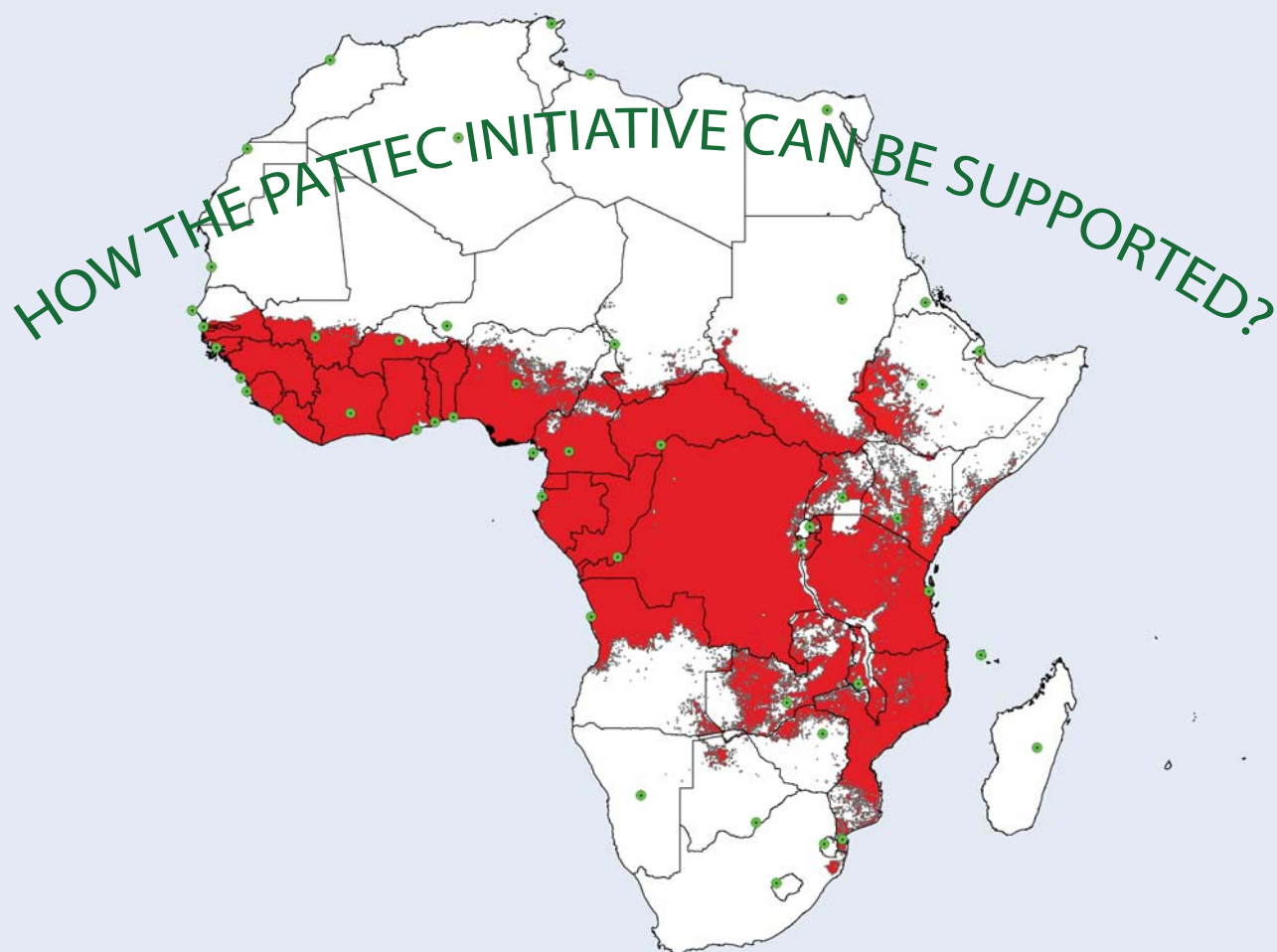




# PATTEC

**Pan African Tsetse and Trypanosomosis Eradication Campaign**

**La Campagne Panafricaine d'Eradication de la Mouche tsé-tsé et de la Trypanosomiase**



**Intensify the Fight against Tsetse and Trypanosomiasis**

**Intensifier la lutte contre la tsé-tsé et la trypanosomiase**



PATTEC Coordination Office,  
Department of Rural Economy and Agriculture  
African Union Commission  
P.O.Box - 200032, Addis Ababa, Ethiopia  
Tel.: +251-11-5525854 Fax: +251-11-5525854,  
Email: [HassaneHM@africa-union.org](mailto:HassaneHM@africa-union.org)  
Website: <http://pattec.au.int>





## Africa Union - Member States

Algeria	Côte d'Ivoire	Madagascar	South Africa
Angola	Djibouti	Malawi	South Sudan
Benin	Egypt	Mali	Sudan
Botswana	Equatorial Guinea	Mauritania	Swaziland
Burkina Faso	Eritrea	Mauritius	Tanzania
Burundi	Ethiopia	Mozambique	Togo
Cameroon	Gabon	Namibia	Tunisia
Cape Verde	Gambia	Niger	Uganda
Central African Republic	Ghana	Nigeria	Western Sahara
Chad	Guinea	Rwanda	Zambia
Comoros	Guinea-Bissau	São Tomé and Príncipe	Zimbabwe
Democratic Republic of the Congo	Kenya	Senegal	
Congo	Lesotho	Seychelles	
	Liberia	Sierra Leone	
	Libya	Somalia	

## Current PATTEC Partners

### Financial Agencies



African Development Bank

Arab Bank for Economic Development in Africa

### UN Agencies



International Atomic Energy Agency



World Health Organization



Food and Agriculture Organization

### International Organizations



World Animal Health organisation



Global Alliance for Livestock Veterinary Medicines (GALVmed)



Foundation for Innovative New Diagnostics



International Centre of Insect Physiology and Ecology



Universal Peace Federation



United States Department of Agriculture



International Livestock Research Institute

## And You

And CIRDES<sup>2</sup>, EAC<sup>3</sup>, SADC<sup>4</sup>, ECCAS<sup>5</sup>, ECOWAS<sup>6</sup>, CEMAC<sup>7</sup>, LSTM<sup>8</sup>, Swiss tropical Institute, Vestergaard-Frandsen, ApproTech, Orsmonds, Zwingtec, Hudson EE-UU, Argo, Bayer Crop Sciences, AVIMA, TseCon<sup>9</sup>, etc.

<sup>2</sup>Centre International de Recherche -Développement sur l'Elevage en zones humides

<sup>3</sup>East African Community

<sup>4</sup>Southern Africa Development Community

<sup>5</sup>Economic Community of Central African States

<sup>6</sup>Economic Community of West African States

<sup>7</sup>Communauté Economique et Monétaire des Etats de l'Afrique Centrale

<sup>8</sup>Liverpool School of Tropical Medicine

<sup>9</sup>Tsetse Consultants



Intensify the fight against Tsetse and Trypanosomiasis

Intensifier la lutte contre la tsé-tsé et la trypanosomiase



# The Tsetse fly and Trypanosomiasis Challenge

The Tsetse fly's problem is one of the most important constraints to rural development in Sub-Saharan Africa. The fly is the vector of a disease complex known as African Trypanosomiasis, which affects both human beings and animals. The tsetse flies occur in 38 African countries covering close to 10 million km<sup>2</sup> of fertile land in the subtropical and tropical belts of the continent.



Areas affected by the tsetse fly

The disease affecting human beings is known as Human African Trypanosomiasis (HAT) or sleeping sickness. It has two forms, the HAT due to *Trypanosoma gambiense*, which is chronic and found in the western and central region of Africa and the *Trypanosoma rhodesiense* HAT form which is found in part of Uganda, east and southern African region. The *Trypanosoma rhodesiense* form of HAT is acute. Both forms are fatal.

The livestock disease is multiform and it is caused by different species of trypanosomes (the parasites transmitted by the tsetse flies). It is known commonly as African animal trypanosomiasis (AAT) and has for the cattle disease a specific name; Nagana.

African Human and Animal trypanosomiasis threaten the health and productivity of human beings and livestock, cause massive economic losses and severely constrains the continent's socio-economic development. African Trypanosomiasis is a neglected trans-boundary disease that needs a concerted and coordinated action to be effectively addressed.



Tsetse fly after feeding



Trypanosome's parasites





Sleeping sickness patient



Nagana infected animal

## **Impact of Tsetse fly and Trypanosomiasis on the African Economy**

In tsetse infested areas, over 60 million people are living at risk of contracting the disease; several thousands are dying annually according to the World health organization (WHO). In a household, where a person is affected by HAT, it is reported that the household losses 25% of its income. In areas, where the tsetse flies infestation is high, it is not possible to keep livestock (cattle) despite the range fodder potential as in areas near the Equator (DRC, Congo, Gabon, etc.). Due to the presence of tsetse flies, the livestock production is mainly concentrated in the Sahelian belt and highlands of Africa. However due to lack of fodders and pastoral practices in the region, it is reported that Nagana threatened around 100 million heads of cattle and estimated that 3 million are dying annually (FAO). There are no vaccines for both forms of African Trypanosomiasis and the parasites have developed resistance for the drugs used in animals and treatments for the human forms is very risky and complex, leading sleeping sickness patients to leave the health centers without being cured, making such patients a source of infection for the communities.

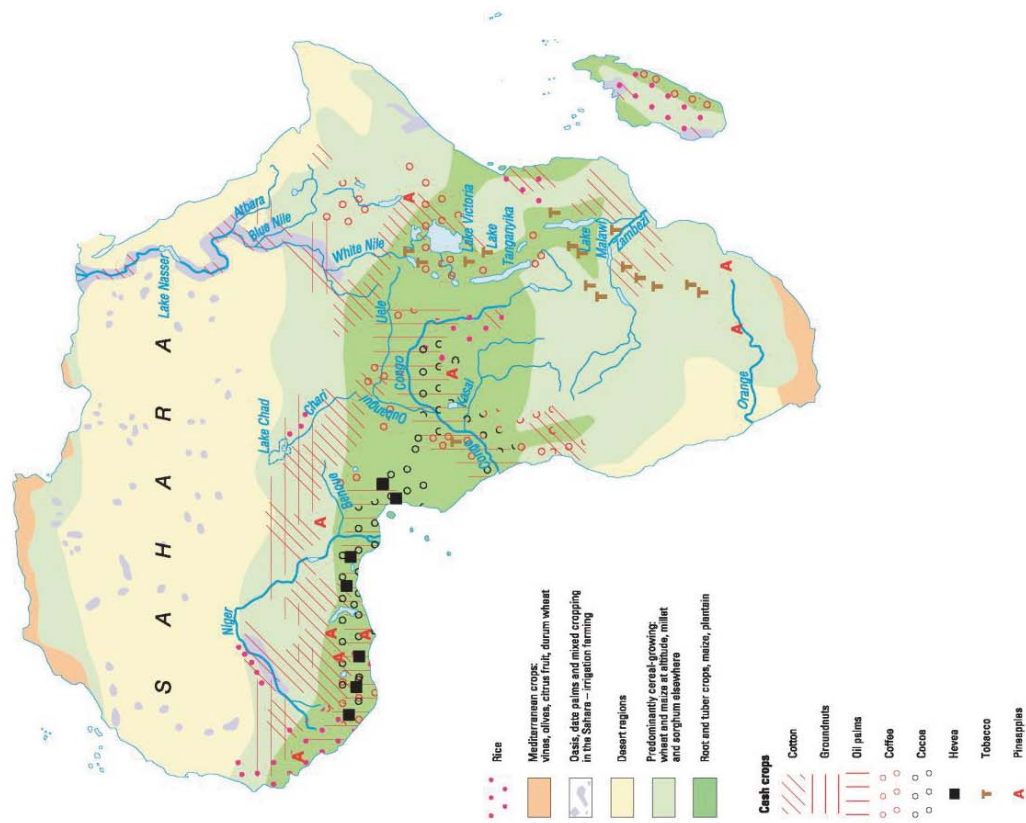
African Trypanosomiasis is a neglected trans-boundary disease transmitted by the tsetse fly also known as the Poverty Insect, affects the productivity and production of infected animals and human beings. Further it is one of the main responsible factors that affect the low agricultural production and productivity due to lack of animal traction, manure, etc. Despite, the efforts made in the last 100 years before the advent of the Pan African Tsetse and Trypanosomiasis Eradication Campaign (PATTEC) Initiative, all control strategies used had little impact on the disease and were unsustainable. The economic losses due to the disease in human, livestock and the agricultural sector in Africa were estimated to be more than US Dollars 4 billion by the FAO and DFID .

Below the importance of areas affected by the tsetse flies for agriculture (livestock, farming, fisheries, agriculture and commercial crops) in Sub-Saharan Africa (Mo Ibrahim Foundation)





AGRICULTURAL AFRICA: AGRICULTURE AND COMMERCIAL CROPS



AGRICULTURAL AFRICA: LIVESTOCK, FARMING AND FISHING



## **Background on PATTEC Initiative**

The African Heads of State and Government in their Summit in Lome, Togo in July 2000 adopted a decision (AGH/Dec.156 (XXXVI) urging all Member States of the African Union to embark on a Pan African Tsetse and Trypanosomiasis Eradication Campaign (PATTEC). This statement culminated in the establishment of Pan-African Tsetse and Trypanosomiasis Eradication Campaign (PATTEC) Coordination Office, a technical and scientific Unit of the Department of Rural Economy (DREA), based at the African Union Headquarters in Addis Ababa, Ethiopia. The AU-PATTEC Coordination Office brings together the political, financial, material and technical support to the Tsetse and Trypanosomiasis Eradication Campaign by ensuring a sustained action and efficiency in the implementation of the objectives of the PATTEC initiative. Within the framework of the PATTEC Initiative, T&T affected countries were urged to translate the political commitment into each country's development priorities.

### **The PATTEC vision, mission, mandate and core functions**

**PATTEC's Vision** is an Africa in which the eradication of tsetse and Trypanosomiasis contributes significantly to food security, public health improvement and poverty reduction.

**PATTEC's mission** is to provide leadership in the progressive creation of tsetse and Trypanosomiasis free areas on the African Continent within the shortest possible time through collective and concerted action by AU Member States.

**The mandate of the AU-PATTEC** Coordination Office is to initiate, organize, support and coordinate the campaign for the progressive creation of tsetse and Trypanosomiasis free areas and to mobilize the requisite human, financial and material resources to achieve the objectives.

**The core functions of the AU-PATTEC** Coordination Office are:

- Initiating, promoting, supporting and coordinating activities in the implementation of PATTEC;
- Consultations with countries;
- Mediation between countries on modalities of cooperation in addressing T&T as a trans-boundary problem;
- Reminding Member States about their obligations to the objectives of PATTEC
- Resource mobilization;
- Capacity building/training;
- Development and validation of tsetse eradication project proposals for identified project areas; Awareness creation advocacy, development and dissemination of public information materials;
- Monitoring, evaluation and reporting on progress in the implementation of the PATTEC Initiative.
- Ensuring coordination (leadership) and complementary of efforts of relevant stakeholders in the implementation of the PATTEC Initiative



## PATTEC Activities

The activities aiming to achieve the objectives of the PATTEC Initiative include:

- Co-ordination of the activities in the campaign
- Identification and selection of project areas, where successful intervention is feasible
- Preparation of a bankable project document for each selected project area, including proposals for the sustainable use and exploitation of tsetse-free land
- Mobilisation of the financial, human, material and technical resources necessary for the execution of each project
- Suppression of tsetse populations using conventional and other methods; mainly, traps, targets, aerial or ground spraying, insecticide application on animals (Pour-on), Sequential Aerosol technique (SAT), Sterile Insect Technique (SIT), singly or in combination;
- Monitoring, Evaluation and Reporting of each initiated project
- Establishment and maintenance of barriers and buffer zones to inhibit re-invasion of treated areas
- Contact with operational focal points and essential offices in member states and other partners to expedite the process of formulating national strategies and initiating action in new project areas.
- Within this operational framework, PATTEC also seeks to encourage, support and facilitate other activities related to the objectives of the campaign, including tsetse mass-rearing, operational research, training and capacity building and organizing emergency Tsetse and Trypanosomiasis control interventions and mediating between countries.

## PATTEC Initiative's main achievements

During the last 10 years (2002-2012) most of the 38 AU Members States who are affected with T&T has developed their national Policies for Tsetse Control, and has established a budget line to support their activities. They have also established with support of partners such of WHO in the case of HAT a national Tsetse and/or Trypanosomiasis Unit under the Ministries which are empowered to implement the Continental PATTEC Initiative. Following, the overall guidance and supports from the AU-PATTEC Coordination office, Botswana and Namibia have eliminated Tsetse flies from their territories by funding their own programmes using their own resource by means of the area wide tsetse management strategies based on the Sequential Aerosol Technique (SAT). Several countries including Angola, Zimbabwe, Zambia, Nigeria, Senegal, Equatorial Guinea, Niger, Chad, Guinea, etc., have mobilized special fund from local sources and/or from partners (IAEA, WHO, FAO, Vector Group, FIND, GALVmed, DnDi, STIPHI, IRD, etc.) to enhance the PATTEC Initiative.

Six countries; Burkina Faso, Ghana, Ethiopia, Kenya, Mali and Uganda have taken soft loans from the African Development Bank (AfDB) to the tune of US Dollars 70 Million to embark in the creation of sustainable Tsetse and Trypanosomiasis free areas in East and West Africa in their respective countries. This loan was approved under a regional PATTEC Programme as a multilateral regional project managed by the AU-PATTEC Coordination office under the supervision of the Bank. The results obtained from the implementation of the AfDB supported multinational project were very encouraging and tsetse flies were suppressed in around 150 000 km<sup>2</sup> from the Initial 240 000 km<sup>2</sup> earmarked in the project. The AfDB's project served as good model for a multinational Tsetse and Trypanosomiasis Control Programmes. More countries have followed the pathway and have developed and/or in the process of developing T&T Eradication Programmes to seek support from partners. Based on the positive implementation of the PATTEC Initiative, the possibility of eliminating T. gambiense HAT as neglected disease in the near future (by 2020) is seeing as feasible. Areas freed from T&T have been used to the benefits and satisfaction of the rural communities.



It is worth mentioning, that the successes so far obtained were based on four main components: **1. Suppression and eradication of Tsetse flies and Trypanosomiasis; 2. Capacity Building and strengthening; 3. Sustainable Land management and 4. Coordination and Management Unit** as well as; Environmental Impact management, Entomological and parasitological Monitoring; Monitoring and Evaluation; GIS and data management, Advocacy and awareness creation among others used during the implementation of PATTEC projects/programmes in any giving country or area.

### Summary of main achievements

1. Initiation & implementation of PATTEC
2. T&T problem more visible & more global (many initiatives going on)
3. Countries using own resources embarked on T&T eradication
4. Botswana and Namibia tsetse free, Guinea (Conakry) freed Loos Island
5. Six countries took loans to embark on T&T eradication (1st in Africa)
6. Commitments from affected countries to fund T&T eradication projects
7. Use of SAT, SIT & others techniques successfully
8. Collaboration with RECs and various partners
9. Partners' conferences in Ethiopia (2007), Chad (2008), Kenya (2011)
10. Mobilization of most stakeholders
11. Communities participation

### How PATTEC can be Supported?



#### HOW SUPPORT CAN BE GIVEN TO PATTEC

1. Directly to each country or collectively to a group of countries, e.g. where joint or regional projects are being undertaken.
2. Through the African Development Bank, Arab Bank for Economic Development Africa and other development financial institution;
3. Through the African Union Commission (PATTEC Coordination Office)
4. Through multilateral partner institutions (FAO, IAEA, WHO, OIE, etc) and international NGOs (GALVmed, FIND, ICIPE, ILRI, DnDi, IRD, etc)
5. In part or in whole of the required project budget; or for specific project components
6. As budget support, debt relief, in kind or in cash; as a grant or in form of a soft loan.
7. One off, over specified period or time frame; sustained till the end of the project; or sporadic
8. Unconditional or in accordance with agreed terms and conditions.
9. supply and provision of trypanocide, insecticide equipments, chemicals and materials
10. Livestock and agricultural input
11. Advocacy activity - Fund raising





## **Justification of supporting the PATTEC Initiative and the Coordination Office**

- Removal of a severe disease of man & livestock, widely recognized as a constraint to socio-economic development
- Methods and means for the removal of Tsetse and Trypanosomiasis are available, i.e. it is technically feasible, and economically sustainable.
- Africa is now better prepared and mobilized than ever before (organization, capacity & commitment)
- Requires a trans-boundary solution: action must be collective, harmonized and coordinated
- PATTEC is “a once and for all” investment that has guaranteed returns
- PATTEC outcomes are regional public good that require regional public action
- Africa has many problems & governments need support
- Need to globalize the responsibility for addressing disease
- Suppressing and eradicating Tsetse and Trypanosomiasis from Africa, will tremendously contribute to poverty alleviation and reduction of food insecurity

## **Gap for the support of T&T affected countries**

Although African countries have demonstrated commitment to achieve the objectives of the PATTEC Initiative, they are overwhelmed by other health and development emergences and challenges, many of which need urgent attention. The African Development Bank (ADB) has provided US\$70 million in form of soft loans and grants to 6 countries (Burkina Faso, Ethiopia, Ghana, Kenya, Mali and Uganda) in the initial step of the AfDB-assisted PATTEC Programme and has agreed to work with the AU Commission and the affected African countries to develop an enduring framework through which countries engaged in the implementation of PATTEC can receive support.

Following sustained Tsetse and Trypanosomiasis suppression and eradication's activities using their own resources, Botswana and Namibia have now been rendered tsetse free. Burkina Faso, Ghana, Mali, Ethiopia, Kenya, Uganda, Angola, Zambia, Nigeria, Equatorial, Guinea, Chad, Niger, Tanzania, Zimbabwe, Cameroon, Senegal, Guinea, central African Republic, Gabon, DR Congo among others have committed substantial financial resources from their own treasuries, through loans and grants/supports from partners (IAEA, WHO, FAO, GALVmed, FIND, Vector Group, STIPH<sup>1</sup>, DNDi<sup>2</sup>, etc.) toward the implementation of the PATTEC Initiative.

Further, the PATTEC Coordination Office supported Equatorial Guinea, Gabon, Cameroon, Chad, Guinea, to appraise and validate their national PATTEC's programmes and participated in finalization of regional PATTEC's regional projects for: 1. Chad, Cameroon, Central Africa Republic and Nigeria'; 2. Nigeria, Benin, Togo and Niger; 3. Angola, Zambia, Botswana and Namibia; 4. Oubangui-Congo River Basin (CAR and Dr Congo); 5. Coastal project in the Central African region including Cameroon, Gabon, Equatorial Guinea, Congo, DR Congo and Angola; 6. DRC and Angola common border; 7. South Africa, Mozambique and Swaziland programme; 8. Tanzania and Kenya (Masai mara/and Serengeti Ecosystem); etc.

---

<sup>1</sup>Swiss Tropical Institute for Public Health

<sup>2</sup>Drugs for Neglected Diseases Initiative



The AU Summit held in Banjul in July 2006 requested the AUC to organize special partners' conferences to mobilize resources to augment support being provided by the African development bank in the efforts of countries to execute Tsetse and Trypanosomiasis eradication projects. Three such conferences have been held in Addis Ababa, Ethiopia in 2007, N'Djamena, Chad in 2008 intended to mobilize support for countries (Angola, Cameroon, Central African Republic, Chad, Congo, Democratic Republic of Congo, Equatorial Guinea in the Central African region and Nigeria) and Nairobi, Kenya in 2011. Around US Dollars 500 million have been pledged. So far, after computing, what has been invested by 15 randomly selected T&T affected countries a total of US Dollars 150 million committed to the implementation of the PATTEC Initiative in the continent.



No	Country	Total land area in country (km2)	Tsetse infested land (km2)	Countries that have initiated Action	Source of funding
1	Angola	1,276,305	408,269	Yes	FAO, WHO, Own Resource(OR)
2	Benin	117,337	117,121		
3	Botswana	-	-	Yes	OR
4	Burkina Faso	282,277	240,000	Yes	AfDB, OR, FAO, IAEA
5	Burundi	26,985	6,337		
6	Cameroon	471,420	398,780		OR, WHO
7	C.A.R	627,365	623,655		PATTEC, WHO, FIND
8	Chad	1,324,587	197,149	Yes	WHO, IAEA, OR
9	Congo	343,233	342,738		
10	DRC	2,348,290	2,255,774	Yes	Belgian Gov., PATTEC, FIND
11	Cote d'Ivoire	326,232	325,027		
12	Eq. Guinea	24,976	24,605	Yes	OR
13	Ethiopia	1,146,882	240,000	Yes	AfDB, OR
14	Gabon	265,925	262,680		PATTEC, FIND
15	Gambia	11,313	10,633		
16	Ghana	242,495	238,353	Yes	AfDB, OR
17	Guinea	249,110	248,275		PATTEC, FIND
18	Guinea Bissau	33,415	31,313		
19	Kenya	581,215	92,000	Yes	PATTEC, FIND, AfDB, OR
20	Liberia	96,998	96,534		
21	Malawi	121,881	5,749		PATTEC, FIND
22	Mali	1,241,076	240,000	Yes	AfDB, OR, FAO
23	Mozambique	827,512	490,461	Yes	IAEA, OR
24	Namibia	-	-	Yes	OR
25	Niger	1,246,012	5,131		OR
26	Nigeria	926,488	587,273	Yes	OR, PATTEC, FIND
27	Rwanda	25,316	7,666		
28	Senegal	203,516	80,121	Yes	IAEA, OR
29	Sierra Leone	72,733	71,280		
30	Somalia	640,254	22,410		
31	South Africa	1,398,588	16,000	Yes	IAEA
32	Sudan	1,861,484	258,167		OR
33	South Sudan	644,329			
34	Swaziland	17,364			
35	Tanzania	912,702	597,907	Yes	OR, PATTEC, FIND
36	Togo	58,359	58,329		
37	Uganda	212,450	106,395	Yes	AfDB, OR, PATTEC, FIND
38	Zambia	775,983	285,924	Yes	OR
39	Zimbabwe	414,328	56,258	Yes	IAEA
<b>TOTAL</b>		<b>21,471,267</b>	<b>9,048,096</b>		

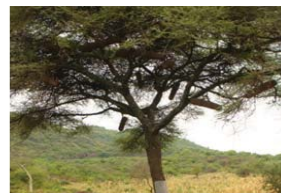


# Benefits of PATTEC Initiative Implementation

- Creation of Tsetse and Trypanosomiasis free areas;
- Reduction of disease incidence in both Human beings and livestock;
- Increase livestock productivity and production;
- Increased agricultural productivity and production;
- Integration of Livestock and agriculture;
- Increased used of Animal traction;
- More resources, among others.

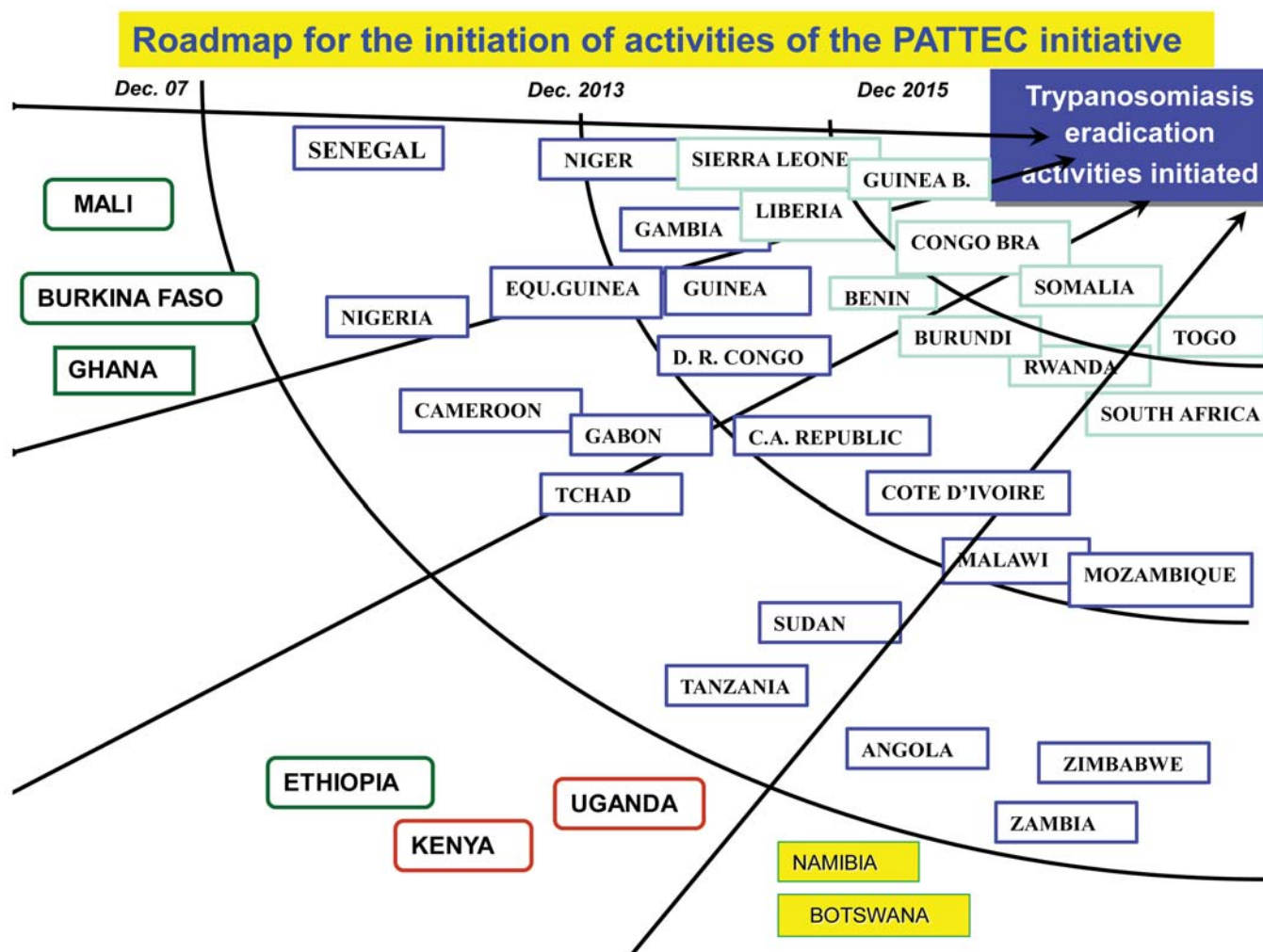


## Benefits of PATTEC





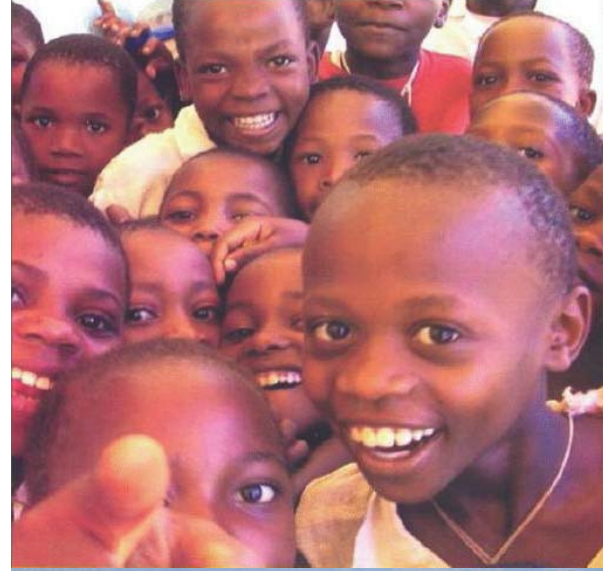
## A simulation of a Roadmap for the PATTEC Initiative



*Approximate dates by which each country is anticipated to have initiated action against trypanosomiasis*



# PATTEC



## Objective

Creating sustainable tsetse and trypanosomiasis free areas in affected countries and ensuring that reclaimed areas are sustainably, equitably and economically exploited

## Expected results

- Creation of tsetse and trypanosomiasis - free area
- Elimination of tsetse and trypanosomiasis
- Improved human and livestock health
- Use of draught power
- Increased agricultural and livestock production and productivity
- Food security and poverty reduction

## Activities of the pattec Initiative coordination office

- Resources mobilisation
- Consultations with countries
- Training courses
- Development of tsetse eradication project proposals for identified project areas
- Conducting publicity and Publications
- Monitoring, evaluation and reporting on progress in the implementation of PATTEC
- Mediation between countries on modalities of cooperation in addressing a trans-boundary disease
- Initiating, promoting, supporting and coordinating activities in the implementation of PATTEC
- Reminding Member States about their individual and collective obligations to the objectives of PATTEC

PATTEC Coordination Unit,  
Department of Rural Economy and Agriculture  
African Union Commission  
P.O.Box - 200032, Addis Ababa, Ethiopia  
Tel.: +251-11-5525854 Fax: +251-11-5525854,  
Email: HassaneHM@africa-union.org  
Website: <http://pattec.au.int>

