Trip report, Karen Veverica, Kenya 11 to 16 June 2013

Background: Although I have made very short stops in Kenya over the last 10 years, the last time I spent more than a week there was in 2002. My long-term assignment was from 1997-2000, followed by two years of short-term visits. However, during Auburn's cooperative agreement with USAID to develop commercial aquaculture in Uganda from 2005 through 2008, I received visits from Kenyan Fisheries Officers, former employees, students, researchers, and other farmers. So we never lost contact but we were all very busy. It was easy to pick up where we left off.

## Itinerary:

Depart Amsterdam 10:10 on 11 June 2013.

Arrive Nairobi, Kenya 20:30 on 11 June.

Depart Nairobi 13 June at 17:15; Arrive Eldoret 18:15

Depart Eldoret 15 June at 07:30 by road; stop Siaya, (Dominion Farms) arrive Jewlet Farm, Kisumu area 21:00

Depart Kisumu on 15 June at 14:30 by road; arrive Eldoret 17:15.

Depart Eldoret 15 June at 19:00; arrive Nairobi 20:00

Night in Nairobi; depart Nairobi 16 June at 08:00, arrive Auburn AL at 22:30.

11 June 2013: Arrived evening and contacted Dr Ngugi.

We met first thing the next morning and went over the program. I proceeded to the Fisheries Directorate and met with Raphael Mbaluka, a Senior Fisheries Officer, who accompanied me to Sagana.

Met Bethuel Omolo and Jane Wambui Mugo. Mr Omolo, (former co-worker and Auburn graduate), informed me that the thirty-six 800 sq meter ponds we had constructed for research are no longer used for research because the smaller size is preferred. Researchers do not have the funds to pay for inputs; which tells me that they are no thinking of, or not allowed to sell the fish produced and use the revenues for the next round of research. Therefore an entire series of well constructed fish ponds is left unused, which is a waste. We both agreed that leasing them to a private farmer would benefit the station in that their researchers would have more immediate contact with the "real world", would provide for upkeep of the ponds and would make the station look much better and productive. This would have to be to a nearby resident; not an absentee farmer since we all know that the absentee farmer model is quite unworkable. KEMFRI is supposed to be in charge of research and the Fisheries Department is to conduct training and do extension at Sagana. The 36 smaller(150m²) ponds they are using were also constructed under our project in 2000. The research activities look to be wanting in terms of focus and practicality. They do not need all the 114 ponds so something needs to be done here.

The station has a new training center building and this will be a good site for training ONLY IF the station itself is producing fish and practicing techniques that are recommended. Otherwise, trainees can be housed anywhere. The station needs to show real-life examples of good management and good feeding techniques. Otherwise, what trainees will believe the trainers know what they are talking about? Now

that the housing facilities are there, the field work program needs to step up. If the Fisheries Dept can get funds for training, it may help to pay the inputs on their "training ponds", which they can manage on a more commercial scale. Those 36 larger ponds should be able to produce about 15 to 20 tonnes of fish per year, if inputs are purchased. So, if leasing is not an option, it is still possible for the FD to make use of the ponds as opposed to KEMFRI. When donor-funded activities cease at these government stations, most of the activities cease. Less informed people say that the expatriates took all the technical knowledge with them. Nobody can say this about Sagana; information was almost pushed on the government staff there. What DID leave was the decision-making power that the expatriates had. Furthermore, Kenya government has typically transferred people from site to site at frequent intervals, which does not lend itself well to long-term management of these stations.

Continued to Green Algae Fish Farm, of Mr Kiama, not far from Sagana station. Kiama was the foreman of the crew that built and managed the 800 and the 150 sq meter ponds discussed above. His farm consists of ornamental fish, tilapia and clarias. He, his wife and children manage the farm and although it is small, they are able to make a good living from it mainly because they produce high value fish on the small area. I think Mr Kiama is one of the sharpest fish farmers in the country because he has years of production experience, is a good manager, he sees opportunities and acts while others are just waiting for assistance. Mr Kiama has plans to go further into clarias production and he will use his clarias marketing experience developed with me many years ago to show how to prepare and eat clarias in an area where this fish is not well appreciated. I gave him one of the pairs of catfish skinning pliers I brought along. He says selling price is now around 250 KSh/kg, retail.

Stopped at Susan Njeri's (Kamiti Farm) outside Nairobi and we discussed her previous experiences with cages in the nearby reservoir; she wishes to try again. Her farm is very small as well and she is in a cold area. Susan's best attribute is her ability to get farmers together and organize them. She likes and understands different types of technology, so can also be a good trainer. Susan is a sales rep for Ugachick feeds and, I think, Skretting feeds.

Night in Nairobi and discussed for some time with Dr Ngugi.

Next morning, went to Jambo farm in the outskirts of Nairobi. This is a partnership with Willy Fleurens who started one of the first large-scale clarias farms in Nigeria. This farm is producing clarias and is starting GMT tilapia. They do not market very aggressively yet but they do have people coming to buy fish and they also buy back grown catfish from their fingerling clients. They fillet the catfish and vacuum pack them. I gave them a catfish skinning pliers and showed two of their workers how to use them. The manager, Susan, was out but she came to see us as we were leaving and decided to join us on the rest of the trip that day. We went to Mwea farm and spoke with the manager and several interns. I left them a small seine and several publications. They have some fish in tanks and will need to watch their water quality so they could use some ammonia disks and some other testing supplies. Pond construction is well done; now management should improve, followed by investment in better quality feed. However, they should test the purchased feed against their home-made feed and really check the relative costs.

Flew to Eldoret that night and was met by Geraldine Matolla. Met with Julius Manyala, Geraldine and Josiah Ani at the Department of Fisheries, Eldoret University, the following day. We discussed some of the aquaponic possibilities for Kenya. Josiah is very interested in this and it could perhaps be adapted for Kenya. If he can locate a system set-up that can withstand some power outages of several hours, and can still make money, it may be something to try.

Gave them several of the things I had prepared for other projects, including the feed management handout, some files on aquaponics and several extension handouts we have been using since last time I met with them. Met with the interim Vice Chancellor and we discussed management of the station and how they need to be able to produce fish and turn the revenues back into operating costs. We also discussed the distance learning programs that can allow them to build a program without having to have professors for each subject. We left the office too late for me to see their station, plus it had been raining considerably and we risked getting stuck. I worked with Dr Ngugi and others one the early pond construction there; funded with training monies. We used to add 2 ponds to their station from each training program; constructed by the trainees.

Julius and I left early for Siaya where we visited Dominion Farms. I had met the owner when he was still in the design phase of the farm and he and investors had visited our project in Uganda twice. They got some of their best broodstock from contacts we gave them in Uganda. Visited the small feed mill and ponds and tanks but did not see the hatchery. It appears they are having management problems. My former student, Enos Mac Were, left the farm some time ago but they are still working off of his production. The new manager is inexperienced. Julius wants to send them another but there is really nowhere in Kenya where a student can get large-scale production experience, so whomever is selected will have to almost train themselves unless they have been out of the country for their training. I looked over some of their feed formulations and they can use some better advice. The previous formulations looked much better. Apparently, the fish grew better on the previous formulations also.

Met up with Enos and Jedidah, owners/operators of JEWLET farms and we stopped in to see their son at boarding school on the way to their place. Next day we visited their farms and we had lunch with Enos' dad and brother, then we continued to see Karen Lee (Jr) at school, then Enos took me to the airport in Eldoret. JEWLET stands for Jedidah, Enos, Leeand Tony., all their family members. On the way, we nos and I discussed his farm's future and aquaculture development in general.

From Eldoret, went to Nairobi, picked up by Sammy Macaria, Senior Fishery Officer and the first Certified Aquaculture professional from Auburn's CAP program. He then dropped me at Omolo's where we talked more with him and Betty and their 3 kids. Next morning very early, I went to the airport almost missed connection in Amsterdam and arrived Auburn late that night, minus my checked bag which came 2 days later.

People with whom I interchanged information; I trained them but they also told me some things:

Female: 10 Male: 12

## Observations/Recommendations

Central, Nairobi and Rift Valley provinces: these are cool areas, with bright sun but due to the high elevation temperatures fall well below 12C at night. Greenhouse technology is known, and electricity, although unreliable is available most of the time in many parts. Land is relatively expensive, especially in the Nairobi area and anywhere near large towns. So, the constraints are like the constraints that led to the development of clarias recirculation systems in the Netherlands. The problem is that the advantages are not really there: power is unreliable; understanding of pumps and other electrical systems is not all that widespread among the less-educated workforce; fish feeds of high quality need to be imported and their inland transport is quite expensive. However, fish prices are on the rise and if the catfish can be marketed in a way that people do not see what they look like alive, clarias and tilapia can still be produced profitably but the farmers have to be quite clever.

Western and Nyanza provinces: have warmer temperatures and access to feeds from Uganda and from Dominion farms; better access to agricultural byproducts would make this a good place for fish production and the previously low prices due to the Lake Victoria catch are not really a problem anymore. Jewlet Farms is doing very well, and has become one of the largest tilapia fingerling producers in the country.

In general Kenya has a good base of expertise developed over many years of training their Fishery Officers but they now need some additional training and experience on the new systems that are coming into use: recirculating systems, intensive operations, etc so they can advise potential farmers and investors. There is going to be a lot of money wasted in improper investments and choice of technology that is not adapted to the constraints and advantages of the sites.

This farmer-to-farmer program could have been much more useful to the Kenyans had they had more input and knew in advance what they could have done. I was on a similar program in Nigeria and it was well-planned and executed. As with all FtF programs, as volunteers, it is hard to be selective and it is also a bit difficult to give the background information the new visitors may require in order for them to be as useful as possible. I did appreciate the small sessions though; it was such a pleasant change from the large training programs I often have to do. Hopefully, reconnecting with my former Kenyan colleagues has allowed us to share plenty of information that will turn into better examples of profitable aquaculture and be spread to others. These individuals are among the better trainers in Kenya and a bit of updating and sharing will no doubt improve the information they pass along.