A Staged, Progressive Pathway for the Control and Elimination of Tsetse-transmitted African Animal Trypanosomosis

Third FAO–IAEA International Conference on Area-wide Management of Insect Pests: Integrating the Sterile Insect and Related Nuclear and Other Techniques

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Progressive Control Pathways (PCP)

- PCP and the related implementation roadmaps are tools already applied to the control, elimination and eradication of a number of diseases
  - Foot-and-Mouth Disease (FMD)
  - *Peste des Petits Ruminants* (PPR)
  - Brucellosis
  - Rabies
- PCP are flexible, stepwise approaches enabling to structure the road to disease freedom through a series of achievable, discrete steps.
- PCP are used by a number of international organizations
  - FAO
  - OIE
  - WHO
  - others
PCP for PPR

1. No data available
2. Assessment Stage
3. Control Stage
4. Eradication Stage
5. Post Eradication Stage

Source: FAO and OIE, 2015
PCP for PPR: fast-tracking

Source: FAO and OIE, 2015
PCP for AAT

PROGRESSIVE CONTROL PATHWAY FOR AFRICAN ANIMAL TRYPANOSOMOSIS (AAT)

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

Source: Diall et al., Trends in parasitology, 2017

Developing a PCP for AAT
PCP operational development

• Led by FAO
  – initiated by the FAO Sub-regional Officer for Eastern Africa
  – in the framework of Programme Against African Trypanosomosis (PAAT)

• Partnerships at the institutional, technical and scientific level
  – IAEA, AU-PATTEC, CIRAD

• Consultations
  – OIE
    • for the guidance on OIE norms and procedures such as declaration of disease freedom
  – WHO
    • informed and supportive of the initiative, but not directly involved, as the PCP focuses on Animal trypanosomosis
Technical material

• Opinion paper
  – It outlines the general aspects of the PCP

• Detailed technical document
  – In progress
  – It will describe the PCP for AAT in more technical detail
Engagement of partners and beneficiaries

- Two FAO/AU-PATTEC workshops for AAT-affected countries in Eastern Africa
  - FAO-SFE Office, Addis Ababa, Ethiopia
  - December 2015, November 2016
Workshops

• Participants
  – Burundi, DRC, Rwanda, Kenya, Uganda, Tanzania, Ethiopia, Sudan, South Sudan (AAT affected countries)
  – AU-PATTEC, IAEA, CIRAD, IRD, GALVmed, IGAD

• Achievements
  – PCP for AAT presented, discussed and disseminated to affected countries and other stakeholders
  – Draft Country Profiles/Briefs for country positioning in the PCP produced

• Two project documents based on the PCP presented and discussed:
  – Ethiopia (FAO-TCP)
  – Sub-regional SFE (focus Countries: Kenya and Tanzania)

• Funding
  – Organized and financially supported by FAO-SFE
  – Additional support from the Government of Italy
    • FAO Regional Project (GCP/RAF/502/ITA)
Developing a PCP for AAT

PROGRESSIVE CONTROL PATHWAY FOR AFRICAN ANIMAL TRYPANOSOMOSIS (AAT)

- **BELOW STAGE 1**
  - Expression of national-level commitment
  - Creation of a national structure specialized in AAT control
  - Establishment of core capacities and funding

- **STAGE 1**
  - Capacity development
  - Understanding AAT risk and impact
  - Selection of priority intervention areas and intervention strategies
  - Pilot field activities

- **STAGE 2**
  - Integrated management of AAT (community/farmer-based, supervised by veterinary services)

- **STAGE 3**
  - Elimination of AAT transmission
  - Sustainable and economically-profitable reduction in AAT burden

- **STAGE 4**
  - AAT eliminated
  - Some AAT control measures maintained

- **STAGE 5**
  - AAT eliminated
  - All AAT control measures suspended

Source: Diall et al., Trends in parasitology, 2017
General Principles

- A regular step-wise progression is the rule (i.e. from Stage N to Stage N + 1)
- Fast-tracking is possible.
- To move from one stage to the next
  - a set of minimum requirements must be met
  - a detailed plan to be implemented in the following stages must be prepared.
- Independent validation is required.
- “Stage below 1” and “Stage 1” are mainly national-level endeavours
- Stages 2 to 5 will normally target selected intervention areas
  - within a country, different AAT-affected areas can be at different PCP stages
PCP Cross-cutting areas

- Development of technical capacities
- Coordination and stakeholders involvement
- Data collection, management and analysis
- AAT control activities
- Establishment and maintenance of an enabling environment

Developing a PCP for AAT
• Political commitment at the national level for the progressive control of AAT
  – Specialized National Structure (SNS) dedicated to tsetse and AAT control
  – SNS must be endowed with core technical and managerial competencies, although the strengthening of their capacities is addressed in subsequent stages
  – secure core funding
  – engagement in the AU-PATTEC initiative

• Self-assessment and planning. Countries need to:
  – appraise their existing capacities, epidemiological knowledge, institutional arrangements, human and financial resources
  – develop a plan, which will be implemented in Stage 1
• To develop technical capacities
• To gain an understanding of AAT distribution, risk and impact for an evidence-based planning of field activities
  – WHERE: prioritization of interventions areas
  – HOW: choice of strategy (integrated management/Stage 2 vs elimination/Stages 3 and beyond)
• Pilot field activities
  – Major field activities are implemented in Stage 2 and beyond
• Sustainable and economically-profitable reduction in AAT risk and burden.

• Target:
  – low AAT incidence/impact/burden
  – only sporadic treatments with trypanocides are needed
  – the risk of emergence and/or spread of drug resistance is minimized

• Integrated management of AAT,
  – a community- and farmers-based approach that should be co-built with local veterinary services and farmer communities,
    • combined use of tsetse control methods, diagnostic tests and trypanocidal drugs
  – Takes into account
    • eco-epidemiological settings
    • livestock production systems & sociological context
    • cattle breeds

• Main challenge: sustainability
• Interrupt AAT transmission
  – in the vast majority of settings, this requires the elimination of the tsetse vector
• Interventions are more centralized than in Stage 2, but involvement of communities/livestock keepers is still crucial
• Main challenge: feasibility and sustainability
  – tsetse were eliminated in a sustainable manner only 2% of their distribution
- **Stage 4**
  - eliminate AAT transmission, creation of AAT-free areas
  - the maintenance of some of the control measures deployed in Stage 3 is still required

- **Stage 5**
  - all control measures are lifted, and the AAT-free status should be maintained in their absence
OIE

- Tsetse-transmitted trypanosomosis is a OIE notifiable disease
- OIE official recognition of “freedom from AAT”
  - Not available, so far
  - Available only for 6 diseases
    - bovine spongiform encephalopathy (BSE), foot and mouth disease (FMD), contagious bovine pleuropneumonia (CBPP), African horse sickness (AHS), peste des petits ruminants (PPR) and classical swine fever (CSF).
- Country-self declaration
  - A country can self-declare, under its own responsibility and by providing the relevant epidemiological evidence, that the entire territory or a zone is free from AAT
  - Countries can request OIE to publish their self-declaration of freedom, recognising that this self-declaration remains under the full responsibility of the concerned Country.
Example of Roadmap

PANEL A
Roadmap for the progressive control of AAT in Country X
Example of work plan (5 years)
PCP for AAT and AW-IPM

• The PCP for AAT is consistent with the phased conditional approach, recommended by FAO/IAEA when a SIT component is envisaged for tsetse elimination

• The PCP for AAT enables to better position AW-IPM against tsetse in the broader context of the Sustainable Development Goals.
Future activities for the PCP for AAT

• Develop a detailed technical document/guidelines, by
  – Expanding the “Opinion” paper
  – Building on the available draft

• Broader consultation and dissemination
  – Organize further workshops/meetings to
    • enhance beneficiaries engagement (AAT-affected countries)
    • gather additional technical input from experts

• Resource mobilization
  – FAO and partners
    • To refine and disseminate the PCP
  – AAT-affected countries
    • To operationalize the PCP for AAT at the country and field level
    • Develop and implement PCP-compliant projects
Reference

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Thanks for your attention