Progressive Control Pathway (PCP) for African Animal Trypanosomosis (AAT)

Supporting vulnerable and resource-poor livestock keepers in tsetse-infested areas in sub-Saharan Africa

→ Context

Tsetse-transmitted trypanosomosis is a lethal parasitic disease of humans and livestock. The disease severely limits mixed livestock–crop agriculture in over 10 million km² of highly productive land in sub-Saharan Africa. Direct and indirect losses due to trypanosomosis are estimated in billions of dollars every year. The disease is often neglected by both endemic countries and donors as it mostly affects poor and vulnerable small-holders in rural areas.

→ Challenges

In recent years great strides have been made in the control of human African trypanosomosis (HAT) also known as the sleeping sickness, which is now targeted for elimination by the World Health Organization (WHO). In contrast, progress in the control of tsetse and African animal trypanosomosis (AAT or nagana) has been much more limited. The lack of a robust tool for planning, implementing and monitoring cost-effective field interventions against AAT has contributed to sub-optimal delivery of recent efforts against tsetse and AAT.

Key facts

Geographic coverage ➔ Sub-Sharan Africa

Target group ➔ Small livestock keepers in over 30 sub-Saharan African countries that are affected by African Animal Trypanosomosis (AAT).

Gender ➔ Women represent a sizable proportion of smallholder livestock keepers in sub-Saharan Africa. All FAO actions to promote the Progressive Control Pathway (PCP) for African Animal Trypanosomosis (AAT) therefore place a strong emphasis on gender balance among beneficiaries, both in field interventions and in capacity development activities.

Governance ➔ Reinforcing the capacities and the policies of national and international authorities for increased impact at the local level.

Donor ➔ Funded by the Government of Italy within the project “Improving food security in sub-Saharan Africa by supporting the progressive reduction of tsetse-transmitted trypanosomosis in the framework of the NEPAD”.

What is a Progressive Control Pathway (PCP), and how does it contribute to increasing resilient livelihoods?

PCPs are staged approaches increasingly used for the reduction, elimination and eradication of a range of human and animal diseases, including foot-and-mouth disease, *peste des petits ruminants*, brucellosis and rabies. They provide systematic frameworks for planning and evaluating field interventions. In particular, they enable realistic disease control objectives to be defined and achieved. In the case of tsetse-transmitted African animal trypanosomosis (AAT), reducing the disease burden increases resilience among affected rural communities by enhancing livestock production and productivity (e.g. meat and milk production). Also, healthier animals provide increased draught power to till the land, thus enabling more cost-effective crop-livestock production systems.

→ **Methodological approach**

In an effort to provide a strategic framework to reduce the burden and risk of AAT, FAO developed the Progressive Control Pathway (PCP) for AAT. The PCP methodology for AAT is outlined in the figure below:

**PROGRESSIVE CONTROL PATHWAY FOR AFRICAN ANIMAL TRYPANOSOMOSIS (AAT)**

- **STAGE 1**: Expression of national-level commitment, Creation of a national structure specialized in AAT control, Establishment of core capacities and funding.
- **STAGE 2**: Capacity development, Understanding AAT risk and impact, Selection of priority intervention areas and intervention strategies, Pilot field activities.
- **STAGE 3**: Integrated management of AAT (community/farmer-based, supervised by veterinary services), Sustainable and economically-profitable reduction in AAT burden.
- **STAGE 4**: Elimination of AAT transmission.
- **STAGE 5**: AAT eliminated, Some AAT control measures maintained, AAT eliminated, All AAT control measures suspended.

The initial PCP Stages (below 1 and 1) focus on the establishment of national coordination structures for AAT control, engagement of stakeholders, development of technical capacities, data collection and management, and pilot field interventions.

The intermediate Stage 2 aims at a sustainable and economically profitable reduction of disease burden through integrated management of AAT, i.e. a community- and/or farmer-based approach that relies on the collaboration of local veterinary services and farmers associations.

The final Stages (3 to 5) target AAT elimination, which normally requires the local elimination of the tsetse fly vector.

Five components cut across all stages of the PCP for AAT, namely (1) coordination and stakeholders involvement, (2) capacity development, (3) data management and analysis for an evidence-based decision making, (4) creation of an enabling environment, and (5) AAT control in the field. FAO, and in particular the “Improving food security in sub-Saharan Africa by supporting the progressive reduction of tsetse-transmitted trypanosomosis in the framework of the NEPAD” project, provides support to AAT-endemic countries in a number of these technical areas.
**Sustainability**

The PCP for AAT methodology developed by FAO ensures sustainability of local capacities through:

- **Capacity development**
  
  FAO provides training and technical assistance in several areas of the PCP for AAT, including (1) development of PCP-compliant national and regional strategies and projects, (2) data management, risk mapping and Geographic Information Systems (GIS), (3) field application of integrated animal production and health packages.

- **Data management and analysis for decision making**
  
  Entomological, parasitological, socio-economic and environmental data are crucial to make sound decisions in the control of AAT, and to monitor progress and impact of field interventions. FAO supports countries in the development and adoption of a suite of GIS-based tools, such as Atlases of tsetse and AAT distribution.

- **Replication and upscaling**
  
  Innovative, cost-effective and sustainable strategies need to be promoted in the field to reduce the burden and losses due to AAT. For example, FAO supports small-holder livestock keepers to adopt Livestock Protective Fences (LPF) which protect animals against tsetse and other biting and nuisance flies by means of insecticide-impregnated nets. The nets can also reduce the incidence of vector-borne disease of humans, such as malaria or Zika.

**More information**

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**References:**

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**On resilience good practices:**

- resilience@fao.org
- [www.fao.org/resilience](http://www.fao.org/resilience)
- [www.fao.org/3/a-as547e.pdf](http://www.fao.org/3/a-as547e.pdf)