

International Trip Report

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May 14 to June 9, 2004

Friday, May 14

Departed my home at Providence, Utah, at 9:15 AM.

Saturday, May 15

Arrived Nairobi, Kenya, at 8:15 PM. Arrived ILRI at 9:30 PM.

Sunday, May 16

Met at 10:00 AM with **Dr. Solomon Desta** of PARIMA on the ILRI compound. Discussed my upcoming schedule and general project issues until noon.

From 1:30 to 5:30 PM I traveled to the Kitengela region east of Nairobi with ILRI staff **Dr. Mohammed Said** and **Mr. David Ndekianye**. They work with Dr. Robin Reid's project on ecological fragmentation of pastoral areas in Kenya and Tanzania. The Kitengela site is one of five sites in Dr Reid's project. The Kitengela site occurs near the border of Kajiado District at Athi River, about 20 km southeast of Nairobi airport and adjacent to Nairobi National Park. The purpose of the trip was to scout the area for a possible joint proposal among ILRI, USU and others dealing with Bioregional Planning on behalf of Dr. Dick Toth et al. of USU. The semi-arid Kitengela area was formerly traditional Maasai pastoral land and has been subjected to a series of processes including group ranch subdivision in the 1970s and extreme fragmentation due to land privatization and parcelization in the 1990s. The site at present appears as an open catena landscape, but is lined with some dirt roads and incipient infrastructure for electricity service. It is dotted with small farms, vacant fenced sites, and even a few new mansions. Housing density gradually increases as one gets closer to the towns of Kitengela and Athi River. My impression is that the land is being demarcated by land speculators and others, and that 15 years from now the whole place could be covered with housing, effectively isolating wildlife in Nairobi National Park from corridors to Amboseli National Park to the south. A collaborative Bioregional Planning project would create some alternate development scenarios on a GIS platform where the variable costs to ecological values (wildlife, pastoralists, biodiversity, etc.) would be illustrated and planning choices could be better made. Use of modern participatory planning methods could be a bit novel to this metropolitan area, and inclusion of hydrologists and other professional inputs could make development of Kitengela more viable to urban needs as well as wildlife interests. The region has also been mentioned as a site for relocation of 250,000 slum dwellers from Nairobi, and this also requires careful planning. Overall, I was impressed with the site and felt that it could be very useful in such a project.

From 8:00 PM to 10:00 PM I worked on PARIMA correspondence.

Monday, May 17

9:00 to 10:00 AM met with **Dr. Solomon Desta** to discuss linkages between PARIMA and the Kenya Agricultural Research Institute (KARI).

10:00 to 12:00 PM. Met with **Dr. Robin Reid** and her ILRI team dealing with resource use and land tenure change on East African rangelands. We discussed prospects for collaboration between her group and the USU Bioregional Planning group. It was agreed in principle that there should be some form of professional interaction sooner rather than later. One idea is that Ms. Celia Peterson and Dr. Dick Toth come to Kenya in the next few months. They could be engaged in training, demonstration, community interaction, etc., with respect to planning at Kitengela. Celia could interact with ILRI staff concerning the availability of key GIS data layers. Robin could have interest in cost-sharing with USU on such a visit by Celia and Dick. This interaction could form the basis for a larger joint proposal dealing with bioregional planning in the coming year.

From 1:30 to 4:00 PM Dr. Desta and I met with **Dr. Ephraim Mukisira** (Research Director) and **Mr. Jack Ouda** (Research Coordinator) at KARI Headquarters. The topic was interaction between PARIMA and the KARI center at Marsabit, also known as the National Arid Lands Research Center (NALRC). The activities and respective costs were outlined for the current fiscal year. It was noted that budget realities had posed severe constraints on activities, and some had to be cut. Overall, it was agreed that when Coppock and Desta visit Marsabit on May 18-21 they obtain input from **Dr. George Keya** and staff on priorities for the coming year. Mukisira and Ouda tended to feel that the scarce resources needed to be focused on demonstrable impact. They focused on degree training. They also noted that funds needed to be adequate and not over-stretched for each student as per KARI guidelines. It was agreed that Coppock, Ouda, and Desta would have a follow-up meeting on May 26 to consolidate input and decide on priorities for the coming year from the KARI perspective.

From 4:30 to 4:45 PM I met with **Mr. Joseph Matere** at ILRI. Joseph assists Dr. John McPeak with follow-up survey of six communities in north-central Kenya. Joseph generally reported that things have gone well. The recent mechanical problems with Plate 067, however, suggest that PARIMA may need to finally retire this vehicle and rent an ILRI vehicle for future work. Joseph agreed to follow-up with ILRI transport to get their input on whether or not PARIMA should dispose of the vehicle. One possibility is that the vehicle be released to PARIMA interests at Egerton University.

From 5:30 to 7:00 PM. I worked on this trip report and packed for the early morning departure to Marsabit.

Tuesday May 18

At 7:00 AM Dr. Desta and I departed for Wilson Field and an 8 AM check-in for the MAF flight to Marsabit. The focus of this trip was to strengthen linkages with KARI-Marsabit as part of an effort to increase African leadership within PARIMA. This trip follows a highly successful visit by four research staff of the Ethiopian Oromia Agricultural Research Institute (OARI) to KARI-Marsabit over two weeks in April as supported by PARIMA. A trip by Kenyans to Ethiopia is planned for July. These staff exchanges are intended to begin a process of cross-border research interactions between OARI and KARI. That KARI is a relatively more mature center in terms of pastoral and agro-pastoral programs on the ground suggest that KARI can play a very useful role in documenting “lessons learned” to OARI as the latter starts activity in southern Ethiopia.

Desta and I arrived at Marsabit at 11:00 AM. Desta and I met with **Dr. George Keya**, Director of the KARI-NALRC. Dr. Keya has been at the NALRC since 1986 except for two trips abroad for post-graduate study. He has been the director since about 2000. Our meeting was wide-ranging and lasted from 2:00 to 5:30 PM on Tuesday with a follow-up from 8:30 to 10:00 AM on Wednesday. Some highlights follow below.

Dr. Keya felt that the arid and semi-arid lands (ASALS) are indeed receiving more attention under the new Kenyan government (NARC) compared to the previous situation. This is evidenced by the following: Creation of the new Ministry for Livestock Development, circulation of a draft ASAL national policy document among policy makers and key stakeholders, renewal and expansion of the Arid Lands Resource Management Project (ALRMP) by the World Bank, an attempt to create a new Kenyan livestock research institute to complement efforts by KARI (motion recently passed in parliament, but future unclear), verbal commitments by the government to improve ASAL infrastructure, and increased emphasis on the Marsabit station within KARI. Dr. Keya also felt that the general security situation in northern Kenya has improved. He attributed this to several factors, including change of government (the previous one had lost “moral authority” over time and effects of this trickled down to all levels of governance and local police and related security forces), implementation in some districts of a system of heavy fines for communities caught supporting livestock raids, and the voting out of some MPs who had promoted inter-ethnic violence to affect local elections.

The KARI-Marsabit station has had two previous 5-year phases of support from the European Union (EU) starting in the 1980s. The staff at Marsabit are currently entering a “consolidation year” after the end of the second phase that will focus on synthesis, publication, report writing, and some new exploratory work. This is in preparation for the anticipated third phase of EU support for 2005-2010. The activities of the KARI-Marsabit station have included farming systems research with producers on the mountain, animal production and health work, promotion of technology adoption through the national ATIRI project, etc. These activities follow the KARI medium-term (8 year) plan. The Kenyan government covers salaries of the station staff and other core expenses while donor support covers much of the operating and capital budgets. A wrap-up meeting from the EU assessment team for the third phase occurred at KARI HQ (Nairobi) on May 18

(today), and finalization of an Aide Memoir between EU and KARI is expected soon. The third phase of EU support will be the main funding that underpins operations at KARI-Marsabit for the foreseeable future.

There is also some current support to KARI from the World Bank, but this is winding down. Some new World Bank money is becoming available to KARI-Marsabit in the context of pilot survey and reconnaissance activity on behalf of the national Kenya Agricultural Productivity Project (KAPP). Some staff of the KARI-Marsabit station will help backstop KAPP efforts in Wajir and Garissa Districts.

Dr. Keya emphasized that KARI must seek partnerships that help KARI fulfill the activities mandated in the medium-term plan. This includes partners such as the GL-CRSP as well as NGOs. The environment and culture for true collaboration seems to be changing for the better, according to Dr. Keya.

Given these funding cycles, and the fact that the current contributions of funds from PARIMA to KARI-Marsabit and cross-border linkages with Ethiopia are small indeed, it was agreed by Dr. Keya that the most realistic role for PARIMA is to serve as a “facilitator” for KARI-Marsabit. Though small, the PARIMA project can add technical and strategic value to the foundation of EU support. In this light, it was decided that selected, low-cost activities funded by PARIMA that help “empower the Marsabit Center” is the way to go. These include institutional capacity building, technical assistance with the implementation of critical technology and/or information resources (email, internet, library), support for special non-degree training activities (PRA, SPSS, SAS, database management, GIS, key resource assessments, technical writing, proposal writing, etc.), and helping forge sustainable links to OARI. Another idea was that some seed funds from PARIMA be set aside for joint cross-border research projects; ideally a competition could be set up whereby small proposals could be assessed by a joint committee of OARI/KARI/PARIMA members. This is all quite distinct from an immediate focus on post-graduate degree training, as discussed at KARI-HQ on May 17.

In summary, the idea is that key input from PARIMA could help make the NALRC a more pleasant and professional place to work for the staff. This could help mitigate the sense of professional isolation and contribute to a reduced rate of staff turnover. The alternative to “empowerment of the center” is to fund post-graduate training for 1-3 students, which is a minor portion of the Marsabit staff roster (see below).

Dr. Keya provided many pages of documentation for the Marsabit station including a staff list, publications list, background on the center, and CDs containing summaries of work conducted under phases 1 and 2 of EU support starting in 1986. We discussed the staff at length and how they are evaluated and promoted. The research staff is dominated BSc-degree holders with a few MSc-degree holders. George Keya is the only one with a PhD. About a third of the staff is from the Marsabit area. We noted that three staff members have been transferred from the Marsabit center since July 2003, although Dr. Keya expects these people to be replaced. This turn-over contributed to my feeling that should there be a heavy investment in post-graduate training the next few years, the

sustainability of such impact can be questioned—would people thus trained quickly depart? This again supported the idea that PARIMA should focus more on other forms of lower-risk capacity building for sustainability as long as the PARIMA funding stream remains small. The extent that KARI can bond or otherwise compel staff to remain in hardship posts following post-graduate training is an important issue that must be clarified.

Wednesday May 19

From 10:00 AM to 5:30 PM Dr. Desta and I met with Dr. Keya and about 15 people in the Marsabit station conference room, broken up by a group lunch in town. Besides NALRC staff there were people from the local Ministry of Agriculture office and the local NGO called CIFA (Director **Mr. Chachu Tadicha**). There were introductions of each person and I led a discussion of what PARIMA hoped to do with the Marsabit-NALRC in terms of collaborating partnerships. This was followed by watching two videos concerning the progress made by Marsabit-NALRC during the first two phases of the EU support. The videos covered several trends occurring in northern Kenya over past years, namely pastoral sedentarization, change from pastoral subsistence economies to more marketing involvements, a change to multi-disciplinary collaboration, and the rise of the need to facilitate technology transfer (including farming aspects) among rural producers. I also gave two seminars, one dealt with “Natural Resource Management Trends in the Western USA” and one was a training (awareness raising) seminar dealing with “Human Subjects Protections in Agro-Ecological Research.” For the latter, attendees will be given certificates of completion from Utah State University. Between seminars Dr. Desta and I were given a tour of the lab facilities and product demonstration materials including local technologies to tan hides. In the evening Dr. Keya, Mr. Chachu Tadicha, Dr. Desta, and I had dinner in town. We heard that the Kenyan Minister for National Security had visited Marsabit that day on a return leg by air from a meeting in Moyale. He publicly announced that work on creating a tarmac road from Isiolo to Moyale will occur in three phases, with the first commencing in Isiolo during December 2004. While there is reason to be skeptical of the accuracy of this announcement, the issue seems to remain in the public discourse. Dr. Keya felt that simply if the government would do a better job of maintaining the existing road, that would be a big plus.

Thursday May 20

Dr. Desta and I were taken on a day-long tour of local field projects by **Mr. Michael Ngutu**, leader of the farming systems theme for Marsabit-NALRC. We visited a mini-dairy processing operation run by pastoral Arian women south of Marsabit initiated by EU funds, a smallholder cut-and-carry dairy operation (ATIRI) near Marsabit National Park, and some small-holder vegetable production efforts utilizing novel practices such as inserting nylon sheets under topsoil to minimize water infiltration and using earthen berms to improve water harvesting. We visited a small-holder poultry production effort among Boran agro-pastoralists in Dirib Gumbo. Following the field tour we attended a goat roast for staff at the NALRC that evening provided by PARIMA. Prior to the meal Dr. Keya and Mr. Ngutu gave us a tour of new demonstration plots on the compound that

illustrated water-conservation technologies and various cultivated vegetables, forages, fodder trees, and related materials most relevant to farmers on the mountain. The set-up of these plots on the station grounds, and the yields obtained over a relatively short period of time, were all most impressive. Dr. Keya related that a recent field day attracted 2,000 local residents to the station. This is part of a dramatically new image the Marsabit station hopes to convey to the local population, a group that until recently was reluctant to come to the station, according to Dr. Keya.

Friday May 21

Dr. Desta and I met with Dr. Keya for a wrap up session from 9:00 to 10:00 AM. We also toured the computer lab, library, and related facilities. We explored the issue of policy linkages and noted the complexity of the pastoral policy environment in Kenya. Dr. Keya said that KARI was contemplating establishment of a “policy unit” at KARI-HQ. The main goal of policy advocacy is simply to get a seat at “the table” and add a voice of pastoral researchers to the mix. We agreed, however, that researchers should have some advantage in a group of advocates dominated by development agents and special interest groups (NGOs, GOs). Research and policy briefs for decision makers are also important. I mentioned that the Marsabit-NALRC could have a slot for a PARIMA Research Brief in 2005 to summarize a few of their important findings from the consolidation year. We also noted a potentially important role for Egerton in the collaboration. People like Dr. Hussein Mahmoud (marketing), Mr. Mark Mutinda (GIS), and Prof. Aboud (research methods) could have especially valuable roles in training and research advising. It was also noted that KARI-HQ has an ESRI site license for GIS software, and KARI staff in the social survey unit may be able to provide GIS training for KARI-Marsabit and PARIMA collaborators at nominal cost. In summary, I asked Dr. Keya to prepare a draft list of priority activities for KARI-PARIMA collaboration in the coming fiscal year. Items should be ranked according to cost, cost/benefit, and likely sustainability. Dr. Desta will work with Dr. Keya on refining the list prior to passing it to me in June for incorporation into the annual workplan and budget for 2004-05 to be submitted to the GL-CRSP Management Entity before July 30.

Dr. Desta and I departed Marsabit on an MAF flight about 11:30 AM and arrived in Nairobi around 2:30 PM. I arrived at the ILRI compound late afternoon and attended to project correspondence. In summary, I was impressed by the visit to Marsabit. There is tremendous goodwill and a broad scope for useful interactions.

Saturday May 22

At 9:30 AM I departed ILRI by road to Egerton University. Arrived at the home of **Prof. Aboud**, PARIMA regional PI, at 1:30 PM. I was treated to a lunch there with Prof. Aboud, **Dr. Hussein Mahmoud** (former PARIMA graduate student under Dr. Peter Little), **Prof. D.K. Nassiuma** (member of the statistics faculty at Egerton and Head of the Egerton Graduate School), and **Mr. Mark Mutinda**, a doctoral student working with Prof. Aboud on a new GIS-based study of key resources in Baringo District. During lunch we discussed a few project matters. These included the fact that Prof. Aboud had

reviewed the university by-laws and found that there is no faculty adjunct status for non-university employees—I had requested clarification on that in previous weeks with respect to PARIMA collaborators and those who co-supervised students. We also discussed the problems that Egerton post-graduate students have in their technical writing. I suggested that a couple semesters of intensive English writing be added to the curriculum for students in FESNARE (Faculty of Environmental Science and Natural Resources). Following lunch and departure of some guests, Prof. Aboud, Mutinda, and I went over the agenda for my visit to Njoro. We also discussed Mutinda’s research project from 4:00 to 6:00 PM.

I checked in to the Crop Management Research & Training Center (CMRT) complex on campus by 7:00 PM and worked on project business that evening.

Sunday May 23

At 7:30 AM I departed on a field trip to Baringo with the main goal of reviewing the doctoral research of Mark Mutinda concerning his GIS-based study of key resources at risk. Accompanying me on this trip was **Mark Mutinda, Prof. Aboud, Prof. Karachi** (range scientist and NARE Dept. Head), and **Mr. Nicholas Olekaikai** (master’s student).

We stopped at the Soi Lodge near Campi ya Samaki on Lake Baragoi in late morning and held a 4-hour discussion on the student projects. Mutinda’s got the most time. Mutinda’s doctoral work covers 7 divisions (pastoral, agropastoral). The main objective is to identify a spectrum of key ecological resources at risk across these divisions, and outline costs of rehabilitation to restore livestock production systems (lost animal-unit months) where possible. Ultimately, the key resources at risk will be mapped in a GIS framework and this will be used to convey information to stakeholders and policy makers. Our main effort was to simplify and cut back on proposed work, especially in line with budget realities. The revised workplan now starts with interviews of over 130 key informants across all 7 divisions, followed by 15 (or fewer) focus groups, and then random validation of perhaps 20 or more specific sites selected from a pool expected to be over 100 in number. Mutinda’s plans to incorporate remotely sensed data were downplayed here because of budget constraints. The revised master’s proposal by Olekaikai will focus on Marigat Division and document loss of key resources in a more locally intensive fashion. He will have less emphasis on GIS and more on social survey. I suggested that a group of town dwellers be included in the study in addition to agro-pastoralists.

In the afternoon we visited two sites to practice a qualitative field characterization methodology, a lava-substrate site covered by bush and an eroded red-soil site. We decided to stick to qualitative methods for validating respondent information because the sites are probably going to be large—much too large to assess using conventional, detailed quantitative methods. We walked both sites and compared notes on what we saw as history, condition, and trend. We attempted to locate examples of the 17 biophysical parameters listed in the USDA/USFS publication “Rangeland Health” with varied success. The take-home message was that Mutinda should develop his own parameter list and be prepared to drive transects and undertake reconnaissance with respect to locating

examples of the variables at intervals of kilometers or portions of kilometers. Around 10 points could be sampled per site, with more if the sites are heterogeneous. We spent the night at Soi Lodge.

Monday May 24

The next morning at 8 AM we drove a short distance and visited the Rehabilitation of Arid Environments (RAE), a charity trust organization run by **Mr. Murray Roberts** and **Dr. Elizabeth Meyerhoff**. The RAE has been experimenting in site rehabilitation here for the past 22 years. The RAE had been visited by tour members who attended the 2001 PARIMA Biennial Meeting held at Egerton. There are extensive examples of many sites on the RAE compound that have been variously fenced, and re-seeded, with some water harvesting amendments, that have shown spectacular improvements in vegetation condition compared to the “moonscape” outside the compound. It is thus evident that rehabilitation is technically possible in many cases. Reportedly, some 270 sites have been so improved by voluntary community or individual action in the area as an outcome of outreach conducted by RAE. One outcome of site rehabilitation has been the emergence of a seed market in the area. People collect and sell grass seed produced as a result of improved range management. Our purpose in visiting RAE was to seek partnerships. The experience of RAE is perhaps the only empirical source of data concerning the costs and benefits of site rehabilitation in Baringo, which will be part of the Mutinda dissertation as he attempts to extrapolate to divisional-level summary costs for rehabilitation of key resources. It was agreed to continue a dialogue whereby mutual benefits could be explored. The RAE could benefit from links to Egerton as well, as they have interests in GIS and staff training. We also wondered if PARIMA could facilitate creation of linkages among RAE, Egerton, ALRMP, and KARI-Marigat in the area. The advantage of ALRMP is that they may have the funds to actually implement some of the work by RAE more widely. The stickler, of course, is social constraints for implementation. Driving around it appears that de facto privatization of range (fencing) is occurring all over this portion of semi-arid Baringo. To what extent the benefits of fragmentation outweigh the social costs is an important question. When I probed as to whether such interventions could benefit the relatively better-off and further hurt the poorest of the poor, the RAE staff indicated that they have various cost-share programs so that anyone with a vision can receive help. We agreed in principle to pursue an MoU for a “pro-active partnership” with an emphasis on solidifying local links between Egerton and RAE in the coming months.

At 11 AM we visited the “private plot” of **Mr. Joseph Chelimo**, who works at a school near Marigat town. He fenced land that has been historically “occupied and owned” by his family lineage. The extent of fencing was also defined by what he could afford and what agreements he could obtain from his neighbors. He seeded and improved water harvesting (furrows) with good results on various portions of his 15 acres. Chelimo was assisted by RAE and the Kenya Ministry of Agriculture. He reportedly used to have 20 head of local cattle under the old system and they suffered high mortality during droughts. He now has only four, cross-bred cattle (2 dairy, 2 beef). Chelimo has “no doubt” that his improved pasture can support such animals even during the next drought.

He said that he can even now buy trucked feed from outside the area in a crisis. Among his neighbors, about 200 still graze in the traditional communal way, while 3 others are emulating him. Mr. Chelimo feels that the Baringo community has lost much of its former self-help capability due to relief efforts over the years. We discussed whether more privatization of plots would be a net benefit or problem for the community. We also discussed whether privatization of key resources could undermine relations with other ethnic groups, especially during times of stress.

We returned to the Egerton campus by 2:00 PM. At 3:00 PM I gave another hour-long seminar in the CMRT on “Natural Resource Management Trends in the Western United States.” The question and answer period took us to 5:00 PM or so. About 80 students and faculty attended. See Annex B.

In the evening I was hosted for dinner at the home of Mark Mutinda and his family in Njoro.

Tuesday May 25

At 9:00AM I met with **Dr. Francis Lelo** (Dean), **Prof. Aboud**, and **Dr. William Shivoga** in the conference room of the re-named Faculty of Environment and Resource Management (FERD; note recent name change from FESNARE). We discussed PARIMA and SUMAWA (Sustainable Management of Watersheds) projects briefly. Both are funded by the GL-CRSP, with the Pond Dynamics CRSP contributing to SUMAWA. First I explored with Dr. Lelo the idea of sending 5 Utah State students to take his short course on Participatory Rural Appraisal (PRA) on an annual basis, starting in August 2005. I am currently cobbling together funds from several sources for this idea. We then discussed the themes of: (1) Strengthening GIS capability at FERD—hardware and software; (2) funds from the GL-CRSP ME and USU Quinney Library for library rehabilitation; and (3) training issues that included (a) the need to improve English writing skills of post-graduates, (b) clarifying if research partners could have adjunct faculty status at Egerton to facilitate co-supervision of students, and (c) the need to invest in in situ training for Egerton faculty who are committed to staying at the institution. Finally, Prof. Aboud and I also summarized our field trip to Baringo including the possibility of having an MoU involving RAE, Egerton, PARIMA, and maybe others. The need for Egerton to learn how to build its own local networks of partners was noted. It was agreed that the pattern in the past was for isolation to prevail.

At 10:00 AM I joined Lelo, Aboud, and Shivoga we went to meet the Egerton Deputy Vice Chancellor for Academic Affairs, (Prof.) **Dr. Euty Mwangi Wathuta**. He energetically voiced support from the senior administration for GIS, the need to incorporate technical writing of English more broadly for post-graduates, and notably within FERD. He was advised of library rehabilitation possibilities and said that the issue of adjunct status for partners can be easily solved by amending existing MoUs and thus by-passing any possible obstacles with university code per se. He also has support for the in situ training of Egerton faculty and staff who are committed to staying at the institution. It was noted that a very high percentage of faculty trained overseas no longer

return, thus making such investments unsustainable in terms of impact. We also discussed the need for local professional networking as per our meetings with RAE.

At 11:00 AM I again gave a training seminar on “Human Subjects Protections in Agro-Ecological Research” in the CMRT. With questions and answers, it lasted until 1:00 PM. About 185 students and faculty attended.

From 2:00 to 4:00 PM or so I visited the Department of Natural Resources (housed within FERD) and discussed wrap-up issues with Prof. Aboud, Mark Mutinda, and Nicholas Olekaikai. We then visited the NARES computer lab. Over the past few years PARIMA had made small cumulative investments in computer technology with year-end money. This has included three powerful desktop computers capable of processing GIS software such as ArcView. We also have arranged for Egerton NARES to have a seat on the Utah State University site license for ArcView and ArcView GIS at nominal cost. One of my joys on this trip was seeing the outstanding progress made by Prof. Aboud and Mutinda in creating this computer lab. Small but tidy, and now home to a block of five computers, it now has the capability for giving hands-on GIS training for 10 students at a go (two per terminal). Prof. Aboud’s sons have handled the local computer networking and his wife custom-made all the dust covers. What they still lack, however, are a couple more powerful computers, a scanner, digitizer, and plotter. They want to knock out a wall and double size of the lab and include a cubicle for a lab manager. The digitizer and plotter, however, are very expensive and procurement may require a major donor. Without the equipment Egerton people have to outsource such work to agents in Nairobi. The first GIS course will be offered in the coming academic year. Mutinda will teach. Demand is high.

Mutinda has found the GIS data layers from GTZ to be unwieldy. He therefore plans to digitize a topographic map for Baringo as his GIS framework. This digitizing would be out-sourced to Nairobi. **Dr. Gichaba** noted that digitizing can now be done on PCs using the appropriate software once maps, etc., have been scanned. This needs to be explored with the goal of avoiding purchase of digitizers if possible.

Around 4:00 PM Prof. Aboud, Mutinda, and I toured the SUMAWA complex in the CMRT center. **Dr. Gichaba** hosted. We saw the computer facilities there and discussed how we could achieve more critical mass by combining forces between PARIMA and SUMAWA. This is especially true for obtaining a permanent site license for GIS software from ESRI; otherwise when projects end, agreements like the one with USU will stop and software access will be history. Overall, I felt that PARIMA currently has an edge over SUMAWA in terms of GIS software access, as SUMAWA is using demo versions only. I wondered if SUMAWA could have a seat on the Univ. Wyoming ESRI site license much like we have done with USU and PARIMA. At present computers across campus at Egerton are not networked; thus an email from Aboud to Lelo is conducted by an off-campus server. A proposal is currently on the table to wire the campus so that full networking is possible. Lack of a cross-campus network means that PARIMA and SUMAWA now operate GIS-support systems separately. Prof. Aboud and I met to wrap-up loose ends. We discussed the current and prospective student training

program for PARIMA at FERD, with a focus on merit-based student selection. We talked about Aboud's role as a policy link from PARIMA to the emerging network in Kenya that deals with pastoral policy debates. We discussed the recent application by Mr. Chachu Tadecha into the doctoral program at FERD. Prof. Aboud supplied me with copies of recent theses and will send me another thesis and receipts. I urged Prof. Aboud to follow-up with ALRMP in Baringo as a link with Egerton, KARI, and RAE. Because Aboud knows the ALRMP director well (Mr. Mahboud Maalim), he is well-placed to do this.

At 5:30 PM I was a special guest at a goat roast at the home of Dr. Lelo. This was attended by about 15 people, including the Egerton DVC for Academic Affairs. Overall, I think Egerton is very pleased with the support they receive from PARIMA, SUMAWA, and the GL-CRSP in general. There is an upward momentum now based on true partnerships.

Wednesday May 26

At 7:00 AM I departed with the ILRI driver for Nairobi. We arrived at ILRI around 9:30 AM.

At 11:00 AM **Dr. Desta** and I went to KARI HQ for a wrap-up meeting with **Mr. Jack Ouda** that lasted until 12:30. We reviewed our Marsabit trip with him. The wrap-up was very positive. We did emphasize, however, that our conclusion from the Marsabit trip differed a bit from what we had discussed at KARI HQ last week, namely that we should prioritize things that led to "empowerment of the Marsabit center" through smaller, high-impact, and cross-border activities rather than have a singular heavy focus on post-graduate training. Mr. Ouda confirmed that he is leaving soon for post-graduate study in South Africa. The issue of who might replace Mr. Ouda as the HQ representative in the PARIMA collaboration was unresolved.

From 12:30 to 2:00 PM Dr. Desta and I met with **Dr. Rosemary Dolan**, animal scientist, consultant, and team leader for the recent EU appraisal mission for KARI. She requested the meeting. Dr. Dolan, an Irish national and long-time Kenya resident, recounted her impressions of arid northern Kenya when she compared observations from a recent trip as part of the EU mission and her time there 25 years ago. Her impression was that the change she observed over 25 years has been a disaster for the local people in terms of population growth, lack of public services, sedentarization, prevalence of food relief, and increased rates of poverty. "Finding the way out" of this situation is murky, as she also suspects that the ambitions of the diverse people so affected are also diverse. She noted that 20 years ago many people sedentarized probably preferred to return to pastoralism, but today she is not so sure. She attributed the first steps towards sedentarization as being due to effects of missionaries who provided incentives for people to settle and start to attend church services. Dr. Dolan indicated she was impressed with what she had seen from PARIMA and wondered if PARIMA could agree to facilitate "empowerment of the Marsabit center" in the upcoming third phase of EU support. The idea is that PARIMA could help with strategic decisions and strategic capacity building. I agreed, and she said

this would be part of her written summary of the EU appraisal and recommendations. Dr. Dolan briefly covered the upcoming EU budget for us as to the amounts of funds and the categories of support. Funds will be provided for operations, training, and capital procurement including large efforts to upgrade computer technology and communications capability. She also noted some institutional constraints at KARI in terms of the low level of staff salaries and the role this has in staff retention. The goal of the third phase of EU funding is to make the Marsabit center a regional leader in pastoral research and development thinking. We left the meeting with a plan to keep in contact as scope for collaboration increases. In closing, Dr. Dolan has doubts about whether the road from Isiolo to Moyale would indeed be improved anytime soon. She noted that procurement of the necessary funds to tarmac the road is not evident to her based on her investigations.

From 3:00 to 4:00 PM Dr. Desta and I met with **Mr. Willy Simon**, Managing Director of Oakar Services, Ltd., in Nairobi. This company provides local services on behalf of Ecosystem Science Research Institute (ESRI), the company in California that produces GIS software such as ArcView and ArcView GIS. The Oakar Services acts on behalf of ESRI in several ways. It will make site visits to validate local technical requests for software and related support; it must approve and make suggestions for such requests simply to promote customer satisfaction, a major ESRI goal. They also provide technical support, and the clients are asked to cover field expenses for Oakar staff outside of Nairobi. The company also supports training in GIS software and related technology. There are a couple companies in Addis Ababa that Oakar now delegates to provide similar services to customers in Ethiopia (Information Systems Services and Corporate Computer Center, both in Addis Ababa). Mr. Simon easily pulled up the names of several Egerton faculty who are using GIS software outside of FERD. This includes Drs. Chemelil and Onyando (one master lab kit in engineering). The idea of having one ESRI master site-license for Egerton was raised; lack of a campus network may be an issue. We discussed ESRI grants. ESRI does have software grants for international clients, but hardware grants must be pursued in the USA. A group called “World University Services” has funded the procurement of the master lab kit for the Egerton engineers.

At 5:00 PM I was hosted for dinner at the home of Dr. Solomon Desta and his family. In the late evening I tried to catch up on correspondence and other matters.

Thursday May 27

From 9:00 to 10:30 AM I discussed agent-based models with **Dr. Mrigesh Kshatriya** and **Mr. Harun Warui** at ILRI. I was seeking alternatives to SAVANNA for use by a doctoral student at USU who will study sustainability of a zebra population in the north-central Rift Valley of Ethiopia. It was suggested we explore NETLOGO, RAMAS, and VORTEX models. Dr. Kshatriya and Mr. Warui have a proposal based on agent-based modeling and conflict mitigation. Basically, they use simulations of local resources and social issues to explore conflict mitigation scenarios with stakeholders. The proposal has been submitted to GTZ. They had requested a meeting with me to explore possible links to PARIMA. I suggested that if they intended to work in northern Kenya and southern Ethiopia they think about the possibility of collaborating with our cross-border initiative

started by Dr. Desta and others. Given news on the GTZ proposal will not arrive until November 2004, they could think about attending the next cross-border meeting in early 2005 and introduce their ideas to meeting attendees. Then they could possibly follow-up in the following year if things looked promising. I noted the underlying political nature of conflict flash points in the region, especially along the border between Regions 4 and 5 in Ethiopia and along the Kenya-Ethiopia frontier so they are aware.

At 10:30 AM I briefly met with **Mr. Tumuluru Kumar** of ILRI Finance. We briefly discussed finance issues related to PARIMA, but focused on the fate of PARIMA vehicle plated 067. This vehicle is now deemed unsuitable for future travel to northern Kenya due to expense of maintenance and repairs. I thus feel it is now time to hand it over to Egerton, if possible. Mr. Kumar said two strategies are possible. One is to hand it over directly if Egerton has duty-free status. The other is to calculate the remaining dutiable value, pay that, and then turn it over. ILRI can calculate that amount for us. It is not possible to second the vehicle to Egerton under an ILRI license plate due to liability reasons.

At 12:30 I had lunch at ILRI with **Dr. Helga Recke**, Coordinator for the EU project at KARI for the second phase. In short, Dr. Recke echoed the views of Dr. Dolan in terms of desiring a closer strategic relationship between KARI-Marsabit and PARIMA in the third phase of EU support. She also expressed a very favorable view of PARIMA's work. Dr. Recke indicated she would email me in Utah with a list of issues that she felt PARIMA might be able to provide strategic support with. I repeated to her my desire to link KARI-Marsabit and PARIMA as possible.

From 1:30 to 4:00 PM I discussed various research and outreach issues with Dr. Solomon Desta on the ILRI compound.

At 5:00 PM I departed ILRI for JK Airport and travel to Addis Ababa. I arrived at Addis Ababa around 9:30 PM and the ILRI compound by 11:00 PM.

Friday May 28

In the morning I dealt with correspondence and other project business on the ILRI campus.

At 1:00 PM I departed for Yabelo and Moyale (both in the Oromia Regional State) via Awassa with **Dr. Getachew Gebru** (PARIMA research associate) and **Dr. Lemma Gizachew**, senior scientist (animal production), and Director of Livestock Research for the Oromia Agricultural Research Institute (OARI).

At 7:00 PM we arrived at Awassa. Here I briefly met the six new OARI scientists recently appointed to the new pastoral research facility in Yabelo; they were also in transit to the Borana Plateau. Five are B.Sc.-degree holders and one has a DVM. I spent the night in Awassa.

Saturday May 29

At 8:00 AM I departed for Yabelo with Drs. Getachew and Lemma. We arrived Yabelo around 2:30 PM and checked into our hotel. At 3:30 PM I gave the training seminar on “Human Subjects Protections in Agro-Ecological Research” for 18 people at the CARE conference hall. Participants included OARI staff and representatives of other GOs and NGOs. Discussion continued until 5:00 PM. At 7:00 PM we attended a dinner with about 15 local officials and project stakeholders at the SORDU (Southern Rangelands Development Unit) recreation hall.

Sunday May 30

From 7:30 AM to about 3:00 PM I traveled with a contingent of around 12 people to see activities in the Dida Hara region, about 30 km southeast of Yabelo. This region is occupied by semi-settled Borana pastoralists engaged in livestock rearing and small-scale cultivation. Besides Dr. Getachew I was accompanied by **Ato Seyoum Tezera** (PARIMA Outreach field assistant), **Ato Atlaw** (SORDU range management specialist), **Dr. Lemma** (OARI), **Obbo Dadi Amosha** (Oromia Pastoral Development Commission or OPDC), **Ato Bekele Kitila** (forester with OPDC) and the six new OARI staff. We first visited some pilot bush-clearing trials at three sites coordinated by the OPDC in collaboration with SORDU along the road from Dida Hara to Arero. Bush encroachment has been an oft-mentioned problem of the Boran, especially in more mesic areas, since the previous regime declared a ban on man-caused fire in the late 1970s. Some sites were called “kalo,” and these have been reserved as a type of fodder bank in dry seasons for weak or young stock. The sites varied from heavily-wooded locales near foothills closer to Arero to *Acacia drepanolobium* stands on flat black-cotton soils closer to Dida Hara. Ticks were thick on the black soils, as usual. Year-end funds from the Federal Ethiopian Science and Technology Commission had been provided a few months ago to support pastoral workers to physically chop and clear bush from problem sites identified by local communities. Treatments have been informed by experiences of some local NGOs. In particular, noxious woody plants have their trunks cut at about “knee height” (or 0.6 m) and the stump is de-barked. Regrowth can also be cut. Treated sites were paired with controls and pre-treatment estimates were taken of woody plant density, herbaceous cover, and plant species composition by SORDU staff. General methods used were reviewed.

We then visited a community-based risk management pilot project at Dida Hara conducted by PARIMA and Action for Development (AFD) as funded by the USAID Mission to Ethiopia. We met with a community group of about 20 at their mud-walled meeting hall. They outlined their progress in terms of savings and credit and non-formal education. They had recently sold large numbers (over 1,000) of small ruminants to exporters over the past few months as part of a recent marketing chain initiative coordinated by PARIMA, OPDC, LMA, AU-IBAR, and others. They also revealed their plans to sell 100 cattle to the exporters in preparation for the next cattle crash, which the

group contended would occur in the next few years, consistent with PARIMA research predictions. Their idea was that they could gain some proceeds from animal sales before massive mortality takes hold. Later we attended an inauguration ceremony for an underground, 70,000-liter cement cistern constructed by another risk management group also at Dida Hara. The idea is for the cistern to supply water for a non-formal education center that would otherwise be abandoned in the dry season because of lack of water. The cistern was impressive and had a catchment channel, cement roof, locked metal access hatch with a subtending ladder descending some 3 meters. The cistern—the size of a racquet-ball court—was completely full of water (and some tadpoles) from the long rains. Upon our return to Yabelo in late afternoon we toured the two new OARI compounds under construction (including offices, research labs, and residential facilities). This has all been constructed at a cost of Eth Birr 16.2 million (or USD 2 million) with World Bank support. The combined complex is extremely impressive, even by developed world standards. The estimated date of completion of the construction is August 2004.

In the evening several of us had dinner at the home of **Ato Mulugeta Shibru** in Yabelo, a former PARIMA post-graduate at Egerton (he obtained an MSc) and now the manager of the Borana Zone operations for CARE-Ethiopia.

Monday May 31

At 7:30 AM Dr. Getachew, Ato Seyoum, Obbo Dadhi, and I departed from Yabelo for a trip to Moyale on the border between Ethiopia and Kenya. We arrived at Moyale around 10:00 AM. Moyale has recently experienced significant bouts of cross-border insecurity. Our visit to the Ethiopian side of the town was to make a courtesy call to the office of **Obbo Aberra Ayele**, the Chief of Security for the area. He is a very good friend of PARIMA's and has greatly facilitated cross-border meetings hosted by PARIMA and Kenya's Community Initiatives Facilitation and Assistance (CIFA) since 2001 when local immigration authorities needed some coaxing to allow participants to cross the border with minimal hassles.

Afterwards we had a joint visit with about 30 members of the **Chamuk and Maleb women's groups** in the Moyale "suburbs" to the north. The chairladies of both groups made impassioned presentations concerning their progress from "haulers of fuelwood and charcoal" to self-respect and wealth accumulation due to the risk-management pilot projects begun with PARIMA four years ago with support from the USAID Mission to Ethiopia. They have also entered the small-ruminant marketing chain. In this respect it was noted that the recent opening of export markets to the Middle East from Ethiopia was effectively siphoning thousands of goats from northern Kenya as facilitated by cross-border trading activity. We also saw the site of a new 100,000-liter cement cistern to be implemented at Chamuk with a small grant from the US Embassy in Addis Ababa (Ambassador's Small Grant Program). Ato Seyoum of PARIMA took the initiative—despite the presence of existing outreach funds—to help communities submit six such proposals for various supplemental activities. They were successful on two (Maleb and Chamuk) for a total of about USD 14,000.00. I warmly commend Ato Seyoum for such outstanding initiative to obtain these funds.

We returned to Yabelo by round 4:00 PM. I then held three consecutive wrap-up meetings at the SORDU compound that lasted until 6:00 PM.

The initial wrap-up was open to all people who had accompanied me over the past two days. I summarized my impressions from the field activities and encouraged discussion. First we talked about bush management. I welcomed the recent initiative based on bush thinning but questioned the sustainability since community labor was covered by payments. I advocated that the time was right to embrace a more comprehensive range management plan. This plan should be founded on the restoration of prescribed fire as traditionally used by the Boran, but effectively suspended by a national federal decree over the past 30-plus years. Fire is the most cost-effective range management method for this mixed savanna ecosystem. The “ban” has probably contributed to a decline in range health by encouraging bush and reduced animal health by encouraging ticks. We agreed that the fire ban has not been policy per se but an erroneous local blanket interpretation of a federal decree proclaimed under the previous regime. Ideally, fire can be combined with other treatments such as the knee-high cuts and de-barking of mature noxious trees given that older trees are immune to all but the hottest fires. Small ruminants can be used to graze post-burn sites to help remove emergent weeds and seedlings of woody species. Some plots could be reseeded with seed from important local grass species that can be purchased in Kenya. We agreed for the following action plan: (1) Quickly assemble a group of concerned experts in the Oromia capital of Adama to give official endorsement, and hence written approval, for a pilot prescribed fire program to start in 2005; this event will “close the chapter” on the fire ban for the south; (2) select from 6 to 10 sites (perhaps 10-20 ha each, with half of each site to be used as a control and half for treatment) to be burned next March (2005) just prior to the long rains. The OPDC and SORDU will lead in community mobilization to pick sites and communities must be able to refrain from grazing the sites further this year since we need a sufficient fuel load next March. Some back-up sites could occur at the government-managed Dida Tayura Ranch, north of Yabelo, as well. Sites at communities will be demarcated by painting marks on trees and having communities create fire breaks using existing roads and grazing down buffer strips; (3) draft a pilot application form for communities to use to petition SORDU/OARI for a burning permit, and this will include an extended post-burn management commitment for each site; and (4) I will find support to bring Mr. Eric LaMalfa, a USU graduate student with extensive fire management experience with the United States Forest Service (USFS) and Bureau of Land Management (BLM), to conduct a 2-week workshop on how to set, control, and evaluate effects of prescribed fire in conjunction with traditional Boran “fire experts” next March. This can all be done at minimal cost and has great value in networking concerned agencies and getting the pastoralists excited about change. The second issue I covered dealt with the progress of the risk management groups engaged in savings and credit. The main question is when groups will be ready to “graduate” and perhaps form larger cooperatives as per government policy. We agreed that the groups (12 or so) in the pipeline still need to continue to be carefully mentored, and the Oromia Cooperative Promotion Bureau (OCPB) needs to be educated on the value of such mentoring and nurturing. It was agreed to go the highest levels of government—if necessary—to protect the groups from inappropriate interference until

they can stand on their feet; this matter was delegated to Dr. Getachew and Obbo Dadi to follow-up. The third issue dealt with hygienic site preparation at Maleb and Chamuk for the cisterns to be placed there, and the need for a local soils expert to review site suitability for cistern placements. Ato Seyoum was given this job.

The second major wrap-up item was again for all participants and dealt with a 30-minute introduction to basic methods for vegetation site characterization using GPS, repeat photography, and fuel biomass estimation. For this we went outside on the SORDU compound, distributed reading materials, and I went over some basic equipment and procedures.

The third wrap-up item was only for PARIMA staff and OARI staff. Others were excused. I reviewed the main outcomes concerning how PARIMA would interact with the KARI center at Marsabit, as noted previously in this report. I explained how resource constraints made choices between expensive post-degree training for the few, versus less-expensive non-degree investments for everyone, a difficult matter. I explained that a similar trade-off prevails for PARIMA investments in OARI. Responses from the OARI group indicated some split in their preferences, with some in favor of the degree training and others for non-degree training. We also reviewed an idea that Debu University (Awassa) or another Ethiopian university could be considered as a substitute for the Ethiopians instead of going to Egerton, simply on the basis of cost given a tight PARIMA budget. We discussed ideas for non-degree training, and these included research methods, data base management, technical writing in English, GIS, PRA, statistical methods, general research methods, computer packages, and “participatory epidemiology.” Ideas for cross-border links to KARI included (1) livestock disease; (2) livestock marketing; and (3) clean-milk production technology. Finally, I mentioned the issue of commitment of trainees to the Yabelo station. Candidates for post-degree training must be bonded or otherwise legally obligated to serve the station for a reasonable period of time following investment in their post-graduate training.

These discussions concluded by 6:00 PM.

Tuesday June 1

I departed Yabelo at 8:00 AM with Dr. Getachew and Obbo Dadi Amosha for Awassa. We arrived at Awassa around 1:00 PM. At 3:30 PM I gave a scheduled seminar at in the College of Agriculture of Debu University on “The PARIMA Project.” About 30 faculty and staff from various departments attended. As with all four-year universities in Ethiopia, the Debu University is part of the federal system of higher education. Even though Debu and Awassa are located in the “Southern Nations ...Regional State” students from other regions can enroll. Recently there has been an impressive expansion of the Debu campuses in Awassa as sponsored by the World Bank. Discussion on the PARIMA talk continued until 5:30 PM. In the evening I updated this report.

Wednesday June 2

At 9:00 AM Dr. Getachew and I met with **Dr. Girma Abebe**, Coordinator for Research and Extension, for the entire Debu University. We were joined in this meeting by **Ato Fassill Bekele**, Dept. Head for Animal and Range Science, **Dr. Tegegne Negesse**, Dean of the Graduate School, and **Ato Getaw Tadesse**, Dept Head for Agricultural and Resource Economics & Management. The purpose of the meeting was to explore possible linkages among Debu, PARIMA, and OARI. We reviewed relevant degree programs. Many post-graduate degrees have yet to be approved, and programs are often understaffed. It thus seems that the best bet for an OARI person desiring a range degree would be to obtain a degree in animal production with a range emphasis. The master's in range is still a way off—the curriculum has been approved but there is a lack of faculty—one faculty member (Ato Ayana) is also doing his PhD with Norwegian assistance and two women with MSc. degrees from Tanzania are also available. There is a viable MSc. degree in soils, however. The costs for a 2-year MSc-degree program is Eth Birr 20,000 excluding field research costs, and the federal government pays about 85% of this cost. On a cost basis, Debu therefore looks very good to cash-strapped PARIMA, but the infant nature of relevant programs is an issue. The Debu representatives noted that Debu seeks links with OARI and other collaborators such as SARI (Southern Nations...Agricultural Research Institute). The issue of adjunct faculty status has recently been cleared and this helps pave the way for external collaborators to co-supervise on research projects. Staff from OARI or SARI could also be seconded to help teach courses. People from NORAD (Norwegian Agency for International Development) and American universities such as Langston have come to teach courses. Debu also has access to some funding programs to bring foreign faculty to teach on a short or medium-term basis. It was also mentioned that while they have enthusiasm to launch a graduate degree in range, they have some concern about low student demand for this degree. It was mentioned, however, that NGOs, government services, and the new World Bank Pastoral Community Development Project (PCDP) could supply student candidates. Joint degree programs with other academic departments could also be fruitful. To get a ball rolling on some small joint activities, Dr. Girma suggested that one idea is to have a collaboration between Debu and PARIMA in terms of facilitating “practical attachment” for seniors in animal production and related fields who desire exposure to pastoral systems. The federal government picks up the basic costs for about Eth Birr 950 for a two-month field experience. A few (say five) of the 60 such seniors may have a fruitful link to PARIMA by spending time in some Boran ollas and writing a paper on the experience. With a minimal addition of funds from PARIMA (like several hundred birr per student), such a pilot activity could be fruitful. I agreed to think about this with Dr. Getachew. Also mentioned was a desire for Debu to link with Egerton, especially in terms of GIS, PRA, and further development of the range curriculum. This meeting concluded around 11:00 AM and Dr. Getachew and I departed northwards.

At 1:00 PM we stopped at Wondo Genet Forestry College (WGFC) near Shashamene. This campus is a major part of the natural resources component of Debu University. We met with **Dr. Abdu Abdulkadir**, currently a faculty member in agroforestry and Dean of the college. Dr. Abdu and I reviewed our programs for each other. The WGFC was

established in 1978 for training forest rangers at the diploma level and has been the main focus of forestry education in the nation. Emphases within the forestry degree now include farm forestry, production forestry, and natural resource management. Sweden has been a major donor and Oregon State has some current involvements. Other collaborators and donors include CIDA and ICRAF. The WGFC is home to a new “Development Oriented Thematic Action Research” or DOTAR at the watershed scale funded by CIDA—this sounds a lot like the SUMAWA project at Egerton. The WGFC is increasingly trying to link with the College of Agriculture at Debub to tackle cross-cutting issues. We had a brief tour of the large GIS lab created with Swedish support. In addition to a number of PCs they have a digitizer and plotter.

We arrived at Adama (formerly called Nazereth) around 6:00 PM. Adama is now the regional capital of the Oromia Regional State and thus is the new main base for OARI, which was previously in Addis Ababa. In the evening Dr. Getachew and I went over ideas for a summary presentation on research strategy for OARI in the southern rangelands based on our recent trip.

Thursday June 3

From 9:00 AM to noon I gave two seminars to OARI and OPDC senior staff (about 18 people total) on “Trends in Natural Resource Management in the Western United States and Implications for University Curricula and Participatory Research” and “Human Subjects Protections in Agro-Ecological Research.” The discussion was wide-ranging. It was generally felt that the messages in the natural resources talk were highly relevant to the Ethiopia situation in terms of the growing needs for team based, multi-disciplinary work and the requirement for public engagement. For the second talk one issue that came up was the need to better inform the Borana of their rights as they relate to being subjected to numerous surveys—most seeking the same information—that yield little or no benefits to them. It was considered that the local woreda offices could help OARI serve a screening function to help limit un-necessary survey work. It was also mentioned that the survey work should be limited in terms of numbers of questions and numbers of households to reduce respondent fatigue and improve research focus. This session was followed by a lunch downtown hosted by PARIMA.

From 2:00 to 5:00 PM we had a wrap-up strategic meeting in the office of **Obbo Aliye Hussen**, Director General of OARI. Also attending this meeting were **Obbo Amsalu Ayana** (OARI, Director of Crop Research), **Obbo Mohammed Hassena** (OARI, Director of Socio-economics and Extension Research), **Dr. Lemma Gizachew** (OARI, Director of Livestock Research), **Obbo Hailu Dadi** (OARI, Adamitulu Research Center Director), and **Obbo Dadi Amosha** (OPDC, Head of Rural Development and Natural Resources Department)). The first item consisted of me presenting a synopsis of my trip over the past three weeks, with a focus on visits to KARI, Egerton, Borana, and Awassa. I laid out the idea of the trade-off between investment in post-graduate education versus non-degree training that serves more to empower the center. Overall, OARI perceives that it's stake in the post-graduate degree training remains high, simply because the new BSc-level staff have no research experience. Therefore, most of this debate centered on

the merits of sending candidates to Egerton or Ethiopian universities, given the costs for the latter are much smaller. The OARI has a philosophical preference for domestic education, but Aliye noted that the Ethiopian universities remain very weak in range science. So, we agreed that Drs. Getachew and Lemma would take the lead on clarification on the costs and benefits of enrolling OARI candidates at Egerton, Dehub, Alemaya (Harar), Mekele, or Addis Ababa University. This needs to be analyzed soon, as regardless of where candidates are enrolled, since tuition and fee payments in some cases need to be made by August. As an aside, Aliye assured me that OARI staff receiving post-graduate training are obligated to spend two years per year of training at their OARI post following training.

The second item consisted of me presenting a summary of our thoughts on the pilot fire program to be implemented next March (details above). This was endorsed by the group. Obbo Dadi and Dr. Getachew were asked to follow-up. The priorities are to get the first meeting in Adama set and select the sites as soon as possible for treatment next March. It is possible that some of the OPDC sites treated by cutting this year could be burned next year. Much depends on community input.

For the third item I gave the presentation that we had prepared the night before based on our observations in Borana. Basically, OARI is committed to creating a genuine, locally demand-driven research agenda with a focus on applied and adaptive work. To help meet this goal, our proposal had five main elements with the subtending details:

- (1) Identification of priority needs for the targeted community. The targeted community for research needs to be precisely identified. Then a group of some 50-plus representative stakeholders needs to be convened at the OARI Yabelo facility for a few days and carefully facilitated to develop a prioritization list of needs at the proper regional scale. How topics are prioritized would depend on how “solvable” they are and the extent to which the community could contribute to solutions. The best means to facilitate such a meeting remain a bit fuzzy, but it could involve a modified PRA-type approach. Important observers could be invited including local and regional administrators. Breakout groups (wealthy, poor; male, female; traditional, non-traditional; urban, rural; traders, merchants, etc.) could help reduce the problem of a few dominating the discourse. It was proposed that this meeting could be held once the new OARI facility has been inaugurated. Several other key points were raised. One theory is that the key driving variable for most of the current problems on the plateau is human over-population, and there are few short-term solutions for dealing with this issue. It was also raised that it is highly likely that when priorities are revealed, the most important ones may deal with development rather than research. It is therefore important, if a truly new approach is to be embraced, that an alliance among research and development agents be formed prior to the meeting that can effectively cope with the major requests that emerge. Given more development resources are being pushed down to the woreda level, woreda administrators are vital links. The administrators should even be pushed to recast their next budget with

respect to priorities voiced at the meeting. Other development partners could include World Bank (PCDP), Southern Tier, etc.

- (2) Identify researchable priorities. Here is where the most creative research element comes in, namely matching research with priority needs. Research needs to be categorized according to applied and/or adaptive aspects; disciplinary or multi-disciplinary; long, medium, or short term; quantitative or qualitative, etc. It is creative because some research may directly or indirectly bear on the major problems raised, and the critical nature of certain research needs to be accurately identified. The wheel should not be re-invented.
- (3) Identify special training needs that support identified research and/or outreach. This includes degree or non-degree options.
- (4) Develop and review proposals to deal with researchable or outreach priorities. Here OARI staff could develop small proposals to be screened for relevance. Some proposals could be developed for outreach depending how issues emerge. Proposals need to set out justification, objectives, methods, anticipated results, and implications of results. In addition they should identify possible funding sources (internal, external, cost-sharing), and scope for collaboration (local, national, international). Proposal review is a second clear opportunity to link research and development perspectives. At the local level, it may be desirable to have a panel review of proposal briefs that includes researchers to assess scientific merit, as well as community representatives and officials (woreda, OPDC, NGO, etc.) to assess development relevance. Then surviving proposals could be revised and sent on to regional and federal levels as required.
- (5) Implement both aspects of the program (research and development).

Once this program was well underway and problems worked out, a similar step-wise process could be conducted at the Ethio-Kenya border by OARI and KARI. The pool of core stakeholders would differ, but the remainder of the process could be similar. The funding of small projects could be facilitated by PARIMA, but larger projects may have to be co-funded by the respective governments or major donors.

This general plan was endorsed by the group as a good initial concept. It is especially important that this process coincide with the existing calendar of proposal creation and review. The group felt that the first stakeholder conference should be held soon, perhaps even before September. It is also important that a funding and administrative alliance be formed among research and development entities well before a stakeholder conference. We do not want expectations raised followed by lack of capacity to begin to address the key issues and then have people deflated. Finally, there was a question raised about what happens to research proposals—already in the pipeline—in relation to this demand-driven system. Some of the new Yabelo staff of OARI, for example, have submitted proposals for funding consideration in Ethiopia. Some other OARI staff outside of the Yabelo

station have done the same. The reply was that all on-going work has to be reviewed on an annual basis. If new evaluation criteria are agreed upon, then ongoing work would be assessed—and possibly modified—in that vein.

In the evening I had dinner with Dr. Getachew and Obbo Mohammed Hassena (OARI) in Adama.

Friday June 4

At 9:00 AM I departed northwards from Adama with Ethiopian Wildlife Conservation Dept. staff (**Ato Fanuel**) for the Allideghi Plains (Wildlife Reserve) of the Afar Regional State. Dr. Getachew returned to Addis Ababa with the PARIMA vehicle. This short trip was undertaken to make a site and research assessment on behalf my USU graduate student Ms. Almaz T. Kebede, who is funded by Wildlife Trust and the Ethiopian Wildlife Conservation Dept. I make a few general comments here that may have interest for readers of this report—details are reported elsewhere.

We arrived at Allideghi by mid-day. The Allideghi is a 120-km² grassy plain that is home to an isolated population of endangered Grevy's Zebra. The boundaries exist on paper, and it receives little administrative protection from local officials. The fact that much of the central Allideghi plains remain fairly pristine is due to lack of water development. The sustainability of the system is challenged by several factors. Several hundred families of destitute Afar pastoralists have been relocated to the margins of the area over the past few years, and local government has provided them with some borehole development and public services such as an elementary school. There is also a mosque. The export arm of ELFORA also maintains a livestock holding ground in the area, founded by the Third Livestock Development Project in the 1980s and purchased from the Ethiopian government by ELFORA in the early 1990s. The holding grounds are fenced, in excellent range condition, and held some sheep. Outside the holding grounds the immediate area is a moonscape. The Afar have significant herds of cattle and small stock, and the core area of occupation now resembles a pio-sphere with a central patch of bareground perhaps 1 km or more in diameter. Herds graze a fair distance into the reserve but often return to the peripheral settlements at night. The other factor that can affect the future of the zebra's ecosystem is the presence of *Prosopis* (mesquite), an invasive tree originally from Latin America that is greatly spread by heavy grazing—the seeds germinate readily after being deposited in livestock feces. Lines of *Prosopis* plants extend along livestock trails, even though the people try to chop them down. *Prosopis* first came to Melka Werer, a town some 10 km from Allideghi, where Ethiopia has practiced intensive, state-managed, irrigated cotton production since the 1950s. *Prosopis* was brought in as an ornamental (shade) tree by foreign advisors at the plantation in about 1980. Swards of moderately aged *Prosopis* dominated the sites where the Afar villages were located at Allideghi and it was abundant along the highway, but I was not unduly alarmed about *Prosopis* until we drove to Melka Werer later in the day. A massive and uniform *Prosopis* forest occurs at Melka Werer, and it took less than 18 years for this to occur. The problem is that there is no understory vegetation beneath *Prosopis*, or any interspersed woody species, in any of the advanced stages of invasion I

observed. *Prosopis* totally takes over. I visited the Ethiopian Agricultural Research Organization (EARO) field station at Melka Werer. It has a staff of 340. We reviewed some of the incipient silvicultural research pertaining to *Prosopis*. I felt this was a very modest approach given the specter just over the compound wall. I obtained names of EARO collaborators in Addis Ababa who are now part of an effort to deal with this alien species. We then spent the night in Mata Hara on the Oromia side of the regional border with Afar Regional State.

Saturday June 5

After a restless Friday night morning was welcomed. Now being aware of *Prosopis* one can see it all over Meta Hara, typically as an urban shade tree. I will advise OARI to come make an assessment and consider how to limit its spread into Oromia from Afar. About 9:00 AM we departed for nearby Awash National Park and spent a couple hours there discussing management challenges for this area. I later arrived at Adama where Dr. Getachew Gebru picked me up for the trip to Addis Ababa around 3:00 PM. I happened to meet **Dr. Tsedeke Abate**, Director General of EARO, in Adama and we chatted for a short while. I arrived at the ILRI compound around 6:00 PM.

At the conclusion of my field trip in Ethiopia it is important to note the dramatic changes underway in some spheres. Highway construction, maintenance, and repair projects are ubiquitous and the extent of new hotel and other building construction in the larger towns and cities is, frankly, amazing. I noticed that cultural traditions in clothing and music also appear to be rapidly changing in favor of “modernization” as compared to a few years ago. Mobile phone towers march south past Awassa. The other factor observed is the continuing upheaval of state and federal agencies with which PARIMA works. The Oromia regional state agencies have been recently relocated from Addis Ababa to Adama. Federal and state agencies seem to be in a continual process of re-organization, often to the dismay of staff.

Sunday June 6

Today at ILRI I collected what thoughts I had left and caught up on this trip report.

Monday June 7

From 9:00 to 10:00 AM Dr. Getachew and I met with **Mr. John McMahon** of the Business, Agriculture, and Trade Office at the USAID Mission to Ethiopia. Mr. McMahon is our administrative contact for the Southern Tier Initiative (STI) that funds the outreach and action research arm of PARIMA. We discussed the transition procedures as the Mission awaits the arrival of the new STI coordinator in July.

At 11:00 AM I met with **Ato Tadesse Hailu**, Head of the Wildlife Conservation Department in the Federal Ministry of Agriculture. I briefed him on my trip to Allideghi and the progress of Ms. Almaz T. Kebede in her graduate program at Utah State University.

From 1:00 to 5:00 PM Dr. Getachew and I attended to other PARIMA project matters in the office at ILRI.

In the evening I had dinner at Dr. Getachew's home. Other guests included **Ato Belachew Hurrissa**, Head of the Department of Livestock and Fish Marketing in the Federal Ministry of Agriculture, **Dr. Abdi Jama** of the LINKS project of the GL-CRSP, and **Dr. Abdul Kamara**.

Tuesday June 8

From 9:00 to 10:00 AM Dr. Getachew and I met with **Ato Rezene Fesehayie**, coordinator of the Invasive Alien Species (IAS) project at EARO in Addis Ababa. We discussed research related to control of *Prosopis* in Ethiopia.

At noon I departed for Bole Airport for travel back to the USA via Nairobi and Amsterdam.

Wednesday June 9

I arrived at my home in Providence, Utah, via Amsterdam, Cincinnati, and Salt Lake City, around 10:00 PM.

END OF TRIP REPORT