



THE PROGRAMME AGAINST AFRICAN TRYPANOSOMIASIS

**REPORT OF THE EIGHTH
PAAT ADVISORY GROUP CO-ORDINATORS MEETING**

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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

FOREWORD

The eighth PAAT Advisory Group Coordinators' meeting was held at ILRI, Nairobi, Kenya, 24-25 September, 2002. The meeting was organized by FAO Rome with assistance from FAO Kenya, KETRI, the Government of Kenya and ILRI.

With Professor P. Holmes in the Chair, the first address was given by David Taylor, Deputy Director General of ILRI, on behalf of the new Director Carlos Sere. Welcoming delegates, he stressed that ILRI undertakes many activities in tsetse and trypanosomiasis (T&T) control, which are one of the Institute's flagship themes, and highlighted ILRI's good contacts with local and national institutes. Three policy strands were emphasized: 1) to help the poor to build their assets, which implies a focus on preventing disease to maintain livestock-based assets; 2) to build productivity by, for example, addressing T&T; and 3) to maximize access to markets. ILRI increasingly acts as a project facilitator, and so is a partner rather than leader in most projects. Sharing resources and information is a high priority.

The Director of KETRI, Dr Joseph Ndung'u, gave the second address. He said he was attending the meeting as the official representative of the Ministry of Agriculture and Rural Development. He stated that Kenya supports T&T control related agencies, such as ISCTRC, PAAT, and PATTEC. The existence of KETRI, and ILRI and ICIPE within Kenya demonstrates Kenya's commitment to T&T control. African governments in general are coming to appreciate T&T's significance to livestock and human health. Dr Ndung'u emphasized that the community must look forward and not dwell on past problems, and stressed that T&T control will significantly contribute to poverty reduction. The choice of ILRI as the meeting's venue is most appropriate given its distinguished role in T&T control. Dr Ndung'u was also present in his capacity as KETRI Director. Delegates were very welcome to visit KETRI projects. Dr Ndung'u then declared the meeting open.

PAAT was formed five years ago as an international forum to take forward T&T control activities, said Prof. Holmes. PAAT is unique in its composition of four mandated organizations (AU/IBAR, FAO, IAEA and WHO). WHO deals with Human African Trypanosomiasis, whilst FAO, AU/IBAR and IAEA are more concerned with livestock. T&T control is now positioned as central to poverty and poverty reduction, and is increasingly placed in the context of sustainable development. Last year's PAG meeting in Ouagadougou focussed on West Africa. The present meeting was concentrated on Ethiopia and dealt with a wide range of topics, such as the harmonization of PAAT and PATTEC, social development, disease and vector status, and the technical aspects of prioritisation. PATTEC has successfully raised the political profile of the problems caused by T&T. PAAT experts are well placed to set international technical policy, and to assist national programmes, as well as to identify project guidelines, research priorities, and strategies. It is essential to have a clear message to give donors and the public, which PAAT experts can assist in developing. In this regard, the participants, which included the four mandated organizations, NARS of tsetse infested countries, the international scientific and donor communities reached a consensus and produced a PAAT statement on the policy approach for jointly tackling the T&T problem (see Annex 1).

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**Report on the
8th PAAT Advisory Group (PAG) Co-ordinators meeting
held 24-25 September 2002
in Nairobi, Kenya**

Conclusions and recommendations

- 1. Conclusion:** PAAT criteria for the selection of areas of high priority for intervention are reasonable and effective, and verify the choice of two current priority areas in Burkina Faso and Ethiopia. The choice of these two regions does not preclude selection of additional priority areas, according to the agreed criteria.

Recommendation: There is a need for other areas to be chosen to demonstrate effective planning capability.

Action: PAAT community and concerned institutions of tsetse-infested countries.
- 2. Conclusion:** PAAT/PATTEC harmonisation and conclusions of the meeting held in Edinburgh in September 2002 regarding T&T intervention in the future have many points of similarity, most obviously that there is in the main broad consensus on the need for T&T interventions to alleviate poverty, and the range of implementation options available. It is also broadly agreed that local and area wide tsetse interventions are both economically justifiable.

Recommendation: T&T interventions in isolation are both technically undesirable and also unacceptable to the donors. They must be carried out in the context of Sustainable Agricultural and Rural Development (SARD) in the broadest sense.

Action: Local governments with the assistance of FAO and other PAAT mandated organizations.
- 3. Conclusion:** The AU declaration has led to widespread and repeated political support in Africa and UN for T&T control activities. This is now best interpreted so that eradication is the 'vision' or political aim, which is not and cannot be time bound. The operational strategy is time limited step-wise control of T&T in objectively delimited areas.

Recommendation: All concerned stakeholders should be involved, from national and local government to farmers, in all stages of planning and implementation. This is reflected in a general move away from technology-driven to demand-led and integrated programmes.

Action: Local governments with the assistance of FAO and other PAAT mandated organizations.
- 4. Conclusion:** Issues relevant to sleeping sickness should be more closely integrated into PAAT/PATTEC initiatives. It is important that trypanosomiasis be promoted from the neglected list; that appropriate use be made of the tools already available and that these must be made more accessible to the people.

Recommendation: Formation of effective public private partnerships.

Action: WHO and other PAAT mandated organizations.

- 5. Conclusion:** There is a need to encourage countries to act to use or raise their own funds as a demonstration of intent.
Recommendation: Tsetse-infested countries are solicited to commit funds to T&T activities.
Action: Local governments and PATTEC.
- 6. Conclusion:** Training and capacity building at all levels (e.g. policy makers, technicians, communities) form the key to successful implementation.
Recommendation: Identification of training needs and development of appropriate training programme.
Action: Local governments with the assistance of PAAT.
- 7. Conclusion:** There must be a common policy and a single message to the wider community in order to end the current confusion as to the desirability and technical feasibility of T&T interventions.
Recommendation: Production of joint PAAT-PATTEC Press Release on the above, with emphasis on collaboration at regional level.
Action: PAAT and PATTEC.
- 8. Conclusion:** Strategies, plans and techniques must be chosen objectively according to the specific conditions and characteristics of each individual intervention area. These are likely to differ between areas, according to many factors, including resources and time available, scale of implementation, likely impact and stakeholder requirements. A holistic and integrated approach is essential. Some strategies may suit one area but not another.
Recommendation: Definition of T&T policy and intervention strategies according to specific socio-economic and agro-eco-production systems in identified priority areas.
Action: PAAT and PATTEC.
- 9. Conclusion:** Baseline data and environmental monitoring are desirable.
Recommendation: Efforts should be made to standardize or at least ensure compatibility of information, to allow exchange between projects while preserving national ownership.
Action: PAAT, PATTEC and national governments.
- 10. Conclusion:** The epidemiological/epizootical situation is not static. In addition, demographic and climatic changes are affecting tsetse challenge and disease risk.
Recommendation: There is an urgent requirement to acquire and analyse data on disease risk and vector challenge in order to provide projections. Governments should be encouraged to allocate adequate resources for this purpose.
Action: Local governments with assistance of PAAT.

1. Minutes of the last meeting

The minutes of the previous meeting held in Ouagadougou in September 2001 were approved.

As matter arising it was noted that there is a need to develop a common policy and a single message to the wider community in order to clarify the current confusion as to the desirability and technical feasibility of T&T interventions, particularly at regional level. In this regard, T&T intervention activities should capitalize on existing trends in land-use change, climate change and settlement patterns in order to facilitate autonomous control and consolidate T&T active control measures.

Success stories, especially self-funded ones like that of Botswana, should be publicized.

The participants welcomed the development of Technical Cooperation Programmes in support of PATTEC.

2. Report of the PAAT Secretariat and FAO/PAAT activities: report from FAO - R.C. Mattioli

PAAT has made significant achievements since 2001. The report of the workshop “*Strategic planning of area-wide tsetse and trypanosomiasis control in West Africa*” and the PAAT T&S Series No. 3 “*Integrating the SIT as a key component of area-wide tsetse and trypanosomiasis intervention*” have been published.

Progress has been made on four additional PAAT *Technical & Scientific Series Papers* (these concern economic principles in planning control and intervention in West Africa, role of trypanotolerance, role of socio-economic and cultural factors, landscape and fly ecology in West Africa). It is intended to move on to East Africa related papers next year.

A PAAT/PATTEC Harmonization Workshop was held in Rome, May 2002, where criteria and guidelines for joint international effort against T&T were developed in the context of Sustainable Agricultural Rural Development (SARD); factors contributing to increased feasibility and the early success of project activities and sustainable outcomes were identified.

Two Technical Cooperation Programmes, ‘Capacity Building and Programme Development in support of PATTEC’ to be implemented January 2003; and ‘Sustainable control of tsetse and trypanosomiasis’ are in progress. FAO participated in the 2nd Meeting of the Policy and Mobilization Committee of PATTEC, Addis Ababa, August 2002. A joint IAEA/FAO Regional Training Course on GIS was held in Ouagadougou, May 2002. It focussed on GIS requirements for planning and data manipulation needed for implementing tsetse interventions. Participants from seven West African countries were trained in GIS, and provided with data and software.

Issues of *TTIQ* were produced, and the Livestock Geography CD disseminated. Spatial CD with two reports entitled ‘*Spatial information for concerted tsetse and*

trypanosomiasis control in West Africa and *'Assessment of priority areas for trypanosomiasis control actions by satellite data and fuzzy logic'* was produced. The PAAT Information System is available on CD and the web, and continues to be updated; it consists of the Web site, PAAT-L, PAATIS, and *TTIQ* bibliography. A range of communiqués (Cairo, Johannesburg) and press announcements have been released. Conference resolutions (FAO on PAATEC) and letters of collaboration (IAEA collaboration in PAAT) have been formalized. FAO looks forward to signing a letter of formal collaboration agreement with AU.

National capacity building has been reinforced through holding a strategic planning workshop and a GIS training course in East Africa by FAO/IAEA, and a SARD dimension introduced into existing programmes in current priority areas of Mali/Burkina Faso, and Ethiopia, as well as into the implementation of ongoing TC Programmes.

Updating and reinforcing PAATIS, and modernizing and restructuring the PAAT website have continued; new features for communication, integrated pest management strategies and developing novel analysis tools have been established; distance learning and access to training on GIS and remote sensing have been enhanced; facilitating e-library and enhancing regional e-conference moderation capabilities are on-going as well as linking PAAT to the media, rural radio and the press.

The Chair stressed that PAAT was especially grateful to FAO for the support it has given to PAAT over the last year.

3. Report on further PAAT-PATTEC harmonization – A.A. Ilemobade

FAO organized a PAAT/PATTEC harmonization workshop in Rome in May, 2002, and a press statement on the outcome was released. A series of guidelines for prioritising areas was agreed. These guidelines were:

1. The impact of tsetse should be high and evident.
2. Any intervention must be supported by farmers and by Government.
3. Intervention goals must include poverty reduction and an increase in food security within a SARD context, through an expansion of farming and by enhancing land tenure.
4. Any project must have a 5-7 year cycle.
5. There must be natural barriers to fly dispersal or artificial confinement to minimize the risk of re-invasion.
6. There must be a favourable ecological production trend, with evidence of existing land pressure.
7. There must be favourable climate trends.
8. There must be demonstrable commitment of the stakeholder communities.

Two major project areas were identified that conformed to the guidelines, one in Burkina Faso/Mali and another in the Ethiopian Rift Valley system.

The speaker suggested that the outcomes of the recent DFID sponsored conference in Edinburgh and that in Lisbon are likely to be of interest. It was understood that the discussions at these meetings were full and frank, but that areas of compromise and agreement were much more significant than areas of disagreement.

Delegates who had attended either or both these meetings summarized their understanding of the main conclusions reached at Edinburgh. These were that the PAAT prioritisation guidelines were useful; that tsetse control alone was no longer acceptable to the donors, and that T&T control activities must be sustainable and conducted in an holistic context of farmer involvement and SARD; that fly eradication, though possible in certain areas, was generally a long term goal, eventually reached by means of vector control; that DFID accepted a country perspective; that T&T interventions to create tsetse free zones were economically justifiable and cost up to US\$2 000 per square kilometre; that the T&T community must be seen by donors and the public to have a single voice; that there should be a technical advisory body (perhaps a modified PAAT) with significant funding able to commission research as needed by field programmes; and that details of any intervention must be identified on a project-by-project basis, as appropriate to technical constraints and national policies. Finally it was noted that there was a serious lack of human and financial resources for T&T control activities which needed to be urgently addressed.

The speaker then continued to describe the harmonisation activities including the FAO conference resolution in support of the PATTEC initiative, the identification of two priority field projects and two TC Programmes. One of these, in support of PATTEC, will develop an historical T&T database for the two identified project areas, and with input from ILRI provide strategic support in the preparation of proposals in the context of SARD, food security and poverty alleviation.

PAAT/PATTEC harmonisation is intended to promote capacity building, identify sound field programmes and provide technical support to intervention projects and policy makers. It ensures interlocking log-frames, and encourages strategic planning beyond the prioritized hotspots. One of its consequences is that it may be necessary to review PAAT structures to enable it to respond to emerging issues.

It was mentioned that the successful application of the guidelines relied on the availability of current data; re-using out-of-date information should be avoided. The agricultural situation, particularly in West Africa, is very dynamic, meaning that priorities might change rapidly.

It was noted that countries should now be strongly encouraged to act and provide some indication of commitment to action. They should use the PAAT guidelines, but insofar as they focussed largely on livestock and crops, then for some countries, especially those where HAT is the major T&T problem, they might not be appropriate unless broadened to include criteria related to sleeping sickness.

4. Report from AU/IBAR and PATTEC – H.M. Solomon

IBAR is now more than 50 years old. It is an AU Initiative on Livestock Development in the context of the recently developed NEPAD. Poverty reduction is central to NEPAD's objectives, and livestock related issues are being considered for inclusion.

The AU is being restructured and its livestock policies will focus on major trans-boundary issues, and on marketing and trade by, for example, setting up a livestock trade commission, in the context of exports to the Gulf States. It will also focus on harmonizing cross-cutting policy issues and on environmental sustainability. The AU will strongly encourage the development of national programmes, and has re-affirmed its policy of cooperating with international agencies.

FITCA has a budget of €20m of which €13m is committed and 25 percent has been disbursed to date. It is concerned with farming in tsetse controlled areas and has a complex range of objectives focussing on sustainability and integration. National priorities vary: FITCA Ethiopia's emphasis is on capacity building and training, while FITCA Kenya is concentrating on measures to increase agricultural productivity. FITCA Uganda's primary concern is human sleeping sickness, and FITCA Tanzania's focal theme is disease control in rural areas. FITCA may eventually incorporate Rwanda and Burundi, and may expand into Sudan.

PATTEC, an African initiative, owned by Africans, has been launched with the highest of political profiles. It has been allocated seed money by AU, which ensures its continuing existence. AU Heads of State have now made three statements declaring war on tsetse and have instructed that all countries must include PATTEC in National Development Strategies. There have been many other political statements in support of PATTEC from UN agencies and from the UN Secretary General.

PATTEC is an IBAR 'grandchild' with new parents in the four UN agencies mandated within PAAT. Its children are the country and regional programmes such as those in West Africa, Ethiopia, Botswana, and the Great Lakes region. It would like more children.

PATTEC has matured very rapidly. The Mombasa Declaration of 1999 stated that human sleeping sickness is increasing and must be brought to the attention of Heads of States through AU. After one year the SIT forum was launched and an Action Plan formulated, a concept that will be modified and implemented over perhaps 50 years. After two years PATTEC was officially launched in Ouagadougou.

AU has set up a Policy and Resource Mobilisation Committee (PRMC), with five appointed ambassadors. One is the Ambassador of Botswana which country has a self-financed tsetse control programme. Others are eminent scientists. The committee considers trypanosomiasis to be a major disease and T&T control activities should be brought to the level of the very successful Roll Back Malaria campaign.

The ISCTRC 27th conference is scheduled to take place on 29 September-3 October 2003, in Pretoria, South Africa. It will build on the successes of the 25th and

26th meetings in Mombasa and Ouagadougou, particularly in the harmonization of a wide range of satellite meetings. PAAT is strongly encouraged to contribute.

PATTEC is hoping to start a project in West and Central Africa along the lines of FITCA. After rejection of the original proposal five years ago, a new concept note was formulated and sent to the EU. EU made significant changes to ensure a focus on poverty reduction with T&T control activities as the major entry point. This EU-endorsed concept note has now been sent to national bodies to ensure involvement of national stakeholders.

In summary, PATTEC is an African initiative with a remarkable level of political support.

5. Brief on the Sleeping Sickness situation: WHO - J. Jannin

WHO is undergoing some major personnel and structural changes. There will be a new Director General and a Director for the Africa Office, and Sleeping Sickness has been moved to a new Department.

There is often a significant gap between real situations and research tools such as regional maps. As a result more innovative tools are not needed: rather the available tools (e.g. GIS) must be made more accessible and relevant to the people. In this context, WHO have expanded HQ staff numbers to enhance networks with regional staff (Cairo, Abidjan, Yaoundé, Kinshasa, Kampala and Harare).

A new concept of 'neglected diseases' has arisen, defined as those diseases with broken links for treatment which therefore need restoring; the concept is linked to a parallel concept of a neglected population. A neglected disease (of which sleeping sickness is one) is fatal, affects rural populations, and as it affects a small part of the population, is difficult to diagnose. Sleeping sickness needs to be rescued from the neglected list. To this end, the 55th World Health Assembly produced a document entitled '*WHO programme to eliminate sleeping sickness: Building a global alliance*', which describes a global alliance of public private partnerships between Arventis, Bayer Myers Squibb, Bayer, the Gates foundation (supporting clinical research), DNDi (allied to MSF), and national agencies of Belgium and France. This alliance provides sleeping sickness drugs free of charge, with a process administered by WHO HQ, which also provides a bi-annual drug forecast for pharmaceutical companies. Distribution is implemented by MSF.

WHO has developed a strategy to improve organizational aspects, maximize human resources and to raise funds. This involves coordination, support to country field activities (surveying, screening, diagnosis, treatment) and logistics, as well as support to funding initiatives and research. A major goal is to convince African governments to allocate their own resources towards combating sleeping sickness.

WHO is undertaking a range of activities and initiatives to restore broken links for sleeping sickness treatment. It is providing training through workshops, and is working towards establishing a consensus of treatment techniques, as well as promoting a multi-pronged diagnosis approach. A series of networks are being

developed – such as the sleeping sickness treatment and drug resistance network, and a new network to promote drug development. A new Continental surveillance programme and a new Human African Trypanosomiasis economics and disease burden working group have been established. There are also plans to set up initiatives to develop diagnostic tools and stage determination, and to improve the management of drug supply.

WHO is fully involved in PAAT. It is also involved in advocacy programmes, so that trypanosomiasis now ranks seventh according to its DALY impact. Of global parasitic diseases, it comes second just below malaria. Numerous press releases have been produced, and programmes with school children and medical students in developed countries set up.

There is now a unique team, with WHO at its head, which has established a global alliance to eliminate sleeping sickness. It still faces serious constraints, however: there is a lack of human resources, of research, and of demonstrable involvement by the countries affected, all exacerbated by political instability. Coordination is essential. Finding funds is not the problem, but spending the funds sensibly and sustainably is.

The Chairman congratulated WHO on providing such a clear message on the value of consensus, publicity and partnership.

6. Botswana: report of aerial spray operation, present and future perspectives – P. Kgori

Only *Glossina morsitans centralis* is present in the Okavango Delta. The affected area amounts to 25 000 square kilometres which was reduced to 5 000 sq. km, by aerial spraying up to 1991, after which 25 000 targets were deployed over a ten year period. These were dogged by problems with strong winds, destruction by wildlife, and in 1999, the majority of the targets were flooded. By 2001 the fly range had expanded to 12 000 sq. km., cattle north of Delta were dying from nagana, and tourism in the Delta was beginning to be adversely affected.

In response to this resurgence, a three stage programme was established, involving drug treatment of sick animals; a reintroduction of aerial spraying (perhaps with targets); and finally the use of SIT if it proved necessary. The spraying programme was executed over two years, with a maximum designed programme life of three years. Spray blocks were delineated to reduce re-invasion risk by minimising boundaries. The programme started in the northern half of the infested area, and the spray block was protected by concentrating available targets within a 15 km wide barrier. Fly pickets were also employed.

The aerial spraying was carried out by four Thrush crop sprayer aircraft modified with lights for night flight, rotary atomizers, and a SATLOC guidance system which logs and controls the spray system. It is accurate to 1m. If the pilot goes off track, then spraying is shut down. The pilot programmes the SATLOC computer with spray block coordinates, and spray application is controlled accordingly. The spray block is further protected by boundary spraying to mop up stray flies.

Late in preparation of the first year's programme, stakeholder consultations led to a change in the selection of insecticide to Deltamethrin B. This entailed equipment and formula modification to optimize droplet size, which caused a delay of the planned first cycle, after which surviving flies were detected by manned fly rounds, and cycle 2 was advanced. After five cycles teneral flies were detected, and so a sixth spray cycle was flown. No flies have been detected in the northern block since August 2001.

The second phase programme, in 2002, covered the southern block and consisted only five spray cycles. No flies have been found since the fourth cycle. It therefore seems that there has been no reinvasion, which means that the target barrier continues to be effective, and will therefore be maintained. Fly surveys will also be maintained.

The major lessons learned are that the insecticide formulations are effective and that the SATLOC system is absolutely essential. It is hoped to extend operations to the remaining northern distribution and to include the Namibian Caprivi fly populations. It remains to establish and quantify the residual effects of insecticide on aquatic and terrestrial fauna.

The discussion was started by the Chairman who stressed that this was a major success story, and is self-funded. The need for publicity was raised, and the possibility of setting up sub-regional programmes and integrating southern Africa into PATTEC was discussed. The question of environmental monitoring was raised, and it was noted that a temporary drop in abundance but no significant compositional changes in invertebrate fauna had been found by the Okavango Research Centre.

The environmental and agricultural constraints to spraying were discussed. The former mean that spraying must be at night during cold season, and that average daily temperatures must be closely monitored to calculate the pupal period estimates needed to time spray intervals. The fact that the Okavango is flat and contains no agriculture means that aerial spraying is an appropriate technique.

7. Report on tsetse and trypanosomiasis activities in Sudan (FAO TCP/SUD/0069) – A.H.A. Rahman

Animal trypanosomiasis is increasing in Sudan as a result of drought-induced changes in transhumance patterns, increased drug resistance, a spread of vectors, and an increase in peri-urban cattle farming. In response an FAO Technical Cooperation Programme (TCP) has been initiated recently to draft a national strategic programme for T&T control activities. The TCP focuses on capacity building, raising awareness, and making an epidemiological survey of the major cattle producing areas of Blue Nile, West Kordofan, White Nile and South Darfur Provinces. The ecological characteristics of these four areas are markedly different and are set out at some length in the written version of the presentation.

A dry season survey has been completed, during which 4 000 cattle were examined for trypanosomiasis, and modified epsilon traps were used to estimate tabanid fly and tsetse numbers. A wet season survey is currently in progress. The dry

season results show that the tsetse is present only in South Darfur, which also suffers the highest mean trypanosomiasis infection rate (11.7 percent), caused by *Trypanosoma vivax* and *T. congolense*. In the absence of tsetse flies, the other areas suffered infection rates of between 1.2 percent and 4.2 percent, and only from *T. vivax*. A number of locations were surveyed in each Province, and it was found that high tabanid fly catches generally coincided with comparatively high trypanosomiasis infection rates.

Considerable efforts were made to find the northern limit of the tsetse belt in the vicinity of Radom, Southern Darfur. Though flies were found near Radom itself, significant densities were only found some 50 km to the south-west. The effectiveness of various types of traps was also assessed under a range of conditions. None were as effective as manned fly rounds.

The Chairman congratulated Dr Rahman on his work, and expressed his pleasure that Sudan was now generating field data. The spread of the disease to zero-grazing units near Khartoum, and the consequent collapse of the milk production in Gezira, was flagged as the reason underlying Sudan's national plan to implement large scale T&T control. There was then a discussion on the influence of transhumance and seasonality on the disease, especially noting the fact that infected cattle were often found in areas without the tsetse fly, and that the pastoralists' strategy was to use preventative treatment before entering a fly belt and then curative ones on leaving it.

This led to a discussion on the trans-boundary nature of transhumance and trypanosomiasis, during which the importance of trans-boundary agreements and strategies, for example to implement measures preventing the spread of drug resistant strains of the disease, was emphasized.

8. Report from IAEA – U. Feldmann

After the recent signing of accords, IAEA is now fully behind PAAT. This is because there is now sufficient ownership of the programme by Africans, and because both the area wide approach and the concept of local tsetse free zones have been accepted.

The IAEA general conference has passed a resolution in favour of PATTEC. The Agency's normative functions are very active and there is an energetic Research and Development suite in place in-house, exemplified by the tsetse genetic studies at the rearing facility in Siebersdorf. A five- to six-year co-ordinated research programme is underway, embracing projects to:

1. improve rearing techniques
2. improve the effectiveness of tsetse attractants
3. use fly genetic characters to identify genetically isolated populations, and thus areas of potential population confinement, and possibly
4. address outstanding issues of quality assurance.

The Agency considers capacity building to be absolutely essential, and is supporting relevant projects in ten countries. It is also active in helping to advocate T&T control activities in the developed world, particularly the United States, and is pleased to report that both The Turner Fund and the United Nations Foundation (UNF) have agreed to provide financial support to PATTEC.

9. ICPTV achievements – P. Holmes

The EU Concerted Action on Integrated Control of Pathogenic Trypanosomes and their Vectors (ICPTV) was set up three years ago, in support of T&T control activities in context of agricultural development. It works largely through organizing a series of workshops, each generating a newsletter containing the workshop proceedings, and supplemented by articles of interest to the T&T Community and a degree of scientific exchange. ICPTV also has a website (<http://www.icptv.org>) from which the newsletter can be downloaded. The newsletters have a circulation of about 700.

There have now been seven workshops and six newsletters; the most recent workshop was on integration of tsetse and tick control, in Antwerp. The resulting newsletter is available to participants. Two more workshops are planned, the next one on “Tsetse and Trypanosomiasis Research and Control in Southern Africa: Past, Present and Future”, to be held at Onderstepoort Veterinary Institute, 11-13 November 2002.

ICPTV has two years funding, some of which is used to support PAAT’s Research and Development Module. There may be further funding when EU Framework Six is established.

10. FITCA report on status of work, achievements and future plans – F. Oloo and B. Bauer

Farming in Tsetse Controlled Areas (FITCA) is an EU funded project currently covering four countries, namely Ethiopia, Kenya, Tanzania and Uganda. There is also FITCA Regional Office responsible for regional coordination: it embraces an area-wide approach, with activities over 150 000 sq km in Ethiopia; 6 500 sq km in Kenya, and 50 000 sq km in Uganda.

The presentation focussed on the activities of FITCA Kenya. Substantial efforts have been made to assess the baseline situation for T&T and agricultural productivity and to set adequate surveillance in place. Raising awareness has also been a priority, and has made it more possible to base the project work-plans on extensive stakeholder involvement, and a considerable amount of detailed stakeholder analysis.

The Project has now achieved widespread Participatory Rural Appraisal, and has conducted entomological surveys, traction surveys, household surveys and livestock surveys. The tsetse survey concentrated on *Glossina pallidipes* but recorded *G. fuscipes* where it was caught. The surveys used two baited biconical traps per

square kilometre, checked every 48 hours. All data are geo-referenced within kilometre grid systems,

Glossina pallidipes was caught mostly on high ground (unlike in earlier years). Very high densities of more than 1 500 flies per trap per day were found in northern Teso District, and high densities of about 200 flies per trap per day were recorded in the southern Bondo District. Elsewhere densities were fairly low.

The fly control techniques used relied upon, and were largely implemented by, the communities. Following extended and extensive raising of awareness, each village appointed two trap/target attendants. The project therefore trained over 1 000 attendants in techniques of monthly monitoring and the servicing and placing of targets. Once the communities had sited their traps, project staff validated the placement (and found 90 percent to be properly placed). The communities provided cow urine, and FITCA gave acetone. These control efforts reduced fly densities significantly, especially those in initially high and moderate density populations. Some flies do remain but at very low remnant densities.

Once target/trap control phases had been completed, the communities were trained in ground spraying techniques and were organized to build and manage crush pens. The communities provided the resources needed for the pens and paid for the spraying.

A 1.5m high pyrethroid-impregnated net was developed for use with 45 zero-grazing cattle units. Again, community involvement was central to the implementation. These nets reduced infection rates from 64 percent to 2 percent if the cattle were kept permanently inside the netted areas and by half if the cattle were taken outside the nets for part of the day. A lower, and therefore cheaper, net is now being tested with apparently similar results.

An important side effect of the treated nets is a marked reduction on the number of nuisance flies, such as *Stomoxys*, as well as tsetse. There also appears to be a reduction in flies for some considerable distance around the treated zero-grazing units, though this has yet to be properly quantified.

Other integrated FITCA activities concern improved tillage in freshly cleared areas to promote food security, the support of private animal health practitioners through training in diagnosis and transport, and the promotion of poultry production and addressing the problem of Newcastle disease.

There was a Mid-Term review in mid 2002, which has resulted in a no-cost extension for one year, to be used to prepare a second phase.

The discussion initially concerned the cost of impregnated nets (US\$30-50), which would last a year. Private sector companies were looking at extending the life of these to two years, although it was noted that this might persuade the communities that the nets were a one-off measure, rather than one that requires repeated application, and that this might be counter-productive in terms of long-term sustainability. A number of participants discussed the use of nets as a control measure,

and it was stressed that there is sufficient demand for livestock produce, particularly milk, to persuade farmers to enrol in tsetse control.

11. Lies or flies? Satellites, climate and tsetse mapping for Ethiopia – W. Wint

The presentation reported on a project funded by the FAO/IAEA Joint Division in support of PATTEC. It aims to build on previous work of the PAATIS project and the DFID/FAO funded production of continental tsetse fly probability of presence maps at 5 km resolution, using a range of predictor variables including satellite derived measures of climate. The current work aims to improve upon the earlier maps in several ways: by increasing the resolution of the modelled distributions by a factor of five, to 1 km; by updating the known presence absence data in the light of the most recent information; and by using climate related masks to modify both the input data and predicted output maps.

The first Phase, completed at the end of 2001, produced distributions of two fly species in a substantial portion of West Africa, and of three species in Uganda. The current phase has produced draft maps of four fly species (*Glossina morsitans*, *G. fuscipes fuscipes*, *G. pallidipes* and *G. tachinoides*) for Ethiopia and bordering parts of the Sudan.

The method relies on establishing statistical relationships between fly presence or absence and a wide range of predictor variables for a series of sample points evenly distributed (about every 25 km) throughout the study area. These relationships are established using step-wise linear regression and then applied to every pixel of the kilometre resolution predictor variable images.

The input data are based on the classic Ford and Katondo distribution maps, modified by information from more recent sources, and overlain by a series of masks of areas where the fly can be safely assumed to be absent. These include areas of high minimum temperature, high altitude, and very low vegetation cover as derived from kilometre resolution satellite imagery and land use maps.

The potential uses and pitfalls of these masks (temperature, length of growing period, vegetation cover and elevation) to modify input training data were discussed and illustrated at some length.

The draft maps for Ethiopia and south eastern Sudan were presented, and comments invited. It was then pointed out that there were several large areas where the predicted probability of presence was unity, giving large areas with little detail or variation. Various methods of providing further detail were discussed, again based on the use of masks, but derived from climatic conditions at the borders of fly distributions. The use of unconventional parameters, such as the rate of vegetation change (high rates possibly reflecting riverine forests) or very high resolution (LANDSAT or SPOT) satellite image overlays, to identify suitable and unsuitable habitats within potential fly habitats was discussed as a possible way to improve the method further.

A more certain way was to use the draft maps to site field fly surveys in areas of interest, to test the predictions by ground truth. This is now being implemented for the Ethiopian project. When these data are available, which will include some information on the genetic characteristics of the flies, they will be used to revise the drafts to produce final ground truthed fly distribution maps.

This two stage approach will be used in the next project phases: for northern Kenya and western Somalia (three species, starting 2002) and southern Kenya and coastal Tanzania (five species, starting 2003). The speaker emphasized his need for the most recent fly distribution data available, and stressed that any contributors would, in return, receive the outputs from all of the project phases, not just those relevant to their own region.

The discussion centred on the importance of seasonality and movement of both flies and livestock, and on the problems of identifying patches of habitat that supported riverine flies, which were seen to need considerable attention. Work was also needed to move towards mapping disease risk, not just vector distributions. There was some discussion about the use different types of temperature indicators such as interpolated meteorological station data rather than satellite derived indicators, especially in regions well served with weather stations.

12. East Africa tsetse-trypanosomiasis intervention and environment. Ethiopia as a study case – J. Maitima

The project is still in the planning phases and will focus on reducing the T&T impact on livestock, settlement, cultivation, and community welfare. The major project stakeholders are FITCA, ILRI, CIRAD, and the Environmental Monitoring Management Component (EMMC), together with national students, as well as staff from national institutions such as KETRI.

A number of landscape components will be monitored including water, soils, vegetation composition, and overall biodiversity. The measurable indicators are remotely sensed land cover classes, vegetation structure, vegetation composition and abundance, soil erosion and vegetative indicators of erosion and fertility, water quality and availability, and the biodiversity of birds and mammals. The potential negative impacts of increased biodiversity on human settlements (through, for example, nuisance animals) will also be investigated.

To date, a series of consultancies (from CIRAD) have been implemented to select a number of study sites (three sites in Kenya, three in Uganda, and two in Ethiopia). They have been selected to reflect a range of land use and land cover types, such as peri-urban, intensive and recently increased cultivation, open grazing and swamp.

The project will address a number of aspects including the fact that if the disease risk is reduced, then livestock and human populations rise, and land use patterns are altered. Initial indications are that the nature of the changes appears to be dependent on the intervention methods used. Land use intensification leads to changes in cropping systems as the number of native plant species declines, and as does the

number of species in cropping systems themselves. Wildlife diversity increases with settlement, whilst natural vegetation decreases with tsetse control, and cropping increases – as illustrated by the events in the Lambwe valley.

The question then arises as to whether tsetse control measures themselves are responsible for these changes or whether other processes are involved. Initial results suggest that in low challenge areas, cropping increases after control has been implemented, but in high challenge areas, the amount of bush increases substantially.

To summarize, EMMC plans to acquire baseline data to produce indicators of land productivity, degradation and biodiversity that farmers can use to detect changes in their land. Communities will therefore acquire a tool that allows them to understand and monitor the complex processes of land use change.

A number of questions were raised about the consequences of increased settlement on animal diversity. It was pointed out that a number of bird and mammal species were closely associated with certain man-made land use types e.g. grazing areas and gardens.

The possible methods of environmental monitoring were also discussed, in particular the appropriateness of using arthropods or microbial genotypes as environmental indicators. It was noted that these techniques, whilst desirable, were very labour intensive, and would only be feasible within projects with substantial skills and resources available. Alternative strategies might be to involve school children or students in monitoring programmes, as has been done in Europe.

It was stressed that an environmental impact assessment needed reliable baseline data. Some interventions are more rigidly planned than others, which may affect the type of monitoring possible, and means that it is usually necessary to identify area-specific indicators of change. However, it was widely agreed that monitoring should be standardized whenever possible.

The proposed reduction in the environmental monitoring budget by the FITCA mid-term review was discussed and criticized, and the support of the meeting for such studies requested. It was noted that AU does not have the capacity to mount such operations itself, but is intending to establish a Nairobi cluster for livestock and environment interactions

The Chairman warned that the role of autonomous vector and disease control could be overplayed. A number of participants stated that human activity, particularly intensive and mechanized cultivation, with its attendant use of insecticides, does tend to reduce fly numbers, though remnant riverine populations often remain a danger. The dynamism of the changes is also an important factor, and the wisdom of capitalising on current trends was widely accepted.

13. Animal health and livestock-agriculture development in tsetse affected areas of Ethiopia – G. Abebe

The Ethiopian economy is predominantly based on agriculture. This sector accounts for 46 percent of the gross domestic product (GDP). Livestock contributes 33 percent of the agricultural GDP and 15 percent to the export earnings. Besides these, it makes a huge contribution to the agricultural productivity as a whole. About six million oxen provide virtually all the draught power for the cultivation of the nation's grain crops. According to FAO (1993), Ethiopia has the largest domestic animal population in Africa, with 31 million cattle, 23.2 million sheep, 18.1 million goats, 2.7 million horses, 0.6 million mules, 5.2 million donkeys and 1.1 million camels.

In the highlands of Ethiopia, where 85 percent of the human population, 80 percent of the cattle, 75 percent of the sheep and close to 90 percent of the equines exist, helminths play a major role in causing parasitic diseases. The lowland area, which is composed of semiarid pastoral zones, supports 15 percent of the human population, 20 percent of the cattle, 25 percent of the sheep, close to 100 percent of the goats, and the entire camel population. The major livestock diseases in lowland Ethiopia are Contagious Bovine/Ovine Pleuropneumonia, tick-borne diseases, and trypanosomiasis. Animals suffering from clinical and sub-clinical diseases show low levels of productivity compromising the nutritional status of human beings. In particular, trypanosomiasis is prevalent in two main regions of Ethiopia, i.e. the northwest and the southwest regions. In the southwest region the presence of the disease constrains the utilization of large areas and other natural resources.

The economic significance of trypanosomiasis increased enormously in the early 1970s. The loss of land fertility, caused by drought, overpopulation and overstocking of much land in the marginal, high temperature, low rainfall northern regions led to the resettlement of the affected rural population and their livestock in potentially more productive areas, many of which are tsetse infested. Furthermore the expansion of tsetse populations into higher altitude areas bring them into contact with previously unaffected livestock. Livestock, and cattle in particular, play a major role in the agricultural economy of Ethiopia. Not only do they provide meat, milk and manure, but also draught oxen are more extensively used in tsetse-free highlands of Ethiopia. The introduction of draught oxen into the resettlement area in the lowland was severely constrained by the widespread presence of trypanosomiasis.

Five species of tsetse fly (*G. morsitans submorsitans*, *G. pallidipes*, *G. tachinoides*, *G. fuscipes fuscipes* and *G. longipennis*) have been recorded in Ethiopia but only four are widespread and of significant economic importance, i.e. *G. m. submorsitans*, *G. tachinoides*, *G. pallidipes* and *G. fuscipes*. Tsetse flies are confined to the southern and western regions between longitude 33° and 38° E and latitude 5° and 12° N. They infest areas which together amount to 97 855 km². Tsetse infested areas lie in the lowlands and also in the river valleys of Blue Nile, Baro, Akobo and Omo. The infested area extends from the southern part of the Rift Valley, around the southwestern corner of the country and along the western lowlands and escarpments to the Blue Nile. Elsewhere there have been advances of tsetse, including extension of the upper altitude limit of the fly from about 1 600 m to 2 000 m in certain areas. Tsetse fronts in many places are unstable and tsetse-animal interface is constantly

moving. Consequently new areas are being invaded and settled communities are being continually evicted by the advancing tsetse. Such hot spots include the areas in Upper Didessa Valley, the northern and northeastern edges of Lake Abaya in the Rift Valley, the upper reaches of the Omo-Ghibe and its tributaries.

The most important trypanosomes, in terms of economic loss in domestic livestock, are *Trypanosoma congolense*, *T. vivax* and *T. brucei*. The closely related *T. brucei* subspecies, *T. b. rhodesiense* causes human sleeping sickness. The other trypanosome species of economic importance are *T. evansi* of camels and *T. equiperdum* of horses.

At present there are two main approaches to control trypanosomiasis in Ethiopia: control or elimination of the vector and prevention or treatment of animals using trypanocidal drugs. These approaches, however, have many drawbacks such as the high cost of drugs and insecticides, possibilities of undesirable environmental pollution, the increasing development of resistance in the parasites to the existing drugs and the lack of new drugs to replace them. The tsetse-infested lowlands of the country are highly fertile and very suitable for agriculture but considerable parts of these areas are devoid of people and livestock. In these areas, the problem of tsetse and trypanosomiasis has been the main cause for the decline in the number of cattle especially draught oxen for the last 30 years.

Tsetse control activities against, mainly, *G. m. submorsitans* were undertaken in about 1 000 km² of Didessa Valley. An Eastern Africa Regional Programme “Farming in Tsetse Control Areas (FITCA)” is operating, as an extension of the previous activities, over a total area of 4 500 km² of the upper Didessa valley to control tsetse flies and rehabilitate mixed farming practices. Apart from this, operation is underway to eradicate tsetse flies from an area of 25 000 km² in the Southern Rift Valley of Ethiopia using the Sterile Insect Technique (SIT). If trypanosomiasis could be controlled, much of the best-watered and most fertile land of south-west could be utilized. Land suitability studies carried out in areas of low population density in tsetse infested zones of the country revealed that these areas have the highest potential of expanded agriculture, provided that trypanosomiasis constraint can be overcome.

14. Report of the FAO Liaison Officers’ meeting – H.G. Chizyuka

The session commenced with Dr Chizyuka presenting the participants with the conclusions of the FAO liaison officers meeting.

Training: The recommendation was welcomed. The need for training the private sector was highlighted, and the serious loss of trained personnel in recent years, particularly in Southern Africa, emphasized. Thus there is an urgent necessity for training and capacity building across the whole range of T&T control activities, which PAAT should facilitate in line with its existing proposals.

Focal points: A number of participants suggested that FAO Liaison Officers could become PATTEC focal points, though it was accepted that was only possible if PATTEC liaison functions were compatible with FAO policy. However, such an arrangement, if temporary, might be feasible, until more permanent arrangements

could be made. It was, however, pointed out that a proliferation of T&T related focal points might confuse both administrations and donors, but that in any case it was government not the agencies that appointed liaison officers. The Chairman stressed that any PATTEC advocacy must embrace issues related to Human Sleeping Sickness, and not be limited to purely livestock related topics.

PATTEC publicity: The Chairman noted that some progress has been made on this in various fora, such as the recent DFID-sponsored Edinburgh meeting.

Consultation with stakeholders: It was suggested that consultations must broaden to establish what has caused poverty or livestock mortality.

Regional collaboration: No observations were made from the floor.

Resource mobilization: It was pointed out that the lack of resources available to T&T control activities may be due to budget allocation priorities rather than a general lack of resources. However PAAT and PATTEC have developed criteria for projects which should and could be used to attract national and international funds.

Finally, a Vote of Thanks was offered to Prof. P. Holmes for his achievements. The Chairman then expressed his thanks on behalf of the participants to ILRI and the Kenyan Government for hosting such a successful meeting, and then closed the meeting.



STATEMENT by the PAAT community

This statement reflects the consensus reached at the 8th Meeting of the Panel of PAAT Advisory Group (PAG) Co-ordinators, 24-25 September, 2002, Nairobi, Kenya, which included members from the mandated international organizations (AU/IBAR, FAO, IAEA, WHO), tsetse-affected countries, NARS, ARIs and relevant international institutes (ILRI, ICIPE, CIRAD and IFAD).

Following the decision of African Heads of State and Government, the broad Tsetse and Trypanosomiasis (T&T) community as represented by the Programme Against African Trypanosomiasis (PAAT) is united in its resolve to reduce and ultimately eliminate the constraint of tsetse-transmitted trypanosomiasis in man and animals.

The PAAT community believes that progress towards the final objective is best achieved through concerted efforts towards intervention, in a sequential fashion, with the focus on those areas where the disease impact is most severe and where control provides the greatest benefits to human health, well-being and sustainable agriculture and rural development (SARD).

It is recognized that the scale and impact of trypanosomiasis in man and animals varies between African countries and progress towards the ultimate objective will also vary.

It is also recognized that in the case of human trypanosomiasis, disease management will continue to depend on disease surveillance, detection and treatment as the principal priority for the foreseeable future, with tsetse suppression as a complementary tool. Tsetse intervention strategies need to be developed as a component of longer-term human trypanosomiasis prevention measures.

In animal trypanosomiasis tsetse intervention has a key role to play in the effective control and eventual elimination of the disease. A significant stage in

achieving this objective is the creation of tsetse-free zones through the integration of appropriate and environmentally acceptable technologies, including SAT and SIT as economically justified. In this context the PAAT community supports the outcome and the associated joint press release resulting from the PAAT-PATTEC harmonization workshop, Rome, 2/3 May 2002. The workshop identified criteria for selecting priority areas for joint international action. Governments, international and funding agencies are encouraged to also apply these criteria.

The PAAT community also recognizes the need to continue encouraging livestock producer-based practices against T&T wherever the diseases present themselves a problem.

In order to more effectively combat the diseases, both in man and animals, and their vectors further concerted efforts are needed with a view to develop and implement joint field programmes for sleeping sickness and animal trypanosomiasis interventions.

In this regard, it is opportune to consider refinement of T&T intervention policies, and enhance synergies and complementarities among all concerned international agencies and governments.



PROGRAMME DE LUTTE CONTRE LA TRYPANOSOMOSE AFRICAINE

DÉCLARATION de la communauté du PLTA

La présente déclaration reflète le consensus atteint lors de la huitième réunion du Comité des coordinateurs du groupe consultatif du PLTA (PAG), organisée du 24 au 25 septembre 2002 à Nairobi, Kenya, qui comprenait des membres des organisations internationales mandatées (UA/BIRA, FAO, AIEA, OMS), des pays affectés par les glossines, des SNRA, des IRA et des instituts internationaux pertinents (ILRI, ICIPE, CIRAD et FIDA).

Suite à la décision prise par les Chefs d'État et de Gouvernement africains, la communauté de lutte contre les glossines et la trypanosomose au sens large, représentée par le Programme de lutte contre la trypanosomose africaine (PLTA), est unie dans sa détermination de réduire et d'éliminer éventuellement la contrainte que représente la trypanosomose, transmise par les glossines, chez les humains et chez les animaux.

La communauté du PLTA est d'avis que les progrès pour parvenir à cet objectif final seront réalisés au mieux grâce à des efforts concertés d'intervention par étapes, en se concentrant sur les zones dans lesquelles l'impact de la maladie est le plus grave et où la lutte fournit les plus grands avantages pour la santé et le bien-être des humains et pour une agriculture et un développement rural durables.

Elle est consciente du fait que l'échelle et l'impact de la trypanosomose chez les humains et chez les animaux varient entre les pays d'Afrique et que les progrès sur la voie de l'objectif ultime varieront également.

Elle convient également que dans le cas de la trypanosomose humaine, la surveillance, le dépistage et le traitement resteront la priorité dans l'avenir afin de maîtriser cette maladie, l'élimination des glossines étant un outil complémentaire. Des stratégies d'intervention contre les glossines doivent être mises au point en tant qu'élément de mesures de prévention de la trypanosomose humaine à plus long terme.

Dans le cas de la trypanosomose animale, l'intervention contre les glossines a un rôle-clé à jouer pour une lutte efficace et l'élimination éventuelle de cette maladie. Une étape significative dans la réalisation de cet objectif est la création

de zones exemptes de glossines grâce à l'intégration de technologies appropriées qui soient acceptables pour l'environnement, y compris la SAT et la SIT lorsque cela est justifié du point de vue économique. Dans ce contexte, la communauté du PLTA appuie le résultat de l'atelier d'harmonisation du PLTA et de la PATTEC, qui s'est tenu les 2 et 3 mai 2002 à Rome, et le communiqué de presse conjoint qui l'a suivi. Cet atelier a identifié les critères de sélection des zones prioritaires pour une action internationale conjointe. Les gouvernements, les organisations internationales et les agences de financement ont également été encouragés à appliquer ces critères.

La communauté du PLTA reconnaît également la nécessité de continuer à encourager des pratiques de lutte contre les glossines et la trypanosomose au niveau des éleveurs partout où ces maladies constituent un problème.

Afin de lutter plus efficacement contre ces maladies, à la fois chez les humains et chez les animaux, et contre leurs vecteurs, des efforts concertés supplémentaires sont nécessaires pour mettre au point et appliquer des programmes conjoints d'intervention sur le terrain contre la maladie du sommeil et la trypanosomose animale.

A cet égard, il est opportun d'envisager l'amélioration des politiques d'intervention contre les glossines et la trypanosomose et de promouvoir les synergies et les complémentarités entre toutes les organisations internationales et les gouvernements concernés.

8th PAG meeting**Nairobi, Kenya****24-25 September 2002**

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8th PAG MEETING

Nairobi, Kenya

24-25 September 2002

AGENDA

Opening address and introduction

1. Minutes of the last PAG
2. Report of the PAAT Secretariat and FAO/PAAT activities from FAO
3. Report on further PAAT-PATTEC harmonization
4. Report from AU/IBAR PATTEC
5. Sleeping Sickness situation: brief by WHO
6. Botswana: report on aerial spray operation
7. Report on tsetse and trypanosomiasis activities in Sudan
8. Report from IAEA
9. ICPTV Achievements
10. FITCA: report on status of work, achievements and future plans
11. Lies or flies? Satellites, climate and tsetse mapping for Ethiopia
12. East Africa tsetse-trypanosomiasis intervention and environment. Ethiopia as a study case
13. Animal health and livestock-agriculture development in tsetse affected areas in Ethiopia
14. Report of the FAO Liaison Officers' meeting
15. Ethiopia: tsetse intervention programmes in the context of PAAT-PATTEC workshop agreed criteria
16. Decision support for trypanosomiasis control in Ethiopia
17. Any other business
18. Closing

8th PAG MEETING

Nairobi, Kenya

24-25 September 2002

TIMETABLE

Tuesday, 24 September 2002

- 08.30 – 09.30 Registration
- 09.30 – 09.45 Opening address and Welcome
- 09.45 – 10.00 Break**
- 10.00 – 10.15 Introduction by Chairman, adoption of agenda and appointment of Rapporteurs
- 10.15 – 10.30 Adoption of minutes last meeting, and report of PAAT Secretariat and FAO/PAAT activities (R.C. Mattioli)
- 10.30 – 10.45 Report on further PAAT-PATTEC harmonization (A. Ilemobade)
- 10.45 – 11.00 Report from PATTEC (J. Kabayo)
- 11.00 – 11.15 Sleeping Sickness situation: brief by WHO (J. Jannin)
- 11.15 – 11.30 Report from IAEA (U. Feldmann)
- 11.30 – 11.45 Report from AU/IBAR (H.M. Solomon)
- 11.45 – 12.00 ICPTV: achievements, recommendations and conclusions from the Concerted Action (P. Holmes)
- 12.00 – 12.15 FITCA: report on status of work, achievements and future plans (F. Oloo and B. Bauer)
- 12.15 – 12.30 Botswana: report on aerial spray operation, present and future perspectives (P. Kgori)
- 12.30 – 14.00 Lunch**
- 14.00 – 14.15 Report on tsetse and trypanosomiasis activities in Sudan: FAO TCP/SUD/0069 (A.H.A. Rahman)
- 14.15 – 14.45 Ethiopia: tsetse intervention programmes in the context of PAAT-PATTEC workshop agreed criteria (A. Mebrate)

- 14.45 – 15.15 Discussion
- 15.15 – 15.45 Decision support for trypanosomiasis control in Ethiopia (T. Korme and A. Mebrate)
- 15.45 – 16.00 Break**
- 16.00 – 16.30 Discussion
- 16.30 – 17.00 Lies or flies? Satellites, climate and tsetse mapping for Ethiopia (W. Wint)
- 17.00 – 17.30 Preliminary conclusions and recommendations of day 1
- 18.30 – 20.30 Reception

Wednesday, 25 September 2002

- 09.00 – 09.30 Assessing impacts of tsetse-trypanosomiasis control on environment – the EMMC FITCA approach (J. Maitima)
- 09.30 – 10.00 Animal health and livestock-agriculture development in tsetse affected areas in Ethiopia (Getachew Abebe)
- 10.00 – 10.15 Break**
- 10.15 – 12.00 Discussion
- 12.00 – 14.00 Lunch**
- 14.00 – 15.00 Discussion (continue)
- 15.00 – 15.15 Report of the FAO Liaison Officers' meeting (G. Chizyuka)
- 15.15 – 15.45 Identification and agreement on main issues for follow up
- 15.45 – 16.00 Break**
- 16.00 – 16.20 Any other business
- 16.20 – 16.40 Conclusions and recommendations
- 16.40 – 17.00 Any other business; Next meeting; Closing