THE PROGRAMME AGAINST AFRICAN TRYPANOSOMIASIS

REPORT OF THE TENTH PAAT ADVISORY GROUP CO-ORDINATORS MEETING

ACCRA, GHANA

22-23 SEPTEMBER 2004

Food and Agriculture Organization of the United Nations
Inter-African Bureau for Animal Resources of the African Union
International Atomic Energy Agency
World Health Organization of the United Nations

Acronyms

AAT	Animal African Trypanosomiasis
ADB	African Development Bank
ADG	Assistant Director General
AGENAE	Analyse du Genome des Animaux l'Elevage
ATP	Action thématique programmée
AU	African Union
BMZ	German Federal Ministry for Economic Cooperation and Development
CATT	Card Agglutination Test
CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement
CIRDES	Centre International de Recherche-Développement sur l'Elevage en Zone Subhumide
CORAF	Conseil ouest et central africain pour la recherche et le développement agricoles
CORUS`	Coopération pour la recherche Universitaire et Scientifique
DGSV	Direction Générale des Services Vétérinaires
DNA	Deoxyribonucleic acid
DNDi	Drug for Neglected Disease initiative
ELAT	Ecole de Lutte anti Tsé-tsé
ERGO	Environmental Research Group Oxford
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FITCA	Farming in Tsetse Controlled Areas of Eastern Africa
GFAR	Global Forum on Agricultural Research
GIS	Geographic Information Systems
HAT	Human African Trypanosomiasis
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
IFAH	International Federation for Animal Health
ILRI	International Livestock Research Institute
INCO-DEV	International Cooperation with Developing Countries
IRD	Institut de Recherche et de Développement (formerly ORSTOM)
ISCTRC	International Scientific Council for Trypanosomiasis Research and Control
ISRA	Institut Sénégalais de Récherche Agricole
ITC	International Trypanotolerance Centre
ITM	Institute of Tropical Medicine
KETRI	Kenya Trypanosomiasis Research Institute
LC/LU	Land Cover/Land Use
LCV	Laboratoire Central Vétérinaire
LIRI	Livestock Health Research Institute
LNE	Laboratoire National de l'Elevage
LRE	Laboratoire Régional de l'Elevage
MoU	Memorandum of Understanding

NARS	National Agricultural Research Systems
NEPAD	New Partnership for Africa's Development
NGO	Non-governmental Organization
OIE	Office International des Epizooties
PAAT	Programme against African Trypanosomiasis
PAG	PAAT Advisory Group Coordinators
PATTEC	Pan-African Tsetse and Trypanosomiasis Eradication Campaign
PCRDT	Programme cadre de recherche et de développement technologique
PROCORDEL	Programme de Recherche et Développement
RTTCP	Regional Tsetse and Trypanosomiasis Control Programme
SARD	Sustainable Agricultural and Rural Development
SIT	Sterile Insect Technique
TC	Technical Cooperation
T&T	Tsetse and Trypanosomiasis
TTCU	Tsetse and Trypanosomiasis Control Unit
UCLT	Unité Centrale de Lutte contre la Trypanosomiase
USDA-APHIS	United States Department of Agriculture - Animal and Plant Health Inspection Service
WHO	World Health Organization
WHO/TDR	World Health Organization/Special Programme for Research and Training in Tropical Diseases

FOREWORD

The tenth PAAT Advisory Group (PAG) Coordinators' meeting was held at the FAO Regional Office for Africa (FAORAF), Accra, Ghana, 22-23 September 2004. The meeting was jointly organized by FAO HQ, Rome and FAORAF.

Prof. Albert Ilemobade, Chairman of PAAT, made the introductory remarks, followed by a statement of Mr Mensah Agyen-Frimpong, Director of Ghana Veterinary Services. Mr Joseph Tchicaya, Assistant Director General/Regional Representative for Africa of FAO officially opened the meeting.

In his introductory remarks, Prof. Ilemobade made reference to the commitment of the Government of Ghana in supporting the abiding interest in removing the constraint of tsetse and trypanosomiasis (T&T) in the country and reminded the house of the focus of the meeting on the T&T intervention in the West African regions. In this regard, the mission of PAAT is, *inter alia*, to provide assistance to tsetse affected countries in resolving the T&T problem by defining and setting guidance to reduce and if possible remove the constraint posed by the disease (both the human and animal forms) to sustainable agriculture and rural development (SARD). He thanked the Government of Ghana and FAORAF for the hospitality and the facilities placed at the disposal of the meeting and the participants.

The Representative of the Government of Ghana, Mr Agyen-Frimpong, welcomed members of PAG to Accra. He emphasised the deterioration of food production in Africa while the demand for food to feed the rapidly growing population has dramatically increased. African trypanosomiasis has been identified both by scientists and policy makers as one of the major constraints that impede the realisation of food security in the sub-humid zones of sub-Saharan Africa. Distortions in land use patterns, decreased livestock-crop integration and losses incurred from morbidity and mortality are the major negative impacts of the disease. Mr Agyen-Frimpong recalled that it is imperative that measures taken to combat trypanosomiasis in any given area duly consider the prevailing agro-ecological conditions. Specifically, consideration should be given to the technical and economic feasibility with the sustainable use of natural resources being the guiding principles. He thanked PAAT and FAO for having brought together international organizations, research institutions and other concerned stakeholders, including policy makers of tsetse-infested countries to develop rational approaches to deal with the problem posed by T&T. Support is also given to PATTEC and to the elaboration of sub-regional projects to execute area-wide T&T interventions while of ensuring a judicious use of resources.

Mr Tchicaya, in his official opening statement, recalled the reinforcement of agriculture as a key element in the fight against poverty across sub-Saharan Africa and the role of livestock in this regard. He reaffirmed the importance that FAO attaches to agricultural development in tsetse affected countries. In fact, at the 32nd FAO Conference, held in Rome in December 2003, Members Nations recognized trypanosomiasis as a primary cause of rural poverty and delayed agricultural development in sub-Saharan Africa. The reduction of T&T pressure is also among the options of livestock development policy of the Comprehensive Africa Agriculture Development Programme (CAADP) of NEPAD. He concluded that FAO, through PAAT, will continue to enhance synergies among all concerned international agencies and governments. However, a prerequisite remains that tsetse affected countries make explicit reference to the trypanosomiasis problem within the national Poverty Reduction

Strategy papers. Also, the private sector should become a key player providing sustainable technologies. Mr Tchicaya wished delegates to take the opportunity presented by this meeting to advance in making decisions which will produce a concerted commitment to address the T&T issue. He officially declared the meeting opened.

ACKNOWLEDGEMENT

The PAAT Advisory Group Coordinators expresses its thanks and appreciation to the Government and people of Ghana for the warm hospitality extended to the participants and to the FAO Regional Office for Africa for the excellent facilities placed at the disposal of the meeting.

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Report of the
10th PAAT Advisory Group (PAG) Co-ordinators Meeting
held 22-23 September 2004
in Accra, Ghana

Conclusions and recommendations

1. **Conclusion:** The meeting commended the ADB-PATTEC initiative aimed at financing (through ADB loans and grants) multi-national tsetse and trypanosomiasis (T&T) intervention projects in East (Ethiopia, Kenya, Uganda) and West Africa (Burkina Faso, Ghana, Mali). The PAG appreciated this development and the role of Ghana in bringing together countries concerned to hold the project appraisal workshop in Accra.
   Recommendation: The meeting:
   - Urges recipient countries to take advantage of available expertise in PAAT for project implementation, monitoring and evaluation;
   - Encourages other governments and their national institutions to show similar levels of commitment to T&T intervention;
   - Urges the strengthening of collaboration between PAAT and PATTEC in bringing about the achievement of stated goals of the project.

   Action: ADB beneficiary countries, PAAT and PATTEC.

2. **Conclusion:** The meeting observed with concern the inability of the FAO Liaison Officers (LO) to perform as required and the dwindling frequency of their meetings. The meeting considers that the LOs play a key role in feeding PAG with information necessary to its work.
   Recommendation: It is recommended to:
   - Re-activate as a matter of urgency the activities of the FAO LOs;
   - Ensure that terms of reference of the LOs are clear and updated;
   - National Governments to provide the LOs with resources to carry out their tasks.

   Action: FAO Regional Office for Africa.

3. **Conclusion:** The meeting noted with appreciation the progress that has been made in the search for new drugs for the treatment of sleeping sickness. The WHO initiative of bridging the gap between research and control by the establishment of the HAT-NETWORK is also acknowledged. This network should facilitate the development of new drugs and the use of new tools.
   Recommendation: The meeting recommends:
   - To continue to support work on the development of new drugs and new diagnostic tools which can be considered as key elements needed to achieve disease elimination;
   - To form a task force to facilitate and support the implementation of clinical trials for new drugs and the application of new diagnostic tools;
   - To support the development of sub-regional disease elimination programmes.

   Action: WHO.

4. **Conclusion:** The meeting recognized the importance of advocacy as a means of accessing resources for the support of T&T interventions and observed that there has been an improvement in the communication between T&T workers and policy makers.
Recommendation: The meeting:
    - Urges increasing cooperation and collaboration between policy makers, researchers and field personnel;
    - Recommends that T&T workers include strong advocacy as a key element of their general strategy and to actively participate in:
        a. decision making on the elaboration of livestock development policies at the national, sub-regional and continental level;
        b. the dissemination of information on T&T, livestock production and rural development;
        c. the sensitisation of livestock farmers' associations and support to these associations and other livestock professionals at the local, national and sub-regional levels.

Action: National, regional and international policy makers, CVOs, extension and delivery services.

5. **Conclusion:** The meeting observed with appreciation the diverse ways in which CIRDES and ITC have supported NARS and institutions charged with T&T interventions in the West African region in the area of training. Also, it was noted with concern the lack of well-defined strategic training needs.
Recommendation: The meeting recommends to:
    - Develop mechanisms that would ensure that T&T endemic countries take full advantage of training opportunities;
    - Assist NARS and national institutions charged with T&T interventions to identify strategic training needs;
    - Re-visit PAAT previous recommendations on training needs and where necessary update them in the context of emerging trends.

Action: CIRAD, CIRDES, ITM, ITC, PAAT.

6. **Conclusion:** The meeting recognizes the growing importance of public-private sector partnership in national development and in any intervention in T&T.
Recommendation: The meeting recommends PAAT to explore avenues for fostering such partnership in the future.
Action: PAAT and its stakeholders.

7. **Conclusion:** The meeting recognizes that the commitment of NARS and other national stakeholders is crucial to the success of T&T interventions.
Recommendation: Every effort should be made to stimulate the active participation of NARS and all the stakeholders involved in national and regional T&T intervention programmes.
Action: National governments, NARS, National Extension and Delivery Services.

1. Brief and discussion on the last PAG meeting report – A.A. Ilemobade

The report of the previous meeting held in Pretoria in September 2003 was discussed, and conclusions and recommendations endorsed. The PAG was informed that the proposal of the "ICPTV – phase two" was not accepted for funding by the European Union, and ITM was exploring other financial sources. Additional information concerned meetings held in 2004 addressing the standardization of methodologies and devices for tsetse trapping and use of insecticide. In this regard, conclusions and consensus have not been reached yet.

The participants agreed on the provisional agenda and time table. The next PAG meeting will be convened in Addis Ababa, Ethiopia, in September 2005 in conjunction with the 28th ISCTRC Conference.

2. The problem of T&T and related control: a move into the future and the importance of PATTEC – K. Gyening

Despite a century of efforts, tsetse-transmitted trypanosomiasis still constitutes a major constraint for livestock-agricultural development in sub-Saharan Africa. Main problems in limiting or eliminating the impact of the disease derive from:

- a limited number of drugs available for disease treatment;
- an increased presence of drug resistant strains of parasites;
- a lack of veterinary support or reduced capacity of veterinary services in delivering appropriate strategies to farmers for a proper use of chemotherapy;
- the high cost of vector control campaigns; and
- the complexity in obtaining the involvement and participation of the local communities to support T&T interventions.

Controlling or suppressing the T&T problem means to live with the constraint at a reduced or minimal level which allows an increased livestock-agricultural production. Success of control campaign(s) depends on the medium-long term motivation, engagement and support of the local communities. Elimination of the T&T problem implies its removal and preventing it from coming back. Elimination or removal of the T&T constraint is a complex exercise. A fundamental prerequisite is the geographic isolation of the vector population(s) which allows the application of integrated area-wide pest management strategy in combination with proper management of land and other natural resources rendering the habitat unsuitable for reinvasion or new vector colonization. Often and in consideration of the transboundary nature of tsetse distributions, a regional approach is needed. Training and capacity building also have to be considered in the planning phase of a T&T field intervention.

Recently, a debate concentrated on area-wide eradication versus local, small scale interventions. For instance, RTTCP (an EU funded project) reverted from eradication to control. Nevertheless, national T&T intervention campaigns (e.g. Zimbabwe, Republic of South Africa, Nigeria, and Cameroon) achieved a partial success in removing the disease constraint from limited areas. However, in many cases due to limited funding resources and decreased national commitment, it has not been possible to consolidate achievements.

Now, for the first time in more than 100 years, the African Nations have collectively shown the political will to free the continent from the burden of T&T. This political will was

concretized with the endorsement by the OAU (now AU) of the Pan African Tsetse and Trypanosomiasis Eradication Campaign (PATTEC) in 2000.

Currently, ADB has shown interest in supporting T&T interventions through allocation of loans and grants to six tsetse-affected African countries (Burkina Faso, Ethiopia, Ghana, Kenya, Mali and Uganda). Ownership and direct involvement of national governments are necessary to pave the way for success of interventions. In this context, PAAT is likely to provide the ideal environment to establish a mechanism for international collaboration, and neutral, technical advice and assistance in the planning phase. As recommended at the last ISCTRC Executive Committee meeting (Addis Ababa, September 2004), further consultation between PAAT and PATTEC is needed for concerted action with regard to this ADB initiative.

3. Report of the PAAT Secretariat and FAO/PAAT activities - R.C. Mattioli

In the nine million square kilometres of sub-Saharan (SS) Africa infested by tsetse, 55 percent of the rural population lives below the poverty line. The proportion of undernourished in SS Africa has not dramatically changed since the early nineties. A negative relationship exists between prevalence of cultivated area and under nourishment. For instance, in the Near East and North Africa 28 percent of the total land is cultivated with 10 percent of people undernourished, while in SS Africa only 3 percent of the land is cultivated and the fraction of the population undernourished reached 33 percent.

Vast areas facing the T&T problem are propitious to livestock-agricultural development. Hence, besides the technical feasibility of any T&T intervention, it is necessary to concentrate efforts in those areas offering potential for land development. PAAT's strategy is to promote SARD with a view to increase food security and reduce poverty in tsetse affected countries, and the role of PAG, the policy and strategy setting body of PAAT, is to develop standardized normative procedures and methodologies for T&T interventions in the context of SARD.

The PAG was informed about FAO and PAAT activities as related to T&T since the 2003 PAG meeting. FAO and PAAT support to member countries and PATTEC was concretized in the endorsement of the FAO Progress Report on the implementation of the PATTEC initiative by the 32nd FAO Conference (Rome, December 2003). The concept note, developed by Ethiopian Officials with the assistance of FAO and IAEA, concerning field T&T intervention in the Ethiopian Southern Rift Valley was officially endorsed by the Ethiopian Government. Further actions in the implementation of PAAT-PATTEC agreements concerned the organization of an international workshop on "Strategy for integrated T&T intervention in the 'cotton-belt' of Burkina Faso and Mali", held in Ouagadougou, Burkina Faso, February 2004. Representatives of Burkina Faso, Mali, IAEA and FAO attended the forum. A major output of the workshop was the production of a note of interest concerning "Poverty reduction through reinforcement and intensification of mixed farming in T&T intervention area in the cotton-belt zone of Burkina Faso and Mali". The note of interest was presented at the 8th PAAT Programme Committee, held in FAO HQ, April 2004.

Two PAAT Technical and Scientific Series papers were published, a first paper entitled "Economic guidelines for strategic planning of tsetse and trypanosomiasis control in West Africa", and a second one dealing with "Long-term tsetse and trypanosomiasis management options in West Africa". Two additional papers are in press or in progress:

- The role of trypanotolerant livestock in the context of trypanosomiasis intervention strategies (expected to be published first half of 2005);
- Mapping the benefits of disease removal as a decision tool for T&T intervention (expected to be published jointly by FAO and DFID second half of 2005).

With regard to publications, a joint FAO-IAEA-WHO-ERGO paper was published in the international journal *Food, Agriculture and Environment*, with the title "Tsetse and trypanosomiasis intervention policies supporting sustainable animal-agricultural development". A radio interview (Lutte contre la trypanosomose: partir du développement rural) was diffused by AGFAX-WREN (World radio for the Environment) media in May 2004. A communication on FAO and PAAT activities was presented at the OIE/NTTAT (Non Tsetse Transmitted Animal Trypanosomiasis) meeting held in Paris, May 2004.

In relation to the involvement of the private sector in FAO and PAAT activities, a first draft of the Memorandum of Understanding between FAO and IFAH on the harmonization of standards and protocols for quality control/quality assurance of trypanocides has been produced and is currently under evaluation by the interested parties.

Through the FAO Representative in Sudan, preliminary contacts were undertaken with the EU for a possible WHO/FAO project on human and animal trypanosomiasis control in south Sudan. Progress was made in securing a grant from IFAD to support the PAAT Information System (PAAT IS). The grant is expected to be available early 2005. Additional financial support was received from CIRAD-EMVT, ITM and DFID mainly as contributions to the publication of the "Tsetse and Trypanosomiasis Information" bulletin [formerly "Tsetse and Trypanosomiasis Information Quarterly" (TTIQ)].

The PAG was briefed on the outcome of the PAAT Programme Committee (PAAT-PC) meeting, held in FAO Headquarters, Rome, April 2004. The meeting was attended by representatives of Burkina Faso, Ethiopia, Kenya, Mali, Namibia, AU/IBAR, IAEA, WHO, international research institutes, FAO-NEPAD related officer, and representatives of the donor community (e.g. ADB, IFAD, Italian Cooperation, USDA/APHIS) and private sector (e.g. IFAH). The meeting focused on (i) progress and achievements of the four PAAT mandated organizations (AU/IBAR, FAO, IAEA, WHO), (ii) advancement in the preparation of conceptual notes for field programme proposals for T&T interventions in the two PAAT-PATTEC agreed priority areas, (iii) economics of T&T intervention, and (iv) the role of the private sector in intervention activities. The report is expected to be available early 2005 and will be distributed through PAAT-Link and will be downloadable from the PAAT website.

Future FAO/PAAT activities will concentrate on (i) the advancement of the PAAT-PATTEC harmonization process, (ii) refinement and promotion of common policies for T&T interventions aiming at a positive SARD, (iii) assisting African countries (e.g. those countries receiving ADB support for T&T intervention) in planning SARD related T&T intervention programmes, (iv) implementation of FAO-IFAH partnership on quality control of trypanocides.

The PAG was informed about the venue of the next PAAT-PC meeting (IAEA Headquarters, Vienna, 3-4 May 2005) and PAG meeting (Addis Ababa, just prior to the ISCTRC meeting, September 2005).

The discussion which followed the presentation drew members' attention to the inactivity of the FAO Liaison Officers' (LO) platform. Concern was expressed about the irregularity of the LO meetings. The FAO Regional Office for Africa was urged to re-

establish the LO meetings on a regular basis to provide the necessary support for PAG decisions. Some PAG members reported on the inability of the LO to perform efficiently because of logistic constraints. The PAG expressed agreement on the need for training, essential in the preparation for the implementation of field T&T intervention activities. In this regard, the meeting agreed that there is a general concern about a vacuum being created at the middle level category/personnel due to the retirement (and ageing) of most of those who were trained in the seventies and eighties. The open door policy of CIRDES and ITC to the training needs of countries in the West African region was commended.

4. Report of AU/IBAR activities – J. Musiime

The AU/IBAR report focused on implementation and achievements of the FITCA project, which is now operative in five East African countries: Ethiopia, Kenya, Rwanda, Tanzania and Uganda. The overall objective aims at the improvement of the welfare of people through sustainable rural development. A major specific objective concerns increased livestock-agricultural productivity by improving animal health through T&T control and integration of crop-livestock production with a view to increase level of food security. A key element of the FITCA project is the promotion of partnerships between local communities, public and private sectors and NGOs. In this regard, local communities are the primary agents in supporting tsetse control activities. Village communities are mainly active in the deployment and management of insecticide impregnated targets. In addition, farmers' communities (more than 600 farmers' groups established in Kenya and Uganda) engage in building and managing "crush pens" where cattle are treated epicutaneously with insecticides (upon payment up to KShs20), dewormed and receive additional health treatments. In fact, "crush pens" are now used as Rural Animal Health Centres by the village communities assisted by private animal health providers.

Work carried out by FITCA has shown that tsetse control and rural development are interdependent. On the one hand, without controlling flies farming cannot become more productive; on the other hand, improvement of the rural infrastructure is hampered where agriculture is unproductive due to the presence of trypanosomiasis. Where the trypanosomiasis constraints were removed (i.e. in certain project areas in Kenya, Uganda, Ethiopia and Tanzania) or tsetse fly controlled, integrated crop-livestock farming systems were established.

The introduction of insecticides treated netting in Kenya, Uganda and Tanzania appears effective in protecting zero-grazing cattle production units not only from tsetse flies, but also from other nuisance biting insects, including mosquitoes. The demand for impregnated nettings is increasing and AU/IBAR is assisting in acquiring official registration of the netting technique for its easy availability on the market in Kenya and Uganda.

Cases of sleeping sickness have been dramatically reduced in project areas in Kenya and Uganda. In the latter country, medical teams are fully operational in 12 districts and several "sleeping sickness hospitals" have been renovated in Uganda. A monitoring, surveillance, diagnosis and treatment scheme has been established and free treatments have been made available through WHO/private sector (AVENTIS) co-operation.

In the project area, the Environment Management and Monitoring Component (EMMC) of FITCA is implemented through a special agreement with ILRI and the Scientific Environment Monitoring Group. A baseline survey on the environment has been carried out in Kenya, Uganda and Ethiopia using remote satellite imagery backed by ground-truthing in

3-4 selected villages of 5 km^2 in each study area. The field survey assessed natural vegetation and biodiversity, current land use and, where possible, land use changes over time. This information is complemented with socio-economic surveys.

FITCA financed research activities involving several national (KETRI, Kenya; LIRI, Uganda) and international (ILRI, ICIPE) institutions. The total amount of research fund allocated was €200 000.

Finally, the presenter informed the house that the next ISCTRC Conference will be held 26th September – 1st October 2005, in Addis Ababa, Ethiopia.

5. Report from IAEA – U. Feldmann

(based on a note sent to the PAAT Secretariat)

Since the last PAG meeting (September 2003, Pretoria, South Africa), the IAEA's tsetse activities underwent a major internal and external review evaluation. While the findings and conclusions are not available at this stage, it is likely that the evaluation will have implications for the future interaction of the Agency with Member States and other partners and stakeholders in the field of tsetse and trypanosomiasis.

The Agency's objective is to promote the use of nuclear techniques in the context of sustainable development. Although disputed by some, the sterile insect technique (SIT) is generally recognized as a proven technique when applied within an area-wide integrated pest management (AW-IPM) strategy. As such, the SIT component has the potential to contribute to the removal of the T&T problem in some selected development areas in African Member States. The Agency's mandate and specific expertise and experience lie with the transfer of SIT in support of this goal. Therefore, its support activities will, in the future, be largely restricted to the SIT component of AW-IPM. Other activities that were previously also supported by IAEA, such as conventional suppression activities using insecticides on livestock or artificial baits prior to the SIT phase, will, in future, likely need to be conducted by other partners or stakeholders.

The Agency's assistance to Member States efforts against T&T will continue to benefit from its scientific-technical and management expertise. Substantially increased emphasis will be on the principles of national and regional ownership and international harmonization and prioritization. The Agency recognizes that attaining the creation of tsetse-free zones will require a concerted action by many partners over many years, including appropriate policy, institutional and technological interventions with substantial human resources and financial commitments. IAEA will, therefore, work with development agencies and other partners to assist its Member States in enhancing the effectiveness of their activities by strengthening their human resources and infrastructure and leveraging the financial contributions required to ensure that the full potential of SIT can be realized as a contribution to the wider development goal and in the context of the AU-PATTEC initiative. Further harmonization between PATTEC and PAAT is expected to avoid duplication of efforts by the different international partners and other stakeholders and to provide synergetic inputs to Member States in support of the common development objective.

Relevant services to Member States will continue to be conducted using both the Agency's Regular Budget (RB) resources and the IAEA Technical Cooperation Funds (TCF).

RB funds will continue to be used for:

- normative work, including the development of standards, guidelines, manuals, etc.) in close collaboration with other partners and through mechanisms like PAAT;
- in-house research at the FAO/IAEA Agriculture and Biotechnology Laboratory, Seibersdorf, Austria;
- Coordinated Research Projects (CRPs); and
- consultants' meetings on relevant topics.

With regard to TCF, the Agency consistently experiences increasing Member States demand for TC support activities in the field of T&T, and it remains a challenge to secure sufficient resources to meet the demand. In the near future, it is intended to pursue ways of enhancing the impact of TC projects, through better up-front planning, increased monitoring of results and expanded partnerships. In this context, the Agency's tsetse related activities obviously will reflect and be in line with Member States' national development plans and priorities, and technical assistance to field projects will follow a phased, conditional approach. After a screening of the national policies, priorities and commitment and an initial phase of baseline data collection, the subsequent phases (feasibility assessment, pre-operational phase and operational phase) would only be supported by the Agency, provided pre-agreed conditions / criteria are met. In all phases, the Agency would only contribute to / assist in SIT-relevant component.

With regard to IAEA TCF supported activities in Member States, IAEA currently supports SIT-baseline data collection, feasibility assessment and capacity building in ten T&T affected countries through eight national and one regional projects. As SIT is only a component of larger projects for creating tsetse-free zones and for overall sustainable agriculture and rural development, and considering the complex and multidisciplinary nature of such operations, IAEA does not and will not attempt to manage or lead such field programmes in the Member States. The Agency's role is to provide relevant guidance and advice on the establishment of appropriate national / sub-regional management structures for the effective execution of AW-IPM projects with an SIT component. Consistent with the efforts initiated under PAAT-PATTEC harmonization process and the above mentioned phased, conditional approach, the Agency will need to focus on a limited number of operational projects with the potential to create tsetse-free zones, provide capacity building where feasibility study was positive, and continue to support requests for the feasibility studies in other Member States as appropriate.

Regarding new Member States' request to IAEA for technical assistance in the field of T&T, the Agency will need to introduce a more rigorous project appraisal process, with attention being paid to the government's commitment, the assessed technical feasibility, the relevance and anticipated impact of the proposed collaborative efforts in the context of sustainable agriculture and rural development, and the availability of Agency resources (human and financial) to ensure the effective delivery of its input.

6. Report from WHO – J. Jannin

Since the establishment of PAAT, WHO has adapted its strategy to meet PAAT's overall objectives, namely to provide a networking platform, collect and disseminate information, develop policy, strategy and promote advocacy and awareness. These actions resulted in the establishment of a strong partnership with all those involved in sleeping

sickness surveillance and control. These objectives complement the WHO's mandate for coordination, support and resource mobilization for field activities and research.

In practical terms WHO has created a forum where people can not only exchange ideas and share views on the final goal to eliminate sleeping sickness but also propose new activities and approaches to improve sleeping sickness surveillance and control. This forum took the name of the Human African Trypanosomiasis Network and brings together every one concerned through a networking concept. Within this networking process much progress has taken place and has been regularly reported at the PAAT meetings.

It is noteworthy to mention that awareness has been considerably raised among the decision makers and the population at risk. With the willingness of public agencies and the private companies, coherent actions could be implemented. It is now conceivable and there is a great hope that elimination of sleeping sickness, as public health problem, will be achievable. The times when some 60 000 cases were diagnosed and treated while only 10 to 15 percent of the population at risk were under some surveillance is over. In the last years there has been a regular decline of cases, and in 2004 the number of new cases was less than 17 000, while there has been a substantial increase in the number of people under surveillance.

The most outstanding were an improvement in diagnostic quality, a substantial increase in the use of eflornithine as first line treatment and the development of the short melarsoprol treatment protocol, which has undergone a full clinical trial to ultimately be recommended as an appropriate approach for treating patients. One could also mention the new molecule DB289 which is presently undergoing field trials. This new chemical is a promising alternative for first stage treatment. Although research is still needed, it is likely that it will also be adapted for the treatment of late stage sleeping sickness cases. Trials using nifurtimox and eflornithine combination are presently ongoing. Drug combination is considered a promising approach as an alternative therapy to avoid resistance. Furthermore, new molecules are under consideration and novel diagnostic tests are being validated. One of these tests is a highly specific and sensitive serological assay while another is an agglutination test to assess the involvement of the nervous central system. Other diagnostic tools are under consideration and there is good hope for their further development.

Thus, networking has allowed the development, validation and introduction of new techniques in restructured and reinforced national programmes, which continue to receive seeding financial support to enhance surveillance and control.

Training continues to provide the essential competence to implement the new tools as they become available.

Certainly there are still countries where surveillance and control are still weak but improvements are constantly being made. It is unlikely that the disease will ever be eradicated, due to the nature of its reservoir, but it will undoubtedly be eliminated as public health problem. It is now time to look at the approaches and methodologies to sustain the results obtained. It seems timely to identify tools that can be integrated into health delivery systems to maintain surveillance.

Sleeping sickness has been and occasionally still is an obstacle to rural development but it will soon be time to look at other diseases that represent stumbling stones.

This 10th PAAT Advisory Group Coordinators meeting should certainly take note of the recent success which is the result of organized determination, strong collaboration and networking. Everyone here should be satisfied to have brought a building stone to the edifice. In that very same context, FAO has considerably progressed towards the improvement of meat and milk production and towards a better, more productive and sustainable agriculture, leading to rural development and food security in T&T affected areas. Together leading agencies are moving more efficiently towards the ultimate goal of an improved economic and social status of the African population.

7. Progress on the refinement of the concept note for Burkina Faso and Mali: information available and information needed – I. Sidibe

The two Governments have recognized the area as having high potential for livestock-agricultural development, providing market opportunities, and exportation and trade with neighbouring countries (Burkina Faso, Côte d'Ivoire, and Mali). However, T&T constitutes a major constraint to the development of agricultural activities.

A concept note (Poverty reduction through the enhancement and intensification of mixed farming in T&T intervention 'cotton belt' of Burkina Faso and Mali) was developed following an international workshop held in Ouagadougou, Burkina Faso, February 2004. The concept note was endorsed by the PAAT Programme Committee at its meeting in FAO HQ, Rome, Italy, April 2004. The strategy for T&T intervention is placed in the context of Sustainable Agriculture and Rural Development (SARD) and is in line with the priority objectives of CORAF for livestock development and poverty reduction.

Commitments of the Government of Burkina Faso, in support of SARD related T&T interventions in the livestock sector as a means for poverty alleviation focus on:

- the reinforcement of animal health activities (20 new veterinary services established);
- creation of new agro pastoral zones (five already identified); and
- access to micro credit [USD11.7 million delivered to support the livestock sector (feedlots, small farming, poultry) and markets].

More specifically, concrete Government actions translate in providing support for:

- infrastructure (building roads to access rural areas);
- planning land use and use of agro pastoral zones to limit transhumance and conflicts between livestock owners/keepers and agriculturalists;
- promotion of agricultural activity diversification;
- facilitate transformation and marketing of agricultural products;
- promotion of farmers' organizations.

This policy environment should benefit a large range of actors engaged directly and/or indirectly in the agro-business (e.g. agro-pastoralists, smallholders, consumers and stimulate mixed farming). The national economy should benefit from a more conducive environment in the sector of export of livestock-agricultural products.

8. Concerted action: the role and contribution of international research institutes (CIRAD, CIRDES, ITC, ITM) in supporting T&T intervention and related research activities - S. de la Rocque, I. Sidibe, K. Agyemang, S. Geerts

The presentations focused on the main scientific activities and projects carried out by the research institutes.

CIRAD – S. de la Rocque

A global overview of CIRAD was presented. The Centre is a French agricultural research organization serving developing countries through a global network of international cooperation, with a total staff of 1 800 employees (1 150 in France and 650 overseas). Presently, 26 research programmes are on going in seven departments. T&T research activities are a component of the programme conducted by the CIRAD-emvt, which includes animal health, animal production, and rangeland and wildlife management.

The Centre's research strategy is based on a multidisciplinary approach with a view to increase scientific knowledge which contributes to find solutions for sustainable livestock and agricultural development in developing countries. In this context, a "Unité Commune" CIRAD-emvt/IRD, established in 2000, carries out a research programme which embraces various aspects related to tsetse and trypanosomiasis, which are:

- Vectors and pathogens: population genetics, tsetse taxonomy, vectorial competence, drug resistance;
- Interactions vector-parasite-human and animal host: epidemiology, trypanotolerance, host specificity, competition, symbionts;
- Risk assessment: diagnosis, risk factors and indicators, prevention, tools for decision making; and
- T&T prevention and control methods: environmentally friendly techniques, trapping methods, vaccine development.

Research facilities available at CIRAD include:

- An insectarium with five species (*G.m. morsitans*, *G.m.submorsitans*, *G.fuscipes*, *G.palpalis gambiensis* and *G.tachinoides*);
- Laboratories for parasitology and molecular biology (e.g. sequencing – CNRS);
- GIS and RS tools and applied technologies.

Main collaborations are developed with CIRDES in Burkina Faso and ILRI in Kenya.

Training, including master courses, is provided to French and foreign students and partner institutions. Training activities and programme are conducted in collaboration with other institutions (e.g. WHO, Institut Pasteur of Paris, University of Valencia and University of Montpellier II).

Current on going projects:

- INCO Trypadvac: an anti-disease vaccine and diagnosis project in partnership with CIRDES, ILRI, ITM, IRD, Universities of Bordeaux and Tours, and University of South Africa;
- ATP: dealing with molecular diagnosis. Partners CIRDES and ILRI with additional partners in Brazil, Russia and Spain;
- CORUS: studies on genetic resistance in collaboration with CIRDES and University of Montpellier; and
- PROCORDEL: epidemiology and diagnosis in partnership with CIRDES and ITC.

Proposals for future projects regard:

- INCO 6th PCRDT: the second phase of the INCO Trypadvac project;
- AGENAE: also a continuation of the CORUS project;
- GFAR: on trypanosomiasis control; and
- Wellcome Trust: concerns tsetse habitat fragmentation.

CIRDES – I. Sidibe

CIRDES is a regional research centre, based in Bobo Dioulasso, Burkina Faso and covering six countries in West Africa (Burkina Faso, Mali, Niger, Côte d'Ivoire, Ghana and Benin). The Centre's research programme and in-house capacity and facilities aim at supporting and consolidating West African development in T&T affected areas. A strong partnership is established with ITC (Banjul, The Gambia).

Field research activities are conducted in:

- Mali: epidemiology of trypanosomiasis in camels; integrated and participative T&T control, in collaboration with LCV, Bamako;
- Côte d'Ivoire: impact of mechanical vectors of trypanosomiasis, in partnership with PLTT, Bouaké;
- Ghana: risk assessment of animal trypanosomiasis in north Ghana. Partner TTCU, Pong Tamale;
- Benin: integrated and participative T&T control, in partnership with the Veterinary Services.

Additional research actions carried out at the centre and in Burkina Faso concern:

- Improvement of diagnostic tools;
- Epidemiology of animal trypanosomiasis at regional level and the role of wild animals in trypanosomiasis transmission risk;
- (Integrated) Vector control (plant extracts for vector control, biological control, development of trapping devices, etc.);
- Investigation on chemioresistance;
- Genetic characterisation of animal breed and identification of genetic resistance markers;
- Socio-economic and environmental impact of T&T and related intervention strategies;
- Importance of non-tsetse transmitted trypanosomiasis in the region;
- Study on land use and management in the agro-pastoral areas;
- Application of GIS and RS tools for the identification of T&T intervention areas.

Studies are also initiated to explore optimization of field T&T intervention costs and the economy of trypanocide market.

Training, capacity building and technology transfer are major components of the Centre's activities. Specific programmes are conceived (i) for farmers on the rational use of drugs, (ii) for NARS on technical aspects of field T&T interventions and (iii) for private veterinarians on diagnosis.

The future activities of the Centre will focus on:

- development of simple field diagnosis to be used routinely in peri-urban farms;
- epidemiology and model development;

- investigation on plant extract having trypanocidal properties; and
- development of integrated tick and tsetse control packages.

ITC – K. Agyemang

The mission of ITC has expanded to contribute to increasing livestock productivity and utilisation in the West African region through optimal and sustainable exploitation of the genetic resistance of indigenous breeds of livestock for the welfare of the human population. The general objective focuses on the formulation, implementation and introduction of sustainable socio-economically and environmentally acceptable integrated packages at farmer level, for improved livestock health, production and exploitation. The Centre operates under diverse agro-ecological settings, disease risk zones and livestock production situations in the West African sub-region (The Gambia, Guinea Bissau, Guinea, Senegal and Sierra Leone).

The current ITC Research and Development (R&D) agenda is organized into three programmes revolving around two key livestock production systems, i.e. low-input and market-oriented systems, their linkages and overlaps. The outputs from the R&D agenda can be schematically summarized as follows:

Improving local resources

- Multiplication and dissemination of genetically improved indigenous animal genetic resources;
- Development of food-feed systems for long dry season feeding strategies;
- Investigating options/schemes for intensive feed systems.

Introducing innovative changes

- Cross-breeding of local and exotic breeds for increase in milk and meta production (e.g. N'Dama x Holstein-Friesian cattle;
- Agroforestry-livestock integration for intensified land use;
- Improved diagnostic techniques.

Collaborating and networking

- Engagement of NARS and grass root beneficiaries in problem and needs analysis, priority setting and R&D implementation and validation;
- Promote use of harmonised methodologies, techniques and approaches to R&D in the region;
- Advisory role on policy formulation regarding livestock development to relevant regional bodies.

Human resource development and institutional capacity building

- Build local expertise, critical mass and institutional capacity;
- Facilitate exchange of expertise in the region;
- Provide training on technical, managerial and scientific topics;
- Include ultimate beneficiaries through the combined "Training of trainers" and "Training of farmers" approach.

ITC and partner institutions are well placed to address current and future problems in the livestock and related sub-sectors that will lead to increases in food security and improved livelihoods while protecting the production environment. The Centre's activities in several of its on-going and planned projects contributes to PAAT's approach to integrated control of African T&T in livestock and the promotion of rural development that takes into account environmental concerns. Research activities on disease risk assessment and disease control, and the strategies to reduce environmental and inter-current disease stresses in trypanotolerant livestock and crossbreds and genetic improvement of indigenous breeds lead, in a

complementary way to outcomes that can be used by producers in a holistic manners to control, T&T.

Capacity building and socio-economics and policy activities are considered to be intrinsically tied to develop relevant manpower required to formulate, test and delivery socially and environmentally acceptable interventions leading to the control of T&T and exploitation of animal genetic resources confronted with the T&T problem.

ITM – S. Geerts

The research programme of ITM embraces five main domains: (i) vector-parasite interactions; (ii) vector-host-environment relationships; (iii) improved diagnosis of drug-resistance in trypanosomes; (iv) molecular biology of the parasite, and (v) trypanotolerance in small ruminants. Training in the form of distance learning is also a component of the activities of the Institute. A new web-based MSc training programme has been developed in collaboration with University of Pretoria at Onderstepoort, South Africa, and Utrecht University, The Netherlands.

Research on vector-parasite interactions comprises studies on the vectorial capacity to transmit acute and chronic form of the diseases, mixed parasite transmission and transmissibility of different *T.congolense* genotypes. In addition, the effect of age and the infection status of the vector and of trypanocides (e.g. isometamidium chloride) on parasite transmission is also explored.

The vector-host-environment relationships are studied to clarify some epidemiological aspects related to particular agro-ecological conditions and habitat changes, like the situation of peri-urban trypanosomiasis in Kinshasa, animal trypanosomiasis in the Adamaoua region (Cameroon), disease situation in an endemic area in Zambia, and the interface trypanosomiasis-game-livestock in Malawi and South Africa.

Currently available tests to detect *T. congolense* drug resistance in trypanosomes are carried out on cattle or on mice. These tests are laborious, time consuming and expensive. Investigations are conducted to use molecular techniques (e.g. PCR and other) to identify markers in the parasites implicated in the phenomenon of drug-resistance. Molecular biology techniques are also used to assess the genetic diversity and related pathogenicity of *T.congolense* [4 sub-groups of the parasites (savannah, forest, Kilifi and Tsavo) are studied].

Use of trypanotolerant cattle and small ruminants is part of an integrated strategy to contain losses due to the disease. In collaboration with ITC and ILRI, ITM conducts research on the degree of trypanotolerance in West African Dwarf (WAD) goats. Seventeen different WAD goat populations distributed over four countries (The Gambia, Guinea, Guinea Bissau and Senegal) are studied and genetically characterized through the application of microstallite analysis and 16 polymorphic autosomal markers.

9. Concerted action: the role and contribution of NARS in T&T intervention and related activities – V. Codjia, I. Tamboura, C. Mahama, E. Coulibaly, C. Ly

Benin – V. Codjia

The country is entirely infested by tsetse fly. Three species occur: *G.palpalis gambiensis*, *G.morsitans submorsitans* and *G.tachinoides*. Interventions against T&T include the use of trypanotolerant animals, strategic use of chemotherapy and various methods to reduce tsetse pressures (e.g. insecticide impregnated targets, epicutaneous treatments of cattle with insecticides). However, Benin is reconsidering its intervention strategy in terms of selection of priority areas, capacity building, data collection and project implementation. Policy makers need to be better sensitized to participate in the planning process of bankable project proposals. The commitment of the Government and a national budget allocation, coupled with the contribution of the ultimate beneficiaries, are essential requisites to stimulate the interest of the donors to assist the national efforts in reducing/removing the impact of the disease. The development of a network with neighboring countries and countries in the region is also a component of the national T&T intervention strategy.

Burkina Faso and Mali – I. Tamboura, E. Coulibaly

Since 2000, the Ministry of Animal Resources of Burkina Faso has developed a Plan of Action and Investment Programme in the Livestock Sector aimed at improving animal productions as a contribution to the national economy, and to support the efforts of the Government in poverty reduction. Amongst its activities, the Action Plan emphasizes T&T interventions particularly in onchocerciasis-freed areas.

The role of NARS in T&T field operations ranges from entomological and protozoological monitoring and surveillance to proper use of trypanocides. NARS are also implicated in active field tsetse control operations (mobile teams), entomological and protozoological laboratory work (e.g. DNA extraction for genetic studies of tsetse populations). GIS has been recently introduced as tool to assist in planning and implementing field interventions.

With the assistance of IAEA, Burkina Faso and Mali have envisaged to implement a trypanosomiasis integrated control project through the creation of a tsetse free zone in the river basin "cotton-belt" area common to the two countries. The final aim is increased and sustainable animal production. The organization of the programme includes a steering committee, a consultative technical group, a technical coordination committee and field teams. The contribution of Burkina Faso consists in the production of sterile *G.palpalis gambiensis* in collaboration with CIRDES. In this regard, it is foreseen to rehabilitate the insectarium at CIRDES. The project document between the two Governments and IAEA was officially signed in October 2001 and officially launched in March 2003 in Bamako.

In addition to this collaboration with Burkina Faso, other activities are on going in Mali. These include the eradication of tsetse fly in the peri-urban area of Bamako and genetic study of tsetse populations. In this regard, recent studies have shown that there is an exchange of genetic material between tsetse populations infesting Senegal and Niger river basins, and therefore the need to establish artificial barriers. This information further stresses the necessity to clarify the concept river basin T&T intervention strategy.

Ghana – C. Mahama

The activities related to T&T in Ghana focus on an update of the epidemiology of bovine trypanosomiasis in priority areas in the north and on the establishment baseline data on socio-economic aspects of interventions. These studies are carried out with funding from EU and ADB through the Livestock Development Project. Research activities are supported by CIRDES.

Under the PROCORDEL project, research was conducted to determine the impact of land use, using remote sense technique and GIS, and the epidemiology of trypanosomiasis in areas in north Ghana. The observed variations in land use had an impact on tsetse populations and their geographical distribution (inverse relationship between intensity of land use and apparent tsetse density) which generated differences in serological and parasitological prevalence of trypanosomiasis in cattle populations. An additional study showed that the disease incidence is related to herding practices.

Data layers on livestock stocking and human population densities, cereal production and trypanosomiasis prevalence were used to select and map (GIS) priority areas for T&T control. From the analysis, seven districts, corresponding approximately to 20 percent of the land in northern Ghana (91 000 km^2) was classified as first priority. The second priority areas comprise 11 districts or 77 percent of the total land while the third priority areas include 3 districts and correspond to 3 percent of the land.

Ghana has submitted a project proposal (5 year project) to ADB to seek funding for the eradication of tsetse in priority areas of the country. The final aims of the proposed project are increased sustainable agricultural production, poverty reduction and rural development. The project has been formulated to foster sub-regional cooperation involving Burkina Faso and Ghana.

Senegal – C. Ly

Concerted and integrated actions are strategic when it comes to combat animal diseases and their vectors, particularly tsetse-transmitted trypanosomiasis. The success of the intervention depends on an adequate integration of various strategies and tools, appropriate financial resources and competent and trained human capital. In Senegal, it is essential to define and place T&T intervention strategies in the context of a mechanism which involves the commitment and contribution of livestock owners/sector. In this policy, the NARS must act as a catalytic factor.

The areas affected by T&T are situated in the south and south-east of the country. These zones possess a pastoral vocation resulting from an interaction of various factors, i.e. climatic, geographic, cultural, technological, political and socio-economic. The traditional livestock production systems and use of natural resources are balanced and benefit from climatic conditions, availability of pastures, itinerated or rotational agriculture and livestock transhumance, and the trypanotolerance feature of indigenous animals. Hence, livestock production is an integral component of the entire agricultural production system. In this regard, the animal production offers a key opportunity in the fight against poverty and secures income to rural communities.

In rural areas, decentralized, organized structures are established spontaneously (i.e. village communities, micro-enterprises, livestock federations, groups for land management,

etc.). These structures take charge of a variety of activities related to the livestock sector, like fattening, village-based veterinary pharmacies, management of infrastructures and animal production and elaboration of plans for the management of pastoral areas.

Several activities related to T&T are carried out at national level. The institutional domains covered by the Government, associated partners and on going projects are:

- the agricultural and rural council;
- equipment and socio-economic infrastructures;
- support to the promotion of producers' association;
- support to credit for financing local initiatives and productions;
- fight against poverty through the promotion of activities generating income;
- management of natural resources; and
- livestock health protection and promotion of privatization of services to the farmers.

Tsetse and trypanosomiasis are not explicitly mentioned but are considered a component of the "livestock health protection" programme.

Since 1990, the country has not carried out important interventions against T&T, despite the fact that Government's policy clearly mentioned the elimination of the major parasitic diseases in livestock. On the contrary, some research activities have been conducted by ISRA:

- validation of antigen detection diagnostic test (Ag-ELISA);
- entomological survey in the Niayes, "Petite Côte" (Mbour – Joal) and in the Kaolak and Fatick regions.

Although there is not a special or strategic programme for T&T activity and intervention, the Government has manifested a particular interest in livestock-agricultural development of the site of Nénéfacha, region of Kédougou, situated at the extreme south-east of the country and infested by tsetse fly. In this area, from March to June 2004, an entomological survey was carried out with the financial contribution of the Government. The high interest and commitment of the State to develop livestock-agriculture in this region offers a novel opportunity for the development of concerted actions against T&T.

In conclusion, for effective and sustainable interventions against T&T in Senegal the engagement of those rural communities whose animal resources are under disease risks is imperative. Full commitment, concerted actions and coordination of national authorities are required. In addition, the NARS need to re-establish its key role of information network and conceive a mechanism of concertation with various stakeholders, including livestock-agriculture producers.

10. Advancing together: from Burkina Faso, Mali and Ethiopia experience, the role of PAAT in assisting African countries in defining national T&T/SARD strategies as related to proposal(s) for joint international intervention – Moderators P. Holmes, A.A. Ilemobade

Considering the complexity of the T&T problem, a joint multidisciplinary approach is needed to deal with different special aspects of T&T intervention and related positive SARD strategies. A set of criteria and guiding principles for the prioritization of intervention areas have been developed by PAAT in collaboration with PATTEC. These guidelines duly

consider and place T&T interventions in the context of SARD. They address the key issues of:

- severity of the impact of the T&T problem;
- desire for intervention by local communities and commitment of national governments;
- opportunity to reduce tsetse-linked poverty and increase food security;
- socio-economic returns through SARD; and
- factors assessing sustainability.

Besides the above criteria, there is the necessity to harmonize data collection and analysis in a way that uniform data sets will be available for different agroecological areas, countries and livestock-production systems. These data sets should include information on the entomological situation, disease prevalence and incidence, assessment of the socio-economic impact of the disease on the whole agricultural production of the study area, evaluation of the technical feasibility of the T&T intervention and its cost-benefit analysis, and an analysis of the impact on the environment. The planning phase should also take into consideration proper management of natural resources, including land use and management.

Some African countries may face difficulties in complying with some of the criteria mentioned above. They wish PAAT to assist them in providing scientific back up and expertise in developing concept notes and project proposals, while PATTEC can assist countries in mobilizing human and financial resources. Also, it is necessary to strengthen networks and coordination for concerted action. Networks should target to improve communication among stakeholders (research institutes, NARS, international and regional organizations, veterinary services, etc.). Networks' discussion would also contribute to information exchange (scientific, technical, policy decisions, etc.), harmonization of strategies and achievement of consensus. In this regard, a "PAAT Focal Point" will need to be identified in each institute and organization. This person will be in charge of linking with PAAT and acting as "information officer". The PAAT website, TTI and PAAT-L will be used as neutral fora for information dissemination, publication of "news" (short notes) and advocacy. The reactivation of the T&T FAO Liaison Officers' network, operated by the FAO Regional Office for Africa (Accra) would be useful in this respect.

There is a need to institutionalize PAAT and PAG inputs in the planning process of national and regional projects (e.g. ADB T&T intervention supported projects) and include PAAT/PAG as an official member of the Advisory Board of T&T intervention projects/programmes. Advanced regional research centres, i.e. CIRDES and ITC, should also be involved in providing training assistance at all levels, including animal health personnel, middle level field staff, extension workers, private practitioners, livestock owners and farmers' organizations. Training programmes should be linked to T&T intervention projects. Before starting any training activity, an inventory of training requirements should be elaborated and training needs ranked according to regions (e.g. Eastern, Western, Central and Southern Africa) and respective priorities. PAAT may assist in this exercise.

11. Report on advancement of FAO-IFAH partnership for Quality Control/Quality Assurance of trypanocides – R.C. Mattioli

The PAAT-PC meeting, at its 7th session (November 2002, Geneva) endorsed the FAO-IFAH partnership on investigations of the quality of trypanocides. The FAO Sponsorship Committee and the Legal Office endorsed the concept note concerning the partnership and a Memorandum of Understanding between FAO and IFAH has been drafted

and submitted to the concerned parties for its finalization. In addition to FAO and IFAH, IAEA and the University of Strathclyde in UK are associated in the implementation of the activities, which include the development of international standards and protocols for chemical analysis and quality control of trypanocides. The outputs of this partnership will be disseminated worldwide and the technology for quality control of trypanocidal drugs transferred to selected African laboratories.

12. Identification of areas for additional public-private sector partnership and support – Moderator V. Codjia

There is a need to increase the dialogue and communication between the public and private sectors and define strategies and areas for strategic partnership in activities related to T&T and development of affected areas. In addition, the public-private sector collaboration should provide support and add value to on-going actions. Sectors for potential collaboration were identified as follows:

- industry and private foundations: sponsor field research on specific products and their practical field applications, produce training materials (booklets, posters), and provide financial contribution for training on drug management schemes;
- national private sector (e.g. distributors of veterinary drugs, private veterinarians, livestock-crop-agriculture organizations): they should be involved in control and extension work; and
- NGOs and charities: involved mainly in community participation.

Annex 1

10th PAG MEETING

Accra, Ghana

22-23 September 2004

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Annex 2

10th PAG MEETING

Accra, Ghana

22-23 September 2004

AGENDA

Opening address and introduction (Prof. A.A. Ilemobade, PAAT Chairman, Mr M. Agyen Frimpong, Director of Ghana Veterinary Services, Mr J. Tchicaya, Assistant Director General/Regional Representative for Africa, FAO, Ghana)

1. Report of the last PAG meeting and the last PAAT Programme Committee meeting (A. Ilemobade)

2. The problem of T&T and related control: a move into the future and the importance of PATTEC (K. Gyening)

3. Report of the PAAT Secretariat and FAO/PAAT activities (R.C. Mattioli)

4. Report from AU/IBAR (J. Musiime)

5. Report from WHO (J. Jannin)

6. Progress refinement of the Concept Note for Burkina Faso and Mali: information available and information needed (I. Sidibe, E. Coulibaly)

7. Concerted action: the role and contribution of international research institutes (CIRAD, CIRDES, ITC, ITM) in supporting T & T intervention and related activities considering Burkina Faso, Mali and Ethiopia as examples (S. de la Rocque, I. Sidibe, S. Saini, M. Kamuanga, S. Geerts).

8. Concerted action: the role and contribution of NARS in T&T intervention and related activities, considering Burkina Faso, Mali and Ethiopia as examples - Benin (V. Codja), Burkina Faso (I. Tamboura), Ghana (C. Mahama), Mali (S. Maiga), Senegal (C. Ly)].

9. Advancing together: from the Burkina Faso, Mali and Ethiopia experience, the role of PAAT in assisting African countries in defining National T&T/SARD strategies as related to proposal(s) for joint international intervention (Moderators P. Holmes and A. Ilemobade

10. Advancing together: from the Burkina Faso, Mali and Ethiopia experience, the role and commitment of National and Regional Institutions and stakeholders in T&T interventions (Moderators J. Musiime and C. Ly)

11. Report of FAO-IFAH partnership for Quality Control/Quality Assurance of trypanocides (R. Mattioli)

12. Identification of areas for additional public-private sector partnership and support (Moderator V. Codja)

13. Conclusions and Recommendations. Next meeting.

Annex 3

10th PAG MEETING

Accra, Ghana

22-23 September 2004

TIMETABLE

Wednesday, 22 September 2004

08:30 - 09:00
Registration

09:00 - 09:30
Opening address and introduction (Prof. A.A. Ilemobade, PAAT Chairman, Mr M. Agyen Frimpong, Director of Ghana Veterinary Services, Mr J. Tchicaya, Assistant Director General/Regional Representative for Africa)

09:30 – 10:00
Report of the last PAG meeting and the last PAAT Programme Committee meeting (A.A. Ilemobade)

10:00 – 10:30
The problem of T&T and related control: a move into the future and the importance of PATTEC (K. Gyening)

10:30 – 10:45
Coffee break

10:45 – 11:15
Report from the PAAT Secretariat and FAO/PAAT activities (R.C. Mattioli)

11:15 – 11:45
Report from AU/IBAR (J. Musiime)

11:45 – 13:00
Discussion

13:00 – 14:30
Lunch break

14:30 – 15:00
Report from WHO (J. Jannin)

15:00 – 16:15
Progress refinement of the Concept Note for Burkina Faso and Mali: information available and information needed (I. Sidibe, E. Coulibaly)

Discussion on ADB support to T&T intervention in West and East African countries.

16:15 – 16:30
Coffee break

16:15 – 17:00
Concerted action: the role and contribution of international research institutes (CIRAD, CIRDES, ITC, ITM) in supporting T&T intervention and related activities, considering Burkina Faso, Mali and Ethiopia as examples (S. de la Rocque, I. Sidibe, K. Agyemang, S. Geerts)

17:00 – 17:30
Conclusions and recommendations of day 1

18:30 – 20:30
Gathering together

Thursday, 23 September 2004

09:00 – 10:30
Concerted action: the role and contribution of NARS in T&T intervention and related activities, considering Burkina Faso, Mali and Ethiopia as examples (V. Codjia – Benin, I. Tamboura – Burkina Faso, C. Mahama – Ghana, E. Coulibaly – Mali, C. Ly – Senegal)

10:30 – 11:00
Coffee break

11:00 – 12:30
Advancing together: from the Burkina Faso, Mali and Ethiopia experience, the role of PAAT in assisting African countries in defining national T&T/SARD strategies as related to proposal(s) for joint international intervention (Moderators P. Holmes, A.A. Ilemobade)

12:30 – 14:00
Lunch break

14:00 – 15:00
Advancing together: from the Burkina Faso, Mali and Ethiopia experience, the role and commitment of National and Regional Institutions and stakeholders in T&T interventions (Moderators J. Musiime, C. Ly)

15:00 - 15:30
Report on the advancement of FAO-IFAH partnership for Quality Control/Quality Assurance of trypanocides (R.C. Mattioli)

15:30 – 16:00
Identification of areas for additional public-private sector partnership and support (Moderator V. Codjia)

16:00 – 16:30
Coffee break

16:30 – 17:30
Conclusions and recommendations. Next meeting.