# Trip Report: Rural Markets, Natural Capital, and Dynamic Poverty Traps in East Africa

**Kenya: 17 November - 20 December 2001**
**By Ben N. Okumu**

# USAID BASIS CRSP PROJECT

## RURAL MARKETS, NATURAL CAPITAL AND DYNAMIC POVERTY TRAPS IN EAST AFRICA

## INTERNATIONAL TRIP REPORT
**(17 th November - 20 th December, 2001)**

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# Executive summary

The objectives of this field visit were to participate in the planning, organization and holding of pre-study workshops at both national and community levels in Kenya, consolidate and review existing data sets and old questionnaires in the six BASIS CRSP sites in Kenya and Madagascar with a view to identifying information gaps and hence to facilitating the design of a new questionnaire to be fielded in the first quarter of 2002, review candidates for the bio-economic modeling course to be held in June and October 2002 in Nairobi and Cornell respectively and, finally, work out logistical arrangements for the June 10-11, 2002, team meeting in Kakamega, Kenya.

The National Pre-Study Workshop was held in Nairobi on November 28, 2001, and was aimed at determining how best to structure the BASIS CRSP research and its outputs so as to reach policy makers at national, project or community levels. A number of key policy makers/stakeholders met in the capital city and discussed the design of the project in terms of key concerns and the appropriate modalities for communicating results to the end users. The major conclusions were four. i) The project needs to link with other research efforts covering many areas in Kenya to ensure a broader and wider applicability of the project's research findings. ii) The project needs to look at other empirical studies done on poverty/environment to bolster or condition its results especially those arising from econometric analysis. iii) There is considerable interest in bio-economic models as tools that can be used in policy analysis. Building of such models and subsequent training on their use would ensure their wider use by the end users both at the national and regional levels. This could be taken to mean, among other things, that more policy impact might arise from use of the model by Kenyan partners than by project personnel per se. The project should therefore aim for a priority client at the outset in terms of who will use the model simply because it is highly unlikely that there will be enough staffing or time during the project's duration to try and build up such skills in many different potential clients starting at fundamentally different levels. Iv) We must identify people at the national level who are reasonably skilled in using models or statistical tools and who are already a bit savvy about how to use bio-economic model results and incorporate them in the project's dissemination strategy.

The western Kenya community level workshop was held on November 30, 2001. It was recognized that poverty was rampant and on the increase and hence a study on poverty traps was very relevant. The following points were emphasized by workshop participants. i) There is an interest including issues such as AIDS in the analysis since the epidemic has affected many households and hence policy recommendations that ignored the epidemic would be limited in solving the core forces driving dynamic poverty traps. ii) There was need to focus more on short term solutions that meet immediate farmer needs rather than long term ones whose results take a while to impact positively on farmers' welfare. iii) The attitude and vision of the poor was viewed as a major obstacle to development and hence the same have to be addressed either through formal or informal education and across age and gender. This would make the poor more receptive to new ideas that would improve their conditions in the long run. iv) Mistargeting of the poor during policy and technology interventions was a major set back in many poverty alleviation projects and hence the BASIS CRSP project needs to have the correct mechanism in place to safeguard against this problem v) Dissemination of research findings through village level agricultural shows and similar demonstrations organized and funded by the communities themselves is a very effective strategy through which the project's output could be relayed to the grassroots communities. Thus whereas few farmers could afford use of complex bio-economic models, outputs from the same based and generated at the regional District Development Offices could be effectively localized for implementation.

Socio-economic data collection is now scheduled to begin in February 2002. Design and testing of data collection tool(s) will be completed by the end of January 2002 to pave way for this data collection exercise to begin. Copies of existing data from Vihiga, Embu and Baringo sites are currently being examined at Cornell and based on this ongoing data inventory and the emerging gaps, the data collection tools are being adjusted appropriately. Most of the data collection to be undertaken in February will be follow-up surveys of households from which appropriate survey data were previously collected so as to create the necessary longitudinal data to study poverty and resource dynamics. This will enable econometric estimations to establish the presence and causes of dynamic poverty traps in rural households. Collection of supplementary biophysical data sets on soils, crops and livestock will commence in March and April 2002.

**INTERNATIONAL TRIP REPORT**

**Objectives:**

1)  Hold a short, half-day pre-study workshop with a group of 15-20 stakeholders from relevant government, donor and nongovernmental institutions (USAID-Kenya, KIPPRA, Tegemeo, IPAR, KARI, KEFRI, MinALD) to brief them on the basic objectives, time line and anticipated outputs of the BASIS project and to elicit their feedback on how to make this as useful as possible in informing policy dialogues (e.g., over implementation of priorities identified in the KRDS and PRSP processes).

2)  Meet with Frank, Willis, Justine and John to review the existing data sets and old questionnaires from the western Kenya and Embu sites and to agree on the timing and process of questionnaire revision/design and field data collection for the new survey round that is to be fielded in the first quarter of 2002. Through this review of actual data sets and the questionnaires, get a feel of what we're building on in creating the panel of western Kenyan households.

3)  Discuss what sort of data use agreement to be put in place so as to provide appropriate assurance to our ICRAF, KARI, KEFRI, UON, FOFIFA and generally Nairobi and Antananarivo colleagues that their data will not be pirated by Cornell (or other) researchers. This is because copies of the data will be availed to Cornell for analysis and for ultimate use. There is hence need to work out the terms under which this data will be accessed and used for collaborative work. This should be in the form of an agreement that clearly fits within the institutional MOA Cornell, ICRAF, KARI and FOFIFA now have in place together.

4)  Review candidates for the bioeconomic modeling course with Festus and Frank in Nairobi and Jhon, Bart and Jean in Antananarivo. KARI and FOFIFA have two slots each. ICRAF/KEFRI have none funded under the BASIS project but may plan to seek funds to include one or more of their staff in the course. Also coordinate with Frank (or other ICRAF personnel) on the use of facilities for the June two- day workshop for the bioeconomic modeling students (the prelude to their two week course here at Cornell in October 2002).

**5)**  Work out logistical arrangements for the June 10-11, 2002, team meeting in Kakamega with ICRAF staff and Martins Odendo (KARI-Kakamega), to include getting hotel and conference room reservations, local ground transport and air travel from Nairobi to Kisumu.


**NATIONAL PRE-STUDY WORKSHOP (NOVEMBER 28, 2001, NAIROBI).**

Dr. Frank Place (ICRAF) introduced the BASIS CRSP project. He highlighting the broader goals of BASIS CRSP, the problem statement, project objectives, data collection design, policy relevance and outputs as well as research timeline. Dr. Ben Okumu then presented the modeling details of the project in terms of the exact issues to be examined. This involved a discussion of the various types and causes of dynamic poverty traps in rural communities and how these are likely to vary across sites and over time. Longitudinal data sets would be used to empirically (using econometric tools), test and document the driving forces of poverty. For one to alleviate or even eradicate poverty, a number of technological interventions, institutional and policy changes as well as farmer education would most probably be crucial. The likely impact of this set of interventions in solving different types of poverty traps was however least understood partly due to the complex dynamism involved. Dr. Okumu thus pointed out that a recourse to building holistic bio-economic simulation models as a means of understanding a priori the likely impacts of different single or multiple technology and policy changes on the welfare of the rural poor was therefore necessary. Building of such holistic models was one of the BASIS CRSP key priority. After the presentations, Professor Oluoch-Kosura invited the participants to air their views in terms of whether the hypotheses and the whole research design including the hypotheses presented made sense. He also welcomed any comments on key information gaps in understanding and addressing rural poverty that may have been overlooked in the research design of the BASIS CRSP Project. The key question posed was how best to get the results or project outputs to both policy makers and other stakeholders especially the rural poor and the supporting agencies such as development oriented NGOs.

The role of risk and uncertainty in driving these poverty traps was reiterated by the participants as being a major issue. Questions were raised as to the reasons behind the selection of the research sites in Kenya. It was felt that the selected sites were well researched and hence there would be more value added if other newer and less researched sites had been selected. Dr. Okumu clarified to the group that these research sites had been selected based on the need for repeat surveys that relied on past research studies in the area. It was only through such repeat surveys that one was able to generate panel data sets that would be used to estimate welfare dynamics. Selection of well researched sites was therefore the only way to go about generating panels of data. In terms of improving research output delivery to the end users, the following suggestions (recommendations) were made both in the workshop and elsewhere (over lunch).

a)  There is a need to link with other research efforts given that our study sites are not covering many areas in Kenya. This collaborative egfforts would ensure that our research findings have a broader and wider applicability than otherwise

b)  Relatedly, other empirical studies have been done looking at poverty/environment and we should use these to bolster or condition our results generated from econometric analyses.

c)  There is interest in bio-economic models as tools that can be used in policy analysis. Training on the use of the model would hence ensure its wider use by the end user both at the national and regional level. This could be taken to mean , among other things, that more policy impact might arise from use of the model by Kenyan partners than from project personnel per se.

d)  There were questions raised as to whom would actually use the model. The ensuing discussions revealed that the project should aim for a priority client at the outset because we won't have the staffing or time to try and build up such skills in many different potential clients starting at fundamentally different levels. It was suggested that we begin at national level with some people who are reasonably skilled in using models or statistical tools and who are already a bit savvy about how to use results from models. Moreover, the poverty reduction strategy is a national strategy. The model may be useful to others at local level, but sincerely, local policy makers do not have much to say in policy regarding poverty issues (especially since they do not raise their own finances). NGOs might be interested in looking at technology impacts and could be considered a secondary client. As for farmers, yes they could benefit from this, but they could also benefit from more simple training on calculating net present gross margins or profits. In conclusion, the process of outreach/feedback will have to be iterative. We probably should try to identify someone close to the Poverty Reduction Strategy process and/or someone in the Ministry of Agriculture and Rural Development who may become more closely linked to the project as advisor/clients.

**WESTERN KENYA COMMUNITY LEVEL PRE-STUDY WORKSHOP**

The western Kenya community level workshop was held in Maseno on December 4, 2001. It was recognized that poverty was rampant and on the increase and hence a study on the ways and means of poverty alleviation was very relevant. The following were emphasized: i) There was need to include issues such as AIDS in the analysis since the epidemic had wreaked havoc in many households and hence policy recommendations that ignored the epidemic would be limited in solving the core forces driving and resulting in dynamic poverty traps. ii) There was need to focus more on short term solutions that meet immediate farmer needs rather than long term ones whose results take a while to impact positively on the farmer's welfare. iii) The attitude and vision of the poor was viewed as a major obstacle to development and hence the same have to be addressed either through formal or informal education and across age and gender. This would make the poor more receptive to new ideas that would improve their conditions in the long run. iv) Mis-targetting of the poor during policy and technology intervention was a major set back in many poverty alleviation projects and hence the BASIS CRSP project needs to have the correct mechanism in place to safeguard against the same. v) Dissemination of research findings through village level agricultural shows and demonstrations organized and funded by the communities themselves was proving to be a very effective communication strategy. Thus whereas few farmers could afford use of complex bio-economic models, outputs from the same based and generated at the regional District Development Offices could be effectively localized for implementation.

**BIO-ECONOMIC TRAINING AT ICRAF**

Drs. Ben Okumu and Frank Place discussed generally on the capacity of ICRAF to host the course in June. It was agreed in principle that ICRAF would avail the training hall as well as the facilities (computers, technical staff, transport to and from the hotel). In return, BASIS CRSP will allow a number of ICRAF staff to sit in on the course at no expense. The project will also pay some limited fee for the ICRAF transport.

## MEETING WITH ADE FREEMAN, ICRISAT NAIROBI OFFICE
## 4th December 2001

In attendance:

Dr. Frank Place, ICRAF Nairobi Office
Dr Ben Okumu, Cornell University

Frank Place explained the main objectives of the BASIS CRSP Project while Ade Freeman highlighted ICRISAT's project goals in Kenya. The main objective of the ICRISAT project is to enhance a better understanding of rural livelihoods in Sub-Saharan Africa that would enable a better implementation of alternative policies. The idea is to move beyond sectoral intervention to a multi-sectoral one, emphasizing a participatory approach to capture a series of trade and gender issues. A key deviation from common and similar approaches is the project's recognition of the existence of institutional environment within which the households are making decisions. These institutions commonly condition or even inhibit some household decisions. Although the approach is more at a macro level, the key objective is to draw conclusions from household behavior. The project is funded mainly by DFID.

It was also acknowledged that the current development donor issues call for the research institutions to not only carry out research but to implement their findings as well. Hence a holistic approach is required that addresses issues such as taxation, decentralization in both services and goods delivery, land tenure issues, land types and even theft and rustling (as indicated/recommended by Michael Leech, DFID). Food security issues on the other hand should similarly be addressed as often emphasized by Rockefeller Foundation. The response of the CGIAR TAC to Hazell and Haddad's recently published paper on the same topic was cited as being an interesting read in this debate. Similarly, a paper by Omamo and Lynam as well as Lee Navaro's perspective of dealing with policy issues were equally interesting. The core problem is that institutions are weak and so how will they implement the policy recommendations? Also, whereas knowledge of direct research impacts is known, there is increasing need to know and evaluate indirect impacts as well and hence determine, for example, crops that are profitable on the overall.

Ade Freeman also indicated the need to evaluate poverty in terms of Z goods. This will address a number of core issues that are often glossed over in most analyses. For these reasons, most donors are now insisting on an integrated approach to research.

ICRISAT's current research sites for these projects are in Suba and Bomet districts while their key collaborators include an IPAR project headed by John Omiti and the African Economic Research Consortium.

## WRAP UP MEETING FOR THE NATIONAL AND COMMUNITY LEVEL PRE-STUDY WORKSHOPS IN NAIROBI KENYA (4th DECEMBER, 2001)

In attendance:

Professor Dr. Willis Kosura
Dr. Frank Place
Dr. Ben Okumu
Mr McPhirey, prospective Phd student at University of Nairobi

The meeting focused on determining the key variables on which data were to be collected. The World Bank 1987 study questionnaires on which the panel data would be based, was revisited. More specifically, three sets of questionnaires and respective data sets were currently being retrieved and examined by UON Ph.D. students under the supervision of Professor Willis Kosura. The meeting was informed that the World Bank study data collection had been carried out in three phases namely:

1. Phase 1- Reconnaissance or household characterization survey (begun in February 1987)
2. Phase 2- Planting season Survey (March – April, 1987)
3. Phase 3 Harvesting season Survey (July - September, 1987)

It was suggested that the reconnaissance study for BASIS CRSP should begin in early January 2002 with the objective of determining how many of the households interviewed in 1987 (15 years ago) are still available for interview in 2002. A number of ground truthing will also be done during this period. It was also highlighted that the Siaya data was for 1995 and hence had a shorter time frame than the Madzuu (Vihiga) data collected in 1987. Given the long time period of 15 years, there was need to determine if there had been any structural shifts in the respective sites of Lumakanda and Madzuu. A qualitative community survey was hence highly recommended for Madzuu and Siaya sites and two well versed rural sociologists were recommended to proceed with this exercise. These were Wesley Wangadi and Pamella Opiyo respectively. Similarly, issues such as AIDS, that were not in the picture in 1987, must now be included in the questionnaire.

Given the logistics under consideration, it was obvious that the earliest time data collection could commence was shortly after the beginning of the long rains i.e. March/April 2002. The exact people to oversee the specific data collection were similarly discussed. It was agreed that Masters/Ph.D. students would be appropriate. For the Madzuu data collection, Mr. McPhirey was viewed as a good prospective doctoral candidate and was slotted to begin work immediately funds were availed to UON from ICRAF or KARI. Similarly, the Embu data set was to be collected by Masters students. The site was however not discussed in detail since Dr. Festus Murithi was away on home leave. It was, nonetheless, noted that panels could be based on four sets of data collected by Jemima, Frida, Festus or Chang'ole. It was also indicated that Andrew Mude and John McPeak would be handling the Baringo and Marsabet panels and estimation. Given that Andrew Mude was to soon arrive in Kenya in early December it was important that he touches base with Willis and the rest of Nairobi University team that would be doing panel data estimation in western and central Kenya.

The Bio-economic course was similarly discussed. It was agreed that more funds should be sourced to enable more participants to attend the course especially from Nairobi Universty. At the moment the prospective participants names indicated to Ben by Dr. Festus Murithi were:
1. Martin Odendo (Kakamega - Western Kenya)
2. James Ouma    (Embu – Central Kenya)

Frank Place had also indicated that Collins Obonyo (director of KEFRI, Maseno station) would like to attend the course. In view of this, it was recommended that Professor Willis Kosura takes the lead in writing and submitting a short proposal requesting for extra funds to cover the above training costs and second, to fund the qualitative community surveys mentioned earlier on. Frank would, however, come up with the initial draft that could be polished further before being submitted by Willis (UON) to prospective donors. Given the indication by USAID country mission that had no more funds at the moment, Rockefeller Foundation was seen as a more promising donor. Other donor agencies were to be considered once the proposal was ready for submission.

In conclusion, it was reiterated that there will be need to expedite and act on pending issues as quickly as possible in the coming busy months. Communication by e-mail was going to be increasingly important to all the project participants and hence prompt replies would be expected from all. To facilitate the same, it was suggested that  the PI and the co- PIs' should establish group e-mail lists for each site.


**MADAGAS CAR TEAM: PLANNING MEETING**

**December 5th 2001**

In attendance:
Professor Jhon Rasambainarivo
Dr. Bart Minten
Mr. Jean Claude Randrianarisoa
Dr. Ben Okumu

The meeting was held shortly after Ben's arrival in Madagascar. The objective was to plan the schedule of activities for the period of his visit. It was agreed that discussion of the questionnaires (from Kenya and Madagascar) with a view to seeing how they could be standardized and harmonized would be a good start. Suggestion of a time line for data collection and analysis was similarly important. Ben would then meet the Fianarantsoa and Antsirabe research teams and brief them on the BASIS CRSP project objectives. The two teams were in Antananarivo attending a FOFIFA annual conference/meeting. Ben would then proceed to Antsirabe and then Fianarantsoa to see the specific sites that were surveyed by the IFPRI project in 1992 and 1997. If possible, he would meet some of the enumerators that participated in the study well. These were likely to be enlisted for the repeat survey in 2002. Jean Claude was to play a leading role in the field exercise as he had participated in at least one of the surveys in each site and both in some sites. It was also important for Ben to have a physical impression of the area to enable him know how many land categories were to be modeled and basically get a feel of the spatial dimension of the problem in terms of type and extend of soil erosion (land degradation), type of production technology in use, type of agricultural and non-agricultural activities and the status of the existing infrastructure as well as distances to the local markets and general outlook of the people.

Logistical details related to the field visit were discussed between Ben and Bart a few days later. It was agreed that since BASIS CRSP funds were not yet available, ILO project will fund the same and be reimbursed later.

**Questionnaire Discussions (6th December 2001)**

In attendance:

Dr. Bart Minten
Mr. Jean Claude
Dr. Ben Okumu

Copies of the three questionnaires used by the World Bank 1987 study in Kenya were compared with the IFPRI 1997 questionnaires to tabulate any similarities/differences and examine the possibility of coming up with a standardized questionnaires that could be used to generate panel data sets in 2002. Of course such a standardized questionnaire could be adjusted further to capture site specific details in the various sites in Kenya and Madagascar. It was noted that whereas both the IFPRI and World Bank studies were based at the household level, only the latter had plot level data. A recent survey by Jean Claude in 2000 had however collected data at plot level with view to estimating the production function for rice. The Madagascar IFPRI data was organized in three categories: Household demographic data (similar to hh characterization in the World Bank Study), household production data and household asset inventory. There are also detailed questionnaires on consumption and credit. In the IFPRI data set, plots are not differentiated and hence total output is for all plots cultivated by the household. However, the study has very extensive information on household assets i.e. exhaustive household asset inventory. For the standardized BASIS CRSP questionnaire, it was suggested that the national EPM questionnaire should be used as it includes production data at the household plot level. Questions on death should also be included since death in a standard Malagasy household may shift the household from one wealth class to a lower one. Cattle are similarly very important in these households and hence more questions should be included in the new questionnaire.

The IFPRI markets data was collected in terms of type of product sold, selling price, time required for selling the product, time of the year when transaction occurred, transportation costs, length of delay in

payments for goods delivered by the farmer and storage for latter sales. The study similarly collected data on savings and the reasons behind savings. Saving via livestock or pigs is important but questions on the same were not included in the 1997 IFPRI questionnaire.

The following are the conclusions reached after going through the two sets of questionnaires from Kenya and Madagascar respectively.

1. Production questions should be based at the household plot level, similar to the WB study in Kenya and Jean Claude's 2000 study.
2. Market survey questions should be based on IFPRI 1997 data
3. Asset survey inventory, accumulation and decumulation should be based on the IFPRI data set.
4. Expenditure questions should be based on IFPRI 1997 questionnaire.
5. There is need to include livestock, pigs and other animals of considerable importance as household assets.
6. Access to credit questions should be structured along the IFPRI study questions.
7. In terms of finding out farmers' total land area as well as area of the various plots, it was noted that exact measurement should be done where possible rather than depend on farmers estimates, which mya be more inaccurate.
8. Credit questions should be fairly exhaustive as is the case in the IFPRI study
9. Labour allocation questions especially household members' time allocation should be based on the IFPRI questionnaire format and so should questions related to the revenue earned from each household member's activity both on farm and off farm. Questions on non farm self employment activities should be included.

## VISIT TO ANTSIRABE AND FIANARANTSOA RESEARCH SITES
(9<sup>th</sup> - 11<sup>th</sup> December, 2001)

This visit was made by Ben Okumu in the company of Jean Claude and the respective enumerators that participated in the IFPRI surveys. The site enumerator (guide) for the Antsirabe site was Fernand Rakotoarishoa while Victor Randrianasolo and Joseph Andrianasolo of FOFIFA, Fianarantsoa office did likewise for the Fianarantsoa sites. The main objective was to famialiarise Ben with the specific sites that were used by the IFPRI 1992, 1997 studies and on which further panel data will be collected in 2002. Jean Claude had also collected production data on the same sites in 2000.

**Antsirabe site:**

Data was collected from a total of seven villages in this site. The villages were deemed to be representative of villages found in many parts of Vakinankaratra area in terms of those households that are close to urban areas and hence enjoy above average access to product, factor and financial markets, social amenities, agricultural extension, good weather and a fairly good transportation network. Such households tended to benefit from a high presence of development oriented NGOs too. In contrast, the survey included villages that were poorly placed in terms of the above factors. Such households were located in villages in drier areas with relatively poor soils and hence experienced constant shortfalls in household food availability in the course of the year.

The team decided to visit one of either types of households. Ambohiambo village was representative of the households with a better access to resources while Iandratsaimahamasina was viewed as representing the dominantly poor households. The other five villages are located within a radius of 50 to 60 km of these two villages.

Ambohiambo Village:

This village is located in what would be considered a watershed (topographic maps are needed to verify the same). The main cash crop is barley (farmers have contracts with the local breweries in Antsirabe town to supply the crop at very good prices). Other crops grown are wheat, rice and vegetables - mainly carrots. Farmers also burn and sell charcoal from homegrown trees as well as selling firewood from twigs that are

too small to be used for charcoal burning. Average land holdings per household average 1.6 hectares. The site is very close to Betafo town and hence most of the agricultural produce generated enjoys a ready and certain market.

In terms of bio-economic modeling, the site is well placed for such an exercise as there is some evidence of conservation structures, effective tree planting for a number of purposes and basically a landscape that is representative of much of the Antsirabe area i.e. red soils on the slopes and deep black soils in the valley bottom where rice cultivation (both rain fed and irrigated) takes place. There are also clear signs of nutrient recycling through composting of crop and animal waste for use as manure during the wet season especially. Livestock are healthy and are the main providers of draft power. More details about this village are in the IFPRI reports.

Iandratsaimahamasina village

This is about 40km from Ambohiambo village (discussed above). Rainfall is high (about 1500mm per annum) but is poorly distributed occurring in 3 – 4 months in a year. The households are relatively poor depending mainly on cassava as the main cash and food crop. The other major crop grown is groundnuts. Rice buying is hence common. A few coffee plants are grown mainly for home consumption. Settlements are sparse in spite of the closeness of the area to a tarmac road. An interview with one of the farmers indicated lack of cassava planting material as one of the most pressing problems. Clean drinking water is also difficult to find. Soils are poor, thin and stony with clear signs of stress. Dryland vegetation (cactus and tough grass) are clearly evident while much of the landscape is virtually bare and rugged. Gully erosion has formed spectacular structures. In spite of all these, the area appears to have some potential in cultivation of fruits especially mangoes. Quarrying is a major non agricultural activity. Small scale roadside trading seems to have some potential too especially for those households located close to the road.

**Meeting with the Fianarantsoa FOFIFA Research Team**
10th December 2001

Participants:

1. Daniele Ramiaramanana- Head of the FOFIFA Fianarantsoa Research Station, Cropping Systems specialist
2. Jean Louis Rakotomanana – AHI FOFIFA site representative and expert in natural resources management
3. Alfred Rabemiafara - Agronomist , coffee cultivation
4. Bruno Andrianaivo- Agronomist specializing in rice production
5. Zafimahery Rakotomanana – Agronomist , food crops
6. Victor Randrianasolo - Research Technician/enumerator
7. Joseph Andrianasolo –Research Technician/enumerator
8. Jean Claude Randrianarisoa – Agricultural Economist, FOFIFA, HQ.
9. Ben Okumu – Agricultural Economist, Cornell University

The FOFIFA head of station, Mrs. Daniele Ramiaramanana, welcomed and introduced Ben Okumu and Jean Claude to the station staff. She similarly explained the researchers' individual tasks and areas of specialization for each one of them. Ben was then called upon to explain the specifics of the BASIS CRSP project in terms of objectives, data requirements, research sites, policy relevance and the research time line. A power point presentation of the same was shown to the team (with Danielle interpreting in French). Questions, comments and suggestions were then invited from the team. Questions were raised about the bio-economic course mainly the number of participants, and the procedure for selection of the candidates and the specific details of the course material and the duration of the same. The head of Station indicated the relevance of such training to her staff especially for those who had some background in crop systems research with a strong economic analysis background like herself.

Similarly, questions were raised pertaining to how the modeling exercise intended to capture most of the distinct social aspects often observed in poor communities. Declining village security was pointed out to be

one such aspect of great importance in Fianarantsoa area. How will such issues be captured in the bio-economic model? Ben responded to the question and indicated that security issues were already prevalent in the northern Kenya sites and hence a methodology is to be determined to capture the same in the bio-economic model. He also informed the team of a community pre – study workshop to be held in Fianarantsoa site in February 2002 in which they would be called upon to express many of their concerns and questions related to the project.

Mrs. Daniele indicated the presence of a new PhD student, Ritu Virma, from the US who will be carrying out her research in one of the formerly IFPRI FOFIFA sites. She indicated the need for close collaboration on the ground especially with other organizations working in the area such as the ILO – Cornell Project and PACT USAID. Already a team of scientists from these organizations had formed a cellular group that was effectively meeting and sharing ideas under the cellule Technique de Faritany.

**Field visits:**
The enumerators indicated that a total of six villages had been visited during the IFPRI study. They are Miandsifekona, Ambohimaha, Ambalahambana, Ambalamasina, sahavanana and Ampampana. These villages are dispersed over a radius of 25 – 35 km east and west of Fianarantsoa town.

Visit to Ambampampa village, Fianarantsoa:

The village consists of about 40 households located on three ridges. Main wet season crops are rice, vegetables and cassava while beans, carrots and potatoes are grown in the dry season. Rice, potatoes and vegetables are planted in the fertile valley bottoms while maize, beans and sugar cane are grown on the ridges. Eucalyptus are the main tree species grown in this area and used mainly for charcoal burning for sale. The village lies about 8 Km to the west of Fianarantsoa but is difficult to access and farmers spend up to two to three hours walking to reach the major markets in Fianarantsoa town. The road is extremely poor and hence most farmers transport their marketable produce on their heads. Considerable amount of non agricultural activities are done by many households. These are mainly artisans works of basket and curio making from sisal like plants. Most households are however poor and many experience increasing scarcity of land and declining soil fertility over time. Cassava, for instance , takes more than two years before tubers can be large enough to be harvested. Yet it is the only crop that can be meaningfully harvested with certainty . Crops such as sweet potatoes almost always fail.

Food is very scarce in the months of October to February. During this period, charcoal burning is the main activity. The income generated is used to buy food for home consumption. This has however resulted in the landscape being stripped bare leaving it prone to wind and water erosion. Money from crop sales in the wet season is also saved for use during the above five lean months. In such periods, household members eat less rice and are normally weak and prone to malaria infection. Interestingly, it is during such period that the demand for labour is high (due to preparation of land for wet season planting). This results in further decline in the per capita output due to fatigue. Absolute and increasing poverty levels therefore persist. Livestock theft is hence common dampening further the households' production capacity. In most villages, poverty is so rampant that 50 to 60 % of the children enrolled in primary schools rarely complete their primary level education.

Soils are generally poor generating very low yields for each of the crop mentioned above. The enumerators pointed out a grass specimen that often indicates extremely poor soils in Fianarantsoa area. An NGO called MIRAY is currently teaching farmers methods of conserving soils through tree planting and building terraces. The NGO is working closely with the National Organization for Environment (ANAE) based in Antananarivo.

Miandsifekona Village:

25 households were surveyed in this vilage. Farmers have fairly large plots of rice and participate actively in non agricultural activities of trading in agricultural produce mainly bananas. Bananas are purchased in the east coast and are then transported by the villagers and sold in the southern parts of the country at reasonable prices. The trading practices may be facilitated by closeness of the village to Fianarantsoa-

Anitsirabe highway. Farmers also practice some form of zero grazing for dairy animals (cross breeds between zebu and exotic breeds). Most of these animals are kept in well constructed structures to safe guard against livestock theft. The animal numbers have therefore not been significantly affected by the insecurity vice. Due to considerable amounts of renumerations arising from different household activities, living conditions are evidently better and most farmers can afford to put up spacious, relatively permanent houses..

An interesting observation was the dichotomy in the management of zebu versus cross bred animals. Whereas the latter were kept in doors and zero grazed the former were left to roam freely in the village. These is interesting especially when compared to the livestock management strategy in the above Ambampampa village barely 15 km away. Soils are similarly poor. Many NGOs and government based organisations have intervened in this area especially through soil conservation projects . Rice is basically rainfed and grape cultivation is the main cash crop. Composting is done as a way of ameliorating fertility decline. Maize is grown on small plots around the homestead.

Ambohimahi village:

This is a typical watershed village cultivating both rainfed and irrigated rice. Livestock are pretty important in crop production. Grapes are similarly grown. There are two categories of land here mainly steep and flat land (found in the valley bottoms). The village's most important asset is its closeness to the Fionaratsoa – Anitsirabe road. The village has most of the biophysical data necessary for building a bio-economic model. The data was collected through field experiments carried out by FOFIFA, MOA and some NGOs. Soil erosion experiments, for example, have been done by the ANAE experiment project.

**Conclusions:**

The tour was very effective in familiarising Ben with the specific issues to be born in mind when constructing a bio-economic model for the two areas. Based on this visit it was obvious that no single bio-economic model could be constructed and validated for all the villages lying in a radius of 50 to 60 kms in Antsirabe and 25 to 35 kms in Fianarantsoa region. The most practical approach would be to select one representative village in each area and constructive the respective models. At the moment Ambohiambo and Ahimahi villages would be suitable sites for this exercise in Antsirabe and Fianarantsoa sites respectively.

**WRAP UP MEETING WITH THE MALAGASY RESEARCH TEAM**
**14th December 2001**

In attendance:

Professor Jhon Rasambainarivo
Dr. Bart Minten
Mr. Jean Claude Randrianarisoa
Dr. Ben Okumu

The purpose of the meeting was for Ben to share his field experience with the BASIS CRSP core team in Madagascar and obtain the teams' feed back on some of the conclusions reached. It was then possible to agree on the key activities to be undertaken in the immediate period preceding the June Planning meeting next year.

Ben expressed his thanks for the well co-ordinated and fruitful visit to the sites and indicated the specific sites in which the bio-economic models would be build. He indicated that the selection of the sites was mainly guided by the amount of biophysical data already collected from field experiments as well as the amount of analyses made by soil and crop specialists in the same areas. The problem with this criteria of selection was that both sites in Antsirabe and Fionaratsoa tended to be located in good access areas

although the soils and landscape were obviously different. It was hence important to try and adjust the bio-economic model for the Fianarantsoa site to represent a poor access region as observed in much of the area.

The signing of sub-contracts and transfer of respective funds to FOFIFA was then raised. It was learned that none of the two had been accomplished as at the present. There had been some communication, however, from Cornell that the respective funds would be transferred shortly. Ben assured the team that the contracts would soon be signed and mailed to FOFIFA by the Cornell administration which will pave way for the release of funds for the respective period.

The meeting then discussed and agreed upon the following sequence of events for the following eight months in 2002.

1. December 2001 – January 2002 – Sub-contracts should be in place and funds should be available in mid January to initiate questionnaire testing and training of enumerators
2. Mid February 2002 – Pre – study workshops begin. Chris will be present to participate in these exercises both at the national and community levels. Policy briefs for the BASIS CRSP project should be distributed to the participating institutions well before Chris's arrival and certainly before the workshops are held
3. Chris should participate in the finalizing of the questionnaire and the actual overall design of the panel data collection exercise.
4. End of February – March 2002 – Training of enumerators begins. Questionnaire pre-testing exercise is completed.
5. March to mid May 2002 – Data collection field survey are undertaken and completed.
6. June – mid July – Data entry and cleaning is done
7. End of July to mid August – begin data analysis

It was posited that perhaps Ben could come over in March- April to spend some time in Fianarantsoa and Antsirabe sites collecting mainly biophysical data for the calibration of the bio-economic model. This would depend on the amount of data required and the need to discuss issues with a number of experts in different fields.

The meeting moved on to discuss the bio-economic course to be held in June and October 2001. It emerged that the course participants in the case of Madagascar will be selected based on the capacity of the individuals to continue working with the project after completing the course. This was important as they needed to participate in the building, calibration and validation of the bio-economic models build for the two sites. The tentative list of participants was:

1. Jean Claude - FOFIFA
2. Lelaina  - ILO/CORNELL Project
3. Fiauo Ramatiomanana – University of Antananarive
4. Danielle Ramiamnana – FOFIFA, Fianarantsoa office

It was also suggested that Jhon and Bart should spend time writing a short proposal to request for funds to cover the extra two participants as well as any shortfalls that may emerge in the course of the project.

**APPENDICES**

**1. Tentative Bio-economic Course Participants**

1. James Ouma  (KARI)
2. Martin Odendo (KARI)
3. Collins Obonyo (KEFRI)
4. Justin Wangila (ICRAF)
5. Lalaina Randrianarison (ILO/FOFIFA)
6. Jean Claude (FOFIFA)
7. Danielle Ramiaramanana (FOFIFA)
8. Fauo Ramatiomanana (University of Antananarivo)

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