

# **CORNELL**

UNIVERSITY

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**November 30, 2003**

**Final report  
Cornell University - Economic Analysis**

**Part I:  
Tasks performed and programmatic accomplishments**

As indicated in the cooperative agreement No 687-00-00-00093-00 between Cornell University and USAID, the final report will consist of two parts. Part I of the final report for the Ilo program – Cornell University covers the tasks performed and programmatic accomplishments over the length of the project, i.e. during the period February 2000 - November 2003. Part I of the final report consists of five sections: analytical activities, linkages with other programs, training and capacity building activities, dissemination and public dialogue, and a discussion of the monitoring of the results.

## 1. ANALYSIS

As promised in the proposal for the Ilo program, fifteen analytical reports were finished during the life of the project. They are discussed in detail hereafter. 500 copies of each report were printed and disseminated widely. Public presentations of the findings in these studies were done as well and all studies are available on the web. For most of the studies, there was broad coverage in written press, radio, and TV: summaries of the study were published in local newspapers and extracts of the public presentation and interviews of authors were on TV and radio.

### 1.1. Poverty dynamics: trends and causality

*S1: Evolution of Poverty in Madagascar: 1993-1999.* The analysis involves descriptive investigations of changes in poverty by region, as well as by economic sector and household characteristics in an effort to identify vulnerable groups that appear to be susceptible to persistent poverty. This analysis was based on the three national household surveys that INSTAT did in 1993, 1997 and 1999. This type of analysis was the first of its kind in Madagascar and was the first comprehensive analysis of the evolution of poverty in Madagascar. While the government has stated poverty alleviation as one of its prime objectives, no systematic monitoring of this objective was ever available before. Several presentations of the study were done.

*S2: Poverty dynamics in the province of Fianarantsoa.* Given that the province of Fianarantsoa is one of USAID's priority intervention areas, the methodology of the analysis at the national level was extended in more geographical detail for the province of Fianarantsoa. This study shows the high level of poverty in the province of Fianarantsoa and justifies the urgent need of interventions in this region.

*S3: Economic mobility: 1993-1999* The study on economic mobility between 1993 and 1999 was published jointly by INSTAT and Cornell. It uses a methodology to study poverty evolution over time. Given close collaboration with INSTAT staff, capacity has been built to use this methodology for future analysis and policy making.

*S4: Evolution in access to health and education, 1993-1999.* Intensive collaboration between Cornell and INSTAT resulted in a study on the evolution of access to health and education services and its link with poverty at the national level. The paper clearly lays out strategies for a better pro-poor policy in the health and education sector in Madagascar. A presentation of the final findings of the study was done during a workshop at USAID by Cornell's expert. The study was further presented on several occasions in Antananarivo and in provinces by our INSTAT collaborators (during a point INSTAT d'Information and during the provincial Journées Africaines de la Statistique in Mahajanga).

*S5: Trends in fiscal incidence.* Using an innovative approach, the report shows that, since the beginning of last decade, more of the tax burden has been put on the back of poorer

households as they have become more integrated in the formal economy. It also illustrates the regressive effect of the kerosene taxation.

*S6: Policy impacts on poverty.* The study looked at the type of growth strategy that will have the highest pay-off for poverty reduction. Four future sources of growth were identified and were evaluated: 1/ the free trade zone development; 2/ improved agricultural performance through improved rice and cassava productivity; 3/ improved road network; and 4/ tourism. The study shows the impact on poverty alleviation of each of the four growth strategies.

A whole-day long national seminar was organized on June 11<sup>th</sup> on “Développement Economique, Services sociaux et Pauvreté à Madagascar”. This seminar was organized as a stocktaking of knowledge on these themes. Around 120 people (representing different ministries, the presidency, donors, NGO’s, civil society, researchers, etc.) attended this workshop. The workshop got wide press coverage and good reports. All the studies discussed above were presented. All participants received a file with a synthesis for every study that was presented. The results of all the presentations were also put on Ilo’s webpage.

## **1.2. Agriculture and poverty**

*S7: Access to land and poverty - S8: Agricultural productivity and poverty - S9: Spatial linkages of agricultural productivity, poverty and environmental degradation*

Instead of three specific reports on these three themes, multiple reports and documents were produced that dealt with these themes (and that were published by FOFIFA or as policy briefs). The synthesis of the research on these three themes was then compiled in a book. The book gives an update on the state of agriculture and rural poverty in Madagascar. As there is currently a huge lack of updated statistics on the Malagasy agriculture and as most of the results that are published are nationally representative and are published for the first time in this book, we believe that this study constitutes currently the bible of agriculture and rural poverty in Madagascar. Moreover, an important achievement of the book is also that we were able to put together a team of international and national experts. The outline of the book is presented in annex 1. Francois Rasolo, president of the Equipe Permanente de Pilotage of the PADR (Action Plan for Rural Development) and also DG of FOFIFA wrote in his foreword that “...this books constitutes an invaluable contribution for the implementation of the DSRP and the PADR...”.

A joint series of Cornell and FOFIFA was started where research on the theme of poverty and agriculture in Madagascar was presented (Cahier d’études et de recherches en économie et sciences sociales). Eight studies were finished and published in this series. They include:

No.1 : L’accès à la terre et la pauvreté by Rolland Razafindraibe

No.2 : Options pour accroître le revenu et alléger la pauvreté en milieu rural à Madagascar by Francesco Goletti and Karl Rich

No. 3 : Déterminants de l'adoption des techniques de conservation de sol by Lalaina Randrianarison

No. 4 : SRI et les contraintes d'adoption des techniques améliorées by Christine Moser

No. 5: Tarification de l'eau, le nouveau Code de l'Eau et les pauvres: une estimation des demandes en services d'eau améliorés à Madagascar by Bart Minten, Rami Razafindralambo, Zaza Randriamiarana and Bruce Larson

No. 6: Etude d'impact de la déforestation sur la riziculture irriguée: cas des petits versants de Maroantsetra, Nord-Est de Madagascar by Jurg Brand, Bart Minten, et Jean-Claude Randrianarisoa

No. 7 : Situation actuelle du secteur transport à Madagascar et implications sur l'agriculture et la pauvreté by David Stifel, Chris Moser, Lalaina Randrianarison et Bart Minten

No. 8 : Déterminants de la productivité rizicole pour les petites et grandes exploitations agricoles : Cas des Hautes-Terres de Madagascar by Jean-Claude Randrianarisoa

A national one-day workshop was held on March 20<sup>th</sup> on “L'agriculture et la pauvreté à Madagascar” in hotel Panorama. 120 people (representing different ministries, PADR, donors, NGO's, civil society, researchers, etc.) attended this workshop. The workshop got wide press coverage and good reports. All participants received a file with a synthesis for every presentation. The results of each study were put on Ilo's webpage.

### **1.3. Urban labor markets**

*S10: Changes in urban labor markets - S11: Evolution of wage levels and changes in wage structure.* This important study looks at the effect of the zone franche development on the urban labor market. While whether export processing zones are beneficial for economic growth in general and for women in particular is a much debated question. The evidence in this paper suggests that they provide better economic opportunities – in terms of wages and job benefits – for semi-skilled women than are generally available to them elsewhere in the formal or informal economy. In particular, female (and male) wages are much higher in export processing than informal wage work. These are important findings given the insistence of the new government for further zone franche expansion.

### **1.4. Demand driven analysis**

*S12: The economic value of water.* Access to potable water remains problematic in large parts of Madagascar. Better access, through improved cost recovery, is one of objectives of the new national Water Law. This study illustrates, through a survey that was done in urban and rural Fianarantsoa, how an easy methodology can be applied to estimate the benefits and the willingness to pay for public investments in water supply projects. The results are of clear use for cost recovery purposes for organizations willing to invest in water supply infrastructure. The results of the analysis also shows that extreme care in setting tariffs is necessary when the new Water Law is put into place: a differential water pricing structure for public and private taps is suggested as the poor use the public taps disproportionately and as little impact on JIRAMA's revenue is shown by the lower prices at public taps. Several presentations were done on this topic. No less than eighty people

attended presentations of these results. One presentation was given to the people responsible for the evaluation of the national environmental program (PE II). “Tables rondes” for interested policy makers were organized in Antananarivo and in Fianarantsoa. In November, a whole day seminar was organized in Antananarivo in collaboration with the national environmental agency (ONE) and the USAID financed project PAGE to present, among other studies, the results of the water valuation.

*S13: The poor and cost recovery in the health sector.* The government of Madagascar made in 1998 dramatic policy changes on cost recovery in the health sector. No quantitative study on the impact of this change had ever been done and its effect was not well understood. A survey to study the impact of the policy change was organized in September 2001. 844 persons/patients and 40 administrators of public health centers in the three poorest provinces were interviewed. The analysis was finished in November and presented at a public forum (‘point INSTAT d’Information’). 500 copies of the policy brief were printed and were widely distributed. The results of the analysis were reported in newspapers, T.V. and radio. The results were a major input in the discussion of changes in policies in the health sector during the national workshop on the DSRP.

*S14: The political crisis: social and economic consequences and recommendations for policy.* Cornell was able to react quickly on the urgent need to evaluate the impact of the crisis. A survey was organized in the middle of the crisis (June 2002) under difficult circumstances to study the social and economic impact of the political crisis. A series of policy briefs was started that present the results of these studies. The themes that were treated included:

1. The impact of the crisis: results of a rapid rural appraisal
2. Example of the impact on the industrial sector: the cotton sub-sector (in collaboration with UTC Mahajanga)
3. The political crisis and welfare and income
4. The political crisis and food prices and PPN
5. The political crisis in the agricultural sector: impacts and implications for policy
6. The political crisis in the health sector: impacts and implications for policy (based on the commune survey; in collaboration with INSTAT)
7. The political crisis in the education sector: impacts and implications for policy (based on the commune survey; in collaboration with education workgroup)
8. The political crisis and insecurity
9. The political crisis and priorities for development

These studies and analysis filled a huge demand for updated information on the impact of the political crisis.

Moreover, Cornell worked closely with different institutions to monitor and analyze the impact of the crisis:

1. It collaborated closely with the national “food security group” (an organization of donors, initiated by USAID) to put a monitoring system in place on food and PPN prices all over the country during the crisis. More specifically, it helped in the analysis and the interpretation of these data (in collaboration with Linkages).
2. It collaborated with INSTAT on two initiatives:

a. Given the risk of devaluation and hyperinflation after the economic standstill during the crisis, INSTAT produced a study on “Devaluation and domestic prices: lessons from the previous devaluation in Madagascar”. This was presented in a public forum (point INSTAT d’Information), which was attended by over 300 people. Results were further disseminated widely by the national press.

b. Cornell provided financial and technical support to the start-up of price monitoring and index calculations by INSTAT that were stopped after the crisis unfolded. Given the impact of the crisis on price inflation, there was clearly an urgent need for such a yardstick. As the index is used as a basis for salary adjustments in the formal and government sector in Madagascar, employees and employers now had an objective measure for their discussions and subsequent wage adjustments.

*S15: Social and economic recovery after the crisis.* A survey, representative at the national level, was organized by the end of the year 2002 in 150 communes to monitor how schools, health centers and communities had recovered since the end of the political crisis and what policy could do to mitigate the effects of the aftermath of the crisis. For each theme, an effort was made to compare the situation pre-crisis, during crisis, and post-crisis. Five policy briefs, written in a language that was easily understandable by a broad public, were prepared that discussed the results of this monitoring survey. They included:

- Policy Brief 1: Monitoring and analysis of prices post-crisis,
- Policy Brief 2: Monitoring and analysis of the health sector post-crisis: the impact of the abolishment of the cost recovery policy
- Policy Brief 3: Welfare and food security: perceptions post-crisis of communal focus groups in rural areas
- Policy Brief 4: The security situation post-crisis: the impact of the new policies to improve security
- Policy Brief 5: Monitoring of the education sector post-crisis: impact of the abolishment of the public school tuition policy

To insure maximum use of the research results, questionnaires were circulated and discussed with different collaborators within the government and donor community before fielding the survey. Given the rapidly changing situation, Cornell University insured a quick turnout of analysis and presented the results at the end of January (only one and half month later than the end of the fieldwork) in a point INSTAT d’Information. The results showed the huge effects of the change in costs recovery policies on the use of public services. It also showed that the new policies were implemented unevenly in time and space. The World Bank used the dataset and the results of this study to evaluate the impact of an emergency credit of \$50 million that was given to the government after the crisis and that was partly used to cover the cost of free education and health care. The database on the education survey served later as a baseline for a study on budget tracking in the education sector (done by a consultant at the World Bank in collaboration with Bart Minten).

## **1.5. Post-crisis related studies (cost extension)**

USAID extended the contract with extra funds to study the socio-economic situation in Madagascar post-crisis. Two studies were finished, as promised.

### **1.5.1. Impact of the political crisis on poverty**

An important immediate impact of the political crisis for an already impoverished nation was that the disruption of the transportation network and markets deepened poverty. To gauge this effect, INSTAT fielded a nationally representative household living-standard measurement-type survey in December 2002/January 2003. Given the similarity in the 2001 and 2002 EPM surveys, changes in poverty were estimated consistently. Cornell University worked with the INSTAT technicians (three INSTAT collaborators traveled to Ithaca to work with Cornell experts) to do just that, and to characterize the nature of changes in poverty in the past year. The results of the study indicate that the poverty level in Madagascar had risen to 80% and that all groups of society had been hit equally hard by the crisis. The results of the analysis were presented in a public point INSTAT Information in July 2003.

### **1.5.2. Impact of the crisis and removal of cost-recovery policies on health service quality and utilization**

It was evident from informal accounts during the political crisis that the crisis had severe effects on the health sector and on the health of many segments of the population. With many households suffering severe and sudden declines in incomes, demand for health services fell. With transport networks not functioning and the general disruptions in administrative functioning, the quality of health services suffered through lack of supplies, oversight, and financing. Recognizing the devastating effects of the crisis on access to health care, one of the first acts of the new government was to rescind the policy of cost recovery (fees for certain medical services), known as participation financière (PFU), at public health centers. The timing of this policy change and awareness of it among the population--varied across the country.

The survey design, implementation, and data analysis was carried out by INSTAT in collaboration with the World Bank and Cornell University. The effort is part of the World Bank's broader health sector review that is being carried out in light of restructuring of the sector. This institutional collaboration insured that the study findings will have significant impacts on policy-making. INSTAT collaborators traveled to Ithaca and DC to work with the World Bank and Cornell University. Preliminary results were presented in the INSTAT organized workshop in June. A report was sent to USAID by the end of November. More analytical in-depth work is planned with this dataset and will be carried out under the USAID-funded SAGA project in collaboration with the World Bank.

## **2. CONTEXTUAL DEVELOPMENTS AND LINKAGES WITH OTHER PROGRAMS**

### **2.1. The Poverty Reduction Strategy Paper (PRSP)**

USAID amended the contract of PACT and Cornell University in the beginning of 2001 with an additional mandate to prepare civil society for participation in the making of the national DRSP, a policy paper that would lay out the policy framework for poverty alleviation of the Malagasy government for the next years. This strategy was developed in a participatory process through the organization of a national, six provincial and seven thematic workshops, respectively on rural development, environment, governance, gender, AIDS, health and education, and urban poverty. The thematic workshops were followed by the publication of a draft final PRSP, discussed in regional and national consultations in October and November.

Following the proposal that PACT and Cornell jointly developed, the work was divided into two distinct periods, a consultative period for the writing of the final PRSP and an implementation period. This was the first time in Madagascar that civil society was involved in the elaboration of this important policy plan. It is clear that civil society participation has influenced the content of this plan due to their representation during the seminars, due to information that was made available to them before the official seminars and due to the improved institutional organization of civil society. During a national forum of civil society before the final workshop, representatives of 80 civil society groups decided that their activities would not stop at the final workshop but that they would be involved in monitoring and evaluation of the DSRP as well (the Comité ad Hoc).

The final PRSP paper is richer from inputs by civil society organizations in health, rural development and education. A major contribution of the whole PRSP experience is that government officials were willing to debate proposals with representatives of civil society organizations and that the latter were no more seen as adversaries but as organizations that can help and contribute usefully in policy making.

### **2.2. Activities university of Antananarivo**

A small sub grant was given towards the study "Pauvreté et sortie de la pauvreté à Madagascar" by the University of Antananarivo. A multidisciplinary group (sociologists, economists, anthropologists) has organized, in collaboration with FADES (Fonds d'Appui au Développement de l'Enseignement Supérieur) and with help of local University students, surveys on different aspects on poverty in areas in and around Antananarivo. Results of the surveys were presented in a symposium on "La Démocratie au service du développement" on March 17-18-19, 2003. This symposium was organized by the Groupe Interdisciplinaire de Recherches of the Institut Catholique de Madagascar.

### **2.3. BASIS CRSP program**

A group with Chris Barrett as lead researcher implements a project on “rural markets, natural capital and dynamic poverty traps in East Africa” (financed by USAID through its BASIS CRSP program (Broadening Access and Strengthening Input Market Systems – Collaborative Research Support Program)). This program started in October 2001. We continued collaboration with this project in 2003 given the complementarities with our S9 theme. In this project, a bio-economic model will be developed incorporating environmental, economic, agronomic, and policy factors. The project is done in collaboration with the socio-economic unit, the livestock unit and the agronomic unit within FOFIFA and the agronomic department at the University of Antananarivo. A start-up stakeholder workshop was organized in Antananarivo in March 2003. More than 50 people, mostly stakeholders that are active in the agricultural and rural development field, were present. A technical workshop was further organized in Antsirabe in March 2003.

The Ilo program paid for a qualitative survey, through our subcontract with FOFIFA, to evaluate poverty dynamics and the impact of the crisis in the villages where BASIS CRSP did this survey. This allowed for better interpretation of the quantitative survey and gave an idea on the depth of the impact of the crisis and of coping mechanism at the household level post-crisis.

### 3. TRAINING AND CAPACITY BUILDING

Cornell conducted all analytical studies jointly with local partners, INSTAT and FOFIFA, and in some cases including other interested individuals or institutions as well. Each study started with an initial informal training session involving the key collaborators from each institution. In addition to this on-the-job training, several topics of importance and broad interest enough did merit broader formal training workshops. Over the life of the project, we organized 14 such trainings.

*Training 1. Introduction to economic modeling.* Beginning in April, Steven Haggblade conducted a Tana-based weekly workshop on economic modeling methods, in which participants built simple single-market models and progressively added elements each week until they constructed, themselves, a simple computable general equilibrium model (CGE) for Madagascar. Participants included technicians from INSTAT, FOFIFA, SPPM, the Central Bank of Madagascar and Pact. In addition to providing participants with a variety of simple but useful analytical tools, the background and skills they acquired, helped them prepare them for the full-scale CGE work that was conducted later on.

*Training 2. Poverty lines and anthropometry.* David Stifel, Menno Pradhan, and Peter Glick conducted a seminar on alternate methods of constructing poverty line as well as on evaluation of anthropometry indicators of welfare. Eight key collaborators traveled to Ithaca for 3 weeks in July 2000 for intensive training. Training involved use of the Stata statistical and econometric software and concepts of poverty analysis. Throughout the three week training session, the participants were assigned daily computer lab exercises in which they applied the concepts introduced in the lectures. The culmination was a set of presentations given by teams of participants.

*Training 3. Environmental economics.* In July, Francis Randrianarison (ONE), Hughes Rajohnson (University of Antananarivo) and Bart Minten (Cornell) conducted a 4-day workshop in Antananarivo on methods of environmental economic analysis. This served a dual purpose, in preparing local analysts for work on the spatial work linking poverty, agriculture and the environment (S9) as well as providing support for the Page (Projet d'Appui à la Gestion de l'Environnement, financed by USAID) case studies on economic valuation of environmental assets.

*Training 4. Statistical analysis and STATA training.* In November-December, two one-week long training sessions were organized in collaboration with the PAGE environmental economics program (training was done by Mamisoa Razakamanantsoa of INSTAT (previously trained in Ithaca)). Collaborators from the ten case studies, from FOFIFA, and from University of Antananarivo participated in this training.

*Training 5. Computable General Equilibrium (CGE) training.* At the end of January, Yazid Dissou, an expert financed by Cornell University, traveled to Antananarivo to work with Malagasy colleagues on updating the Madagascar CGE model. The expert conducted a one week long applied workshop presenting the model and applying it to

issues of current importance. The 20 participants included key people from various institutions such as INSTAT, SPPM, the Central Bank, Ministry of Finance, etc.. The participants used the updated CGE model to study the distributional consequences of rising world oil prices and the impact of increased agricultural production on the Malagasy economy. A synthesis report was prepared. An evaluation by the participants of the workshop showed the high appreciation for the workshop and the utility of this type of economic tool.

*Training 6. Statistical and economic analysis and improved diffusion (for regional INSTAT directors).* A training of 6 days was held in the beginning of the year to train regional directors in the use of STATA and in the analysis of INSTAT datasets such as the EPM, price data, etc. At the same time, they – as well as collaborators in the DRID-INSTAT - were trained in dissemination techniques (in collaboration with PACT).

*Training 7. Applied economic analysis.* A lecture series was organized for senior economist students at the University of Antananarivo at the end of 2001. Around 60 students attended these lectures. The lectures focused on the use of economic tools for the analysis of agricultural problems (demand and supply modeling). Lectures were very well received by the students due to their applied nature, the examples of Madagascar that were used, and due to the course material that was distributed.

*Training 8. GIS analysis.* A GIS course was organized by a Cornell expert in the last week of November. This course was attended by around 20 collaborators of INSTAT, FOFIFA and the Ilo program. During the course, basic GIS principles were explained and put in practice through the use of the ArcView software by participants. Participants are now able to map socio-economic information and to use spatial tools for economic analysis.

*Training 9. Applied economics.* In October 2002, Bart Minten gave a series (six) of lectures for last-year economic undergraduate students at the University on applied economics. Lectures notes were distributed and discussed. Around 60 students attended these lectures.

*Training 10. Bio-economic modeling.* In November 2002, a bio-economic modeling course was given in Ithaca by the BASIS CRSP program. Ilo collaborators participated.

*Training 11. Agricultural and environmental economics.* In December 2002, Bart Minten participated in teaching in the new doctoral program in rural development that was started up at the University of Antananarivo. He gave a series of lectures on the economics of agriculture in Madagascar. Around thirty-five doctoral students attended these lectures.

*Training 12. Applied Computable General Equilibrium (CGE) Modeling.* In February, Malagasy collaborators of INSTAT traveled to Washington DC to work with Paul Dorosh (IFPRI) and Steve Haggblade (IFPRI) on the CGE model of Madagascar and apply it to the issues that were identified during the pre-study workshop. Steven

Haggblade (IFPRI) and Christen Lungren (IFPRI) led a local workshop on the updated CGE model. 20 technicians attended this workshop. A manual on the use of the CGE model was prepared and distributed.

*Training 13. Environmental valuation.* Conservation International organized a one week long training in environmental economics in Mantsoa for local policy makers. Bart Minten helped with the organization of this workshop and taught the theory as well as practical implementation of environmental valuation (travel cost method, hedonic pricing, contingent valuation). Course material was distributed (papers as well as a CD).

*Training 14. Supervision DEA students in rural development.* Bart Minten supervised the thesis of five students out of the newly started up DEA program in rural development at the Ecole Supérieure de Sciences Agronomiques (ESSA) at the University of Antananarivo. The result of their research was presented, together with the thesis of other students, during three “Journées Scientifiques” at the department of Agro-management of the University of Antananarivo.

## 4. DISSEMINATION AND PUBLIC DIALOGUE

We worked for our dissemination efforts with the communication departments of INSTAT and FOFIFA and through improved regional outreach.

*4.1. INSTAT.* Improvement in outreach of research results of studies done in collaboration with INSTAT was done together with the DRID department in INSTAT. The dissemination department was restructured and training sessions in outreach were held in collaboration with PACT. We helped INSTAT in the development of its webpage that became operational in 2003. The Ilo program helped INSTAT to be hooked up to the Internet and paid for an internal server. Given the insistence of the Ilo program on outreach, the program was able to change the information culture at INSTAT and we believe the organization is now more outward oriented. We believe that there is now a culture in INSTAT towards the organization of dissemination activities when the results of studies or new statistics are available. In the year 2003, INSTAT organized on average one outreach activity every two weeks.

*4.2. FOFIFA.* Cornell worked closely with FOFIFA in the organization of the seminar March 20th on agriculture and poverty. They also published together with the communication unit of FOFIFA the series on “Cahiers d’études et de recherches en économie et sciences sociales”.

*4.3. Regional outreach and information systems.* In 2001, Cornell and PACT started up a Unité Technique in both of USAID’s priority regions, Fianarantsoa and Mahajanga. Each Unité Technique was made up of a regional economist, financed by Cornell University, and of a GIS specialist, financed by PACT. Cornell assured technical support for the economic analysis done by this unit. The Unité Technique worked closely with the provincial authorities to improve dissemination of information at the provincial level. The Unité technique that was started in Mahajanga and Fianarantsoa helped to improve regional outreach and allowed to better respond to regional demand for economic analysis. The Unité Technique of Mahajanga finalized for example a “Tableau de Bord Social” for that province. This is the first time that provincial statistics were put together in a comprehensive form and easily understandable by policy makers. The work of the provincial Unité technique was also used towards further mobilization and information of civil society (used for mobilization of groupes de discussion Tambatra, CEDII, and EPI) with respect to the PRSP process.

*4.4. Pre-study workshops analytical studies.* A half-day workshop for each analytical study was organized prior to undertaking analytical work. Participants included the principal researchers at Cornell/INSTAT/FOFIFA, Pact, a small group of representatives from civil society and government with experience and interest in the topic, and analysts with experience in the matter. This insured that research was conducted on topics that were policy relevant.

*4.5. Electronic outreach.* A particular effort was done to increase outreach of studies by e-mail and Internet. A webpage was started by the Ilo program where users could get

access to all studies, as well as to some datasets, done by Cornell ([www.ilo.cornell.edu](http://www.ilo.cornell.edu)). An e-mail distribution system was put in place where results of studies were sent to as soon as studies were available. It is believed that this increased outreach substantially. Statistics on the webpage indicate that there were around 1600 visits on the webpage of Ilo during the month of October 2003. This illustrates the high demand for the type of studies done by Cornell.

*4.6. Media study.* Good governance is one of the important objectives of the new government, as shown in its priorities set in the PRSP. The media plays an extremely important role to achieve this. However, the current working of the media is not well understood. Cornell and PACT organized therefore jointly a study on the media (*Les médias malgaches: floraison spontanée d'une ressource nationale* by Pascal Andriantsoa, Nancy Andriasendrarivony, Vincent Carbonneau, Steven Haggblade, Bart Minten, Mamy Rakotojaona, Frederick Rakotovoavy, Harivelle Sarindra Razafinimanana). This study on the Malagasy media aimed to answer the following questions: Where is this explosive growth of media coming from? Will private investments be able to sustain this sector? Which types of messages and programs are being broadcasted in the media? Which part of the population is targeted? What is the role of the government? The study was put on the Ilo webpage at the end of October.

## 5. MONITORING RESULTS

5.1. As monitoring indicator, we proposed in the Ilo proposal "Number of quality economic studies disseminated and discussed in public fora."

*In 2000:*

1. A point INSTAT d'Information was held on May 4<sup>th</sup> on "seasonality of food consumption of poor households in Madagascar". The presentation was well attended and there was ample press conference on TV and in major newspapers. An additional presentation was held at a gathering of journalists at the ACC.
2. A second study was presented and discussed during the formal presentation of the fourth issue of "Economie de Madagascar" in October 2000. The study "Estimation des élasticités de la demande à Madagascar à partir d'un modèle AIDS" was presented by Rachel Ravelosoa.

*In 2001:*

1. S1: Evolution of Poverty in Madagascar: 1993-1999; presented in a point INSTAT d'Information in Tana and in presentation at USAID.
2. S2: Poverty dynamics in the province of Fianarantsoa; presented in a point INSTAT d'Information.
3. S4: Evolution in access to health and education, 1993-1999; presented in a point INSTAT d'Information in Antananarivo and at seminar in USAID.
4. S7: Poverty and access to agricultural land. A public presentation was done by a Cornell expert at the MADIO/DIAL international conference on poverty in Antananarivo<sup>1</sup>. He presented a paper on the link between land extensification and poverty. No less than fifty people attended this presentation.
5. S12 : Water pricing and the poor. Several presentations were done on this topic. No less than eighty people attended presentations of these results. One presentation was given to the people responsible for the evaluation of the national environmental program (PE II). "Tables rondes" for interested policy makers were organized in Antananarivo and in Fianarantsoa. In November, a whole day seminar was organized in Antananarivo in collaboration with the national environmental agency (ONE) and the USAID financed project PAGE to present, among other studies, the results of the water valuation.
6. S13: The poor and cost recovery in the health sector. The analysis was finished in November 2001 and presented at a point INSTAT d'Information. The results of the analysis were covered in newspapers, T.V. and radio. The results were a major input in the discussion of changes in policies in the health sector during the national workshop on the DSRP.

*In 2002/2003:*

1. S14: Impact of the crisis - point INSTAT d'Information;
2. S15: Recovery after crisis – point INSTAT d'Information;

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<sup>1</sup> Dial/Ird, RESAL, and Madio organized an international seminar on "La pauvreté à Madagascar : Etat des lieux, les politiques de réduction et leur mise en oeuvre" on February 5<sup>th</sup> -7<sup>th</sup> in Antananarivo.

3. National seminar on “Développement économique, services sociaux et pauvreté à Madagascar” in collaboration with INSTAT – hotel Panorama;
4. National seminar on “L’agriculture et la pauvreté à Madagascar” in collaboration with FOFIFA – hotel Panorama;
5. The dynamics in urban labor markets – point INSTAT Information;
6. La pauvreté après-crise (presentation of the new results on poverty) – point INSTAT d'Information;
7. Outreach activities of economic policy towards policy makers: results and example of the Ilo program – presentation during BASIS CRSP stakeholder meeting.

5.2. We proposed in our proposal a second results indicator: “Number of requests for follow-up or related analysis by civil society or government.” One demand driven study in the year 2000 (cost recovery and health care) and one in the year 2001 (water pricing and the poor) was identified. We identified and finished two demand driven studies in the period 2002/2003, i.e. 1/ impact of the crisis and 2/ recovery after the crisis.

**Table 1: Performance Data Indicators Ilo Program**

<b>Indicator 1:</b> <i>UNIT OF MEASURE: Number of quality economic studies disseminated and discussed in public fora per year</i> <i>INDICATOR/DESCRIPTION: Presentations made in public fora, i.e. accessible to a broad audience and announced in the media; broad dissemination of written reports and policy briefs.</i>	Year	Studies	
		Planned	Actual
	2000 (B)	2	2
	2001	6	6
	2002/2003	7	7
<b>Indicator 2:</b> <i>UNIT OF MEASURE: Number of requests for follow-up or related analysis by civil society or government</i> <i>INDICATOR/DESCRIPTION: The requests from civil society, stakeholders or decision makers through client-focused targeted discussion workshops and trough suggestions of the Economic Research Policy Group and the National Issues Network</i>		Analysis on request	
		Planned	Actual
	2000 (B)	1	1
	2001	1	1
	2002/2003	2	2

## ANNEX 1: OUTLINE AGRICULTURE AND POVERTY BOOK

### L'AGRICULTURE ET LA PAUVRETE RURALE A MADAGASCAR

#### Préface

*DG FOFIFA - DG INSTAT*

#### Introduction

*Bart Minten, Cornell University ; Jean-Claude Randrianarisoa, FOFIFA; Lalaina Randrianarison, Cornell University*

#### Thème 1. Intrants et technologies agricoles

- 1.1. Utilisation et accès aux engrais chimiques  
*Jean-Claude Randrianarisoa, FOFIFA ; Bart Minten, Cornell University*
- 1.2. Bénéfices et contraintes dans l'adoption des techniques de conservation des sols sur les Hautes-Terres Malgaches  
*Lalaina Randrianarison, Cornell University*
- 1.3. Relations terres agricoles – pauvreté  
*Bart Minten, Cornell University ; Rolland Razafindraibe, FOFIFA*
- 1.4. La main-d'œuvre agricole  
*Bart Minten, Cornell University ; Lalaina Randrianarison, Cornell University*
- 1.5. Retour aux intrants agricoles, productivité agricole et pauvreté  
*Jean-Claude Randrianarisoa, FOFIFA ; Bart Minten, Cornell University*

#### Thème 2. La riziculture

- 2.1. Appréciations sur la diffusion des variétés de riz  
*Jean-Claude Randrianarisoa, FOFIFA*
- 2.2. Le système de riziculture intensif (SRI) à Madagascar: situation actuelle et perspectives d'avenir  
*Christine Moser, Cornell University ; Chris Barrett, Cornell University*
- 2.3. Analyse spatiale de la production rizicole malgache  
*Jean-Claude Randrianarisoa, FOFIFA*
- 2.4. Les déterminants de la productivité rizicole pour les petites et grandes exploitations agricoles : cas des Hautes-Terres de Madagascar  
*Jean-Claude Randrianarisoa, FOFIFA*
- 2.5. Etude sur la formation des prix du riz local  
*Bart Minten, Cornell University ; Lalaina Randrianarison, Cornell University*

#### Thème 3. La pauvreté et les activités agricoles et non-agricoles

- 3.1. Cartographie de la pauvreté  
*Johan Mistiaen, Banque Mondiale ; Berk Ozler, Banque Mondiale ; Tiaray Razafimanantena, INSTAT ; Jean Razafindravonona, INSTAT*
- 3.2. Production et revenu agricole des producteurs agricoles et pauvreté  
*Bart Minten, Cornell University*
- 3.3. Revenus extra-agricoles des ménages ruraux et pauvreté  
*Lalaina Randrianarison, Cornell University*

- 3.4. Elevage et pauvreté  
*Eliane Ralison, FOFIFA*
- 3.5. Accès aux ressources halieutiques et place de la pêche dans l'économie rurale  
*Eliane Ralison, FOFIFA ; Bart Minten, Cornell University*

#### **Thème 4. Le milieu institutionnel et l'environnement**

- 4.1. Eloignement, routes, agriculture et pauvreté  
*David Stifel, Banque Mondiale/Cornell University ; Bart Minten, Cornell University ; Lalaina Randrianarison, Cornell University*
- 4.2. Risques, production agricole et pauvreté  
*Milaso Cherel-Robson, SICIAV-FAO; Bart Minten, Cornell University*
- 4.3. Environnement, agriculture et pauvreté  
*Bart Minten, Cornell University ; Eliane Ralison, FOFIFA*
- 4.4. Mythes et réalités sur l'aménagement des bassins-versants : effet de la déforestation des versants sur la productivité des bas-fonds  
*Jürg Brand, DEC ; Tim Healy, Aquaterre ; Andy Keck, IRG ; Bart Minten, Cornell University; Jean-Claude Randrianarisoa, FOFIFA*
- 4.5. Forêts : Usages et menaces sur une ressource de valeur  
*Bart Minten, Cornell University ; Chris Moser, Cornell University*

#### **Thème 5. Implications pour la politique agricole**

- 5.1 La voix des clients : les priorités de développement d'après une approche participative  
*Milaso Cherel-Robson, SICIAV-FAO ; Bart Minten, Cornell University*
- 5.2. Analyse des impacts de la politique agricole sur la pauvreté : résultats d'un modèle multimarché  
*Jean-Claude Randrianarisoa, FOFIFA ; David Stifel, Cornell University*
- 5.3. Effets des investissements en milieu rural sur la pauvreté  
*Paul Dorsh, Banque Mondiale ; Steven Haggblade, IFPRI ; Christen Lungren, IFPRI ; Zazà Randriamiarana, INSTAT ; Tiaray Razafimanantena, INSTAT*
- 5.4. Politiques, agriculture et pauvreté à Madagascar : synthèse des connaissances actuelles  
*Chris Barrett, Cornell University ; Bart Minten, Cornell University*

#### **Références**

## **ANNEX 2: EXAMPLES OF THE IMPACT OF CORNELL'S RESEARCH**

### **1. The poverty dynamics study**

For its deliverable S1, Cornell did a study on poverty dynamics in Madagascar, using the national household surveys that were gathered by INSTAT. Prior to this study, a World Bank team had done a poverty profile in 1996 based on the national household survey of 1993. However, given that this study was done by Washington experts with no Malagasy involvement, these numbers and underlying analysis were always referred to as the 'numbers of the Bank'. This hindered an agreement on the analysis of the existing situation and therefore the development of sensible poverty alleviation policies. Through a strategic choice of partners, Cornell wanted to get its numbers and implications of its analysis to be broadly accepted, by donors and local institutions alike. Therefore, a team comprising individuals from different backgrounds was put in place: Jean Razafindravonona, team leader of the local institution INSTAT, David Stifel of Cornell University, and Stefano Paternostro of the World Bank. The hope was that this set-up insured that analysis, numbers, and policy implications would be broadly accepted.

The poverty dynamics study has been published by three organizations: it came out as a INSTAT publication and has been published as a paper both at the World Bank and at Cornell University. The results of the analysis were presented several times by Cornell and INSTAT collaborators: at a workshop at USAID, at a public presentation by INSTAT (Point Instat d'Information), at an international conference on the state of poverty in Madagascar<sup>2</sup>, at the preparatory workshop for the DSRP (Document Stratégique sur la Réduction de la Pauvreté), and at other occasions.

The numbers and the analysis are now widely used in Madagascar and are the benchmark for any poverty reduction strategy. For example, this paper was the basis for the analytical part of the DSRP (Document Stratégique pour la Réduction de la Pauvreté), the national strategy that was developed this year by the Malagasy government. This strategy lays out the policies that the government would like to put in place in the next years to alleviate poverty in Madagascar and is therefore the key policy document for years to come. The analysis was further used in the development of USAID's strategic plan for 2003-2008. The poverty dynamics paper (and the paper of Cornell and INSTAT on access to health and education services) was referred to as 'key analytical pieces' for the development of the Country Assistance Strategy of the World Bank. It was also referred to in IMF's report on Madagascar. Because the study was the product of a collaborative effort, it allowed government and donors to agree on numbers and on the analysis and monitoring of the current poverty situation. Therefore, this study contributed to an informed policy debate and has helped in establishing a strategy based on facts and analysis.

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<sup>2</sup> Dial/Ird, RESAL, and Madio organized an international seminar on "La pauvreté à Madagascar : Etat des lieux, les politiques de réduction et leur mise en oeuvre" on February 5<sup>th</sup> -7<sup>th</sup> in Antananarivo.

## **2. The poor and cost recovery in the health sector**

Under the demand driven studies, a commission of wise men (GRPE-'Groupe de Réflexion sur les Politiques Economiques') that was established with the purpose to assist the Ilo program in the choice of relevant research topics suggested to do a study on the effect of cost recovery policies in the health sector on the poor. It was felt that such a study could be of great use to influence policy making to improve the well-being of the poor.

The survey was organized in September 2001 in the three poorest provinces of Madagascar. The results of the survey showed that since the change in health policies (increased spending, decentralization, cost recovery), public health care centers function better: the quality of health care services improved; medicines are more readily available; and patients pay less informally. However, the results of the survey also showed that the cost recovery system had negative implications, especially for the poor as visits to the public health facilities dropped, particularly by the poor and during the lean period; the poor get no special treatment: they pay the same price as everybody else and; the poor use less medicines and rely more on alternative, less expensive, and traditional sources of health services.

While there was anecdotic evidence that this was the situation, it was the first time that the effects of cost recovery on the poor were explicitly quantified. This led to a more informed policy debate during the national workshop on the DSRP. MIDI, one of the leading national newspapers, reported for example that, based on the results of this study, a policy change was proposed under the new DSRP program where a special budget at the commune level would be put in place to pay for the health care costs of poor people.

The keys to the success of the impact of this analysis were the following: 1. timing: the results of the study became available exactly before the decisions had to be taken for changes in the national health policy; 2. outreach: it was made sure that outreach of the results was organized in different ways: a. bottom-up: our partner PACT used the results of the study during the organization of the national forum of the civil society in preparation of the DSRP; b. bottom-down: key policy setters in the government and in the donor community were involved from the design to the analytical stage of the survey; different informal meetings with these key players were held; c. point INSTAT d'Information : the public was informed of the results of this study during a public presentation (and covered by local media) organized by INSTAT; d. written support: a policy brief was prepared that got through different rounds of rewording to make message as clear and to the point as possible.

## **3. Impact of training and capacity building activities**

**Case 1:** In the first year of the project, Cornell University organized a course on poverty analysis for eight Malagasy collaborators in Ithaca. In 2001, Cornell University, through our resident researcher David Stifel, continued to work very closely with these Malagasy

collaborators on poverty analysis. Consequently, INSTAT is viewed as the center of poverty analysis in Madagascar and obtained, for example, a contract of the UNDP to do a series of disaggregated and detailed regional poverty studies in the three poorest provinces (Toliara, Fianarantsoa, and Mahajanga).

**Case 2:** Thirty people were trained in environmental economics during a four-day course in the first year of the project by experts of Cornell University, ONE and the University of Antananarivo. Ten of them were selected to do an applied research project on environmental economics. These studies were started in 2000 and finished in 2001. Three researchers of INSTAT were responsible for a case study. The expert of Cornell University supervised four of these case studies. Consequently, INSTAT obtained the contract to do the economic analysis of the impact of the national Environmental Program (PE II). One of the trainees was hired by the World Bank to work on the preparation of the new Environmental Program (PE III) and the rural review study.

**Case 3:** In the beginning of 2001, Cornell University organized a workshop on the Computable General Equilibrium (CGE) model of Madagascar. 20 participants of different institutions participated. Consequently, one of the participants (Joe Rabeantoanoro of the study department of the Central Bank of Madagascar) extended the model with a monetary component. He presented this new model in a seminar at the Central Bank and now uses it for planning and evaluation of monetary policies at the Central Bank.

#### **4. The impact of the political crisis**

The Malagasy economy was hit hard due to roadblocks and lack of fuel during the political crisis. However, given the rapid changes in the economy of the country, no updated numbers and analysis existed on the havoc the crisis had caused and therefore on priorities for policies. In difficult circumstances, Cornell put in place a representative survey in June 2002 in half of Madagascar's provinces to address this urgent need. Interviews were organized with communal focus groups and a large number of health centers and schools were visited to assess the impact. The results were presented one month later to a broad public. It was made sure that the information, described in short policy briefs on different sectors, was presented in a format easily accessible to policy makers. The presentation was attended by several hundreds of people and was widely covered by national media.

One week after the public dissemination of the results, the new government and all the donors of Madagascar organized a meeting (the Friends of Madagascar meeting in Paris in July 2002) to discuss a new aid package for the country. As this survey was the only statistical source on the impact of the crisis, the results were immediately used by donors and the government alike and formed the analytical background for the economic strategy that both agreed upon to get the country up and running again.

Two examples illustrate the direct effect of the analysis on post-crisis policy making. The survey of the health sector showed that visits to health centers dropped by more than 30% during the crisis partly because medicines were not available anymore (due to the transportation problems) and partly because the local population did not have the

liquidity to pay for the health services. While the effect on the supply side was well anticipated, this was less so for the demand side. It was subsequently decided by the government that cost recovery policies would be revised for a temporary post-crisis period to mitigate the effect of the reduced income on formal health care use. A second example concerns the rural security problem in the country. In the survey, most of the communes mentioned a large increase of crop and cattle theft since the crisis. The government acted accordingly in the post-crisis period to deal with this problem. An anti-dahalo (cattle theft) policy was put in place and reducing insecurity was made one of the priorities in the new government budget.

## **5. Poverty and policy priorities**

Another example of the impact on high level policy making by Cornell University were its studies on policy priorities for poverty reduction. While Madagascar showed high economic growth rates between 1999 and 2001 and the country seemingly progressed tremendously - to an outside visitor's view - during that period, the impact of this growth on poverty reduction for the country as a whole was not clear. Cornell helped the local national institution for statistics (INSTAT) in the design, implementation, and analysis of the new household survey. Moreover, in an innovative survey organized by Cornell University, all Malagasy communes were visited in 2001 with the purpose to better understand the situation on the ground and to solicit the opinion of communal focus groups on investment priorities.

The results of the analysis of this household survey showed that, while relative poverty declined slightly during that period, the absolute number of poor still increased. The situation of the extreme poor even worsened. Hence, the positive overall economic growth that was noticed between 1999 and 2001 did seemingly benefit only a small part of the population. The commune census showed that the priorities of development as perceived by the local population - using a participatory approach - were agriculture, roads, and security. These results indicated that the growth strategy followed during the 1999-2001 period (where these three sectors did not show large changes) was not tailored to the demands of a big part of the local population.

The results of this study were presented to a broad public in October 2002 and were widely covered by all national newspapers as well as TV and radio. They initiated an informed debate at the national level as the results were for example used as background material for several meetings on post-crisis policy priorities setting for rapid poverty reduction between the president, the government, and the World Bank. The results of these meetings are reflected in the new strategic decisions by government and donors alike.

## **6. Cornell's research and agricultural and environmental policy in Madagascar**

Policy making in agricultural and environmental policy in Madagascar has relied heavily on the research conducted by the Ilo program. Two examples illustrate the case in point:

1. The World Bank is required to make a strategic analytical report on investments in different sectors before they embark in operational activities. This year, the World Bank was obliged to finish an “agricultural and environmental sector review in Madagascar”. This report relied heavily on the work that Cornell did in collaboration with FOFIFA and INSTAT. Bart Minten, the COP of the Ilo program, was asked to be the only external (i.e. outside the World Bank) peer reviewer on this report and was asked to present comments during the final presentation. These comments were taken into consideration for the final version of the report. The initial report recommended f. ex. a hike in local rice prices through increased import taxes on rice. Cornell’s research had shown that poorer people might be hurt by those higher rice prices (as they are mostly net rice buyers). Moreover, we argued that improved rice profitability might lead to more extensification and environmental degradation given the bad shape of current irrigation infrastructure. This recommendation for higher import taxes on rice was therefore taken out of the final report.
2. The economic analysis for the EP3 (the Environmental Program 3) project was finished this year. Before the economic analysis was started, there were arguments that such a huge project – involving multiple donors - was not justified on economic grounds and should therefore not happen or should be scaled back. A French environmental economist, Jean-Christophe Carrett, who conducted the economic analysis, relied heavily on the published analysis and the numbers out of the Ilo program studies. He was therefore able to show, based on a firm basis that one of the huge benefits of forest preservation is through avoidance of sedimentation of fields for rice farmers downstream. This economic justification is more important than the benefits coming out of tourism and is therefore the main argument to justify an environmental program aimed at forest preservation.

## **7. The commune census**

A commune census in Madagascar was organized by the Ilo program of Cornell University at the end of 2001. The survey was organized in collaboration with the National Center for Applied Research for Rural Development (FOFIFA) and the National Statistical Institute (INSTAT). Field data collection happened during the period of September 2001 until December 2001. The survey allowed for the construction of a unique database on Madagascar as 1385 of the 1395 communes had been visited. This is the first time that such an elaborate dataset exists at the national level. Only 10 communes could not be visited due to insecurity and communication problems.

As expected, there was a huge demand for this type of spatially disaggregated datasets. Around 50 organizations have been using this dataset for the programming of their project activities. The more notable ones are:

1. The European Union is currently planning a 100 million \$ project in the south of the country (the province of Toliara and Fianarantsoa). Based on our datasets, researchers at the European Union made maps and prepared background information for every region in the two provinces. This information was then

- discussed with local authorities in the region and helped in the objective setting of priorities in interventions in the regions.
2. The PST program (the national transport program) used the results of our studies to show the importance of investments in roads for poverty alleviation and agricultural productivity. They also used our data on transport costs for the setting of priorities in road investments and for the choice of ‘centers of development’ (‘pôles de développement’) characterized by high potential.

Moreover, as INSTAT noticed the high demand for this type of information, they decided to use their own funds (HIPIC funds) to conduct such a second commune census to allow for comparison with the first survey. This census is currently in the field. Hence, the Ilo program of Cornell University was able to start up a new powerful tool that will sustainably be used in the country for monitoring and evaluation activities.

### **8. Cornell and the PRSP process**

Cornell was highly influential with their research being used at the policy level. During the year 2003, the government finalized their Poverty Reduction Strategy Paper (PRSP), a strategic national document that reflects the choices that the government is going to make in the short- and medium term to alleviate poverty. The PRSP document refers at multiple occasions to research that the Ilo program of Cornell University did together with INSTAT. This shows that Cornell’s research was perceived by policy makers to be of high importance and of extreme relevance and help towards the strategic choices that the government faced.

Moreover, Cornell worked with PACT on getting the PRSP process as participative as possible and supported with extra funds allocated to them by USAID the costs of participation of civil society (as well as getting the information out to them). Therefore, the Ilo program helped in getting broad-based support for this plan.

### **9. The CGE model**

One of the major changes that the new government implemented was the “détaxation” of certain consumption and investment goods at the end of 2003. INSTAT technicians were asked by the Minister of Economy to evaluate the impact of this policy on the economy of the country. INSTAT used the CGE model to make estimations of the impact of this change of policy on investments, poverty, etc. This shows the utility of the CGE model, that was developed jointly by INSTAT and Cornell University, for the evaluation of policy alternatives. This shows also that institutional capacity was built during the project at INSTAT to perform this type of important analysis on its own.