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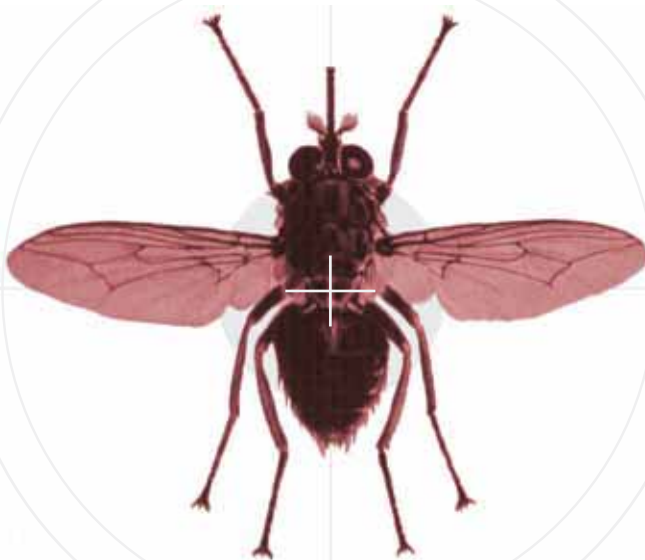
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Programme
Against
African
Trypanosomosis



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TSETSE AND TRYPANOSOMOSIS INFORMATION



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TSETSE AND TRYPANOSOMOSIS INFORMATION

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TSETSE AND TRYPANOSOMOSIS INFORMATION

The Tsetse and Trypanosomosis Information periodical has been established to disseminate current information on all aspects of tsetse and trypanosomosis research and control to institutions and individuals involved in the problems of African trypanosomosis. This service forms an integral part of the Programme Against African Trypanosomosis (PAAT) and is jointly sponsored by the Food and Agriculture Organization (FAO) of the United Nations, the International Atomic Energy Agency (IAEA), the Inter-African Bureau for Animal Resources of the African Union (AU-IBAR), the World Health Organization (WHO), the Research Department for Livestock Production and Veterinary Medicine of the Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD-EMVT) and the British Government's Department for International Development (DFID).

The half-yearly periodical is prepared for publication, in both English and French editions, by the Food and Agriculture Organization of the United Nations. Each annual volume consists of two parts and an index. Subscription is free for all recipients engaged in trypanosomosis research and control, and requests for enrolment may be sent to: Ms Maria Grazia Solari, AGAH, FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy (fax +39 06 5705 5749; e-mail MariaGrazia.Solari@fao.org).

Since the value of this information service depends to a great extent on the receipt of relevant material from research workers, campaign planners and organizers and field workers themselves, readers are requested to submit news items and copies of scientific papers and reports to the Editor: Dr James Dargie, Brunnstubengasse 43, 2102 Bisamberg, Austria (tel. +43 2262 61735; e-mail j.dargie@aon.at).

We regret that we are unable to supply photocopies of the papers quoted in the periodical.

Distribution dates and copy deadlines

	Copy deadline for news items	Distribution (English and French editions)
Part 1	15 April	July/August
Part 2	15 October	January/February

The Index will be distributed as soon as possible after the completion of each volume.

ABBREVIATIONS USED IN *TTI*

a.i.	active ingredient	LC ₅₀	median lethal concentration
ACTH	adrenocorticotrophic hormone	LD ₅₀	median lethal dose
ALAT	alanine aminotransaminase	M	molar
ASAT	aspartic acid aminotransaminase	mAEC	miniature anion-exchange centrifugation technique
b.w.	body weight	McAb	monoclonal antibody
BIIT	blood incubation infectivity test	MW	molecular weight
CATT	card agglutination test for trypanosomiasis	NARS	National Agricultural Research Services/Systems
CD ₅₀	median curative dose	p.i.	post-infection
CNS	central nervous system	PCR	polymerase chain reaction
CSF	cerebrospinal fluid	PCV	packed cell volume
DNA	deoxyribonucleic acid	ppb	parts per billion (10 ⁹)
ELISA	enzyme linked immunosorbent assay	ppm	parts per million
HAT	human African trypanosomiasis	r.h.	relative humidity
HCT	haematocrit centrifugation technique	RNA	ribonucleic acid
GIS	geographic information system(s)	SIT	sterile insect technique
GPS	global positioning system(s)	sp(p).	species (plural)
i.m.	intramuscular(ly)	ssp(p).	subspecies (plural)
i.p.	intrapertoneal(ly)	UV	ultra-violet
i.v.	intravenous(ly)	VAT	variable antigen type
IFAT	indirect fluorescent antibody test	VSG	variant surface glycoprotein
KIVI	kit for <i>in vitro</i> isolation of trypanosomes	WBC	white blood cell

Organizations

ANDE	Agence Nationale de Développement de l'Élevage
AU	African Union
AU/STRC	African Union/Scientific, Technical and Research Commission
BICOT	Biological Control of Tsetse by the Sterile Insect Technique
CEBV	Communauté Economique du Bétail et de la Viande
CEMV	Centre Universitaire de Formation en Entomologie Médicale et Vétérinaire
IAR	Consultative Group on International Agricultural Research
CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement
CIRAD-EMVT	Département d'Élevage et de Médecine Vétérinaire des Pays Tropicaux du CIRAD
CIRDES	Centre International de Recherche-Développement sur l'Élevage en Zone Subhumide
CNERV	Centre National d'Élevage et de Recherches Vétérinaires
CNRS	Centre National de Recherche Scientifique
CREAT	Centre de Recherche et d'Élevage, Avétonou, Togo
CRSSA	Centre de Recherches du Service de Santé des Armées Emile Pardé
CTVM	Centre for Tropical Veterinary Medicine
DFID	Department for International Development (UK)
DSE	German Foundation for International Development
EC/EU	European Community/European Union
EDF	European Development Fund

Tsetse and Trypanosomosis Information

FAO	Food and Agriculture Organization of the United Nations
FITCA	Farming in Tsetse Control Areas of Eastern Africa
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
IAEA	International Atomic Energy Agency
IBAR	Interafrican Bureau for Animal Resources
ICIPE	International Centre of Insect Physiology and Ecology
ICPTV	Integrated Control of Pathogenic Trypanosomes and their Vectors
IFAD	International Fund for Agricultural Development
ILRI	International Livestock Research Institute
INRA	Institut National de Recherche Agronomique
IPR	Institut Pierre Richet
IRD	Institut de Recherche et de Développement (formerly ORSTOM)
ISCTRC	International Scientific Council for Trypanosomiasis Research and Control
ISRA	Institut Sénégalais de Recherches Agricoles
ITC	International Trypanotolerance Centre
KARI	Kenya Agricultural Research Institute
KETRI	Kenya Trypanosomiasis Research Institute
LCV	Laboratoire Central Vétérinaire
LNERV	Laboratoire National de l'Élevage et de Recherches Vétérinaires
LSHTM	London School of Hygiene and Tropical Medicine
MRC	Medical Research Council
MRU	Mano River Union
NITR	Nigerian Institute for Trypanosomiasis Research
NRI	Natural Resources Institute
OCCGE	Organisation de Coopération et de Coordination pour la Lutte contre les Grande Endémies
OCEAC	Organisation de Coordination pour la Lutte contre les Endémies en Afrique Centrale
OGAPROV	Office Gabonais pour l'Amélioration de la Production de la Viande
OIE	Office International des Epizooties
OMVG	Organisation pour la Mise en Valeur du Fleuve Gambie
PAAT	Programme against African Trypanosomosis
PATTEC	Pan-African Tsetse and Trypanosomiasis Eradication Campaign
PRCT	Projet de Recherches Cliniques sur la Trypanosomiase
RDI	Rural Development International
RUCA	Rijksuniversitair Centrum Antwerpen
SADC	Southern African Development Community
SIDA	Swedish International Development Authority
SODEPRA	Société pour le Développement des Productions Animales
TDR	UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases
TDRC	Tropical Diseases Research Centre
TPRI	Tropical Pesticides Research Institute
TTRI	Tsetse and Trypanosomiasis Research Institute
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
UTRO	Uganda Trypanosomiasis Research Organisation
WHO	World Health Organization

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SECTION A – NEWS

Peter Van den Bossche

It is with much regret that we announce the death of Dr Peter Van den Bossche (1962) in a ghastly motor accident, on November 11, which was caused by a drunken driver. Peter was one of the few individuals with considerable field and laboratory experience in tsetse and trypanosomosis control in Africa. He served for many years in the ASVEZA project (Assistance to the Veterinary Services in Zambia) in Chipata Zambia, after which he moved to the Regional Project on Tsetse and Trypanosomiasis Control (RTTCP) in Southern Africa. He played a key role in this project and contributed significantly to its success. In 2000 Peter joined the Animal Health Department of the Institute of Tropical Medicine in Antwerp and in 2005 he became Head of the Disease Control Unit of the Department. He was also Adjunct Professor at the Veterinary Faculty of the University of Pretoria. Peter was a hard working, highly motivated and very productive researcher, always enthusiastic about his work and remained an optimist. His personal warmth brought him friendship, especially in the family of Tsetse and Trypanosomosis which will sadly miss him. His sudden death is a great loss, in the first place to his wife and three children, the Institute of Tropical Medicine and the Programme Against African Trypanosomosis (PAAT), on whose External Review Panel he served last year, and the whole scientific and tsetse and trypanosomosis community.

CHANGES IN NOMENCLATURE

Readers should note that since the establishment of TTI and various other initiatives related to tsetse and trypanosomiasis (e.g. the Programme Against African Trypanosomiasis, PAAT), FAO now uses the term trypanosomosis to describe the animal disease caused by trypanosomes. The decision to do so is consistent with the decision made in 1990 by the World Federation of Parasitologists to adopt for all parasitic diseases, the principles prepared by a Terminological ad hoc Committee that was set up in 1985 by the World Association for the Advancement of Veterinary Parasitology (WAAVP) to develop principles for a Standardised Nomenclature of Animal Parasitic Diseases (SNOAPAD). Since then the reference to “Animal” was dropped, thereby changing the acronym to SNOAD, the essential rule proposed being that construction of disease names would be done by adding the suffix “-osis” to the stem of the name of the parasite taxon. Readers interested in the background to FAO’s decision should consult both the WAAVP website (<http://www.waavp.org/node/40>), and the paper by Tibor Kassai published in *Veterinary Parasitology* in 2006 (<http://www.waavp.org/files/Nomenclature%20for%20parasitic%20diseases.pdf>).

From now on therefore, TTI is renamed *Tsetse and Trypanosomosis Information* and all references to PAAT and to the disease within PAAT and related FAO publications will use the term trypanosomosis. However, unless otherwise communicated officially to FAO, WHO and the IAEA, the names of national and international institutions and programmes containing the term trypanosomiasis are retained. Also retained is the use of the term trypanosomiasis when appearing in the abstracts of scientific papers published in journals and referred to in TTI.

EXTERNAL EVALUATION OF THE PROGRAMME AGAINST AFRICAN TRYPANOSOMOSIS (PAAT)¹

1. INTRODUCTION

During November-December 2009, FAO commissioned an external evaluation of the inter-Agency (i.e. FAO/AU-IBAR/IAEA/WHO) Programme Against African Trypanosomosis (PAAT) that was established by the 29th FAO Conference in 1997 to assist countries affected by tsetse and trypanosomosis both to understand the constraints and intervene appropriately to improve animal and human health and productivity and thereby promote sustainable agriculture and rural development.

- To collectively identify, develop and disseminate standards, principles, guidelines, information and other strategic tools for assisting all affected African countries to better analyse their policy, strategy and technical options, thereby improving their capacities for prioritising and implementing interventions, *i.e. its normative role*.
- To provide countries and donors - individually, and collectively when dealing with transboundary issues - with “one stop” advisory/quality assurance services for planning and implementing national, bi-national and regional programmes, *i.e. its operational role*.

This evaluation was conducted by a Team consisting of Drs. James Dargie (Animal Production and Health consultant and Leader), Peter Van den Bossche (specialist in Tsetse and Trypanosomosis Interventions based at the Institute of Tropical Medicine, Antwerp, Belgium) and Oumar Diall, specialist in Tsetse Biology and Trypanosomosis Epidemiology based at the Laboratoire Central Vétérinaire, Bamako, Mali). Their report, summarized below for the purposes of informing TTI readers of the main conclusions and recommendations was submitted for consideration to the management of the organizations primarily concerned, as appropriate in January 2010. Readers should note that the views expressed are those of the Evaluation Team alone and may not necessarily reflect those of FAO and other organizations mentioned.

The Terms of Reference of the evaluation were essentially:

- to assess the performance of PAAT since its creation in 1997;
- to provide a considered opinion about its continuing relevance for addressing the current and likely future needs of its stakeholders and beneficiaries against the backdrop of scientific/technical, institutional and political changes within its founding Agencies and the countries and institutions with which they partner; and
- to provide recommendations - primarily to FAO as the principal “driver” of the inter-Agency alliance but also as considered appropriate to others within and outside that alliance - for adjustments to the structures and institutional arrangements that underpin PAAT, and to the planning and implementation of the support provided to it by FAO itself as well as by the other Agencies contributing to the Programme’s Secretariat.

¹ See Terminology Changes in News Section

In carrying out the evaluation, the Team visited FAO Headquarters, Burkina Faso, Ghana, Ethiopia and Kenya and had extensive discussions with policy and technical decision-makers dealing with tsetse and trypanosomosis control, and livestock and wider agricultural development issues within these and other organizations/institutions and countries. Discussions by telephone were held with WHO and IAEA members of the PAAT Secretariat and with the PAAT Chairman. The Team was also provided with a rich variety of written materials concerning relevant developments within and outside PAAT, and examined information available on the PAAT and related web sites. Additionally, the Team Leader had the opportunity of presenting and obtaining feedback on the Team's major findings from members of the Panel of PAAT Advisory Group (PAG) Coordinators during their 15th meeting held in Mombasa, Kenya in December 2009. These discussions coupled with the written inputs served to shape the Team's analyses and considerations and ultimately the conclusions and recommendations it reached concerning both the past performance and future opportunities for PAAT and FAO in assisting African countries and the international community to deal effectively with the direct and indirect consequences of animal and human trypanosomosis. The Team therefore wishes to thank all concerned for sharing their knowledge, experience and perspectives, without which the considerations underpinning and the conclusions and recommendations made in this report would not have been possible.

Particular thanks go to Mr. Raffaele Mattioli of FAO's Animal Production & Health Division (AGA) for his many technical inputs, insightful observations and unflinching commitment to supporting the Team's work, and to Ms Maria Grazia Solari of AGA for carrying out the many associated administrative arrangements in such an efficient and friendly manner. The excellent arrangements made and generous hospitality provided by Dr. R. Saini and other staff of ICIPE at the PAG meeting in Mombasa are also acknowledged.

In carrying out its work, the Evaluation Team noted that as a mechanism for fostering concerted international planning and action, FAO Members recognised two inter-related roles for PAAT:

- To collectively identify, develop and disseminate standards, principles, guidelines, information and other strategic tools for assisting all affected African countries to better analyse their policy, strategy and technical options, thereby improving their capacities for prioritising and implementing interventions, *i.e. its normative role.*
- To provide countries and donors - individually, and collectively when dealing with transboundary issues - with "one stop" advisory/quality assurance services for planning and implementing national, bi-national and regional programmes, *i.e. its operational role.*

To assess its achievements, the Team examined PAAT's original Project Planning Matrix or log frame, noting its expected overall development and intermediate goals, the objective to which PAAT would contribute, the outputs it would generate and the activities that would be conducted to achieve these outputs. Also defined were verifiable indicators for achievement and the assumptions upon which these were based. The Team also examined issues like the structure and funding of PAAT and the changes that had taken place in the external environment since its inception. Particularly noteworthy here were the significant reductions in both government and donor budgets for agriculture in general, and in particular for agricultural R&D, and the endorsement of the *Pan African Tsetse and Trypanosomiasis Eradication Campaign (PATTEC)* by the AU Heads of State and Government with its

ultimate objective of eradicating tsetse and trypanosomosis from Africa through a strategy based on final elimination of tsetse populations using the sterile insect technique (SIT).

2. ASSESSMENT OF PAAT’S ACTIVITIES AND OUTPUTS

Output 1: Trypanosomosis and tsetse research and control coordinated

PAAT was expected to generate five outputs to deliver its objective of “Promoting and Facilitating Effective Control of Trypanosomosis”. To produce these outputs, PAAT conducted a number of activities on a regular basis (e.g. convened annual meetings of its PC and PAG, attended the bi-annual ISCTRC meetings), it planned and implemented others on the basis of decisions made by the PC and PAG e.g. prepared guidelines, produced the Tsetse and Trypanosomosis Information (TTI) and developed the PAAT Information System (PAAT-IS), and it implemented yet others that were not planned, but were nevertheless considered necessary to achieve its outputs (e.g. harmonization meetings, visits by Secretariat staff to specific organizations and institutes, presentations at conferences etc.). Consultations and other interactions between members of the Secretariat and between the Secretariat and other stakeholders on technical, policy and financial matters were constant and sometimes intense.

Conclusions:

1.1 Individually and collectively, all of these activities - including in recent times the occasional attendance of the PATTEC Coordinator at PAAT meetings served to promote the sharing and exchange of information and views concerning trypanosomosis and tsetse research and control activities among and between the Secretariat and national and international T&T control and research communities. Also, by providing a neutral and relaxed forum that encouraged open discussion on several contentious issues, PAAT unquestionably helped to stop divisions becoming entrenched. *In all these respects, such meetings and the publication of their outputs and outcomes in TTI and on the PAAT web pages contributed greatly to objective information sharing among and co-ordination between stakeholders and identification of priorities for action, and hence towards Output 1.*

1.2. *FAO therefore deserves high praise for adhering rigorously to its role as an “honest broker” throughout the history of PAAT. Its efforts to “keep the ship sailing” along sound technical and policy principles, often in the face of efforts by others to exert undue influence through their greater financial resources is recognised by African stakeholders and the donor community alike.*

1.3. *However, it was never realistic to expect that PAAT could co-ordinate research and control of T&T at national or sub-regional/regional levels. As in every other branch of science and technology, this is the rightful role of individual governments, ministries, national and international research institutes and funding bodies. Viewed in this light, PAAT’s roles should therefore have been seen as (a) collecting, analysing and synthesising knowledge arising from T&T research and control including its related land use, environmental and socio-economic dimensions, and disseminating this to affected countries and the donor community; (b) identifying policies and options for intervention that could be*

considered by individual governments based on available technologies and clear statements of the scientific, technical, financial, legal, managerial, logistical and infrastructural requirements for implementing these technologies (including their integration) through publications and by convening meetings with relevant stakeholders, and (c) assisting countries directly to build the capacities required to make sound policy and strategic decisions concerning interventions.

1.4. Feedback from stakeholders in the countries visited and at the PAG meeting was generally highly positive with respect to the first and to a lesser extent the second of these roles (primarily Outputs 2 and 3 below), particularly considering the resource constraints. *Most of these outputs were considered to be real “jewels” – high in quality, high in relevance and filling real “needs”,* although one or two were felt to be “over the top” in terms of detail and scientific/technical content and would now benefit from simplification for use at field as opposed to middle management levels i.e. from placing greater focus on what people “need” to know and less on what is “nice” to know, including for use in scientific journal publications.

1.5. Nevertheless, *the evaluation Team questions the extent to which PAAT’s outputs and recommendations reach certain important groups of stakeholders/end-users- most importantly, those involved in higher level policy-making e.g. Directors of Veterinary Services, Ministers or Permanent Secretaries of Agriculture, decision-makers within the AU, development banks and other players in the donor community.* This concern is based on both the composition of the current membership within the various PAAT bodies, as well as the almost total reliance being placed on using essentially scientific and technical outlets like TTI and the PAAT web site as “communications” media. *In addition to the need to reconsider the Membership and functions of the PAAT structures, the Team therefore concludes that greater effort needs to go into tackling the higher level “policy deficit” within T&T affected countries if PAAT is to fully realize its potential.* Suggestions for how this might be achieved are contained within the Team’s recommendations (Section 3).

Output 2: Information on policies, resources and activities effectively managed

The main mechanism for achieving this Output is the PAAT - IS which has been hosted and managed by FAO since 2002. The main purpose of PAAT-IS is to guide strategic and technical decisions on T&T interventions in sub-Saharan Africa. The PAAT-IS is accessible via the FAO website and through the PAAT website and consists of four PAAT-related components (i.e. PAAT Information Resources, PAAT Maps, PAAT GIS and RS, and the PAAT Link) with links to the websites of the other organizations represented on the Secretariat i.e. WHO, IAEA and AU/IBAR.

PAAT-IS comprises:

(i) PAAT Information Resources

Tsetse and Trypanosomosis Information: The TTI (formerly Tsetse and Trypanosomosis Information Quarterly, TTIQ) has been published since 1978, initially by the UK’s Overseas Development Administration (ODA), and since 2002 by FAO. From 1989 onwards, this

formerly quarterly (TTIQ) and since 2005 biannual (TTI) publication provides titles and abstracts of scientific publications in various fields of tsetse and trypanosomosis research (including those by members of the PAAT Secretariat), together with the names and addresses of authors, and reports on the outcome of relevant meetings (such as meetings of the PAAT-PC and PAG) and on the activities of international organizations and institutions involved in T&T research and control. The TTI constitutes the most complete database of scientific publications in the field of tsetse and non-tsetse transmitted trypanosomosis and is the major source of information for professionals involved in the field of T&T who have no or limited access to up-to-date libraries or more general web-based databases. The TTI is distributed as hard copies in English and French and can be downloaded from the PAAT website. Its production is supported financially by FAO with contributions currently from WHO and IAEA. All groups consulted by the Evaluation Team gave high priority to continuation of this publication by PAAT.

Training manuals: The FAO tsetse and trypanosomosis Training Manuals are probably the most widely distributed manuals for training of field technicians in T&T control. This is certainly so for the volumes published in the mid 1980s and distributed as hard copies. Only three Training Manuals can be downloaded from the PAAT website.

PAAT Technical Documents: Between 1998 and 2009, PAAT published a total of 13 Technical Documents covering various aspects of T&T control (e.g. parasite management, impact, socio-economics, SIT, mapping). Nine publications are part of the PAAT Technical and Scientific Series, one publication is an FAO Guideline and one is a Research Report published in collaboration with DFID. These documents were written by experts in a particular field (some being members of the PAG) and are regarded as internationally agreed guidelines, strategies and criteria on specific fields/subjects relevant to T&T. They are mostly written in English, have been distributed widely (through the TTI distribution network) and are available through the PAAT website. As noted earlier, stakeholders generally gave high marks to these documents, and the Evaluation Team concurs with these views.

Reports: The PAAT-IS makes available the reports of the annual PAAT Committee and the PAAT- PAG meetings. The Evaluation Team's views on these reports are given under 5.10 and 5.13.

(ii)PAAT Maps

Through the PAAT-IS, maps predicting the distribution of the three tsetse subgenera, the distribution of the tsetse species in each subgenus, the national distribution of tsetse in Ethiopia, Kenya, South Africa, Tanzania, and Uganda, and regional tsetse distribution maps (West Africa) are made available. Predictions of tsetse distribution are based on the logistic regression of fly presence data against a range of often remotely sensed predictor variables such as vegetation and climate but also demographics and agro-ecological predictors.

(iii)PAAT GIS and Remote Sensing (PAAT GIS & RS)

Geographic information systems and remote sensing are playing an increasingly important role in the planning, implementation and evaluation of T&T control operations throughout sub-Saharan Africa. To support the application of these tools, PAAT (supported by an IFAD grant) in collaboration with national and international stakeholders has been instrumental in:

the generation of customized land cover datasets for tsetse habitat mapping

Information on land cover and land use is extremely useful for various aspects of T&T intervention such as mapping of tsetse, environmental and economic impact assessment of control strategies and SARD. To harmonize land cover mapping and facilitate the use of land cover maps, the Land Cover Classification System (LCCS) developed by FAO and UNEP, was applied to T&T land cover mapping. This standardized approach enables comparison and integrated analyses of often incompatible databases and could contribute substantially to harmonization at national and regional levels. The outputs of this activity have been summarized in the PAAT Technical and Scientific Series (“Standardizing Land Cover Mapping for Tsetse and Trypanosomosis Decision Making”) and have been published in a peer-reviewed journal.

Besides standardization, PAAT-IS aims to improve access and sharing of data. A technical document also published under the PAAT Technical and Scientific Series (“Geospatial Datasets and Analyses for an Environmental Approach to African Trypanosomosis”) provides a review of relevant state-of-the-art global geospatial datasets available in the public domain and examples of applying such spatial datasets in T&T control projects.

PAAT-IS and FAO promote the FAO Geonetwork (www.fao.org/geonetwork/)

This is an open and standardized source of information to share geospatial data and metadata on the internet by making its geospatial datasets (e.g. tsetse distribution maps and land cover maps standardized and customized for T&T informed decision-making) more widely available. Training was also provided to selected PAAT partners for using this data platform and facilitating exchange of information among PATTEC projects. However, the use of FAO GeoNetwork by PAAT partners is still limited. Pro-active efforts from FAO/PAAT-IS are on going and will be further expanded so that the PATTEC Office and PATTEC countries can take full advantage of this structured and standardized data-sharing utility.

The production of maps of the distribution of African human trypanosomosis

- The Atlas of Human African Trypanosomiasis is a WHO initiative jointly implemented with FAO within the framework of the PAAT. The Atlas brings together all the information obtained through HAT surveillance exercises and maps the prevalence of HAT at village level. Ultimately, the HAT Atlas will constitute an important database, providing a sound basis for the planning, implementation and monitoring of control interventions.

(iv)The PAAT Link (PAAT-L)

The PAAT-L is an electronic mailing list for sharing and disseminating information among the PAAT-L subscribers. The PAAT-L contains the contacts of more than one hundred people but has not been functional for many years.

Conclusions

•2.1. *The PAAT-Information Resources are an important and unique repository of scientific, technical and wider policy-relevant information on various aspects of tsetse and trypanosomosis.* Through the PAAT website much useful information is available to the entire scientific community. Nevertheless, *considerable scope exists to improve the content of the PAAT website, making it both more comprehensive and dynamic and “outward-looking” in terms of knowledge/information exchange between stakeholders and thereby **the international resource** for all involved in T&T initiatives.* Examples of needed updating/improvements in coverage include:

- numerous scientific and technical publications on T&T and related land use issues arising from the work of FAO, WHO and IAEA have appeared in some highly reputable and influential scientific and agricultural development journals. These, like contributions appearing under the PAAT Technical and Scientific Series, not only contribute to PAAT’s technical objectives but bring international recognition to the staff and agencies concerned. *They are not, however, to be found on the PAAT website.* This is a missed opportunity which should now be grasped to enhance PAAT’s credibility and standing among research institutions, universities and development agencies in Africa and elsewhere; and
- other “missing links” include the absence of linkages to the websites of international institutions outside of those connected directly with the PAAT Secretariat (e.g. ILRI, ICIPE, CIRDES etc) but which are nevertheless conducting valuable work on T&T, links to national T&T centres, and to other sites with, for example, training and computer-based programmes offering advice on strategies and tactics for tsetse or trypanosomosis interventions. One example is the Tsetse Plan (available at <http://www.nri.org/tsetse/Plan/index.html>) which helps government planners, NGOs and farmer groups to plan and implement tsetse control activities at different geographic scales.

2.2. *PAAT’s continued involvement in the collation and publication of the TTI on a twice-yearly basis is crucial for scientists working in this field.* The TTI is a unique and probably the most complete database of publications in the field of tsetse and trypanosomosis. The PAAT should be commended for this effort and sufficient funds should continue to be allocated to continue supporting this activity.

2.3. *The FAO Training Manuals are essential for those implementing T&T interventions at the field level,* and while there may be merit in PAAT itself undertaking the task of their

updating or revision, the Evaluation Team concludes that this is best achieved through ongoing projects supplemented, upon request, by information provided directly or through the PAAT Secretariat.

2.4. The guideline documents available under the PAAT Technical and Scientific series constitute important reference documents produced by authorities in the field of tsetse and trypanosomosis. There are, however, several important gaps to be filled. In particular, several countries are already embarking upon and others are now actively considering using the sequential aerosol technique (SAT) against tsetse flies. They urgently need guidance on using this technique for area-wide tsetse elimination within PATTEC and other projects. They also need guidance on conducting environmental risk assessments for pesticides under riverine and other situations.

2.5. The geospatial datasets and maps produced and made available by PAAT to the T&T community constitute an important and valuable baseline for planning and implementing T&T interventions. Nevertheless, more awareness needs to be created to ensure optimal use of these datasets and the long-term sustainability of the activities currently conducted at FAO headquarters needs to be secured.

2.6. Concerns have been expressed on the steps taken to ensure that the information/recommendations contained in PAAT guidelines are implemented and produce better outcomes. Indeed PAG itself also noted that PAAT receives very little feedback from intended beneficiaries/stakeholders concerning its outputs, and feedback from others consulted during country visits suggested that greater attention should be given to improving the validity and ensuring the feasibility of guidelines.

2.7. Considering its role as a technical and policy advisory body, PAAT is expected to respond to queries from its user communities and to inform them about new developments in T&T control. As noted earlier, this crucial role is currently achieved through annual meetings of the PAAT -PC and the PAG and, upon their request, the production of technical documents and guidelines available through the PAAT website. In future, the PAAT-IS should play a much more visible role in supporting these advisory tasks.

Output 3: Guidance on policy analysis and strategy formulation

The achievements and conclusions with respect to this Output are inextricably connected to those concerning the management of PAAT (i.e. Output 5, see below). The conclusions and recommendations reached on both Outputs should therefore be considered together.

PAAT has developed internationally agreed principles/criteria for prioritising areas for intervention against tsetse and trypanosomosis in the context of SARD. It has also developed and promoted the concepts of area-wide integrated pest management (AW-IPM) to guide the planning and implementation of T&T interventions, including the selection of technologies. The importance of adopting this approach for dealing with transboundary issues has likewise been stressed.

PAAT conveyed these principles, criteria and strategies for intervention to Member States of FAO at its Regional Conference for Africa in Cairo (2002) and again at its Conference in 2003 in Rome.

PAAT has laid the foundations for putting these strategic guidelines, criteria and strategies into place at national and regional levels by supporting, quality-assuring the production, and making available through PAAT-IS the comprehensive guidelines, manuals and land/tsetse distribution maps described above. Prominent examples of such decision-support materials include methodologies for cost-benefit analysis, for collection of baseline data on tsetse distribution and on drug management and parasite resistance in interventions against animal trypanosomosis.

In terms of national and inter-country strategy development and project formulation, FAO and IAEA helped identify the Southern Rift Valley of Ethiopia and the Cotton Belt border area between Mali and Burkina Faso as priority areas for tsetse and trypanosomosis control, and in the case of the former, contributed substantially to fund mobilization.

Conclusions

3.1. PAAT's principles, criteria and strategies for intervention against tsetse and trypanosomosis have been made available to T&T affected countries through a variety of hard copy and electronically available documents, and by organising meetings and making conference presentations. Nevertheless, countries are not always receiving consistent policy and technical guidance with respect to both the livestock/agricultural and human health dimensions of the problem from the many organizations and individuals involved in assisting affected countries, indicating the need for continuing efforts towards harmonization on the part of the PAAT Secretariat and individuals within its other structures.

3.2. *The emphasis given by PAAT in recent years to "area-wide" approaches to T&T management and to the technologies (primarily SIT and more recently to SAT) considered necessary for undertaking interventions over large areas needs to be balanced by the provision of updated advice and capacity-building on policies, strategies and technologies appropriate for small-scale/community-based interventions.* Notwithstanding the importance of "area-wide" principles and of related technologies, the Team concludes that the reality on the ground at present is that the depth of knowledge (including e.g. about the vulnerability to reinvasion of areas identified for interventions), and scale of operations and of financial and other resources required to implement these principles and technologies successfully are beyond the means of many affected countries, donors and certainly livestock owners. *PAAT needs to grasp this reality and assist countries in selecting and pursuing other – and possibly more immediately "do-able"- options for T&T interventions in terms of scale, technologies, combinations and strategies, and considering also relative convenience, costs and suitability for farmers and local organizations.*

Output 4: Strengthened training and capacity building programmes

The Evaluation Team noted the activities that were expected to be undertaken by PAAT in support of this output. They included: assessment of current staff resources in sub-Saharan Africa with respect to trypanosomosis control; identifying training needs and collating training opportunities and activities; providing advice on the content of training courses; developing best practices for training in T&T control; promoting regional exchange programmes; and monitoring staffing levels.

Conclusions

4.1. *The essential conclusion of the Team - corroborated strongly by feedback from stakeholders - is that this was (and remains) a major weakness of PAAT although policies and strategies, guidelines and criteria for informed decision-making in T&T interventions have been produced, published and widely distributed. In a nutshell, PAAT has not addressed training and capacity-building needs with the intensity and commitment required to ensure the appropriate breadth and depth of coverage required by T&T- affected countries.*

4.2. *Neither has it established mechanisms to plan, coordinate and quality-assure training/capacity-building activities among centres/institutions providing such services (notably ICIPE, ILRI, IAEA and FAO itself), all of which e.g. are conducting training/capacity-building on GIS with limited or no prior consultation among them. It has also been unable to effectively plan and implement training and capacity-building activities with PATTEC. Apart from the lack of consultative mechanisms, such institutional deficiencies have arisen from a combination of factors including:*

- the (false) premise that providing “information” through web pages, documents etc. is synonymous with building “knowledge” and “capacity”;
- the institutional requirement within FAO to concentrate Headquarters efforts on “normative” functions combined with the lack of “field presence” and therefore insufficient awareness of and ability to respond to real country/field needs; and
- funding constraints, arising in part from the low priority given to T&T activities within AGA compared with resources allocated to emerging and other transboundary animal diseases (TADs).

Addressing shortcomings in capacity-building “outreach” and of the funding needed to support such activities are therefore two key challenges now facing PAAT.

Output 5: An efficiently and effectively managed PAAT

PAAT was founded on the basis of “concerted action” by its three UN organizations working together with AU/IBAR to form a Secretariat which would collaborate with international R&D centres, national governments and their ministries and institutes and the donor community to find ways of tackling the national and transboundary dimensions of animal and human trypanosomosis in the most effective and sustainable manner. It was also envisaged that the PAAT Secretariat would work together to develop an annual work plan and provide progress reports for approval and consideration by the PAAT-PC, that it would have a management and evaluation system to monitor its effectiveness, and that it would commission an independent evaluation of its effectiveness and efficiency by the end of 1998.

Conclusions

5.1. *From the outset PAAT's noble - and now even more needed roles - as well as its effectiveness and credibility, foundered because of disagreements among some members of its envisaged Secretariat on policies, strategies, roles and responsibilities.* Although inter-Governmental recognition was also afforded to PAAT by the 15th Session of the World Health Assembly in 1997 and individual officers within the PAAT Secretariat now work harmoniously and constructively, differences between FAO, IAEA and the AU (whether through AU/IBAR or AU-PATTEC whose specific roles and responsibilities with respect to T&T remain unclear) have yet to be fully resolved at the institutional level.

5.2. The unwillingness of AU and IAEA (until 2002) to join PAAT formally was not conducive to the pursuit of “joined up” approaches for assisting African countries and the donor community to tackle the problem through the combination of policies, institutions and technologies envisaged by PAAT. *Unquestionably therefore, PAAT's effectiveness, efficiency and reputation were compromised by “internal technical differences” within FAO itself (i.e. between AGA and AGE, the Joint FAO/IAEA Division) and between FAO and IAEA, coupled with failure on both sides to compromise on what to the Evaluation Team was – and relative to the seriousness of subsequent developments (see 5.3-5.6 below) - turned out to be a “storm in a teacup”.*

5.3. The logic behind the unwillingness of the IAEA to formally endorse the alliance (although also attending and otherwise supporting PAAT) is not entirely clear, although the failure to refer to “area-wide approaches”, “eradication” and the “SIT” in the 1997 PAAT Memorandum appears to be the root cause. Without pursuing this matter further, the Evaluation Team wishes to record its view that this Memorandum was purely an advocacy document aimed at informing the international community about the purpose of PAAT and its structures; it did not advocate any specific approach or technique, mentioning only drugs and vector control, and surveillance and treatment for the human disease.

5.4. Relevant here also, particularly with respect to PAAT's role in developing and disseminating objective and “do-able” policies and options for intervention, is the part played by the IAEA's Department of Technical Cooperation (IAEA-TC) after the successful eradication of *Glossina austeni* from the island of Zanzibar in 1997 (i.e. at the time PAAT was launched). *Based again on wide feedback from stakeholders within and outside PAAT, the Evaluation Team concludes that through a variety of interventions, the IAEA “oversold” the SIT as a readily-available “silver bullet” for eradicating both animal and human trypanosomosis and fostering wider development in sub-Saharan Africa and indirectly (through the PATTEC Plan of Action with its sole reliance on the SIT) encouraged six countries to enter into substantial loans from the AfDB in 2004 for tsetse eradication activities premised on the use of that technique on an “area-wide” scale.*

5.5. *Unfortunately, awareness appeared to be lacking about the present operational viability of the SIT for dealing with tsetse flies before these projects were submitted and approved for funding, or indeed about the substantial planning, financial, logistical and other requirements/constraints to employing this technique within integrated area-wide pest management approaches for dealing with T&T.*

5.6. Concerning the relationship between PAAT and the AU (i.e. with PATTEC), the Evaluation Team expresses strong appreciation of the substantial effort made by both the PAAT Secretariat and the PAAT Chairman to reach agreement with the PATTEC Coordination Office on principles for identifying priority areas for intervention and the respective roles and responsibilities of PAAT and PATTEC in assisting countries and the donor community in developing and implementing “bankable projects” including for training and capacity-building. During its travels to affected countries and in the course of the PAG Meeting in Mombasa, *the Team also noted the excellent working relations between PAAT and the National PATTEC Coordinators of the countries receiving AfDB support.* However, despite a common end objective, the need to work together in harmony, and a joint press release resulting from a “harmonization workshop” in 2002 committing to close collaboration between the PAAT Secretariat and the PATTEC Coordination Office, *the Team was unable to obtain any reliable indicators of improved working relations between PAAT and the PATTEC Coordination Office* (i.e. in terms of developing proposals for funding, consulting on training and capacity-building needs, preparing and disseminating information for policy and technical decision-makers, donors and the public at large, convening joint meetings with actual or potential donors).

5.7. The Team therefore expresses disappointment about the relationship between PAAT and PATTEC *and concludes that while the PAAT-PATTEC “harmonization process” exists “on paper/in theory”, it does not function “in practice”. At the same time, and notwithstanding the concern expressed among African stakeholders about this state of affairs, the Team noted the genuine wish of all parties to forget the past and move on constructively together for the benefit of their countries and people.*

5.8. The Team further notes that none of the Minutes of the PAAT-PC meetings contained conclusions or recommendations concerning the technical and logistical viability of the PATTEC Plan of Action. Neither was any recommendation made to the PAAT Secretariat for their respective Agencies to engage formally or informally with AfDB, the AU Commissioner or the Directors of Veterinary Services/Ministries of Agriculture concerning planning and implementation of the above mentioned projects and indeed about the state of affairs concerning PAAT-PATTEC “harmonization” through e.g. their respective Division Directors, Head of the FAO Regional Office or the Headquarters-based Technical Department concerned. It is beyond the scope of this evaluation to fully explore the reasons behind the somewhat “laissez-faire” response of the PC to developments within PATTEC or the apparent unwillingness of the PAAT Secretariat to bring issues of a more political nature to higher authorities within their respective Agencies. *The Evaluation Team concludes nevertheless that PAAT’s mandate was (and remains) sufficiently robust for it to more vigorously pursue its own agenda and be less subordinate to outside views, while maintaining its strong commitment to collaboration, objectivity, scientific and technical rigour and transparency*

5.9. *The Evaluation Team found no evidence of annual work plans being prepared by the Secretariat or of the PAAT-PC either requesting or approving these. Neither is there a management and evaluation system in place to monitor effectiveness.*

5.10. *These statements of fact must not, however, be interpreted to mean that PAAT was/is poorly managed – from many standpoints and considering the serious institutional challenges that it has faced, PAAT has been well managed. Indeed, PAAT’s delivery of “normative tangibles” has been first-rate, and all involved should be congratulated for their commitment to “deliver”, even if the structures put in place did not follow “to the letter” what are now considered to be “modern management imperatives” and levels of financial and other resources were never sufficient to deliver on its comprehensive and challenging mandate due to other priorities.*

5.11. While recognizing the rather informal nature of the way PAAT goes about its business and the many advantages of retaining this approach, and also being wary of attempts to introduce undue “rigidity”, *the Evaluation Team nevertheless concludes that by making a few simple changes (a) to the background of the participants in PAAT structures, (b) to the planning and implementation of its work, and (c) by introducing a simple/light process for monitoring the delivery of its outputs and outcomes, the management of PAAT and the efficiency and effectiveness of its work can be improved.* To provide just two examples:

- the Team noted strong similarities between the agendas for PC and PAG meetings; this suggests the need to improve the “division of labour” between the two; and
- the repetitive nature of some presentations and the great similarities in the attendees at these meetings; this indicates the need to reconsider agendas and bring new talent into the mix.

While understanding and respecting fully the requirement to retain both continuity and flexibility in the operations of what is essentially a “loose alliance” between Agencies contributing to a common goal through a combination of their Agency-specific work and bringing together their collective knowledge, experience and other inputs, *the Team nevertheless concludes that there is a need to reconsider and clarify the respective roles of the Secretariat, the PC and PAG within the “reinvigorated PAAT” that it would now like to see.* This conclusion is reached also on the basis of the conclusions concerning PAAT’s management (see later).

5.12. The structure of PAAT - or rather the changes in structure and *modus operandi* that have taken place since PAAT was established in 1977 - is a further issue for consideration. *The disbanding of the FAO Liaison Officers Network, arising largely from the loss in 2007 of the post of Tsetse and Trypanosomosis Officer based at the FAO Regional Office in Accra upon retirement of the incumbent, and the inability of the two remaining FAO Officers at Headquarters to attend to the duties associated with that post in addition to their other responsibilities, led to FAO largely losing its “eyes and ears” in the field. In other words, “bottoms up/ country-driven” perspectives became replaced or at least diluted by “top down/ Headquarters-driven” considerations. This has led to the perception among national stakeholders that although PAAT is generating extremely valuable and much-needed “normative outputs” for technical and policy decision-making, it is not sufficiently engaged in assisting countries to generate “outcomes” at field level. In effect, countries are not being sufficiently helped to convert the “information” contained in PAAT’s unique products into*

“knowledge” through parallel training and capacity-building activities (see also 4.1. and 4.2).

5.13. PAAT’s *Research and Development* and its *Policy, Planning and Implementation Modules* are not functional. It was envisaged that Working Groups (each of 8-10 persons) would be established within each of these Modules to act as coordinators of technical advisory groups which would develop appropriate recommendations to the Working Groups (in essence to PAAT-PAG) for providing guidance, support and direction to PAAT on specific topics. Lack of funds, inertia in establishing/unwillingness to participate in advisory groups to support the Working Groups have meant that *Working Groups as such do not exist and that the PAAT-PAG currently consists of 15 individuals acting in their personal capacity with no actual “coordinating” function.* The Team notes that few of these individuals attended the Mombasa and even previous PAG meetings and both on the basis of commitment and future needs of the Programme, it concludes that the time is opportune to re-invigorate PAG through new appointments.

5.14. Substantial bureaucracy surrounds the processes of establishing, receiving nominations for and seeking changes in names for inclusion in FAO Statutory Bodies as well as for arranging meetings of such Bodies (in this case, the PAG). On the other hand, the Evaluation Team is aware of the possible negative financial and political consequences of changing the status of the PAG to something requiring less bureaucracy to operationalise. *It therefore concludes that while the continued existence of a technical advisory body within PAAT (as well as a PAAT-PC) remains essential, the modality through which this is secured as well as its membership should be discussed and decided upon by the Agencies forming the Secretariat.*

5.15. *The Team commends FAO’s decision to strengthen PAAT by creating a new position of Livestock Officer (Animal Health-PAAT) as of 2010. It believes that this offers significant opportunities for enhancing further the credibility of PAAT through enhanced normative outputs, the provision of technical support to T&T affected countries for planning and implementing integrated field interventions as well as wider animal disease control packages, and for closer and more effective working relationships with PATTEC, AU/IBAR, IAEA, WHO and others.*

3. RECOMMENDATIONS

3.1. Activities of PAAT

- *PAAT should continue to serve the T&T community. In fact, the need has never been greater for “joined up” thinking and action to provide leadership and strategic direction to an inter-Agency partnership which was founded on a common vision of identifying and mobilising appropriate technologies, institutional arrangements and policies for assisting African countries in their efforts to reduce poverty and hunger, improve human health and enhance the sustainable management of natural resources by eliminating the constraints to SARD caused by T&T.*

- *PAAT should therefore now prepare – and communicate to all stakeholders, including the Governing Bodies of their respective Agencies – an advocacy document (“Strategic Framework”) that sets out its logic (including its links to broader development goals e.g. CAADP/MDGs), its vision, and its strategic objectives (i.e. how it will achieve that vision). This document should also define a set of realistic and measurable outcomes, and both the types of modalities and outputs (i.e. the building blocks/ structures) that will be employed and generated to produce these outcomes, including timeframes for achievement. The aims of this document are to announce the arrival of a new/ re-invigorated PAAT – a Programme working through strengthened collective action and results-based management to increase the impact of its work by cultivating stronger and more dynamic partnerships within the T&T community, including with and among funders and users of PAAT’s outputs and expertise.*
- *PAAT’s future activities, outputs and outcomes should be clearly linked to this Strategic Framework. This is best achieved by preparing biennial and “results-based” Programmes of Work by the joint Secretariat in consultation with PAG and their approval by the PAAT-PC. Results should be monitored and evaluated regularly by the PAAT-PC and outstanding issues requiring higher management consideration/intervention within the Agencies forming the Secretariat should be raised promptly at the appropriate higher management level(s).*
- *Most importantly, stakeholders’ involvement and input are essential before the PAAT Strategy and Biennial Workplans are finalized, and PAAT should obtain the agreement by all members of its Secretariat agencies on these plans prior to their submission for approval to the PAAT-PC.*
- *Implementing the above requires urgent action by staff at the highest level within FAO and possibly the AfDB to secure the recognition of PAAT by the AU and the active participation of both PATTEC and IBAR in its Secretariat and activities. It is recommended that as an entry point into negotiations, both the AU and AfDB are informed in writing about FAO’s intentions to strengthen its commitment to supporting PATTEC by both increasing staff resources to PAAT and locating many of its services within Africa. The rationale for seeking AU support for PAAT is that collective thinking coupled with joint planning and implementation of activities are “win-win” strategies for PATTEC, AU/IBAR, PAAT and most of all the affected countries themselves, ensuring that the T&T problem is addressed continentally using mutually agreed approaches.*
- *Since FAO operates a Joint Division with the IAEA, steps also need to be taken by higher management within both FAO and IAEA to ensure that advocacy/public information material produced within the IAEA on technical options for dealing with T&T that have wider policy implications for agricultural development is both objective and consistent with PAAT’s position.*
- *PAAT should more actively promote its activities and achievements through its website, advocacy pamphlets/leaflets and increased field presence through the new FAO staff member functioning as a “coordinating resource person” who acts in the best interests*

of all relevant stakeholders i.e. the countries themselves including through their national PATTEC Coordinators, the PATTEC Coordinating Office, IBAR, FAO, IAEA and WHO. Consideration should also be given to preparing an annual PAAT Newsletter (possibly jointly with PATTEC) containing information that is specifically directed towards national policy-makers in T&T affected countries and the international donor community.

3.2. Structure of PAAT

- *The structure of PAAT should be revised* to reflect present day needs and institutional realities, and with clear and distinct definition of structures and roles and complementarity in mind.

The following are recommended as guidelines:

- ***PAAT Committee:*** should provide leadership, strategic direction and fund-raising support to PAAT, being responsible primarily for the coordination of its policies and activities and monitoring achievement of its objectives. *It should be composed of high-level African policy-makers with a range of technical skills including in livestock development and human health, sustainable development and natural resources management.* Representatives of the donor community should also be included (e.g. AfDB, IFAD, DFID, EC). It is suggested that contacts are made with the Secretariat of NEPAD, the Secretariats of the African Regional Economic Communities (e.g. ECOWAS, SADC, EAC) and/or a sub-regionally balanced selection of Ministries of Agriculture and Health to secure appropriate nominations. It is further suggested that this Committee be restricted to ten persons, that it appoints a Chairperson and that it meets once annually, preferably for two days immediately following the annual PAG meeting.
- ***PAG:*** *should continue as the technical body of PAAT.* Its primary roles should be identification of the needs for guidelines and capacity-building/training at national, sub-regional and regional levels, the preparation, coordination and quality-assurance of funding proposals including for training and capacity-building, and providing advice on these and other matters to the PAAT-PC. Its composition in terms of required expertise and number should be determined by the needs of the T&T and wider development communities, while retaining flexibility to allow the inclusion and/or exclusion of experts as deemed necessary. It is recommended, however (a) that one senior technical advisor (STA) is selected by agreement among members of the Secretariat to Chair PAG meetings and consult with both members of the Secretariat and other PAG members on meeting agendas, work plans etc., (b) that PATTEC National Coordinators of AfDB-funded projects as well as representatives of ILRI, ICIPE and possibly CIRAD serve on PAG to promote the flow of information from and to the field, and (c) that PATTEC Coordinators nominate sub-regional PATTEC focal points (two for West and Central Africa and two from East and Southern Africa) to attend PAAT-PC meetings along with the STA.

- *The new PAAT Officer based in Africa must be proactive in supporting PAG both in determining and in following-up on the needs for PAAT assistance at national, sub-regional and regional levels, as well as in transferring PAAT messages to national authorities. With the disbanding of the FAO Liaison Officers Network, attendance at meetings of national PATTEC Coordinators will be essential for feeding national and sub-regional perspectives into the work of PAG.*
- **PAAT Secretariat:** should have one representative each from FAO, WHO, IAEA and AU-IBAR and/or AU-PATTEC (clarification of AU's representation should be obtained by FAO from the relevant AU Commissioner). The FAO representative (either a Headquarters-based staff member or the new appointee to be based in Africa) should continue to be the focal contact point for PAAT and assisted by his/her colleague, preparing all correspondence and actions (as necessary) in collaboration with other members of the Secretariat. Members of the Secretariat should attend both PAAT-PC and PAG meetings
- The **Research and Development and Policy, Planning and Implementation Modules** should be abolished.

3.3. Outputs of PAAT

- Besides the roles of PAG and the Secretariat in responding to queries from user communities and informing about new developments in T&T control, *the PAAT-IS should play a much more visible role in facilitating information exchange and dialogue. The new PAAT appointee should take primary responsibility for bringing dynamism to the PAAT-L by sharing information gained through field visits, interactions with PATTEC, AU/IBAR, ILRI; ICIPE and others, creating links to other relevant websites, and both organising and moderating e-mail conferences on specific topics.*
- Moreover and as recommended earlier, *the higher level "policy deficit" needs to be addressed through a targeted information campaign* by, for example, clarifying PAAT's objectives and achievements in leaflets and folders and by inclusion of the "policy level" in the PAAT Committee.
- *High priority should be given by PAAT to developing a position paper/guidelines on using the sequential aerosol technique (SAT) since several countries are now planning to employ this for area-wide tsetse control or the creation of tsetse-free areas. They also need guidance on conducting environmental risk assessments for pesticides under riverine and other situations. Similarly, the PAAT community would benefit from a technical paper updating knowledge about the trypanocidal drug resistance situation and its management.*
- *Greater attention should be given to improving the validity and ensuring the feasibility of implementing guidelines and other decision-support outputs.* The impact of guidelines could be improved by involving end-users in their development and dissemination and ensuring that training is given to support their implementation.

- *The scientific and technical publications arising from the work of FAO, WHO and IAEA and published in scientific journals should be made accessible to the T&T community via the PAAT website.*
- *With regard to training in T&T, PAAT should develop and manage a database containing a list of institutions offering training in T&T control (and related disciplines) and describing the types of training offered by each of these institutions. This should be made available on the PAAT website. PAAT should also become proactive in planning, coordinating and quality assuring training/capacity building activities – tasks that should be facilitated by the increased presence of PAAT in the field and the role of the PAG in identifying training needs. The training needs assessment already conducted by ICIPE on the basis of site visits and feedback from a number of countries receiving AfDB support and the resultant proposal for developing, strengthening and providing the technical and managerial expertise required to implement the PATTEC projects, as well as the outline of a course on GIS for tsetse control personnel prepared by AGE are excellent starting points which should be expanded upon and followed up. Moreover, PAAT could establish partnerships with training institutions to provide specific types of training. Since training can be very costly, it is important that PAAT investigates ways in which training can be offered (e.g. through web-based distance learning).*
- *Concerning the website, while primary responsibility for maintaining this should remain within AGA and some recommendations could be fulfilled through consultancy services, responsibility for providing the information required to better “populate” the website, including for organizing e-mail conferences should rest with the regional officer. Training should therefore be provided to the officer concerned during his/her briefing at FAO Headquarters, and this should include several sessions with the person responsible for maintaining the FAO Biotechnology website and running e-mail conferences on that subject.*
- *The use of FAO’s GeoNetwork by PAAT partners is still limited. Pro-active efforts from FAO/PAAT-IS should continue and be expanded further so that the PATTEC Coordination Office and PATTEC countries can take full advantage of this structured and standardized data-sharing utility.*

3.4. Funding of PAAT

PAAT is seriously under-funded for the job at hand, particularly if, as recommended earlier, it needs to become more “operational” and more engaged in training and capacity-building to enhance its relevance and credibility among both policymakers and middle-level technical managers in T&T affected countries. FAO – already the major contributor to PAAT- has now shown its additional commitment. Other Agencies forming its Secretariat (e.g. WHO and the IAEA directly or through the relatively small FAO contribution to tsetse work compared with the total allocated to insect pest control activities) should therefore consider allocating more Regular Programme resources towards furthering its normative aims. Additionally, members of its Secretariat, individually as well as collectively, should strive to secure funding for national, sub-regional and regional training and capacity-building activities through both

advocacy with individual or groups of countries and by preparing project proposals for donor funding. Success in obtaining funding for TCPs funded by the Agencies concerned and by external donors should be one of the performance indicators used in the future evaluation of PAAT.

3.5. The Location of the Livestock Officer (PAAT) Post and PAAT Support Services

- Having considered a number of options for the country/institutional location of the new post in Africa, *the Team concludes that the best interests of PAAT, FAO and most of all of T&T affected countries would be best served by posting the appointee in the FAO Regional Office, Accra.* This is based on the need (a) to retain PAAT's policy and technical independence from other national, regional and international institutions, (b) to distance PAAT and FAO from current uncertainties within the AU concerning the respective roles of AU-PATTEC and AU/IBAR in planning and implementing T&T activities, (c) to emphasize the roles of PAAT (and FAO) as being to address the challenges and interests of *all T&T affected countries* (as opposed to focusing on countries located in one particular subregion), and emphasizing also the transboundary, multidisciplinary and sustainable agricultural development dimensions of the problem rather than their national and technology-oriented dimensions, and (e) to better promote policy and technical cooperation among the countries of the region.
- *In reaching this conclusion, the Team cautions about the need to ensure the strongest possible policy and technical supervision and support to the incumbent of this post from AGA, and within that context, in particular about the need to secure the sustainability of the PAAT Information System, including its PAAT-GIS and RS support components that are currently made possible through IFAD funding.* Both are absolute prerequisites if the raised expectations within the PAAT community and T&T affected countries for a more dynamic and outcome-oriented programme of support are to be realized. Regarding the GIS and RS dimensions to PAAT's work, discussions should take place at the earliest possible opportunity with ICIPE, ILRI, the African Regional Centre for Mapping of Resources for Development (RCMRD) and others with a view to preparing costed options for consideration by the PAAT-PC for continuing this work.

TOWARDS AN ATLAS OF TSETSE AND AFRICAN ANIMAL TRYPANOSOMOSIS

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Up-to-date and detailed information on the geographic distribution of African animal trypanosomosis (AAT) and its biological vector, the tsetse fly, is often inaccurate or absent. This knowledge gap must be addressed, most notably to provide an adequate base-line for the development and implementation of tsetse and AAT control programmes that follow the principles of area-wide integrated pest management. A World Health Organization (WHO)

initiative, the Atlas of human African trypanosomiasis (HAT), jointly implemented with the Food and Agriculture Organization of the United Nations (FAO) in the framework of the Programme against African Trypanosomosis (PAAT), is presently developing global maps of sleeping sickness. The initiative has proved both the need and the feasibility of such continent-wide mapping endeavours.

Drawing on the experience gained during the development of the HAT Atlas, FAO set out to explore the possibility of producing an Atlas of tsetse and AAT, to be jointly implemented with the International Atomic Energy Agency (IAEA). The tsetse and AAT Atlas should aim at assembling the most recent and detailed data on the prevalence of the disease and the occurrence of its vector. Accurate geo-positioning of all input data is the prerequisite that would allow a range of maps at different scales to be developed. The Atlas would provide much needed information to guide technical and strategic decision making in the field of interventions against tsetse and AAT.

Such a global initiative can not be envisaged without fully involving all PAAT partners active in the field, first and foremost the numerous projects currently being implemented or planned under the umbrella of the Pan-African Tsetse and Trypanosomosis Eradication Campaign (PATTEC). Close collaboration with all national and international stakeholders involved in field research and interventions will be critical to the quality of the Atlas. PAAT also considers the Atlas as an appropriate platform to scale up support from FAO and IAEA to affected countries, especially in the fields of data collection, data management and data analysis. Concrete steps have already been taken by both UN agencies to build technical capacity at national level for improved information management and sharing. It is believed that further efforts in this direction will contribute to, and be promoted by, an Atlas of tsetse and AAT.

The preliminary assessment carried out by FAO and IAEA indicates that the Atlas is a very useful initiative that is technically achievable. Avenues to secure the necessary human and financial resources are being explored.

SECTION B - ABSTRACTS

1. GENERAL (INCLUDING LAND USE)

15196. **Baral, T. N., 2010.** Immunobiology of African trypanosomes: need of alternative interventions. *Journal of Biomedicine & Biotechnology*, Article 389153.

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Trypanosomiasis is one of the major parasitic diseases for which control is still far from reality. The vaccination approaches using dominant surface proteins have not been successful, mainly due to antigenic variation of the parasite surface coat. On the other hand, the chemotherapeutic drugs in current use for the treatment of this disease are toxic and problems of resistance are increasing. Therefore, alternative approaches in both treatment and vaccination against trypanosomiasis are needed at this time. To be able to design and develop such alternatives, the biology of this parasite and the host response against the pathogen need