with GRET and SKY headquarters personnel, insurance agents, customers, health care providers, and those who declined to purchase health insurance. This evaluation will also include a survey of the relevant health care clinics. This analysis will examine impacts SKY has on the health system, including public health facility revenue, changes in supply of drugs and medical equipment, and changes in health worker income and work patterns. Finally, this analysis will examine how SKY works in practice and look for unanticipated effects of the program.

c. Analysis

We will use these results to examine how adverse selection and premium level affect the financial sustainability of micro-health insurance and how health insurance affects health and economic outcomes.

We will apply these lessons to analyze the optimal insurance contracts that provide maximal insurance to the poor while minimizing costs. We will then analyze the trade-offs between the value of

The second step uses the predicted insured status as a substitute for actual insured status. Because coupon value was randomized, this estimate of the effects of insurance on health and health care utilization is not affected by the endogenous choice to purchase insurance when it is offered.

insurance to the poor and the financial sustainability of the insurance providers. Those lessons will help us design the optimal business model for a micro-health insurer.

V. Capacity Building

a. In Cambodia

Cambodia, after decades of civil unrest and political turmoil, is now a stable and rapidly developing country. Yet needs for basic services – health, education, rural development – are staggering. The majority of the population is rural and poor, depends on subsistence farming and has no access to affordable, quality health care, or to higher-level education. With so few resources, the government of Cambodia, NGOs and donors need trustworthy evaluations to design and scale up development projects.

Unfortunately, research capacity in Cambodia is very weak. While the Royal University of Phnom Penh (RUPP) is one of the country’s leading academic institutions, it does not have the capacity to train students in rigorous research. As a result, most evaluations and operational research in Cambodia are conducted by local private firms, who have poor technical expertise and little respect for ethics; NGOs, whose research and evaluation results are too often self-serving; or international consultants with little knowledge on Cambodia. In most cases, budgets are too small to fund rigorous case control or longitudinal studies.

This project aims to:

- 1) **Train policymakers** in the value of rigorous evaluations.
- 2) **Build research and evaluation training capacity at RUPP** so that it may better answer the country’s need for evidence-based policies; and
- 3) **Train RUPP undergraduate and graduate** students in high level yet practical research.

Training of Policymakers: Because local capacity is so low, exposure to rigorous evaluations and research is practically non-existent. Senior Ministry staff, NGO managers and donor representatives have low expectations and usually distrust – often with good reason – the research reports they receive.

This project will **train policymakers in evaluation design and research ethics**, so that they may be more demanding when they rely on and approve research projects.

Building Research and Evaluation Capabilities at RUPP: This project will **expose faculty and students to quality research**, with high level courses taught by professionals who have hands-on research experience in Cambodia (Domrei) and high level academics (from UC Berkeley). Excellence in research will be built on strong theoretical grounds and scrupulously evaluated practice.

Training of Undergraduate and Graduate Students: RUPP students will use the GRET / SKY evaluation as a case study for rigorous evaluation and research, which will be essential in **building links between theory and practice**. The pilot site is perfect for small self-contained research projects on health inequities, subsistence farming, coping strategies, etc., for undergraduate and graduate students. Moreover, undergraduates will be trained and employed as interviewers, field editors, focus group moderators, data managers, etc. for the SKY evaluation. Thesis and graduate students will design and conduct their own research, and participate in evaluation seminars where RUPP faculty and SKY Project evaluators discuss research findings and policy recommendations. These seminars will show students and faculty **how meaningful research can be turned into policy recommendations**.

Importantly, note that funds allocated to capacity building in the RUPP Psych Department will have a direct impact on women. The RUPP Psych Department has 14 core teaching staff - 6 of whom are female including both the head and deputy head of the Department (Madame Hema and Madame Sisokum). In addition, there has been a rapid improvement in the number of female undergraduates enrolling and graduating in psychology since the department was founded. In the first graduating year (1998) there were no female graduates. In 2006, just over 45% of currently enrolled students are female. There is a great demand for female graduates in counseling and research roles and this coupled with a female department head and deputy has contributed to a rapid and welcome increase in female enrollment over the past 8 years. Although entry to the scholarship strand is by competitive examination, the department actively encourages young women to enroll in Psychology.

The specific activities we will undertake in the course of this project include:

Teaching a one week course for managers of development agencies, government ministries, NGOs, and academics. This course will teach principles of rigorous evaluation. Participants will use projects from their own organizations as case studies.

After each round of the one-week course above, a second round of training will be repeated for academics from RUPP and selected other universities. The materials for this course will be translated into Khmer for this purpose and the training delivered by Domrei and RUPP.

Undergraduate research training - The project will support the revision and improvement of four existing undergraduate courses and the adaptation/development of three new research and evaluation courses. The two Cambodia based PI's will directly teach 20 to 45 undergraduate students per academic year depending upon enrolments. Overall, at least 80 students will receive direct research and evaluation training from the Evaluation team over 4 years. This is a conservative estimate and the number of students trained using the revised courses (indirect beneficiaries) will be much higher. This training will be theoretical but also applied as undergraduates will regularly take part in the SKY evaluation during their training.

On the Job Training for RUPP Faculty - Three senior faculty members from RUPP in different departments (Psychology, Center for Population Studies, Sociology) will take part in the evaluation and research training for the entire length of the project. This will provide long-term benefits as these lecturers will continue to share and impart the knowledge they gain in rigorous evaluations with students for many years to come.

In addition, we expect that the SKY evaluation will prove to be a popular choice of topic for Thesis students in their final undergraduate year. To support this, we have included a small budget (\$250 per research thesis) to support those students who will carry out small scale research on aspects of the evaluation to meet their degree requirements.

b. At UC Berkeley

In addition to capacity-building activities in Cambodia and RUPP, the proposed project will also include activities that train U.S. researchers. Using the SKY evaluation as a concrete example of rigorous evaluation, the Berkeley researchers will hold a one-week course at UC Berkeley on evaluation methodology, to be attended by interested undergraduates, graduate students and faculty from various departments. The class will serve to emphasize the importance of rigorous evaluations, the dangers of non-rigorous evaluation, and will review the latest methodologies for establishing robust causal estimates.

The project will also contribute to long-term degree training for several graduate students. Graduate research assistants hired for this project will gain valuable knowledge of the evaluation process, an essential skill in many fields. Moreover, the evaluation and analysis will contribute to the Ph.D. dissertation requirements of one of the evaluation consultants (Rachel Polimeni), and potentially other graduate students.

VI. Support of USAID Goals

Any policy for investing in people and promoting economic growth must involve a financially sustainable means of delivering health care. This goal is particularly important in Cambodia, with its traumatic history and terribly high maternal and child mortality rates.

Thus, as part of their Foreign Assistance Framework, USAID aims to contribute to the health and social services and protection for vulnerable populations (USAID, 2006d). Specifically, USAID has made health care a priority in Cambodia, with goals that include increasing the number of health centers that provide an integrated health care package (USAID, 2005); strengthening the capacity of the health care system (USAID, 2006a); improving access to appropriate family planning and prenatal care; and improving access to care for children (USAID, 2006c). USAID seeks to meet these goals in a way that decreases the inequities in health care often observed between genders (USAID, 2006a).

Micro-health insurance has the potential to further all of these goals. The GRET/SKY program monitors clinic quality and guarantees funding to its partner clinics. As importantly, it ensures that family planning, prenatal care, well-baby visits, and curative care are all available at no incremental cost. These

services are offered to a population that is particularly vulnerable to health shocks, and one that is particularly vulnerable to falling into poverty. In addition, SKY provides the possibility of decreasing gender disparities in care, since all household members receive free care once the household-level premium is paid, regardless of gender.

USAID has also emphasized donor coordination. (USAID, 2006a) The proposed evaluation is well aligned with this goal, as the GRET/SKY program is financed by various donors (including AFD and GTZ), and the evaluation we are applying for is co-financed by AFD.

In a world of scarce aid resources, USAID also emphasizes evidenced-based programs that “provide the best scientific data available.” (USAID, 2006c) Our rigorous evaluation will be not only one of the first evaluations of its sort in developing nations, but one of the first anywhere in the world. Results of this evaluation will provide valuable knowledge to USAID and other donor organizations and governments on whether micro-health insurance is an appropriate way to increase health and protect the economic assets of the populations of developing nations.

B. Reporting and Deliverables

I. Anticipated Outputs

We will prepare several reports.

- A report on selection and adverse selection.
 - A version of this report for submission to an academic refereed publication.
 - A short version of this report targeted to micro-insurance providers in poor nations, policymakers, and aid agencies. This report will have policy-relevant lessons from the analysis of self-selection and adverse selection. It will discuss how selection affects the financial sustainability of micro-health insurance and will propose specific contract and insurance features that can mitigate adverse selection and promote financial sustainability.
- An impact evaluation examining how micro-health insurance affects health, health care utilization, and economic outcomes
 - A version of this report for submission to an academic refereed publication.
 - A short version of this report targeted to micro-insurance providers in poor nations, policymakers, and aid agencies. In addition to conclusions from the impact analysis, this report will describe a business model that provides valuable insurance to the poor. It will also provide lessons learned on creating a financially sustainable health insurance sector.
- Using data from the evaluation, the Cambodian-based PI's will prepare a paper each year for the annual Cambodian Socio-cultural Research Congress held at RUPP. This will enhance project visibility and provide a valuable advocacy opportunity for the SKY evaluation.

Each report will be presented at AFD, USAID, academic institutions, development agencies (GTZ, DFID, UNFPA, WHO, etc.), and conferences. Within Cambodia we will share results with GRET, the Ministry of Health, and the Ministry of Finance. Note that all policy reports will be translated into Khmer so that they can be fully understood by Cambodian policymakers.

II. Benchmarks

The goal of this project is to measure impacts of GRET/SKY while expanding the capacity of Cambodian and U.S. researchers and making policy-recommendations to SKY, donors and policymakers using evaluation results.

The impacts of this project will be:

- To recommend expansion of the SKY program if we find success, and modification and continued experimentation if we do not.
- To inform Cambodian officials, donors, and policymakers in developing countries of the successes and failures of the SKY program, and give policy recommendations on how to use these results to strengthen existing health and social protection programs.
- To increase Cambodian research capacity so that Cambodia has additional rigorous evaluations underway by the end of the 4 years -- using the professors, students, and executives we have trained.
- To permanently improve the undergraduate program at RUPP so that a new generation of Cambodians are trained in research and evaluation and are able to receive high quality degree-training within Cambodia.

- o To increase research capacity of UC Berkeley students and other researchers by providing training on rigorous evaluations, and contributing to degree requirements for at least one graduate student.

The following outlines our plans in reaching these goals over the four years of the project:

Process:

1. Evaluation Preparation (Winter-Spring 2007)
 - a) Design the baseline data collection instrument.
 - b) Pre-test the baseline data collection instrument. The pre-test will also incorporate feedback from GRET, AFD, USAID and policymakers on the survey and study design.
 - c) Submit the research protocol to UC Berkeley and other appropriate review for the protection of human subjects.
 - d) Train enumerators on data collection procedures and train GRET staff on randomization procedures.

2. Randomization and baseline data collection (September 2007-October 2008)
 - a) Baseline survey: Random group sampled from each village prior to village meeting.
 - b) Randomization
 - i) GRET holds village meetings throughout the year.
 - ii) Sales visits within 2 weeks of each village meeting.
 - c) Baseline survey that over-samples meeting participants within a month of each village meeting.
 - d) Baseline survey of health facilities.

3. Each month GRET will send all accounting and health care utilization data collected from applicants and health centers to the Research Team in a format to be mutually agreed upon. The data will include:
 - a) From the village meetings
 - Lottery date and results
 - b) From insurance agents
 - Records of insurance purchases and renewal
 - c) From health centers
 - Records of health care utilization

4. Qualitative process evaluation. (Fall 2008)
 - Interviews with SKY members and non-members, health care providers, insurance agents, etc.

5. Follow-up Survey I:
 - The Research Team will perform a mid-study follow-up survey of lottery participants 13 months after the participant's lottery. (October 2008 – November 2009)
 - The Research Team will use multiple techniques to ensure a high response rate.
 - GRET will provide the Research Team all follow-up data from visits by insurance agents and clinics. During all contacts with any eligible applicant, GRET will update contact information.

6. Follow-up health facility surveys. (June 2010)

7. Follow-up Survey II:
 - The Research Team will perform a second follow-up survey of lottery participants 25 months after the participant's lottery. (October 2009 – November 2010)

- The Research Team will use multiple techniques to ensure a high response rate.
- GRET will provide the Research Team all follow-up data from visits by insurance agents and clinics. During all contacts with any eligible applicant, GRET will update contact information.

Capacity Building:

- o One-week executive-level evaluation course in Cambodia (2008Q4 and 2010Q4)
- o One-week evaluation course at UC Berkeley (2008Q4 and 2010Q4)
- o Undergrad courses in Cambodia (September – July of each school year, starting 2007-8)
- o Internships for students at RUPP (Continued throughout project)
- o Evaluation and research training for RUPP faculty (Q4 of 2008, 2009 and 2010)
- o Dissertation chapter for Berkeley Ph.D. student(s) (Continued throughout project)

Reporting:

Selection Report, December 2008

1. The Research Team will write “Selection Report” in December 2008. This report will provide evidence on the following:
 - o What are the major obstacles preventing households from purchasing GRET insurance?
 - o How important is adverse selection in determining who applies for GRET insurance? Is there positive selection (where risk-averse people both buy insurance and engage in fewer risky behaviors)? How much, if at all, does adverse selection lessen as the price of insurance declines?
 - o This report will also provide results from the qualitative process evaluation.
2. One month later the Research Team will provide a policy brief based on the “Selection Report” to GRET, AFD, USAID and other donors. The report will also be translated into Khmer and provided to the Cambodian Ministries of Health and Finance.

Mid-point Evaluation Report, December 2009

1. The Research Team will provide a draft report to GRET, AFD, USAID and other donors, “Experimental Evaluation of GRET micro-health insurance: Mid-term report”, in December of 2009. The report will also be translated into Khmer and provided to the Cambodian Ministries of Health and Finance. This report will provide preliminary evidence on the outcomes to be studied in the final report (listed below).

Final Evaluation Report, December 2010

1. The Research Team will provide a draft report to GRET, AFD, USAID and other donors, “Draft Experimental Evaluation of GRET micro-health insurance” in September 2010, which will include:
 - a) Impact of SKY on health
 - b) Impact of SKY on economic outcomes
 - c) Impact of SKY on health-seeking behavior
 - d) Impact of SKY on different demographic groups (males/females, etc.)
2. GRET, AFD, USAID, and other donors will review the report internally and have the right to review it externally as well. These reviews will not take more than 2 months.
3. The Research Team will provide the final report to AFD, USAID and other donors, “Experimental Evaluation of GRET Micro-health insurance”, in December 2010.

4. One month later the Research Team will provide a policy brief based on the evaluation report to GRET, AFD, USAID, other donors, and Ministry officials.
5. The Research Team will engage in widespread dissemination of results, including seminars and presentations

To avoid selective publication of favorable evaluations, reduce costs for other evaluations, permit re-analysis, and increase transparency, the Research Team retains the right to:

- Disseminate the final evaluation report.
- Post survey instruments on the Web as soon as possible (in English and in Khmer).
- Post the evaluation data on the Web within 18 months of publication of the evaluation report in a fashion that preserves the confidentiality of respondents.

III. Timeline

See Attachment B.

IV. Budget

See Attachment C.

Please note that we are requesting that only one Cambodian PI be required to attend the annual Technical Committee meeting each year.

C. Research team

David Levine, Principal Investigator (SEGA, UC Berkeley)

David I. Levine is the Eugene E. and Catherine M. Trefethen Professor of Business Administration at the Haas School of Business at the University of California, Berkeley. He is also Chair of the University's Center for Health Research and Chair of the Advisory Board for Scientific Evaluation for Global Action. He is currently helping aid agencies in Europe, Africa Latin America and Asia carry out rigorous evaluations of development projects. Levine was an undergraduate at Berkeley, and has taught at the Haas School since receiving his Ph.D. in economics from Harvard University in 1987. Levine has also had visiting positions at the Sloan School of Management at MIT, the U.S. Department of Labor, and the Council of Economic Advisers.

Nhong Hema, Principal Investigator (RUPP)

Madame Nhong Hema has been the head of the psychology department at the Royal University of Phnom Penh (RUPP) since the department was established. A survivor of the Khmer Rouge, she was a student at RUPP from 1973 to 1975 when the city was evacuated. Hema escaped the systematic execution of the educated classes during the Pol Pot years and returned to the University in 1982 to continue her studies, receiving a degree in Psycho-Pedagogy in 1987. Hema saw a desperate need for psychological and psycho-social services for a deeply traumatized country and was instrumental in finding the resources required to found the first Cambodian Department of Psychology in 1993. Since then she has carried a full teaching load while managing the department and seeking resources to improve the quality of the course. After years of helping colleagues and students gain scholarships for post graduate study overseas, she herself took time off for a scholarship at Ateneo de Manila University in the Philippines and gained her MA in counselling in 2004.

Ian Ramage, Principal Investigator (Domrei and RUPP)

Ian Ramage, founder and Director of Domrei Research and Consulting, has a Master of Science in Psychology from the University of Wollongong, New South Wales. He worked as a Psychologist in several juvenile detention centres in Australia and, as a consultant, prepared interdepartmental policies and guidelines on child protection and the mentally ill for the New South Wales State Government. He also developed and Implemented Staff Training on many sensitive topics. He moved to Cambodia in 1999, where he became a visiting lecturer and course advisor at RUPP. He was also Ministry advisor on the operation of detention centres and government procedures, capacity building and planning, at the Ministry of Social Affairs, Labour, Vocational Training and Youth Rehabilitation (MOSALVY). Since 1999, Domrei, under his management, has successfully completed over 120 contracts from NGOs and UN agencies mostly in programme evaluations and health research.

Gabriel Pictet, Senior Evaluation Consultant (Domrei)

Gabriel Pictet has a Ph.D. in Population Economics from Sciences-Po Paris. He has conducted research and evaluations in the Philippines, the Congo, Burkina Faso, Senegal and since 2004 in Cambodia. He was a Mellon Fellow at the University of Montreal, then Consultant with the Population Council, based at the University of Ouagadougou to build the research capacity at UERD (now ISSP). In Ouagadougou he was technical assistant to the team that evaluated the USAID funded Bazega Community-based Family Planning Project, and helped set up the Ouagadougou Population Observatory. In 2004, he moved to Cambodia and joined Domrei as Co-Director, with Ian Ramage. Since then Gabriel has worked on 11 evaluation and research contracts in fields ranging from immunisation to community based disaster management.

Rachel Polimeni, Evaluation Consultant (SEGA, UC Berkeley)

Rachel Polimeni is a Ph.D. Candidate in Economics at the University of California, Berkeley, with concentrations in Economic Development and Demography, and serves as a SEGA Evaluation Consultant. She is supported by the National Institute of Child Health and Development training grant. Rachel worked on the design of the Health and Education portions of the 2006 Vietnam Living Standards Survey. She served as an Assistant Economist in the International Research division of the Federal Reserve Bank of New York from 2001-2003, and as a Research Analyst at The Brattle Group (Economic, Environmental and Management Consulting) from 1999-2001. She received a B.S. in Economics in 1999 from Duke University.

Raj Arunachalam, Evaluation Consultant (SEGA, UC Berkeley)

Raj Arunachalam is a Ph.D. Candidate in Economics at the University of California, Berkeley, with concentrations in Development Economics, Applied Microeconomics, and Economic History. He serves as an Evaluation Consultant and Graduate Research Fellow for SEGA. His dissertation, which will be completed in May 2007, examines the relationship between marriage markets and fertility in Bangladesh. Raj has also consulted for the U.S. Marine Corps (Center for Lessons Learned). He holds masters degrees in History and Economics from Berkeley, and a B.A. in Philosophy, Religion, and History from the University of Southern California.

Jean David Naudet, Director of the Evaluation and Capitalization Division, AFD

As an economist, he has previously held many positions in the development field. He was for several years a researcher in development economics in the research center DIAL specialized in aid effectiveness assessment and poverty analysis. He also coordinated research programs for the Sahel Club in the OECD. In addition, Naudet served as a consultant for several organizations: the World Bank, the European commission, the UNDP, and bilateral aid agencies. Before that, he worked as a program manager for the French cooperation. He has been working in the AFD since 2002.

Sarah Marniesse, Project Manager, Human Development Department, AFD

Marniesse is in charge of health projects at AFD including the microinsurance project in Cambodia. As an economist, she had previously worked in the Research Department for 6 years. She is a graduate of the National School of Statistics and Economic Administration (Paris) and has a Ph.D. in Economics from the University of Sorbonne, Paris.

Jocelyne Delarue, Evaluation Officer, AFD

Delarue is specifically in charge of fostering impact evaluations at AFD. She is completing her doctoral dissertation, which develops a new method for the impact assessment of agricultural projects on farmers' income. As an agro-economist, she was previously working as a program manager for the AFD, in Paris and in Guinea, where she was supervising rural development and microfinance projects.

For Organizational Capabilities, Collaboration, and Distribution of Labour, and Avenues of Communication,, please see Appendix.

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E. Appendix

A: Organizational Capabilities

The **University of California, Berkeley** is one of the world's preeminent research universities. Berkeley is consistently rated among the top institutions in the world for the quality and breadth of its research enterprise, for the scholarly distinction of its faculty, and for the excellence of its graduate programs. The Division of International and Area Studies (IAS) is the hub for global and international activity on the Berkeley campus. IAS develops and coordinates international research, teaching, and service programs, and also reaches out, through publications and activities, to assist other institutions who wish to bring a global perspective to their work. An important part of the University and the IAS research missions is to ensure that the public benefits from our research through developing practical applications of research results. An example of pursuit of this goal is the recent establishment of the Blum Center for Developing Economies which taps the expertise and resources of the university to focus on implementing solutions extrapolated from cutting-edge research while engaging students in transformative service programs. Berkeley's tradition of activism and public service enhances these efforts to create solutions to the global problem of poverty. IAS is developing and implementing new curriculum, such as *Global Poverty: Challenges and Hopes in the New Millennium*, in an effort to build on work already being done by Berkeley faculty in various schools and departments, and to integrate theory and practice. IAS is also managing other service-oriented projects for Berkeley faculty, such as a water delivery evaluation project in Africa.

Within UC Berkeley, ***Scientific Evaluation for Global Action*** (SEGA) is a multi-campus, interdisciplinary research center dedicated to the promotion, implementation, and study of rigorous evaluations of economic and health development programs in poor countries. One of SEGA's founding principles is that the knowledge gained from randomized trials and other forms of impact evaluation is an immensely valuable public good that can serve to improve policy-making around the world. SEGA strives to make cutting-edge research accessible to policymakers working on global development issues. SEGA brings together economists and public health researchers from across several departments and programs at the Departments of Economics, Agricultural and Resource Economics, Political Science, School of Public Health, and the Haas School of Business at UC Berkeley and several international health centers at UCSF. SEGA's researchers have been involved in some of the most important health and education projects in recent years, most prominently *Oportunidades* in Mexico and the *Primary School Deworming Project* in Kenya. Their research has been written up in scholarly journals such as *Econometrica* and *American Economic Review* as well as mainstream outlets such as the *New York Times*, *BusinessWeek*, and *The Economist*.

The Royal University of Phnom Penh (RUPP) has endured the rigours of hardship to become the oldest and largest institution of higher education in Cambodia. Today the university has over 8000 students across three campuses, and offers a wide range of high-quality courses within the Faculty of Science, the Faculty of Social Sciences and Humanities, and the Institute of Foreign Languages (IFL).

The ***Department of Psychology*** at RUPP is the only Psychology Department in the country of Cambodia. The Department of Psychology offers a Bachelor of Arts in Psychology with an aim to provide solid educational training in psychology for individuals who want to alleviate the many social and mental health problems particularly relevant to Cambodia. Given Cambodia's recent traumatic history of war, political transition, natural disasters, and rapid economic change, there is a high rate of people requiring psychological assistance.

The Center for Population Studies (CPS) was established in mid 2001 by the Prakas of the Ministry of Education, Youth and Sport (MoEYS) as a research and training center specializing in the issues of demography, population and development. It was inherited by RUPP from the UNFPA following its three previous sequential projects on Demography and Population Education that began in 1995. It continues to receive some assistance from the UNFPA and the Australian National University.

Domrei Research and Consulting has been operating in Cambodia since 1999 on short-term research and evaluation contracts. In recent years, the company has expanded and moved into large-scale surveys. At Domrei, we believe that there is a need in the Cambodian research community for improved data quality and ethical standards and that data analysis can and should be taken further than simple tabulations. While we have experience in diverse fields, research is our main area of expertise. Domrei's mission is to assist policymakers by providing scientifically sound knowledge about the needs, perceptions and behavior of Cambodians. Domrei specializes in research, monitoring and evaluation and has extensive experience in research design, literature reviews, community and program evaluation, qualitative and quantitative surveys, data analysis, writing and editing research reports. Domrei is committed to the complimentary values of quality and ethical accountability. To protect and ensure that these standards are maintained, Domrei follows three steps:

- Mandatory training in research ethics and data quality for all full time and contracted staff
- Internal ethical and quality review following internationally accepted guidelines
- Royal Government of Cambodia Ethics Committee Approval – for full research projects involving human subjects

Domrei has substantial experience in the specialized field of medium-scale surveys. Domrei surveys are characterized by simple effective instruments, efficient fieldwork, strict quality control, excellent data quality, respect for respondents and their communities, rapid accurate data entry and detailed professional analysis of data. Since the beginning of 2005, Domrei Research and Consulting has conducted eight surveys of over 1000 respondents (as well as several smaller surveys). See Attachment A for a complete list.

B. History of Collaboration

The Royal University of Phnom Penh (RUPP) and Domrei Research and Consulting have a long history of successful collaboration going back almost eight years. In 1999, one of the Principal Investigators, Mr. Ian Ramage began working for the Psychology Department at the Royal University of Phnom Penh (RUPP) to develop and then teach two courses for third and fourth year psychology students. Applied Psychology is a one semester 3 credit course exploring the application of theoretical knowledge acquired by students during their training. The course covers work in a variety of employment setting focusing on both clinical and research settings. The second course was Ethics in Psychology. This short course covered research ethics and ethics in clinical practice. Later the materials for this course were incorporated in the counseling and research strands of the main curriculum. These courses were taught by Mr. Ramage during the 1999-2000 and 2000-2001 academic years.

In 1999, Mr. Ramage also founded Domrei Consulting, a small consulting firm working primarily in the health sector in Cambodia. The first research project for the company began in 1999 on Suicide in

Cambodia and was conducted at RUPP with the assistance of both faculty and undergraduates. Over the years that followed Domrei conducted many more contracts in operations research and program evaluation. In 2004, Dr. Gabriel Pictet joined the company as Co-Director bringing a wealth of experience in large-scale research to the company. In the same year, Domrei Consulting became Domrei Research and Consulting to highlight an increased focus on research activities.

Since the company was founded, Domrei has employed over 100 undergraduates, graduates and faculty members from RUPP on both short and medium term research contracts related to various project held by Domrei. To date, all full time and permanent technical staff at Domrei have been graduates from either RUPP or the University of Medical Sciences.

C. Distribution of Labor

David I. Levine will be in charge of the design of rigorous evaluation. Rachel Polimeni will be the lead researcher at UC Berkeley, coordinating interactions between organizations in addition to working on design and analysis. Raj Arunachalam will contribute to study design and monitoring of survey implementation. This team will also draft the surveys, perform the statistical analysis of data, and draft the research reports. Levine will design the curriculum and one of the Berkeley team will co-teach the executive-level evaluation course in Cambodia. They will participate in outreach efforts in Cambodia, France, and elsewhere.

The team at Domrei will revise the survey, pre-test the survey, and implement the survey. They will carry out and write the qualitative process evaluation. They will work closely with the Berkeley team to write the policy analysis and recommendations sections for the several reports. Ian Ramage will co-teach the revised research curriculum at RUPP and the executive-level evaluation course. He, together with Nhong Hema, will also work on the revision of the undergraduate research curriculum, and will prepare annual papers for the socio-cultural research congress.

Nhong Hema will direct and manage the RUPP/Evaluation team link, selecting students to participate in different aspects of the evaluation, arranging their release from classes if required, and integrating the SKY evaluation into the research curriculum. She will also act as liaison to the RUPP Rector and the university senior management. Nhong will also assist in the re-writing/revision of the undergraduate research curriculum, and will co-teach parts of the revised research curriculum during the life of the project. Finally, she will prepare annual papers for the socio-cultural research congress and other papers where possible.

In general, the Psychology faculty at RUPP will help design the survey (e.g., the questions on risk-taking attitudes and behaviors) and review the survey. Students and faculty will participate in the qualitative evaluation through course-work and internships. Faculty will participate in the executive-level evaluation course as part of their continuing education.

Jocelyne Delarue will be responsible for the SKY program impact evaluation for AFD. She will facilitate meetings with policymakers and ensure that the study meets the needs of all evaluation partners and Cambodian policymakers. She will use the SKY evaluation as an example of a rigorous evaluation to help AFD learn about these research methods. Lastly, she will be responsible for the administrative aspects and financing of the impact evaluation for AFD.

Sarah Marniesse will assist the design of the experimental impact evaluation proposed by SEGA, with an emphasis on ensuring the study meets the goals of AFD and the Cambodian authorities. She will

participate in using the results for an in-house learning process about impact evaluations and health projects.

Jean David Naudet of AFD will be in charge of supervising the evaluation process. He will participate in giving a broad audience to this impact evaluation in the AFD and in evaluation networks (DAC, for instance). When necessary, he will also work with J. Delarue and S. Marniesse on the methodological aspects of the evaluation.

D. Collaboration on design, implementation, analysis and outreach

Each step of the project will involve collaboration among the multiple partners in Cambodia, France, and the United States.

- Both RUPP and Domrei bring a deep understanding of the local environment, while the UC Berkeley team has topical expertise in rigorous evaluations. We will work together in:
 - Designing the study and questionnaires;
 - Performing the qualitative process evaluation; and
 - Interpreting the results in ways that are sensitive to the culture and society of Cambodia;
 - Designing and teaching evaluation methods courses to Cambodian students and executives.
- The AFD team has insights into the needs of policymakers and the goals of AFD. They will work closely with the Cambodian and US partners to ensure:
 - The results are relevant to policymakers (both in Cambodia and the donor community)
 - The methodological expertise spreads from this project to AFD and the broader donor community; and
 - Any policy lessons move from this project to the broader policy community in Cambodia and elsewhere.
- All parties bring different forms of expertise to the policy-making process. Thus, the policy sections of all papers and the policy briefs will be written collaboratively. All parties will participate in the outreach process (that is, briefings and seminars for policymakers and donors in Cambodia and in global health care).

E. Avenues of Interaction

- Yearly visits to Cambodia (by the U.S. partners) and the United States (by the Cambodians)
- Phone conferences each week or more often during the design phase and initial roll-out of the survey;
- Repeated circulation via email of
 - Study design;
 - Questionnaire and research methods;
 - Survey schedules for the qualitative process evaluation;
 - Draft reports;
 - Etc.
- Project website and other groupware tools will archive emails, permit sharing of references, notes, drafts, and permit real-time sharing of data as it is entered.