Minutes of the TRYRAC Kick-off meeting – Antwerp 24-25 May 2012

Participants

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Tanguy Marcotty (ITM)
Peter-Henning Clausen (FUB)
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Hermann Waibel (LUH)
Joep van Mierlo (VSF)
Zakaria Bengaly (CIRDES)
Thomas Cherenet (NAHDIC)
Tshepo Matjila (UP)
Modjosso Tanah Djankla replaced Daniel Batawui (Vet Togo)
Luis Neves (EMU)
Raffaele Mattioli (FAO)
Annette MacLeod (University of Glasgow)
Hamadi Karenbe (Ceva)

General introduction

Tanguy Marcotty gave a brief overview of the project. TRYRAC is a 5 year project that started on 1 March 2012 and should last until 28 February 2017. The project is funded by the EC Global Programme on Agricultural Research for Development (ARD). The project objective is to develop competent and functioning African laboratories and veterinary services and provide state-of-the-art African Animal Trypanosomosis (AAT) control strategies to livestock farmers in tsetse infested areas. Project activities will take place in Ethiopia, Mozambique and Togo. South Africa (University of Pretoria) and Burkina Faso (CIRDES) will provide backstopping.

Planned activities include:

- Develop, validate and transfer molecular tools, including novel genetic markers, to detect trypanocidal drug resistance to 3 African laboratories
- Support establishment of a drug control laboratory in Africa and conduct drug quality surveys in 3 countries
- Identify and evaluate suspected “hot spots” of trypanocide resistance in south-western Ethiopia, Central Mozambique and northern Togo
- Develop and test best-bet integrated control strategies minimizing and reversing trypanocide resistance;
- Develop and implement area-specific strategies and extension messages to improve the effectiveness of trypanocide
- Determine impact of interventions on livelihoods of livestock producers.

The following institutions are included in the consortium:

- Prince Leopold Institute of Tropical Medicine (ITM), Antwerp, Belgium (WP 1, 2, 3 & 7)
- Free University of Berlin (FUB), Institute of Parasitology and Tropical Vet. Med., Germany (WP 4)
- Leibniz University Hannover (LUH), Institute of Horticultural Economics, Germany (WP 6)
- Vétérinaires Sans Frontières – Belgium (VSF), Brussels, Belgium (WP 5)
- Centre International de Recherche-Développement sur l'Elevage en Zone Subhumide (CIRDES), Bobo-Dioulasso, Burkina Faso
- National Animal Health Diagnostic and Investigation Centre (NAHDIC), Addis Ababa, Ethiopia (WP 3)
- University of Pretoria (UP), Pretoria, South Africa
- Direction de l'Elevage du Togo (VetTogo), Lomé, Togo (WP 3)
- Universidade Eduardo Mondlane (EMU), Maputo, Mozambique (WP 3)

A website was created (www.trypanocide.eu). The purpose of the website is currently twofold: to inform the public about the project and its activities and to provide partners with project documents and information in the partner area.

Presentation of partner institutions and workpackages

WP2 – ITM

Jan Van den Abbeele briefly presented the Institute of Tropical Medicine, the Department of Biomedical Science and the unit for Veterinary Protozoology.

WP2: Develop tools to detect trypanocidal drug resistance and establish local capacity and capability to diagnose drug resistance and to conduct trypanocidal drug quality control. Whereas molecular tools already exist to detect trypanosome resistance against diminazene aceturate, no marker has so far been identified for isometamidium. All "omic" approaches could be evaluated in the search of markers: genetic, proteomic and metabolomic. Resistance against isometamidium will be studied both on lab-induced resistant trypanosomes and resistant field isolates.

Transfer of the techniques to African labs: no problems for diminazene (straight-forward molecular technique to detect point-mutation). The feasibility of transferring more complicated techniques and training required staff for the isometamidium test will depend on experimental results. Ring tests will be organized for quality control.

UP, EMU, NAHDIC and CIRDES have access to well-equipped laboratories for field samples analysis.

WP2 calendar:

- PhD student to start at ITM on 1 Sept 2012
- Transfer of diminazene test to CIRDES and EMU already done; transfer of the technique to other labs should not take time
- Drug quality monitoring: lab capacities need to be evaluated

WP3 – ITM (Vincent Delespaux)

Vincent Delespaux presented the work package which aims to determine the prevalence of trypanocidal drug resistance and the quality of trypanocidal drugs on local markets in Ethiopia,

Mozambique and Togo. This workpackage will be led by VetTogo, EMU, NAHDIC, ITM in association with regional laboratories (UP, CIRDES). FUB, and VSF as partners and University of Glasgow, &FAO as associated will be also involved.

The activities will be the following :

- Genetic mapping (University of Glasgow)
- Microsatellite analysis of field samples
- Determination of genetic exchange
- Insight into the dynamics and evolution of drug resistance

It will be a Spin-off project of WP4. Glasgow university will provide the know-how and training of a PhD student or Post Doc that still should be identified by FUB. FUB and ITM will be in charge for the consumables and the field samples

WP4 – FUB (Peter-Henning Clausen)

Peter-Henning shared his experience with regard to the management of trypanosomosis in smallholder livestock production systems in tsetse-infested sub-Saharan Africa. He insisted on the value of trypanocides and the need to reduce the impact of resistance. The objective of WP4 (develop and test best-bet integrated strategies to improve effectiveness of trypanocides and minimize and control trypanocide resistance) is to Identify and promote adapted strategies to improve the effectiveness of trypanocides thereby minimizing and controlling risk of trypanocide resistance.

Activities will be based on local circumstances (as identified by WP3) and follow the principles below:

- Rational drug use: quality and dosage
- Vector control: safe, environment friendly and sustainable
- Improved livestock management

WP5 – VSF

The objective of WP5 is to facilitate the transfer of the selected strategies in the respective study areas. VSF has a wide experience with technology transfer to the communities but has unfortunately no experience in any of the 3 study areas. *It was also emphasized that considering the restricted available budget, VSF will reinforce existing extension structures as materially it won't be possible to do the extension work by themselves.* The VSF role will mainly be advice and training (the trainees). Field extension work will need to be assured by the individual beneficiary countries. The Ministries of Agriculture and veterinary services or equivalents will be major partners in this initiative to allow for a legal framework around fake or sub-standard quality drugs.

The 3 local PhD students will play a crucial role in facilitating the contact between all the stakeholders. The situations of the three countries were then more precisely defined. In Ethiopia, training channels for veterinarians are already in place (proximity auxiliaries). In Mozambique, links with the Veterinary Services will allow to formalize the Action. In Togo, Cyrille Pissang who is Togolese and is working for VSF-Belgium in Kenya/Uganda will create the link between public and private service with VSF-B. There are is some extension/vulgarisation services existing in the country that depends from the Ministry of Agriculture and Fisheries. The Veterinary Services also organize training sessions for their people. These channels will be used to propagate our message together with e.g. vaccination campaigns. Given the non-sustainability of a centralised state approach to the

provision of curative veterinary services (diagnosis and treatment of non-contagious diseases), that state retain control over certain public goods – policy, legislation and compliance, extension services, the control or management of contagious diseases and certain important zoonoses, as well as in the control of important disease vectors such as the tsetse fly vectors of trypanosomiasis, VSF proposes to adapt existing delivery systems or introduce new delivery systems. Possible ways forwards include, for instance, the Pastoralist Field School approach and community-based animal health care approaches in situations where formal veterinary services are absent. VSF clarified then the concept of KAP (Knowledge, Attitude and Practices) and of PPVS (Public Private Veterinary Services).

WP6 - LUH

Hannover started the session with a detailed presentation of their WP6. It was stated that we'll have to define the impact we want to look at. Also the notion of adoption versus impact was clarified with emphasis on adoption (long term changes in cattle productivity). Factors related to adoption or non-adoption will need to be identified.

The question of the sampling size was raised. This has to be defined precisely to allow for a good coverage of the studied factors. We need a good measure of the unbiased causal effect of the participation and to confirm the link between the action and the outcome. It was then indicated that the knowledge score is a good evaluator of “what we want to measure”. This is based on the knowledge level of the disease in general, curative and preventive treatments etc.

The survey design was discussed with the questions raised “who is responding to the interviews?”, “how will the translation of the questionnaire be done?”. Some examples of questionnaires were then showed. Three country coordinators with socio-economic background will have to be identified to check the data consistency. A draft planning was proposed. A list of the 40 villages should be available by August. A first scouting mission will be organised by Hannover between June and August in the three countries. Secondary data will be collected and the survey will then be designed with a precise sampling strategy. Enumerators will be identified.

The baseline survey was also discussed. A consultant could be used for 2 months. This consultant should not be a veterinarian to avoid biases. It was also decided to perform detailed quantitative evaluation in Togo and Ethiopia and more qualitative (by mean of focus groups) and less cumbersome investigations in Mozambique..

The required logistics were discussed:

-50 locations
-10 farmers by location
-10 enumerators
-2 questionnaires per enumerator per day
-1 location per day

The household income and consumption will be measured. The aim is to increase the number of people living above the poverty line. The ethical aspects of using a control group were also discussed without definitive answer to the question.

For the identification of the sampling sites, it was decided to use the skills and data of the FAO.

Giuliano Cecchi was identified as best contact person for the assistance in this particular matter.

Creation of Project Management Committee

The Project Management Committee (PMC) will play the following roles:

- Make key decisions on activity implementation and funding
- Approve annual work plans and budgets
- Attend annual meetings (2 in year 1); Skype, telephone and email communication in between

Decisions will be made by majority votes. PMC includes 2 members from each partner institutions, and an additional 2 for the coordinator. In case of vote, all partners' institutions (including ITM) will have only one vote. In case of draw, the coordinator takes the final decision as indicated in the project document. In addition, the coordinator has a right of veto on any vote because ITM is held as sole responsible towards the European Commission. Two external advisors will also be members of the PMC but will not have the right of vote.

Proposed list of PMC members:

ITM	Tanguy Marcotty	Houssynatou Sy
	Vincent Delespaux	Jan Van den Abbeele
FUB	Peter-Henning Clausen	Burkhard Bauer
LUH	Hermann Waibel	Sabine Liebenehm
VSF	Dethie Faye	Ciryl Pissang
CIRDES	Zakaria Bengaly	Hervé Vitouley
NAHDIC	Thomas Cherenet	
UP	Banie Penzhorn	Marinda Oosthuizen*
VetTogo	Daniel Batawui	Modjosso Tanah Djankla
EMU	Luis Neves	Joseph
Advisors	Raffaele Mattioli (FAO)	Annette MacLeod (University of Glasgow)

*: Tshepo Matjila resigned from UP after the meeting and was replaced by Marinda Oosthuizen

Financial, legal and administrative issues

Houssynatou SY, the financial administrator of the project and Eva Mostmans, the project manager introduced the contract & annexes, presented the budget and explained how the project will be administrated via the project management office and the project management board.

They emphasized on the eligibility of costs and the procurement rules. The reporting period's methods and templates were also presented.

The collaboration agreement between ITM and partners institutions was presented.

Questions about the need of ethical clearance and ownership of data were raised. It was advised that all field studies should be approved by an ethics board. ITM has, for instance, ethics boards for research in humans (including questionnaire surveys) and animals (including sampling). The ownership of data will be clarified in the collaboration agreement with reference to the EC contract.

Partners institutions asked for a budget revision to be in phase with the reality in the field today. In fact, the budget was prepared 3 years ago and costs changed a lot in the interval.

It was decided that Partners will submit a new budget proposal and ITM will compile and check with the EC the possibility of reallocating funds between budget lines.

The procurement rules related to the purchase of vehicles were also discussed. ITM will provide a clear answer to the partners' institutions.

It was also agreed that partners will sign the collaboration agreements with the authorized (by EC) budget reallocation. ITM will then transfer the pre-financing as soon as the agreements are signed.

Satellite Meeting: Genetic mapping of Trypanosoma congolense populations

Participants: Annette MacLeod (UG), Vincent Delespaux (ITM), Peter-Henning Clausen (FUB)

Date: May, 25th, 2012; 12.00-13.00 hours

Background:
In collaboration with the University of Glasgow (UG, associate in the project), well-documented samples originating from the Togo, Ethiopia and Mozambique study areas will be genotyped using microsatellite markers from infected blood on FTA cards, allowing the direct genotyping of the parasite populations before and after drug treatment. Improved, more sensitive sampling and recovery techniques of resistant and sensitive trypanosome isolates for genome sequencing (parasitaemic blood in lysis buffer for DNA preparation and /or preparation of stabilates if feasible) will be compared to sampling on Whatman filter paper. These molecular epidemiological studies will provide valuable information on the origins and spread of drug resistant parasites that can be used to inform strategies for limiting its spread and containing existing hot spots. Thus the genetic studies using micro- and minisatellites markers will allow the determination of genetic exchange and provides insight into the dynamics and evolution of drug resistance.

The action will provide the UG with the field isolates and analyses of the samples will be conducted in collaboration with FUB and ITM.

Conclusion:
UG will provide technical expertise. FUB will recruit a student and identify a scholarship. The student will be trained at the UG. The analyses of the samples will be done by the student at FUB/UG using the project budget allocated for genotyping. ITM will assist in sample collection and transfer.