

IFAR 2005 Professional Development Program

Completion Report

[800 words]

Instructions:

Please submit the completion report by email, using this form, through the sponsoring CGIAR Center to ifar@ifar4dev.org within two months after the completion of the fellowship.

Please check if Thalwitz Scholarship

__Yes

Name of Applicant: Dr. Mehari Endale

Sponsoring CGIAR Center: INTERNATIONAL LIVESTOCK RESEARCH INSTITUTE (ILRI)

I. Work Program goals achieved

A total of 603 indigenous cattle, owned by the local communities in high trypanosomosis challenge area of Ghibe Valley at four sites (Abelti, Bridge, Wayu and Gullele sites), have been followed up for 12 months (i.e. October 2005 to September 2006) with overall records of 4751. Verification of the level of trypanotolerance was carried out through closer on-farm monitoring of parasitaemia, packed cell volume (PCV) and body weight assessment of the animals and a parallel on-station observation of selected animals from the community at Tolley station. For verification of trypanotolerance in the study animals the following parameters were considered:

1. Animals with no parasitaemia
2. Animal with parasitaemia but no significant drop in PCV (> 25%)

Based on these parameters, a total of 141 animals were verified as possessing trypanotolerant attributes; 82 of these had shown no parasitaemia throughout the course of the study and had overall high mean PCV (25.6%) with mean body weight of 197kg, both of which are statistically significantly ($P < 0.01$) different when compared with those of infected ones. The remaining 59 animals were infected animals but controlled anaemia with higher mean PCV (26.6%) and mean body weight (202.6kg). The overall mean monthly prevalence of Trypanosomosis in the study area was 10.82%, varying from 21.9% in August to 4.84% in March. The parallel on-station observation of 20 selected animals under similar natural

challenge revealed that 9 of them did not show any parasitaemia during the study period while maintaining good mean PCV (25.8%) and body weight (142.5kg). Six more animals controlled anaemia with higher mean PCV (28.7%) and lighter body weight (131.8kg).

Participation of the community in this work was very crucial as a cohort of animals were monitored each month. Extensive consultations with the community made this research possible. The participating members of the community demonstrated their interest in the research by the commitment of individual farmers to allow their animals transferred temporarily for on-station monitoring, and by their regular attendance in the monthly sample collections. Moreover, it was noted in the course of this study that the community have developed the skill in understanding and managing the trypanotolerant trait of their animals through a fairly strict follow-up of disease development and animal response to it without resorting to preventive treatment of the type practiced before the start of this study.

II. Plans for follow-up

Through the ILRI Ghibe project and local institutions (peasant associations, agricultural extension staff), the results of this study will be communicated to the community. The trypanotolerant status of these animals will be described to their owners as well as their neighbours. This is to inform them of the need to use these animals for breeding purposes. In addition, feasible next steps of this study will be discussed. This process will also involve the local agricultural extension staff to also seek their support in the design of next steps of this project. Those community members who have been trained for purposes of this research project will also be available for the complementary on-going work of ILRI in the same area on monitoring parasite and vector challenge levels. They will also be useful for community-based participatory breeding of trypanotolerant animals in the area. Further, the results of this study will be published in the form of peer reviewed journal article.

III. Report budget utilization including whether budget was spent as planned

The budget was administered by ILRI and used as per plan of the project. It was used for procurement of reagents and equipment, veterinary drugs and in managing experimental animals maintained at the station. Two community-level workshops were carried out during the study period to create awareness on essential research processes and for participatory planning of the work. Travel expenses of researchers and assistants were also covered from the budget at ILRI standard rates. Transport costs were spent as planned.

IV. Assessment of the fellowship experience and general comments

The research fellow benefited from and contributed to the established experience in implementing this on-farm study through broad community participation. Not only has the fellowship generated new research information in the management of cattle trypanosomosis, but also equipped the fellow with the skill to undertake similar research projects in animal health research. It also highlighted the direct link between animal health research and rural food security in trypanosomosis endemic areas.

The knowledge and experience gained from this fellowship motivated all researchers involved in this study to further engage cattle keeping communities towards effective management of cattle trypanosomosis in the area. It also created the platform for young researchers from NARS to gain from working together with ILRI scientists, contributing to research capacity building in the NARS.