



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

Madagascar: 9-22 March 2003

By Christopher B. Barrett

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This trip report also covers all other BASIS CRSP international travelers for the March 11-16 annual team meetings and field site visits. These travelers include Larry Blume and Ben Okumu from Cornell University, Frank Place and Justine Wangila from ICRAF (Nairobi), Festus Murithi and James Okuro Ouma from KARI, and Paswel Phiri Marenya from the University of Nairobi.

Itinerary:

- 9-10 March: travel from Ithaca to Antananarivo, Madagascar
- 11 March: BASIS national stakeholders workshop, Antananarivo, and travel from Antananarivo to Antsirabe
- 12-13 March: Core annual BASIS project team meeting, Antsirabe and visits to three village field sites in Vakinankaratra
- 14 March: Travel and visit to village field site in Fianarantsoa
- 15 March: Meetings with Fianarantsoa-based colleagues and field site visit
- 16 March: Travel from Fianarantsoa to Antananarivo
- 17-19 March: Various SAGA and Ilo meetings
- 20 March: Projet Ilo national stakeholders meeting
- 21 March: SAGA meetings
- 22 March: Travel from Antananarivo to Ithaca

Objectives: The purposes of the trip were, roughly in chronological order, (1) to lead the BASIS CRSP annual team meeting for site teams from Kenya and Madagascar to review work to date under the project, agree to workplan for the remainder of the project, to hold a national stakeholders meeting, and to visit our Madagascar field sites, (2) to hold SAGA-Madagascar organizational/brainstorming meetings with collaborators at CEE, FOFIFA, INSTAT, LDI and USAID to try to begin the process of defining the SAGA-Madagascar research program, (3) to brief USAID-Madagascar staff on the BASIS and SAGA projects, (4) to work with Projet Ilo collaborators and participate in the Ilo national stakeholders workshop on agriculture and poverty, (5) to meet with prospective collaborators at the Universite d'Antananarivo on a possible MoA between Cornell and UofA, and (7) to meet with incoming and prospective Cornell agricultural economics graduate students Paswel Phiri Marenya, Jean Claude Randrianarisoa and Lalaina Randrianarison to discuss the Cornell program, Ithaca and possible thesis topics.

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SUMMARY RESULTS

The trip was a great success for BASIS, Ilo and SAGA. Our FOFIFA colleagues, especially Jhon Rasambainarivo, and Cornell's chief of party in Antananarivo for the Ilo Program, Bart Minten, did a great job organizing a stimulating and full program and in arranging all the logistics.

Just a few hours after arriving in country, we convened a national stakeholders meeting for the BASIS project at the Panorama Hotel. More than 60 people attended, including some senior representatives from the Ministry of Agriculture, the PADR (Programme d'Action de Developpement RUrale), FOFIFA, Office National de l'Environnement, USAID, the World Bank, LDI, and other local agencies and stakeholders. The stakeholders meeting had been well publicized in advance, including three stories in the national press in the preceding few days, one a front-page story (copies of these articles will be posted to the project web site). There was substantial discussion of the value of the modeling activity, the importance of collaboration with a broad range of players, and how to integrate research findings into the policy discourse. A variety of people privately or publicly expressed interest in running a bioeconomic modeling course here (for INSTAT, FOFIFA, University, ONE, LDI, etc.). It became plain in the first day – and confirmed over subsequent days in discussions with team members and others interested in the BASIS project – that we need to try to schedule a one-week short course on CLASSES in Kenya and Madagascar, likely four days of training. It is striking how one is already hearing the “poverty traps” term being used in informal discussions now with donors and policymakers here. The basic idea behind the project seems to have filtered through and stuck with key audiences.

One especially interesting session in the March 11 stakeholders meeting addressed how best to integrate research with the policymaking process (the Powerpoint presentations from the stakeholders consultation and the annual team meeting will be posted to the project web site). Bart Minten described the process the Programme Ilo has successfully followed here in Madagascar, while Frank Place described the policy forum that he and Festus Murithi and a number of others have launched to bring the Kenyan policy research community together for regular sharing of information and findings, direct interaction with key policy analysts from government, and, occasionally, even senior policymakers themselves. DFID volunteered to finance this policy forum effort (without having been asked!) because they are so enthusiastic about it. The key points underscored by the presentations and ensuing discussion were that we need to involve policymakers from the start to identify the questions they're asking, the concerns they have, the language they're using, and the form in which they need and can use information. Need to work cooperatively with other research teams since policymakers don't need the distraction of squabbling researchers. It's crucial to have strong and authentic local partnerships in the research because a message can be interpreted very differently depending on who puts it out. If local institutions release the information, it often has much more effect than if outsiders release the information. Targeting of message – by audience and by timing – is likewise very important to having an impact. Try to identify the key decision points policymakers face and do backward planning to get research completed and into their hands just before they have to make key decisions. Content is important: scientific jargon must be eliminated, the message must be clear and brief. In sum, policy research is not just about producing high quality results, it is equally about presenting, even selling, those results through various media – written briefs and reports, web page, press releases, participation in public and private meetings.

After the stakeholders meeting in Antananarivo, the core team of researchers from Kenya, Madagascar and the US moved to Antsirabe, where our team meeting continued with a team dinner the night of March 11, daily field site visits to survey households March 12-15, and presentations and group discussion of preliminary findings, the CLASSES model, and the remaining workplan on March 12-13. Our team discussions revolved around presentations by site-specific teams of preliminary results from the panel data sets we have constructed. Copies of the presentations will be posted to the project web site. The presentations by Randrianarisoa on the Madagascar sites and by Place on the Siaya-Vihiga sites in western Kenya were especially comprehensive and stimulated extensive discussion. Ouma's presentation on Embu was especially striking in its result that most of the Embu farmers believe their soil quality has improved since the 1998 survey ... quite a contrast to the other sites and very consistent with our hypothesis that improved market access has a direct relationship to investment in soils in agrarian communities. For example, in the Madzu site in western Kenya, an agroecologically similar region with

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much poorer market access and smaller farms, 70% of the farms reported deteriorating soil quality. Another striking feature of the Embu data was the extraordinarily high rate of use of banks. This seems to be largely due to the fact that coffee and tea payment systems are based on bank account transfers rather than cash delivery. So commodity market settlements schemes may have spillover effects in the way in which they induce participation in financial institutions. The discussion of the CLASSES model stimulated considerable helpful discussion. The core point we need to all absorb and to communicate to prospective users of the model is that it is intended as a tool for analysts to try to anticipate what might otherwise be unanticipated effects. The objective of the model is not to provide answers, much less point estimates, to policy questions (e.g., should the rice tariff be increased? should fertilizers be subsidized?), but rather the objective is to affect, in particular, to broaden, the range of issues and relationships on the table for discussion in policy dialogue, with special attention to prospectively heterogeneous household-level effects of a given intervention, links between economic and resource behavior, etc.

We also had extensive discussions about the qualitative field work to follow up on the quantitative survey work. We agreed to modify the sample selection criteria a bit to capture not just poor-nonpoor transitions (or non-transitions) over the panel, but also to reflect the range of changes within the nontransitioning household clusters (e.g., get households that suffered a drop in per capita income, ones that enjoyed a rise, and those with little or no change). Among the key concerns discussed, we worried especially about disentangling household-specific shocks and patterns from those common to households within communities, and thus agreed to minimize the number of villages from whence the qualitative survey households are drawn, so as to be able to control for village-level covariate factors. There was also significant discussion about how the culture and interpretation of being and becoming poor differs across sites and households. We came to agreement, however, that the mechanics of being and becoming poor are nonetheless very similar across sites and that's what we're really aiming to explore in this work because that's what is most readily changeable through policy. We revised the general terms of reference for this work (see Appendix 4), which should begin in April in Baringo, Fianarantsoa, Madzu, Marsabit and Vakinankaratra.

In Madagascar, we have 230 households in the 1997-2002 panel that covers all the key household variable, with 120 or so of those (all in the Vakinankaratra) also in the 1992 data set (so a three observation, 10-year panel). Those same 230 households are also covered in the 2000 agricultural production survey, so we have plot-level panel production data for 2000 and 2002 on those households. Attrition rates have been relatively high in Madagascar (e.g., 23% 1997-2002), often due to seasonal migration, which will require careful attention. The INSTAT poverty line for Madagascar is \$0.42/day per capita, so our \$0.25 and \$0.50/day comparative lines bracket the official poverty line for the country reasonably well. The Kenya rural poverty line is about \$0.65/day per capita. The Madagascar data show a striking jump in poverty in the wake of the 2002 political crisis. It would be nice to disaggregate these data by location to see, for example, if those living closer to metropolitan markets experienced a milder "hit" from the crisis (or even gains due to sharply increased prices as the marketing network was badly disrupted by fuel shortages). It also became clear that we should really make a point of revisiting these households in 2004-2005 so as to capture the transition over the course of the political shock and to see how/which households recover. There was significant discussion as well about the appropriate poverty line measure, at least for communication to domestic policy audiences, where a rice purchasing power line might be more appropriate.

The presentation of preliminary findings from northern Kenya revolved primarily around the "progressive" collapse in Dirib Gumbo, where the largest herd owners suffered the sharpest losses when grazing areas and water became scarce. This is an interesting demonstration of the production complementarity between privately-held animals and commonly-held key resources and how relatively egalitarian sharing rules in the common property resource(s) -- grazing land and water in this case -- can stimulate greater variability in incomes among the poor than among the rich ... "the bigger they are, the harder they fall." The contrast between Dirib Gumbo, where expected income change was negative throughout the sample income range, and Ngambo, where expected income change over the same period was positive throughout the sample income range, was striking and seems to underscore the critical importance of resource access, since the Ngambo pastoralists maintained good water and forage access (due to proximity to Lake Baringo) throughout the 2000-1 drought, while the Boran pastoralists in Dirib

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Gumbo ran out of pasture and water for animals.

We had two presentations on western Kenya. The findings from our Madzu site, using the 1989-2002 panel, underscored a similarity with the Madagascar sites in the strong relationship between land holdings and income. The discussion emphasized the nonfarm-farm linkages highlighted in the new policy brief the project produced. A useful point raised in the discussion was that the investment in education is not just the cash cost of school fees, etc., but also the foregone yield gains as child labor is reduced. The Siaya-Vihiga evidence seems to show that the number of weedings of plots and child labor applied to a household's farm fall as children go to school. The Siaya-Vihiga discussion revolved primarily around the problem of robustness of poverty transition results to alternative metrics of poverty. Frank Place presented some very interesting findings regarding how sharply the poverty level changes as one moves between nutritional, asset and expenditure metrics of poverty and that the classification of household-level poverty transitions is not even stable across these metrics (i.e., it's not just an intercept shift).

Field site visits to survey households were one of the highlights of the BASIS program. Unfortunately, because it was rainy season, our time was limited and we were a relatively large group, we were confined to visiting only 5 relatively accessible villages among the 18 in our Madagascar sample. Our first field site visit was to Ambatomainty, a village on the Ambohibary irrigated perimeter along RN7, between Antananarivo and Antsirabe. We were to visit with one poor farmer from our sample, but he never showed up. Apparently, he had found wage employment for the day instead. Our visit was thus only with one of the wealthiest sample farmers from this site, Mr. Basile Rajaonarison. The household consists of 11 people, including 3 young grandchildren. One of his daughters works off-farm in an office job in Ambohibary, a few kilometers away. The others are all engaged in farming or in school.

Mr. Rajaonarison has 1 improved cross-breed cow, 3 other Zebu cows and 2 traction animals ... a large herd by local standards. He received his first milk cow (he had traction animals) from a government development project about 20 years ago and he has continued to grow his herd with assistance from FIFAMANOR, a Norwegian-funded agricultural development agency operating in the Vakinankaratra. The initial grant and ongoing assistance have made a great difference, he says; he doubts he could have done this without the initial push. Now he sells milk each day to Tiko, the private milk processing firm founded by the nation's new President. Tiko sends trucks each day to collection points along the roadsides in the area around Antsirabe, underscoring how proximity and accessibility to market matters. As we found later, farmers a couple of hours out on the same highway did not enjoy access to the Tiko collection routes and thus had little incentive to keep dairy cattle. This farmer also keeps chickens and ducks. He has been through a few formal course on livestock husbandry and proudly showed us his certificates of training.

Most of his time is not spent on livestock, however, but on crop cultivation. He grows vegetables (carrots, cabbages, etc.), some of them on contract for a local processor, a bit of manioc, maize and sweet potatoes, and cultivates rice on his lowlands. Any land with decent water access goes into rice, the rest into other crops. He has one hectare of lowland for rice (also called *tanimbary*, *bas fond* or *rizière* among Malagasy in our study sites) and four hectares of unirrigated uplands (*tanety*). He inherited some land, has bought a little bit up from smaller farmers who were quitting farming to move to the city (e.g., a 3 are poorly irrigated plot he bought, without title, for FMG1 million a year ago – roughly US\$250/acre – and now has in potatoes), and he rents some in on shares from his parents. This was our first example of the common reverse tenancy phenomenon here, wherein richer households rent in from poorer ones ... in this case presumably without the moral hazard problems because of the intra-family contracting. There is considerable sharecropping here, probably 35% of the land he estimates, with a pretty standard 50-50 split of the crop, with the tenant doing all of the work. Many landlords are absentee. Others are poor and rent out their land because they lack labor enough to cultivate it and don't have money to hire laborers (even to provide the meals needed under reciprocal labor arrangements, known as *entraide* here). Tenure security isn't particularly an issue on lowlands in the Ambohibary perimeter

His fields are well cared for and benefit from significant fertilizer applications (manure from his herd during land preparation, NPK at the time of seedling transplanting and urea during weeding). He buys fertilizer using milk proceeds. He cultivates potatoes in the *rizière* during the off-season and turns the

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potato greens back into the soil as an amendment. He gets potato seed from FIFAMANOR or his own carryover stock; rice seed is all from his own stock. He also uses *azola*, a red brown cover, as green manure for rice and as forage for his cattle in the dry season. He practices pisciculture on some of the SRT rice fields, raising carp in the fields that maintain standing water. The rice benefits from the carp manure and from the fish eating pests. They eat some of the fish, sell the rest. Good market access makes pisciculture especially attractive here, so it has really caught on among farmers on the Ambohibary irrigated perimeter, the largest such irrigation scheme in the Vakinankaratra.

Mr. Rajaonarison claims very high rice yields, averaging 4.5 tons/hectare on his rice lands, part of which are in SRI. When asked why he doesn't have all his lowland rice in SRI – a locally developed set of practices that have been shown to increase rice yields dramatically without any use of external inputs such as inorganic fertilizers or improved seed – he responds immediately that water management is a problem on some of his land. Those parts of his rizière that draw water from canals also used by other farmers who, for whatever reason, don't want to practice SRI cannot be put in SRI because they cannot coordinate the water use. He is able to practice SRI only on those plots that draw water from canals where neighbors also practice SRI. This underscores the interhousehold coordination problems inherent to taking advantage of some promising opportunities, in this case coordination over a critical resource necessary to take advantage of a promising technology.

His upland fields are typically cultivated in a 2-3 year rotation of sweet potatoes in the rainy season and maize in the dry season. Then he fallows the field for 3-4 years, typically in grass for thatch and artisanal uses and/or mimosa for charcoal. When they have sufficient labor, they terrace so as to reduce erosion and conserve scarce good soil. Indeed, they cultivate sweet potato in the rainy season in spite of low yields and its relative undesirability as a food, mainly because it has a strong, broad root system that helps hold the soil in place during the rains. They also plant tephrosia vegetative strips for soil conservation on the uplands, and they take tephrosia seed from the vegetative strips and plant it in fallowed fields to fix nitrogen in the soil. This particular farm works with the CGIAR's African Highlands Initiative (AHI, managed by ICRAF out of Uganda), from which they've learned some of these techniques.

His family's *soudure* lasts only 3 months, January-April, while those without good rizière access in this area have ~8 month soudure. (The soudure is the hungry season when Malagasy must either buy rice or switch to other staple crops because their own production has been exhausted for the year ... the word is French, for solder, a vivid image of how the hungry period is seen as that which ties together two periods of strong rice consumption.)

Good market access and relatively great land and livestock endowments provide a nice opportunity for seasonal switching of income sources for this farmer. Milk output is highest in the rainy season and provides a steady cash income then. As milk production becomes nutritionally limited during the dry season, his carrot crop comes in and provides him with steady cash income (the Ambohibary irrigated perimeter is the carrot growing capitol of Madagascar). This portfolio of cash crops and dairy provides interseasonally stable cash income for household needs, school expenses, fertilizer and labor inputs for his rice fields, occasional feed supplements and veterinary care for his herd, etc. He is thereby able to overcome the significant financial market constraints that might otherwise limit even a relatively wealthy farmer (there's really no interseasonal credit available here and he doesn't keep bank accounts).

The government cost shares public schooling with local communities. Throughout Madagascar, local communities charge a fixed amount per participating family (not per pupil), with amount varying by school. In Ambatomainy, parents pay for 2 of 5 teachers, with each family contributing FMG1500/month (about \$0.25 ... not much) for primary school. Same arrangement for secondary school.

Land is scarce here, especially irrigated lowlands, so it is difficult to buy enough land (even if one could save or borrow enough cash) to provide for the next generation without having to subdivide a parent's existing lands. Hence there's a steady trend toward shrinking farm sizes in the absence of either a robust growth in the non-farm labor market to absorb young adults from rural communities or a sharp reduction in rural population growth rates.

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On the second day of the Antsirabe team meetings, we visited two survey villages to the west of Antsirabe. The first, Iandratsay, sits along the Iandratsay river about 70 kilometers from Antsirabe along RN34. The principal farmer we visited there, Mr. Robson Andratraimahamaina (and his neighbors/friends Gilbert Ramiadrisoa, Charles Rakotondranrino and Ranaivojaona), has two hectares of highly erosive tanety in maize, manioc and groundnuts, one hectare of rizièrè (on which he applies a little NPK, but only in the rice nursery) and two zebu cattle he uses for draught and transport. He considers himself to be of above-average wealth. He grows groundnuts in the good soils on spots of erosion deposition along the slopes. Elsewhere on the uplands, they can't anything other than maize and manioc because soil nutrient levels are low and dropping due to erosion. They don't terrace much because of insufficient labor availability. For example, his household has 12 members (5 children), but he nonetheless has to hire seasonally for rice cultivation (land preparation, transplanting, weeding and harvest). He simply cannot afford to hire labor for constructing soil conservation structures as well. Because there's no credit available, he pays for this labor by selling maize and some rice and from proceeds from the small store the household has in which they sell simple foods and household basics (sugar, oil, salt).

This gentleman's use of the rice market for quasi-credit typified rice marketing by net rice buyer producers (remarkably, most of Madagascar's rice producers are actually net buyers of rice). He sells paddy at FMG1000/kg to a local collector in the commune who evacuates the paddy by ox cart to a wholesaler elsewhere (probably Betafo). He has a 3 month soudure during which he buys rice from the same fellow at FMG750/kapoaka (a Nestle condensed milk tin, used as a local retail measure) using proceeds from groundnuts and maize. This is equivalent (once one adjusts for units of account and milling losses) to about FMG1850/kg paddy-equivalent. So he effectively buys back in January the rice he sells the preceding June at a premium of 85% ... this is best understood as the implicit interest rate (including storage losses) on seasonal quasi-credit. The core lesson is that when the financial markets fail, people find alternative means of engaging in intertemporal arbitrage, even when it proves very costly (in this case due to storage losses, transport costs and the transactions costs associated with multiple physical exchanges).

He has his children in school (paying FMG2200/month for the family in school fees). As in Ambatomainty, there are too many children in the local school to hold them all (i.e., enrollment exceeds the physical capacity of the building) so they run two shifts daily. This is hard on the teachers, but teachers are highly respected and relatively well compensated (we see direct evidence of this two days later in one of our sample villages in Fianarantsoa ... see below). This gentleman hopes his children can continue in school to the point that they can leave Iandratsay and find professional work in the city. He sees the non-farm economy as a much brighter prospective future than farming in this area, although he expects one of his sons will inherit his land and continue the family farm.

The 2002 political crisis hit this village hard. Fuel prices skyrocketed, so home fuel (kerosene) became scarce and expensive and many crop buyers stopped coming. The rice sales price fell more than 50% last harvest season relative to the year before. This gentleman made it through the crisis okay, but he knows of villagers who had to sell land or livestock to make it through the crisis, leaving them in quite a predicament now.

The second village we visited that second day was Ambohiambo, about 5 kilometers north of Betafo on a passable tarmac road (Betafo is the ancient seat of the Vakinankaratra kingdom, a busy town along RN34 about 15 kilometers west of Antsirabe). The first household we visited there is the wealthiest household in our Madagascar sample. We spoke with the wife, who seems to be in charge although her husband is present. There are five people in their household, 2 are children in secondary school, two are grown children still at home working. Her fifth child has his own households and a good job in town. She and her husband have only primary level education. They own 10 dairy grade cattle, 4 of which are presently lactating. (They tell us that of the 120 households in this village, there are probably more than 50 households with 5 or more dairy cattle and 40 of those are in their dairy coop ... it's a high potential area with good market access so people are doing reasonably well.) They get about 10 liters/day of milk per cow and sell the milk to Tiko, currently at a price of FMG2000/liter. Last year they sold 6 calves in

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addition to the milk. They receive milk payments every two weeks, following Tiko's quality control checks on the milk delivered. (Tiko checks mainly physical properties, e.g., density, and refuses milk of substandard quality.) This is bolstered by supplementing crop residues with purchased feed supplements, especially barley malt waste from MALTO, the local brewery (based in Antsirabe). When they were unable to buy the concentrate last year during the political crisis, because Tiko collection became irregular and milk producer prices fell from FMG2000 to FMG500/liter, milk yield per cow fell by half. They also keep pigs, which they fatten and sell for slaughter, and they own 1 hectare of tanimbary, of which 0.3 hectares were purchased using dairy proceeds.

They began with two zebu cattle and 0.7 hectares of rizière they inherited in 1975. They sold them and used the proceeds to purchase a cross-bred dairy cow to start dairy production. They saved up cash proceeds from crop and milk sales to invest in artificial insemination services to increase calving and lactation. FIFAMANOR provided the AI service for FMG35000 (about US\$5.50). The milk processor, Tiko, now provides AI service for FMG45000, too. Over the past quarter century, the household has steadily increased its herd size and milk yields. The rise of Tiko has been a big help for them. Tiko sells them veterinary products, feed and AI services on credit, repaid out of the proceeds from the milk they sell to Tiko. There are other milk processors around, but Tiko pays a higher price, albeit with a two week delay in payment. They usually go with Tiko, but when they need cash, they sell to others. The 12.5% price reduction they take in exchange for payment two weeks earlier is another example of the quasi-credit one commonly finds here in response to financial market failures. The two week price discount is equivalent to interest payments of 14.3% on a two week loan of FMG1750/liter, equivalent to an annual compound interest rate of 3220%!

The second farmer we visited in Ambohiambo is decidedly less well off. He has only 1 dairy cow and 70 ares of irrigated lowland fields, 30 ares of which he rents in on shares from a household that is poorer than he is. The landlord rents him the land because the landlord cannot afford to cultivate it himself. There have been some disputes over property rights in irrigated fields in this area, so they sharecrop so as to clearly signal that the land is theirs, not his (the tenant's). The fields have only mediocre water control – much worse than further down in the basin here – and thus he has to transplant relatively late, after about 40 days' growth, because they don't have water reliably in the main fields until some time in December. Based on his observation of his friends' rice fields, he estimates there's a 40-50% rice yield difference due to better irrigation and earlier transplanting (which is certainly consistent with the SRI evidence). He also owns some upland fields, but rents these out to others because he wants to focus on rice and barley. He grows off-season barley on contract with MALTO, which provides him with fertilizer inputs on credit secured by his barley crop. The fertilizer residues help his rice crop, he believes. He estimates that half the rice land in this area is planted in barley on contract with MALTO in the off-season because it helps stabilize cash income across the seasons and it helps with soil quality and thus rice yields (through nutrient replenishment from inorganic fertilizer and barley residues ploughed back into the soil).

En route to Fianarantsoa the next day, we stopped at the village of Ambohimaha, a 1997-2002 panel village right along RN7 where the road to the east coast joins the north-south highway. The basin here has good irrigation. The first farmer with whom we spoke is also the *chef fokontany* (village head elected in 2000). He owns 50 ares of upland (tanety) non-rice and 1 hectare of lowland (tanimbary or bas-fond) rice land and rents in another 7 ares of tanimbary. He inherited the land he owns. He has no livestock. Household consists of 3 minor children, his wife and him. They earn no off-farm income; his (unpaid) official duties absorb what off-farm time he might otherwise be able to spend earning income. He sells some of his crop and hires agricultural workers for ploughing, transplanting and weeding since his household is labor-scarce. Their soudure (the period when they cannot eat home grown rice but must either buy rice or switch to eating other than rice) is only 2 months, far shorter than most households in this region.

The second farmer in Ambohimaha is much older. He has a small military pension (he joined during the 1947 uprisings) and 1 hectare of tanimbary rice land. There are only three in his household (an adult child, his wife and him). They have no soudure. He grows off-season crops and sells them to raise money he needs for food for "hired" (reciprocal or *entre-aide*) workers.

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The third farmer we visited in this village is plainly the worst off of the three. His household includes 12 people because two of his children and their spouses died and he now cares for his orphaned grandchildren. He has 1 hectare of upland that he inherited and only 40 ares of tanimbary. They suffer a six month soudure and he has absolutely no idea what his grandchildren will do when they grow; there's plainly not enough land to divide amongst them. He uses no external inputs and got about 1.8 tons/hectare rice yield last year on his irrigated lowlands. He used to get only about half that yield before the PPI (small irrigated perimeter) was established several years ago. Rice yields are significantly higher with irrigation primarily because he can transplant rice seedlings much earlier; he used to have to wait until reliable water returned in January.

Farmers in this village terraced most of their upland (tanety) plots in 1995 because erosion was beginning to have an obvious, adverse effect on crop yields. They practice maize-bean rotations on tanety, one year each, because of poor water retention and soil structure. There's a bit of bean intercropping with either manioc or sweet potato and some use of compost. There's little cash labor market. Most agricultural labor is reciprocal, with the hiring farm providing meals to the hired workers and then exchanging labor later between the same farms. They don't keep many livestock because of disease problems. There's no contract farming (e.g., barley, dairy, wheat, fruit) and relatively little commercialization of farm output because processors are too far from them. They used to grow wheat for sale to KOBAMA (parastatal wheat processor) when the FAO had a project here that provided inputs. But when the project ended, so did the wheat production because KOBAMA wouldn't come to them with the inputs. The farmers say it costs too much to bring fertilizer and seed to them from Antsirabe or to take barley or fruit or milk up to Antsirabe and the processors' trucks don't come down to them, even though they're alongside the national highway. [CBB aside: The issue here seems to be processing capacity, which limits intake to a relatively small marketshed. The transport costs cannot really be so large ... this place is an hour from Fianar and 4 hours from Antsirabe ... if the processors had spare capacity.] They used to grow oranges as well, but the trees planted on a development project aged and died ... never found it worthwhile to invest in planting new trees.

The Ambohimaha farmers say with one voice that the only way to exit poverty here is through increased agricultural productivity. Even though they sit at the junction of the north-south RN7 and the highway from Fianarantsoa to the east coast, the nonfarm economy is dismal. The introduction of irrigation was a big step forward for them. They want to increase fertilizer use, but it's simply too expensive for them to afford. And even with fertilizers, soil compaction becomes a problem with continuous cultivation. Soils management is a huge problem for these farmers. Off-season crop cultivation helps a lot, they say, in providing some added soil nutrients and income as the soudure begins.

The last village we visited was Tsararivotra, one of our 1997-2002 panel villages, about 4 kilometers from Mahsoabe, itself about 30 kilometers from Fianarantsoa town. The road is tarmac most of the way, but in poor condition and steeply sloped. They nonetheless maintain vehicular access year-round except when the rains are unusually heavy. There is taxi brousse service to/from Fianarantsoa on market days (twice/week right now, in harvest period, weekly later in the year). Tsararivotra has a primary school and Mahsoabe has a secondary school that the Tsararivotra children attend. The roughly 60 hectares of lowland rice fields in Tsararivotra are irrigated using water originating in a protected area forest high on the ridge above the forest (where WWF works along with LDI and Coopération Suisse). 35 years ago they built a dam in the main streambed so as to create a pond to feed the irrigation scheme reliably throughout the growing season. This was made possible because a Tsararivotra resident was then the chef fivondronana and could secure project funding to construct a good dam. We watched (and filmed) some of the local children swimming in the pond. The community understands the importance of the forest to the hydrological cycle and they therefore have made and collectively enforce among themselves rules limiting forest use, in particular, no wood cutting. They do use it for harvest of medicinal plants (for use on livestock as well as residents). They harbor hopes of eco-tourism revenues, but it's frankly hard to see that happening in spite of the abundant natural beauty of the place.

The dam broke in a bad storm a few years ago and they've been unable to repair it. This creates a water shortage ~3 months/year as they cannot retain as much water from the rainy season for use later in the year. This causes them to transplant rice seedlings later, which reduces yields. The village no longer has

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any representatives in positions of influence to get project funding for repairs or even materials. They don't seem to have a sufficient sense of ownership over the dam, however, to simply use local materials (rocks, sticks) to make an earthen bund to block up the hole in the stone and masonry dam. They have the labor available, but when asked about the possibility of simply making an earthen bund with materials they do have available, they offer no reply.

We first household we visited with Ms. Noelina Razanamaro, a single mother of four. She was never married and has only two years' formal education herself. She inherited land from her parents when her mother died a few years ago. They had more land when she was growing up, but they had to sell some off to buy food. She owns and cultivates only 2 ares of tanety and 4 ares of tanimbary. Her two older children work for wages, about FMG3000/day (less than US\$0.50) plus a midday meal. Her 23 year old son treks 8-10 hours over the ridge to the Tanala villages to work on their rice fields for a week at a time, then treks back to get more food and give his mother the cash he has earned. Her daughter works various unskilled odd jobs in Mahsoabe. Her two youngest children are in school. They pay school fees here in kind, not in cash: 30 kg of paddy per household paid at harvest time. Even so, she often can't make the school payments, but neighbors and the community help out so that the young children can stay in school. Still, she hopes her younger two children can stay in school and become teachers. She thinks their future would be brightest if they could have steady non-farm employment since she hasn't much land to give them. Also, her oldest son only got three years' schooling and her oldest daughter only got four years'. So they don't really have any skilled employment prospects. The two younger children have only completed one and two years of primary school, respectively. She thinks she can afford five years' schooling for each of her younger two ... of course, one now has to complete training through the baccalaureate (12 years) to become a teacher in Madagascar.

In spite of the small size of the land she cultivates, she leaves another 2 ares idle because she cannot afford to keep her son home to work that land and she cannot afford to hire workers (although there's really not much of a cash labor market here ... one has to trek to other villages or Mahsoabe town) or even just to buy the food to feed reciprocal entraide laborers. She uses compost from household wastes on her upland plots, as well as eucalyptus leaves she collects locally. This puzzled me, given the acidity of the eucalyptus. When asked, she reports that the rice indeed yellows more than in her neighbors' plots (perhaps due to acidity of the eucalyptus mulch, perhaps due to water problems). Binding labor and financing constraints thus force her to underutilize her meager land holdings and to try inexpensive shortcuts to soil conservation and fertility maintenance that probably cost her foregone yields, exacerbating what is plainly acute chronic poverty. Her household suffers an 11 month soudure and they get only about 1.25 tons/hectare on their tiny rice plot, an unusually low yield for a plot this size. A few years back, they got some extra money and tried using inorganic fertilizer. At only 2 kg/are of NPK applied at the time of soil preparation, they got almost a 250% increase in yields. Her soils – indeed, the soils in most of this basin from my observation – are badly nutrient depleted and thus respond vigorously to nutrient amendments. Unfortunately, fertilizers are unaffordable to most of these folks. The current price is FMG3600/kg for NPK. So for US\$5-6 she could reduce her soudure by 1.5 months, but even this is beyond reach.

This woman aspires to get her children educated and off to skilled jobs and, for herself, to be able to start raising ducks for sale and to expand her upland area by hiring labor to help her clear and claim communal land that belongs to her clan but that is presently unused. The constraint is that she cannot afford to buy the food to support the workers to clear the land. This underscores a basic point made later in the day by our LDI colleagues – land clearing in this area is primarily a phenomenon of the rich, who can afford the labor costs.

The second household we visited is headed by the town school teacher. His household consists of 10 members, 7 of them children, all of them presently in school. The oldest is 16 years and in a Catholic secondary school in Fianarantsoa. Beyond his school teacher job, he has one zebu cow and cultivates 6 ares of tanety here which he has terraced and plants in beans and maize, and 16 ares of tanimbary that is in his ancestral village (inherited land) almost 10 kilometers away. His extended family watches over the land and he goes back there most weekends in growing season. He used 100 kg of NPK last year on those 16 ares and got almost one ton of rice. The land also has good water control, so good water and

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fertilizers give him a yield of 6 tons/hectare or more, more than four times that of the woman farmer we visited previously in this same village. The differences, of course are land quality, fertilizer use, and capacity to hire laborers (and use household labor at optimal timing). There soudure is only four months, which is readily covered by the rice he receives from school families. There are 142 children in 5 grades at the local school. The teacher received nearly 2 tons of paddy in payment in kind from the village this year in addition to his cash payments from the government.

This gentleman has a very comfortable home – we were invited in to visit and enjoy a drink and a break from the hot sun – with electricity. His aspirations for his children are notably higher than those of his female neighbor. He wants his sons to become electronic engineers and his daughters to become nuns or grocers. His own schooling enabled him to overcome the limited land inheritance he was to receive. He completed 11 years, a 1st class primary degree, the step one year prior to the bac ... the bac wasn't a prerequisite for becoming a teacher back then.

The total field trip circuit for the BASIS team came to 1075 kilometers traveled safely and expeditiously, for which the team owes thanks to the FOFIFA drivers and to Jhon Rasambainarivo and his team for well-planned logistics. Back in Antananarivo, Ben Okumu and Larry Blume spent Monday working on the CLASSES model, then after Larry returned to the US, Ben and I spent Wednesday morning working on it further. Much of Ben's week was spent working on this complex modeling effort.

Monday, March 17, I spent the morning at the Université d'Antananarivo, visiting with the faculty in the Department of Agro-Management (their equivalent to our Department of Applied Economics and Management). The Department and the broader College (ESSA ... equivalent to Cornell's CALS) are keen to establish memoranda of understanding with Cornell to facilitate faculty and student exchange and joint research efforts. They have received some World Bank funding under the FADES project and will use a bit of it this summer to send the Department Chair in Agro-Management and her husband to Cornell for bioeconomic modeling training with Ben Okumu and me. They would welcome Cornell students visiting there, especially if they might be willing to give a guest lecture in their DEA (sort of a MPS equivalent) program, which presently has 28 students (including 1 Swede and 1 Canadian). The faculty includes one Ag. Econ. Ph.D. from the University of Florida (Abel Ratovo) and two French Ph.D.s in food science (the Department chair, Mme. Romaine Ramamanarivo, and her husband, Sylvain Ramanarivo). They are getting a new computer room funded under the FADES project and are the home of *Terre Malgache*, the scholarly journal on agrarian studies in Madagascar. The conditions are spartan and the faculty ranks thin, but this seems like a promising and energetic group that is keen to improve the quality of research and training in the agricultural social sciences at the University. I agreed to host Romaine and Sylvain for a couple of weeks this summer and to try to shepherd an MOA between Cornell and Ud'A through the Cornell bureaucracy on my return.

Back in Antananarivo, on Monday, March 17, and then again Tuesday, March 18, and all day Thursday, March 20, I spent time with the Programme ILO team, preparing for and participating in the national conference they ran on "Agriculture and Poverty", which attracted more than 110 people, including the USAID Mission Director and several of his senior staff, most of the national press and many senior level policy-makers who stayed from 9 AM to 6:30 PM. Dr. Bart Minten and his team did an impressive job in organizing an excellent portfolio of work and presenting it clearly and engagingly at their conference through a series of more than 20 policy briefs. One of the national television stations interviewed me on our findings regarding SRI, the new rice technology of great interest here. I will have to try to find out if the interview is indeed broadcast. Following the conference, Bart and I had a couple of conversations about subsequent efforts to develop the briefs presented on March 20 into richer studies, possibly as a book to be published locally. Bart and I also spent some time talking through in detail prospective papers on temporal, spatial and inter-form market integration and equilibrium using the commune census and crisis survey data. We agreed to aim for getting two papers done by end-August, one a piece on markets in Madagascar and the other a more technical paper on uncovered parity in arbitrage.

Good progress was made in drafting a workplan for the SAGA-Madagascar research program. One part of our hour long meeting with Steve Haykin (USAID-Madagascar mission director) and his staff concerned SAGA. Pepe Andrianomanana (Director, CEE), Bart Minten, David Stifel, Lena Heron and I

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met for an hour or so on March 18 to brainstorm ideas in advance of our all-morning visit with USAID-Madagascar (Catie Lott, Lisa Gaylord and Fidele R.) on March 21. That meeting included Bart Minten, Pepe Andrianomanana, David Stifel and me, in addition to the four USAID staff, responsible for the four SOs under the mission's new five year strategic plan (set to begin Oct. 1). USAID expressed concern for the development of more truly autonomous (i.e., independent of government funding) economic research capacity in the country. Local private consulting firms are of spotty availability and quality. Notes from the March 21 meeting are attached as Appendix 5. Tentatively, we seem to have settled on two core themes for the SAGA-Madagascar work: (i) deconcentration/re- or de-centralization, and (ii) rural poverty dynamics, vulnerability and risk management. David Sahn would presumably lead Cornell's effort on (i), while I would lead our effort on (ii). This may require resampling from the 2002 EPM in January/February 2005 in order to build a proper, nationally representative panel survey. That would likely require some additional funding and close cooperation with INSTAT. We would also want to look in greater detail at agricultural productivity and natural resources (e.g., soils) dynamics, using the 2000-2002 ILO/BASIS surveys and perhaps revisiting those households (especially to create a panel data set of soil quality and household welfare).

Notes on specific organization/individual meetings not mentioned above:

Centre d'Etudes Economiques: I visited with CEE's director, Dr. Pepe Andrianomanana (who had been my formal contact/sponsor during my dissertation research here in 1992-93) three different times to discuss SAGA issues, as well as our joint meeting with USAID on Friday, March 21. Pepe also wrote a letter of support for Marc Bellemare's SAGA small competitive research grants proposal (in French, I translated a version into English for him). Pepe can draw on a variety of faculty in the DEGS (Law, Economics, Management and Sociology) Department at the University through CEE.

USAID Landscapes Development Initiative (LDI), Chemonics-Cornell collaboration: Dr. Mark Freudenberger, the Director of LDI-Fianarantsoa, gave our team an excellent briefing for the BASIS team on their work on the eastern forest corridor on Saturday afternoon, March 15. Chemonics runs LDI in collaboration with Cornell (which provides the LDI-Moramanga Director, Glenn Lines). Mark and his wife, Karen, are old friends from their days at Wisconsin's Land Tenure Center while I was a Ph.D. candidate at Wisconsin.

Mark's "Coveted Corridor" presentation of LDI-Fianarantsoa's work was very interesting, especially in putting our BASIS work in Betsileo villages in Fianarantsoa, on the western side of the eastern forest corridor, in broader context. They work among the Tanala (to the east) as well as the Betsileo. Rainfall is 3200-3500 mm/year on the east side, 1800-2200 mm/yr on the west. Fianarantsoa is the poorest of Madagascar's provinces, with social indicators lowest in more marginal areas (such as some of our more distant sites). Among the Betsileo, only the wealthiest ~20% practice tavy. Deforestation among the Betsileo is associated with wealth (need to be able to provide surplus or purchased rice to feed the laborers who spend a season clearing new land ... initial investment barrier for extensification by the poor). Mark says "Poverty is the single most important factor protecting the corridor." Poor Betsileo send their young to towns/cities for work or to the Tanala to work as agricultural laborers (the Tanala value Betsileo skills in rice cultivation, especially terracing). The poorest Betsileo (a category encompassing ~75-80%) have rice yields averaging only ~0.75 tons/HA, reflecting no inputs and severely depleted soils (Betsileo nationally respected for their rice cultivation skills). The Tanala were generally wealthier than the Betsileo (e.g., wealthiest had 6-8 cattle per capita versus 3-4 among Betsileo), although the Tanala have been hardest hit by the coffee price collapse (in the face of intense robusta competition from Vietnam especially) and railway problems. Among the Tanala, immigrants are the poorest peoples. Those with commercial banana, coffee or pepper use the proceeds to hire Betsileo workers to help with rice cultivation. But the coffee price crash and the cyclone damage to the rail line have cut this back sharply, with spillover effects on the Betsileo.

LDI emphasizes that the forests have been managed for extraordinarily long time. Roughly 400 people/day traverse the trans-forest path on market days. Transport system is very active and important.

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With the FCE railway, there are opportunities for shipping out commercializable products (e.g., bananas, timber). When the railway was cut by cyclones and far from the railway, there's little commercialization due to haulage costs. The Betsileo, for example, just burn off the timber they take down for tavy (slash and burn).

Among the Tanala, the common practice is tavy for a sequence of 3-year cultivation of rainfed rice, then maize, then manioc, after which the land is rested for just a few (4-5) years, then cultivated again in a 1-1-1 rotation, after which it is abandoned to natural fallow for 30-40 years. When prices are good and market access costs manageable, the Tanala cultivate coffee, bananas, pepper and other tree crops. The Betsileo, by contrast, have more intensively managed landscapes, with extensive terracing and frequent irrigation of lowland rice fields (tanimbary), eucalyptus woodlots, fruit tree stands, draft livestock, emerging pisciculture and aquaculture, and (typically terraced) upland (tanety) plots of manioc, maize, rice and vegetables.

Population density is greater among the Betsileo, where there is no unused land in many areas (e.g., Mahsoabe). So farms are commonly highly fragmented and the Betsileo out-migrate into the forest when they cannot subdivide any further. This extensification, combined with negligible fertilizer or manure use on fields (fertilizer prices are extremely high here and livestock herds are sharply declining ... see Karen's Livelihoods Without Livestock study but also due to dahalo commercial thievery, not just ritual funeral slaughter), has led to sharp declines in soil quality and agricultural yields. Resource conflicts between the Tanala and the Betsileo are not uncommon although land tenure is clear and well demarcated. Among the Betsileo, clans of extended families control land. Among the Tanala, land rights are vested in local kings who confer rights to first cultivator (Lockean rights). Distress sales are common among both the Betsileo and the Tanala.

Because of the centrality of rice to Malagasy culture and its economy, LDI emphasizes the hydrological importance of the forests to the rice-based economy. The forests provide a reservoir of water that is released more gradually when forest cover is denser, and a regulator of local microclimate. Rice productivity in the corridor, and in Madagascar more broadly, is collapsing. Vicious cycle because infrastructure repair grows more costly with greater flooding due to deforestation (same rain and wind, but more rapid water flow and erosion as the forest is thinned).

Since the forest is wholly managed anyway, they emphasize commercial agroforestry crops (banana, coffee, etc.) that do a better job in conserving fragile hillsides and offer a good return when transport is available to evacuate marketable crop. An ag system based on annual crops, such as rice and manioc, is far less sustainable in this setting because of much higher erosion and somewhat higher nutrient uptake, so need to fallow much sooner than under a tree-based system.

But the FCE railway is key to making tree-based agriculture economically viable. Integrated regional transport systems (need to containerize the port in order to help stimulate non-ag labor markets in Fianar, e.g., for textiles, computers, granite/marble, processed tropical foods, and for internationally competitive organic crop products (no chemicals in soils here). South Africans appear likely to buy privatized railway and port this year. Along with restoring the viability of commercial tree-based agriculture, urban labor market development is central to sustainable forest management because need it to soak up growing labor force (due to rapid population growth ... no significant HIV/AIDS here yet).

The common ground between our two projects is considerable and we agreed to begin collaborating. Most immediately, this involves sharing information and data with Mark's Fianarantsoa-based colleague, Haja Guy Randrianarisoa, and his LDI-Moramanga colleague, George Rakotondrabe (who also attended the Oct-Nov 2002 bioeconomic modeling course BASIS ran at Cornell), both of whom attended all of our meetings and was given a full set of our presentations and documents. Next, Victor Rakotoniaina, the FOFIFA rural sociologist conducting our qualitative field work, will link up with LDI-Fianarantsoa later this month prior to beginning his own work, which will run concurrently with PRA exercises LDI will be doing, the latter primarily to the east of our sites, in Tanala villages. There is great potential complementarity here and much good will to exploit in extending the data and analysis on each side. They heavily emphasize a systems vision akin to ours and their presentation bears the marks of George's

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input based on his participation in the Oct-Nov bioeconomic modeling course on systems dynamics at Cornell.

I also visited with Sally Cameron of Chemonics-Washington, who handles LDI from the DC side, at a dinner hosted by Lisa Gaylord of USAID-Madagascar. They are being pushed under LDI to consider sectoral and macro policy effects on smallholder incentives for agricultural production and marketing and on natural resource management.

FOFIFA: The Madagascar co-PI, Dr. Jhon Rasambainarivo, director of animal research for FOFIFA and head of the University's new program in veterinary science, organized an excellent program. Along with his colleagues, Jean Claude Randrianarisoa and Victor Rakotoniaina, FOFIFA was a great host and extremely professional in all their work. We are fortunate to have such motivated and capable partners.

On Tuesday, March 18, Jhon, Ben and I met with Directeur General, Dr. Francois Rasolo, at FOFIFA Headquarters. Dr. Rasolo expressed great interest in and support for the BASIS CRSP effort. His office had apparently received a number of telephone inquiries from print and television journalists following the March 11 stakeholders workshop. He advised us to prepare a one page press release for Malagasy journalists and to speak with Dr. Lall about the prospective soil spectral analysis training and research with ICRAF. Friday, March 21, Bart, Ben and I had lunch with Drs. Rasambainarivo, Rasolo and the heads of administration, livestock and rural development for FOFIFA. We have plainly established a very strong relationship with FOFIFA's senior leadership and they value their relationship with Cornell. Finally, Ben and I spent the afternoon of March 21 with our FOFIFA BASIS collaborators reviewing survey data and talking through the terms of reference for the qualitative survey work to begin later this month, as well as various administrative details.

Universite d'Antananarivo: I met on 17 March with the Director (Dean) of the Ecole Superieure Des Science Agronomiques (ESSA), Dr. Panja Ramanoelina, the equivalent of Cornell's College of Agriculture and Life Sciences. He is very enthused to establish a formal collaborative relationship with Cornell that might facilitate ESSA hosting Cornell faculty and students, research collaboration between the two universities, and Cornell hosting ESSA faculty and students. ESSA has 5 Departments: Agro-Management, Forestry and Natural Resources, Food Science/Engineering, Agronomy, and Animal Science.

After meeting with the Director, I spent several hours with the faculty of the Departement Agro-Management, which is a combination of agricultural economics, rural sociology, and food industry studies. They have a 5 year undergraduate "engineer" program, a set of continuing education courses they offer to professional groups in a non-degree setting, and a graduate program comprised of a 12-month MPS-equivalent (the DEA) and a dissertation-only Ph.D. program. They exploit local and visiting experts heavily in their graduate training program (e.g., Bart Minten has taught several days' of micro and macroeconomics). They would be especially interested in getting Cornell assistance with the design and teaching (even on a one-off basis) of any or all of these courses. Students enter as a cohort in November and take 3 months of courses intensively, followed by a 2-3 month "action research" project in small groups of 2 or 3, followed by an individual project. They could really use courses in econometrics, mathematical programming, microeconomics, qualitative and quantitative field research methods, demographic modeling, food industry management, resource economics, production economics, markets and marketing. They have received funding from the World Bank FADES program to build up their classroom facilities, their computer equipment and to fund short-term training for existing staff. They have 6 faculty, of whom 3 are very active (2 are near retirement and 1 spends most of his time with his private business). One is a Ph.D. in Food and Resource Economics from the University of Florida (Abel Ratovo), a very sharp young man. The other two (a husband-wife team, Sylvain and Romaine Ramanarivo) are food science engineering Ph.D.s from Aix-en-Provence in France who have subsequently received MS level training in agricultural economics and management, respectively, and are now doing their Doctorat de l'Etat at their University. Romaine and Sylvain will come to Cornell in summer 2003 for a 2-3 week short course in bioeconomic modeling under the CLASSES project.

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We worked out two draft agreements, one between CALS and ESSA to create a general Memorandum of Agreement (on collaboration in research and training) between the two universities, the second between the Departement Agro-Management and Cornell's Department of Applied Economics and Management. Mme. Ramananarivo is finishing up the editorial changes to which we agreed and will send me four sets of signed copies for signature by the appropriate Cornell authorities.

USAID-Madagascar: I met on Tuesday morning, March 18 with the Mission Director, Steve Haykin, the mission economist/democracy officer, Catie Lott, the environment/natural resources officer, Lisa Gaylord, Fidele Rabemananjara and a couple of other local staff. One concern Steve expressed about CLASSES was its sustainability absent sufficient local training and buy-in to the design and calibration of the model. They expressed great pleasure with the Programme Ilo, noting that it is clearly feeding into the PRSP process (which resumes next week with a Presidential-level meeting to work out the contours of the PRSP (known here by its French acronym, PADR). The Mission is extremely interested in poverty-environment linkages. We need to send them the conference CD from May.

Tuesday evening, Ben and I enjoyed a nice dinner at Lisa Gaylord's with Phil DeCosse of IRG, who used to run the PAGE (Programme d'Appui de la Gestion Environnementale) program here, Sally Cameron of Chemonics, who handles the LDI project for them from Washington, and Jean-Phillipe ???, head of WWF-Madagascar (very interesting and sharp fellow).

World Bank: David Stifel and I met Wednesday morning with Jesko Hentschel, the mission economist, to discuss SAGA, BASIS and the August 2003 learning workshop on poverty analysis (to be held in Durban, South Africa, immediately prior to the IAAE triennial meetings). Jesko is scheduled to be the presenter on integrating qualitative and quantitative approaches to poverty analysis. However, he is now being transferred to Argentina sometime later this year, perhaps August, so his participation is now somewhat in question. He should be able to tell me by end-March.

The Bank is strongly interested in both of the proposed SAGA-Madagascar themes. On theme (i), (re-) decentralization of decision-making and deconcentration of public services delivery, the Bank is pursuing quantitative research on public expenditure tracking and estimation of the relationship between public services expenditures and social indicators at commune or household level (using the commune census and the EPM), documenting the expenditure chain (Jesko and Immanuela are doing this work), institutional analysis of services delivery and accountability at local and regional level (Derek Brinkerhoff) and health sector (Mead Olver with Peter Glick). Nathalie (Leuven student of Jo Swinnen) is working with Bart on education and health issues in the commune census data. Chris Moser's work on public services delivery in a democratic political economy might link well to some of this work. On theme (ii), concerning poverty dynamics and risk, Mattia Romani (Oxford Ph.D. student of Marcel Fafchamps) is trying to explore poverty dynamics using a pseudo-panel of 1999 and 2001 EPM data and Carlo del Ninno and Emil (sp?) are doing risk and vulnerability analysis with Jesko. They expect to get some funding for this starting in July.

I also visited for a little while with Immanuela Galasso and Johan Mistaien of the Bank, both of whom were in town on mission from Washington. Immanuela is working intensively on public services delivery and budgeting and expenditure tracking issues related to the decentralized/deconcentrated provision of public services (especially education and health). Johan is working on rice price policy analysis and has been central to the Bank's poverty mapping work in Madagascar.

Other Individuals Visited: Harison Rabarison (Conservation International-Madagascar), Tovondriaka Rakotobe (Coordinator, Office National Pour L'Environnement), Senator Fabien Velonaddy (former FOFIFA coffee researcher, now a member of the Malagasy national senate representing Fianarantsoa)

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Appendix 1

“Rural Markets, Natural Capital and Dynamic Poverty Traps in East Africa” Third Annual BASIS CRSP Project Team Meeting

March 11-14, 2003

**Panorama Hotel, Antananarivo, Madagascar
and
Arotel-Mascar Inn, Antsirabe, Madagascar**

Meeting Objectives:

- (1) Brief Madagascar stakeholders on the BASIS CRSP and on this particular project and get feedback and guidance on how best to integrate BASIS research findings into ongoing policy deliberations within the new Malagasy government.
- (2) Each site team will present the status of the survey data entry, cleaning and preliminary data analysis in their location(s). This should include discussion of the attrition rate experienced from the original survey, the number of supplemental and replacement households (if any) added to the BASIS survey round, welfare transition matrices constructed, descriptive statistics of key welfare, productivity and natural resource quality variables, and any other variables or preliminary results of particular interest. Each team will provide the PI team with an electronic (CD) copy of the final questionnaire fielded (please bring both hard copy and an electronic disk copy), the full data set and its code book.
- (2) Discuss organization and early results of the qualitative (oral history) research to follow up preliminary survey evidence in each site.
- (3) Discuss progress in theoretical work on poverty traps
- (4) Present prototype of CLASSES model.
- (5) Pin down FY2004 (Oct. 1, 2003 - Sep. 30, 2004) workplan details: data analysis activities and responsibilities, CLASSES model development and application, policy briefs and papers under project, the 2003-4 BASIS Policy Conference and FY04 stakeholder workshops.
- (5) Help with team building by providing more opportunity for team members from different institutions to interact with one another.
- (6) Field visit to Vakinankaratra and Fianarantsoa field sites.

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2003 Team Meeting Agenda

<u>Tuesday, March 11: Overview and stakeholder discussions</u>	<u>Facilitator</u>
<i>At Panorama Hotel, Antananarivo</i>	
08:30 Welcome to 2003 team meeting and introductions	Jhon Rasambainarivo
09:00 USAID BASIS CRSP global objectives	Lena Heron
09:20 Overview of project overall and FY03 objectives	Chris Barrett
09:50 Overview of activities to date in Madagascar	Rasambainarivo
10:15 Coffee/tea break	
10:45 Modeling activity choice and poverty traps	Chris Barrett and Larry Blume
11:15 Discussion of policy fora and getting BASIS findings into the PRSP process	Frank Place, Festus Murithi, Bart Minten
11:45 Group discussion and stakeholder feedback	Rasambainarivo
12:30 Lunch	
15:00 Travel to Antsirabe	
19:30 Group dinner	
<u>Wednesday, March 12: Progress to date</u>	
<i>At Arotel-Mascar Inn, Antsirabe</i>	
08:00 Depart for field site visit to Betafo and Ankazomiriotra	Jean Claude Randrianarisoa
13:00 Discussion of Madagascar survey data	Rasambainarivo,
Randrianarisoa	
14:00 Discussion of Madagascar qualitative follow up	Victor Rakotoniaina
14:30 Discussion of northern Kenya survey data	Barrett
15:30 Discussion of central Kenya survey data	James Ouma, Murithi
16:00 Coffee/tea break	
16:30 Discussion of western Kenya survey data	Paswel Phiri, Place, Wangila
17:30 Discussion of Kenya qualitative follow up	Place
19:30 Group dinner	
<u>Thursday, March 13: Next year's workplan</u>	
08:00 Depart for AM field trip to Andranokely or other PPI	Randrianarisoa
14:00 Presentation of CLASSES prototype model	Okumu
16:00 Coffee/tea break	
16:30 Discussion/revision of draft FY04 work plan	Barrett, Rasambainarivo,
Murithi, Place	
19:30 Closing dinner	
<u>Friday, March 14</u>	
09:00 BASIS team members depart for Fianarantsoa	
PM Stop at Fianarantsoa site en route	Randrianarisoa
<u>Saturday, March 15</u>	
Field visits to Fianarantsoa sites: Ampampana and Mahasoabe	Randrianarisoa
16:00 Presentation by LDI-Fianarantsoa	Mark Freudenberger
<u>Sunday, March 16</u>	
09:00 BASIS team departs for Antananarivo	

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Appendix 2

BASIS CRSP Project Third Annual Team Meeting
Arotel-Mascar Inn, Antsirabe, Madagascar
March 11-13, 2003

Participant	Institution	Email
1) Barrett, Chris	Cornell University, USA	cbb2@cornell.edu
2) Blume, Larry	Cornell University, USA	lb19@cornell.edu
3) Heron, Lena	USAID/Washington	lheron@usaid.gov
4) Minten, Bart	Cornell/FOFIFA/INSTAT	bminten@dts.mg
5) Murithi, Festus	KARI, Kenya	fmmurithi@kari.org
6) Okumu, Ben	Cornell University, USA	bno2@cornell.edu
7) Ouma, James Okuro	FOFIFA-Embu, Kenya	irmaembu@salpha.co.ke
8) Phiri, Paswel Marenya	University of Nairobi	Agecon@insightkenya.com
9) Place, Frank	ICRAF-Nairobi	f.place@cgiar.org
10) Raharivelo, Veroso	LDI-Fianarantsoa	vmr@chemonics.mg
11) Rakotondrabe, George	LDI-Moramanga	grakotondrabe@yahoo.com
12) Rakotoniaina, Victor	FOFIFA-Antananarivo	rako265yo@hotmail.com
13) Ramanarivo, Sylvain	Dept. Agro-Management Universite d'Antananarivo	ramananarivos@yahoo.fr
14) Ramiamanana, Danielle	FOFIFA-Fianarantsoa	horizon@dts.mg
15) Randrianarisoa, Jean Claude	FOFIFA-Antananarivo	c_randrianarisoa@hotmail.com
16) Randrianarisoa, Haja Guy	LDI-Fianarantsoa	hgr@chemonics.mg
17) Rasambainarivo, Jhon	FOFIFA-Antananarivo	jrasamb@dts.mg
18) Ratovo, Abel	Dept. Agro-Management Universite d'Antananarivo	abelratovo@yahoo.fr
19) Razafimandimby, Simon	FOFIFA-Antsirabe	fofifa.abe@dts.mg
20) Wangila, Justine	ICRAF-Nairobi	j.wangila@cgiar.org

Note: Above participant list is for the Antsirabe portion of the annual team meeting and does not include either the Antananarivo national stakeholders' consultation (see that participant list) or those who joined us only in Fianarantsoa (LDI).

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Appendix 3: Field Visit Briefing Sheets To Team Members

March 12: Village of Ambatomainty - Commune of Ambohibary

The village of Ambatomainty is located on the highway #7, the one we took yesterday to come to Antsirabe from Tana. It is around 35 km from Antsirabe. Ambatomainty is a new village, which means that we didn't visit it in 1997 nor in 2000. We decided to add this village because of the existence of the large rice irrigated perimeter of Ambohibary- Sambaina close to it. Actually, we have two new villages in this area: Ambatomainty (large village close to a paved road) and Andranokely (small village far from a paved road). The road to Andranokely is in a very poor condition, so we cannot get there.

Ambohibary plain is the largest irrigated perimeter in the Vakinankaratra area. Its surface is more than thousand of hectare. Usually, in this area, farmers practice a lot of activities: agricultural (rice, vegetables, upland crops), livestock production (milk).

For today, we are expecting to discuss (and visit) with:

1. a milk producer farmer, who is also the chief of the village of Ambatomainty;
2. a rice producer, with a good irrigation;
3. a rice producer, with a poor irrigation;
4. a vegetable producer.

This area supplies vegetables (Carrots, cabbage, potatoes etc.) almost all the main cities in the highland (Antananarivo, Antsirabe, Fianarantsoa) and also in the coast (Toamasina, Toliara, Mahajanga).

Depart from the hotel	08:45
Arrival to Ambatomainty	09:15
Field Visit (1:45)	11:00
Go back to Antsirabe	
Arrival in Antsirabe	11:30

Some people were asking to check their e-mail. The "alliance française", located near to the hotel, is a good place for that. There are only 3 computers there, but the connection speed is ok. The cost is 150 FMG per minute (around US 2.5 cents a minute).

A panoramic view of the Ambohibary irrigated perimeter and the village of Andranokely



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March 13: Village of landratsay- Commune of Ankazomiriotra

The village of landratsay is located on the highway # 34. It is a small village in the commune of Ankazomiriotra, 70 km West of Antsirabe. landratsay is a panel village from 1992, 1997, 2000 survey.

Village 92 – 97 – 00 - 02

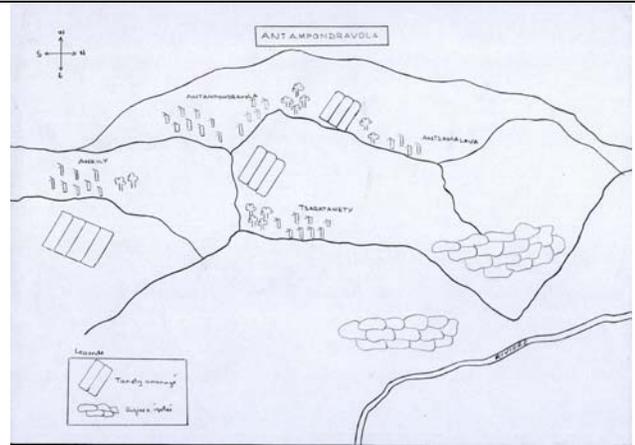
GPS localization: N – 19 39 57
 E – 46 33 42

Attrition rate between 97 and 02:
2/15 = 13%

Attrition rate between 00 and 02:
0/15 = 0%

For landratsay, we are expecting to discuss (and visit) :

5. a farmer having an eroded upland plot;
6. a rice producer,



2. Village of Ambohiambo – Commune of Betafo

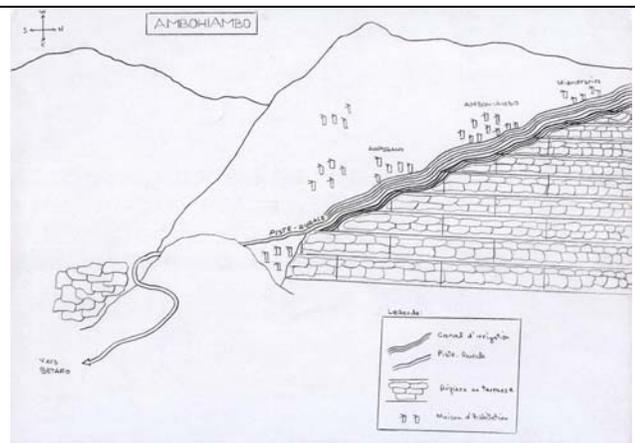
It is a village close to Betafo, just a 5 km in the North with a fair road access. We are going to visit households who practices rice and dairy cow production. Rice fields in Ambohiambo have a good irrigation system. The "richest household" in the sample leaves in the village.

Village 92 – 97 – 00 – 02

GPS localization: S – 19-48-58
 E – 46-52-03

Attrition rate between 97 and 02:
8/15 = 53%

Attrition rate between 00 and 02:
3/15 = 20%



Depart from the hotel	08:00
Arrival to landratsay	09:00
Field Visit (1:45)	10:30
Go back to Betafo	
Arrival in Ambohiambo	11:15
Field visit (1:00)	12:15
Arrival to Antsirabe	12:45

March 14-15: Village of Ambohimaha- Commune of Alakamisy – Fianarantsoa II

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The village of Ambohimaha is located on the highway # 7. It is a small village in the commune of Alakamisy, 26 km North of Fianarantsoa. Ambohimaha is a panel village from 1997, 2000 survey. Road access is very good from Fianar to Antananarivo. It is also the village where the road connection to the Eastern coast of Fianarantsoa is located.

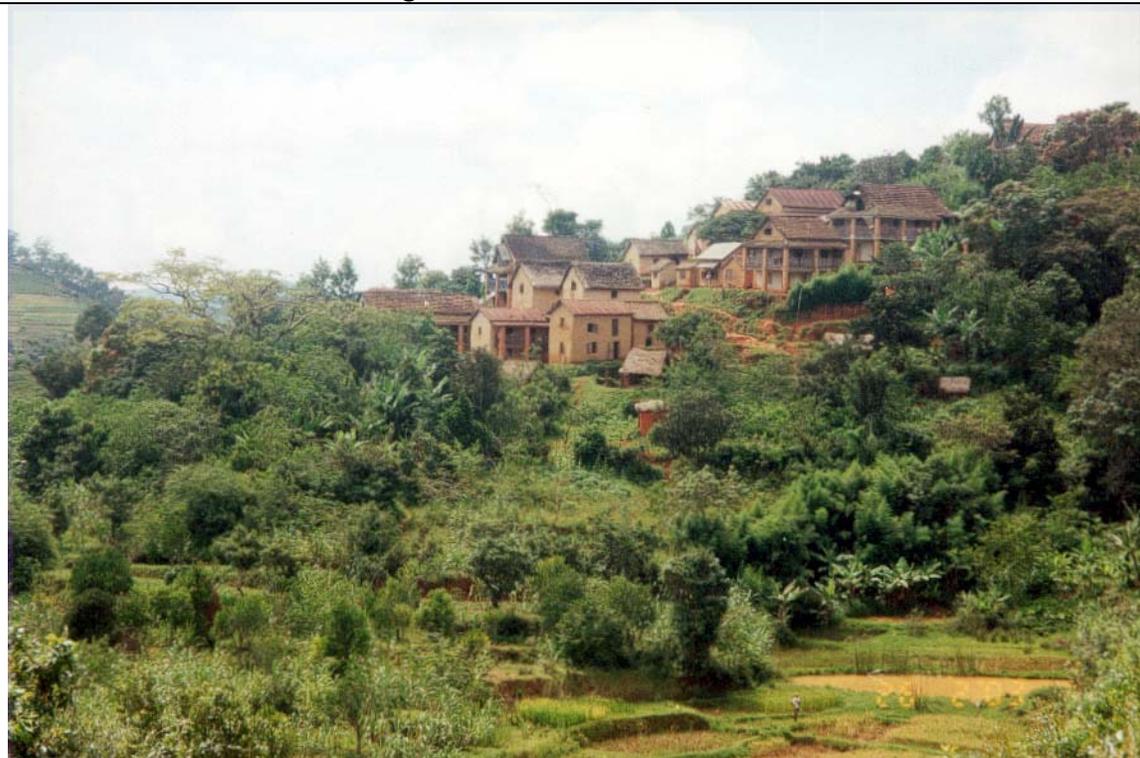
Rice irrigation is good and generally well maintained.

2. Village of Tsararivotra – Commune of Mahasoabe – Fianarantsoa II

It is a relatively far village, around 30 km South of Fianarantsoa. The road from Fianar is practicable but in a poor condition. From the main city of the commune (Mahasoabe) to the village of Tsararivotra, road quality is very rough and might be impossible to drive by trucks during the rainy season.

We are expecting to see a poor panel household, headed by a woman. Also, we can discuss with a household with relatively high non-farm income (teacher), who is also a panel household.

Village of Tsararivotra – Mahasoabe



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Appendix 4: General Terms of Reference, Updated March 2003 Social Aspects of Dynamic Poverty Traps: Complementary Studies to Survey Analysis

1. Background

Cornell University, the International Centre for Research in Agroforestry (ICRAF), the Kenya Agricultural Research Institute (KARI) the University of Nairobi (UoN), and FOFIFA of Madagascar have recently been funded by the Broadening Access and Strengthening of Input Systems (BASIS) Collaborative Research Support Program (CRSP) of USAID to undertake a study of rural poverty traps in East Africa. The research intends to build on existing quantitative datasets to undertake econometric analyses of the determinants of poverty traps and to build simulation models to assess the impacts of alternative technological and policy interventions on alleviating poverty. Initial meetings with stakeholders and potential clients have highlighted the need for increased social analysis in order to understand better the processes involved in inhibiting or promoting welfare enhancement by rural households.

The project has secured additional funding necessary to undertake qualitative research at community and household levels to complement the survey-based research taking place in five of the project's field sites: Dirib Gumbo (Marsabit), Madzu (Vihiga), and Ngambo (Baringo) in Kenya and Fianarantsoa and the Vakinankaratra in Madagascar. In Kenya, this work is supported by supplementary grants from IDRC (Canada) and the Rockefeller Foundation to ICRAF and the University of Nairobi, respectively. In Madagascar, this work is supported by Cornell University's Ilo project from USAID-Madagascar.

2. Objectives

The principle objectives of this social component of the project are:

1. To characterize, identify, and analyze dynamic poverty processes using social and historical methods, with particular attention being given to the effects of shocks on welfare dynamics and the relationship between natural resources management practices, changes in natural capital (soils, forests, water) and human welfare dynamics.
2. To identify existing and potential strategies for households to escape from poverty traps and to understand the constraints in employing them.

These objectives are highly similar to those in the rest of the BASIS project, contributing both to the understanding of poverty traps and the simulation of the impacts of potential beneficial interventions.

3. Sampling Method

The objective is to understand household-level changes in well-being and natural resources management. So it is important to minimize the number of villages visited so as to minimize the between-village variation in the household-level case studies. Households interviewed in the qualitative work are to be selected from the quantitative survey sample households. Using the poor-nonpoor transition matrices we have constructed off the panel data on per capita household income, for each site the researcher is to choose two sample households each from the (i) poor-nonpoor and (ii) nonpoor-poor cells of the transition matrix for the site. Then choose two households each from the poor-poor cell who (iii) enjoyed an increase in income per capita between the two survey periods, (iv) experienced no significant change in income per capita between the two survey periods, and (v) suffered a decrease in income per capita between the two survey periods. Then do the same for the nonpoor-nonpoor cell, covering two households each who (vi) enjoyed an increase in income per capita between the two survey periods, (vii) experienced no significant change in income per capita between the two survey periods, and (viii) suffered a decrease in income per capita between the two survey periods. Assuming there exist at least two households in each of the eight categories just identified, this will yield 16 households each per site for the qualitative survey. If there are not at least two households in each of the eight categories, the number of households covered by the qualitative work will be reduced accordingly.

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Households need not be randomly selected. Indeed, it is preferable that household for the qualitative survey work be purposively selected for the cooperativeness of the household (e.g., their availability to visit with you and the apparent willingness to share details of their story with you) and the added insights their history can provide. Select households with whom you feel you can get good and truthful information that will help explain the quantitative data, offer key insights on the root causes of poverty traps or paths out of poverty, or both.

It is advised that the researcher begin with the nonpoor-nonpoor and the poor-nonpoor households, so as to be able to identify strategies that have been effectively employed by households in getting and/or staying out of poverty. Then the researcher can explore with households in the poor-poor and nonpoor-poor categories why they have not been able to access those strategies effectively as some other households have.

4. Activities

The activities will involve qualitative techniques, beginning with focus group consultations to understand the range of important concepts related to poverty processes. This will be followed by case studies of selected households to construct social-historical profiles of distinct household types and by key informant interviews to corroborate and expand upon key issues and details emerging from the focus group and household interviews. The data to be analyzed include that on household livelihoods, vulnerability to economic and health risks (including HIV-AIDS), risk coping mechanisms, management of assets, investment strategies, gender relations, social capital and networks, natural resources management practices (especially regarding soil fertility and soil and water conservation) and the role of off-farm activities. Particular attention will be paid to understanding the historical context that underpin household strategies to improve their welfare. Following preliminary analyses of the case studies, focus group consultations will once again be held to discuss analyses and confirm the opportunities and limitations of strategies for poverty reduction.

- (1) The work in each community should begin with community-level focus group interviews. The objective of this exercise, along with the key informant interviews (see (3) below), is to secure a better understanding of factors common to households within the community that affect the level and change in well-being (e.g., location and access to markets, existence of local coops or farmer groups, etc.).

Questions to be asked include, but should not be limited to:

- What defines poverty in this community and what are therefore the best indicators as to who is poor? Where does the poverty line lie in this community? The objective of this particular line of questioning is to establish local conceptualizations of poverty, identify appropriate variables measured in the surveys and the threshold point(s) at which one transitions from being poor to not poor. Then do a wealth ranking to establish which households are poor and nonpoor (as a check against the survey-generated transition matrix).
- Do you think a greater, smaller or the same share of people in this community live in poverty today as compared to ten years ago? Why? Twenty years ago? Why?
- Are poor people treated better, worse, or the same by others in the community relative to how they were treated ten years ago? Why? Twenty years ago? Why?
- Do you think a greater, smaller or the same share of people in this community are wealthy today as compared to ten years ago? Why? Twenty years ago? Why?
- In the past, how did the poor escape poverty, or did they escape it at all? Are those strategies still accessible to the poor here today? If not, why not? Have new strategies become available in the past ten years for the poor for escape poverty?
- When people become poor today, does it take them less time, more time, or about the same to pull themselves out of poverty? Why?
- What are the primary risks that threaten to cast people who are not poor presently into poverty? Have these risks changed over the past ten or twenty years?

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- What mechanisms exist for avoiding these risks before one suffers a shock? Have these changed in availability or effectiveness over the past ten or twenty years? Who has access to these risk avoidance mechanisms?
 - What methods exist to cope with shocks after they occur? Have these changed in availability or effectiveness over the past ten or twenty years? Who has access to these risk coping strategies?
 - How have land use patterns changed over the past ten years? Why? What effect, if any, has this had on agricultural production patterns (crop choice, cultivation practices and productivity)? What effect, if any, has this had on livestock production patterns (species choice, husbandry methods, and productivity)?
 - What are the most popular natural resources management practices today? Why? Has this changed over the past ten to twenty years? If so, why? Are there past practices that were effective but that are no longer feasible or desirable for some households? Explain.
 - What sort of informal self-help, marketing, credit, natural resources management or other such groups exist in the community? How do these originate? Who can participate in the group(s), who cannot and why?
 - What sort of formal self-help, marketing, credit, natural resources management or other such groups exist in the community? How do these originate, in particular did these arise within the community independent of outside interventions or were they created or encouraged or even financially supported by an outside development agency? Who can participate in the group(s), who cannot and why? Which ones have been effective, which have not, and why? Which groups previously existed but have disbanded (especially if they disbanded due to failure) and why?
- (2) The second activity, following the community-level focus group discussions, is household-specific interviews to explore household-specific histories of welfare and NRM dynamics. Ask the same questions as found for the community-level focus group interviews, but now with an emphasis on the respondent household so as to be able to identify the household-specific factors that account for the level of and change in welfare (as distinct from the covariate-level factors common to households in the community, which is the objective of the focus group interviews.

Emphasize the following sorts of household-specific questions.

- Have you ever been poor?
 - o If yes, what caused you to be or become poor? Were most of your clan or neighbors in a similar situation or was your situation different from others'?
 - o If yes, were you able to climb out of poverty?
 - If yes, how long did it take you to climb out of poverty? How did you do it? What were the essential opportunities or forms of assistance you had? Were others in similar circumstances able to climb out of poverty faster or slower than you and why?
 - If no, how long have you been poor? Were others in similar circumstances able to climb out of poverty and why or why not?
 - o If no, how have you managed to avoid becoming poor? What have been the key strategies, opportunities, or forms of assistance that have enabled you to stay out of poverty?

(3) Finally, interview key informants (local elders, extension agents, agricultural traders, mission or development group officials) to check into the answers given in the household-level and community-focus group interviews. A key objective in the key informant interviews is to get a sense of what interventions have been tried in an area previously, which were successful, which might have proved successful with a slightly different design or management (and explain what changes would have been necessary), and which were failures from which one can learn.

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The local investigators will be provided with a camera for use, either a borrowed digital camera or a disposable camera. They are to take photos of all respondent households under activity 2 and of focus group meetings under activity 1.

5. Outputs

The output of this activity will consist of a written report to be published for local distribution and on the BASIS project web site. The report will describe for each site the socio-economic dimensions of poverty processes at household and community level, with explicit attention given to whether welfare dynamics relate to changing natural resource conditions and, if so, how. The emphasis in this report should be on the dynamics (changes) in welfare at community and household level and the related dynamics in natural resources management. The report should explicitly identify strategies pursued by households that have enjoyed increases in income and should explicitly identify barriers faced by households that have not pursued those successful strategies (or that have done so unsuccessfully). The report should include about a one-page write-up on each household, followed by a summary of the common (covariate) experiences in a community. These outputs will subsequently be synthesized across the project sites in Kenya and Madagascar in collaboration with the BASIS project leaders and the project will publish a few one-page "Voices" briefs -- in the style of the *Voices* series put out by the CGIAR's Alternatives to Slash and Burn (ASB) program (copies of which are available through ICRAF). The report from this activity will also have important intermediate impacts on the project's econometric and computer simulation work.

The suggested structure of the report for each site should therefore be along the following lines (adapt as needed):

- I. Introduction
- II. Description of Research Methods (should follow methods described above closely, but be sure to note any changes and include as an appendix a copy of the interview guidelines used in the site).
- III. Site Description
Describe general area (e.g., in Embu, Fianarantsoa and Vakinankaratra, where several villages are involved) and specific village characteristics, including location, agroecological characteristics, cultural/economic factors (e.g., ethnic groups represented, existence of stores, banks, coops, etc.)
- IV. Community Level Factors Affecting Welfare Change
Discuss covariate shocks (e.g., drought, political crisis) or structural changes (e.g., new road or clinic created) and how, if at all, these appear to be linked to natural resource management at community level.
- V. Household Level Factors Affecting Welfare Change
Discuss household-level (idiosyncratic) factors that account for within-village differences in welfare and natural resources trajectories. This section should explicitly identify strategies employed by households that have successfully exited or avoided poverty and any barriers poor households face to following these strategies. This section should include an approximately one page description on each of the households interviewed for the site (see section 3, above, for description of the 16 different households to be interviewed in each site).
- VI. Synthesis of Site-Specific Results
This section should synthesize all the findings from specific sites and households, with the objective of providing an improved overall understanding

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of the causal factors behind welfare and natural resource management and quality changes, the sorts of livelihood strategies that are most effective in enabling households to become and remain nonpoor, and what obstacles exist to poor households becoming and remaining nonpoor.

6. Timeline

The social analysis will take place following the completion of the quantitative surveys in each site and the production by the rest of the BASIS team of the transition matrices necessary for doing the household-level oral histories. A report will be written by the team and submitted to Cornell, ICRAF, KARI, FOFIFA and the University of Nairobi by June 30, 2003.

7. Budget

To be established separately for each site.

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Appendix 5: Notes on SAGA-Madagascar Initial Research Design Meeting

Friday, March 21, 2003, USAID-Antananarivo offices

USAID: Catie, Fidele, Noa, Lisa
Cornell: Bart, David Stifel, Chris
CEE: Pepe

We opened with a brief discussion of the broader SAGA program, the Centre d'Etudes Economique (CEE)'s capacity and current research program, and the Mission's new strategy (set to take effect 1 Oct 2003, pending USAID/W approval).

Chris outlined the general structure of SAGA's three broad activities and the research themes and core countries within the research activity. Chris encouraged CEE and the Mission to think about capacity building needs for CEE and to propose appropriate training efforts to SISERA and SAGA for TA funding. On the research side, David Sahn and Chris Barrett's time is contributed by Cornell, along with their travel costs. There's a budget of ~\$90K (+/- \$10K probably) over three years for Madagascar research costs (Cornell also has some modest funds for Malagasy researcher travel to Cornell for collaborative research).

CEE, Madagascar's SISERA institution, is within the Department of Economics at the Universite d'Antananarivo. CEE is therefore closely linked to the university. It has a publication series. It previously worked under EAGER with Harvard on a variety of macroeconomic and financial sector topics. The scale of CEE is effectively the 10-14 permanent faculty (9-11 really available, given other commitments) and DEA (20-30) and doctoral (4) students. They are proposing to SISERA research on (i) privatization in the financial sector and its effects, (ii) mining sector policy and growth, (iii) urban poverty and development, and a few other topics under development. CDMS is a closely linked other center within the Department that is part of a Paris II-led international network. There was a bit of discussion about the distinctions between CDMS and CEE.

Catie explained USAID's new five year strategic plan for Madagascar, which starts Oct. 1, 2003. There are some significant changes: 4 SOs (i) democracy and governance now much higher profile here, broken out as a separate SO (under Catie); (ii) environment, natural resources, agricultural production and rural development are broken away as a separate SO with a farming systems approach and an emphasis on biodiversity conservation (under Lisa) from agriculture marketing and trade policy, a separate SO (under Fidele and an ag trade officer who should arrive soon). Health portfolio, the fourth SO, has changed the least, MCH, HIV/AIDS, etc (under Noa). They need help in targeting their interventions. The eastern forest corridor is a high priority for USAID.

Relative to the Mission's March 2002 response to the USAID/W SAGA cable, they no longer prioritize topic 2 (Public Policy (microfinance)). They would like to link the poverty dynamics work with PRSP team. And blend the Poverty Traps and Rural Vulnerability work. Among the issues they'd like to see tackled are what are the high value agricultural products that could help stimulate sustainable agricultural intensification here? Look at how rural household portfolios can be adapted to stabilize and increase well-being. The PRSP and Ministry of Agriculture are key audiences here. The Bank is talking about starting up a big agricultural statistics collection effort, which could conceivably link nicely to work in this area. Work in this area could build on Cornell's existing efforts under Ilo and BASIS.

Decentralization of public services delivery in health and education is a huge, important topic (a blend of topics 3,4 and 5 from Mission Mar 2002 memo). What should one do to make this effective? Human resources management. Health, education, etc. Level(s) to which to decentralize, which activities to decentralize, and how the funding flows. Nathalie (student of Bart's) is working on this in schools and the World Bank is doing expenditure tracking surveys to understand the resource movements across levels of government hierarchy. For example, one could look at health delivery, which is happening at level of 111 districts. Water and forest (CRF) has ~50 districts handling services delivery and management locally. Each sector has different levels and it may be useful to get a sense of which ones are working. Ministry of Decentralization (attached to Office of Presidency) is the key government

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audience. Need to coordinate with World Bank, which is the main research activity on this. The Germans may be starting into some work on this too. Need to have a SAGA theme in this area; it's of real interest to CEE and all the donors. In May, David should meet with Ministry, CEE and donors to identify exactly what this research theme involves.

There's shared concern about ensuring integration of research design and results reporting into policy discussions. We mooted the possibility, therefore, of SAGA starting a policy research forum with INSTAT, FOFIFA, CEE, PADR, ONE, USAID, LDI, etc., akin to what we've started up in Kenya, in order to: (i) hold pre-study workshops to get stakeholder input and buy-in into research before it begins, (ii) hold regular quarterly meetings to coordinate link between current and upcoming policy questions and current and upcoming research. It would seem sensible to fund CEE to coordinate this activity, which should be relatively inexpensive (telephone and meeting costs only), would increase their visibility and integrate them more into research networks, especially those with strong extramural collaboration (e.g., INSTAT-FOFIFA-Cornell).

CEE has an interest in urban poverty dynamics and urban labor markets. Perhaps they can be linked to the last stages of the relevant Cornell work under ILO, although the Mission had a clear preference to concentrate the poverty dynamics and vulnerability work in rural areas, not urban ones. Maybe CEE could get SISERA funding for complementary work on the urban side however??? Use 2001-2003 EPM to explore household-level poverty dynamics at a national level with INSTAT and the link between asset holdings, livelihood strategies, and welfare dynamics to explore poverty traps and vulnerability. Then use and build on BASIS-FOFIFA data to explore linkage between agricultural production and marketing and natural resource management patterns at household level (e.g., soil and welfare dynamics), why don't some people make the jump out of poverty and what can be done to help folks climb out of poverty? Link this with LDI closely. Catie and Lisa both seemed to indicate that they're sufficiently keen on this work that they may be able to find some mission funding for add-ons/buy-ins if the core SAGA budget won't cover the full expenses of what needs to be done to produce high quality research of direct policy relevance on these topics.

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