Tsetse/trypanosomosis challenges and rural poverty in Africa: Implications for food security and MDG1

Oluwafemi, R.A.

Faculty of Agriculture, Department of Animal Science, University of Abuja. FCT, Abuja. Nigeria. E-mail: oluwbs@gmail.com

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Tsetse-borne trypanosomosis occurs only in Africa south of the Sahara where there are tsetse flies. Animals become sick with trypanosomosis after they are bitten by infected tsetse flies. The disease directly constrained the productivity of cattle, sheep and goats by reducing birth rates, increasing abortion and mortality rates among others. The negative effects of this situation on the productivity, economic growth, food security, poverty reduction and the attainment of the first Millennium Development Goal of eradicating extreme poverty and hunger by 2015 were reviewed. Quite a number of international aid institutions have made significant contributions towards Africa’s development, yet Africa is still far from achieving food and nutrition security. The success of food security and poverty alleviation programmes in sub-Saharan Africa has often been hindered by problems of wrong policy implementations and other avoidable constraints. This paper discusses past and present approaches towards tsetse flies and animal trypanosomosis control. Suggestions were made concerning some of the weaknesses of these control measures so as to make them more effective and sustainable. The author commended the effort of PATTEC which among other things considered trypanosomosis as a continental problem, and concluded that, if poverty reduction, food security and the attainment of the first Millennium Development Goal is to become a reality, tsetse fly and trypanosomosis control policies in Africa must be matched with appropriate actions. This no doubt is a joint task by African Government and Donors.

Key words: Tsetse fly, trypanosomosis, rural poverty, food security, MDG1

INTRODUCTION

Tsetse flies (Glossina spp) transmit sleeping sickness in humans and nagana in livestock, which attacks the blood and nervous system of its victims. It is caused by the protozoa trypanosomes and the tsetse fly acts as a vector as it feeds on blood of animals and humans. Sleeping sickness is always fatal without the appropriate medical treatment and trypanosomiasis is one of the most widespread and important constraints to agricultural development in Africa and also has a major impact on social welfare (African Development Fund 2004).

African continent is faced with the problems of poverty, unemployment, food insecurity and diseases among others. These challenges are the focus of the Millennium development Goals (MDGs). However, attainment of these goals is being constrained as the set time draws near. An example is the impact of tsetse fly and trypanosomosis on rural development and livelihood. According to Bourn et al. (2001), Trypanosomiasis has long been recognized as a massive constraint to animal husbandry, livestock production and mixed farming in vast areas of rural sub-Saharan Africa. Tsetse flies infest an area capable of sustaining 140 million animals.

However, many farmers have been forced away from the more productive grazing land because of cattle trypanosomiasis (nagana) and instead subsist in marginal agricultural areas, which have a negative impact on their livelihoods. Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.
The main methods of control of tsetse and sleeping sickness in Africa have been based on hemoprophylaxis, chemotherapy and the elimination of vectors using insecticides (Grant, 2001). However, over time there have been a number of different methods employed in an attempt to control the tsetse fly population, including game reduction and vegetation clearance.

AGRICULTURE AS A SUSTAINABLE NATURAL RESOURCE

Sub-Saharan Africa is highly endowed with natural resources capable of placing her among most economically stable continents of the world. Agriculture being one of these resources provides food, raw materials for industries, foreign earning through agricultural products exportation, employment and means of livelihood among others to over 70% Africans. Agriculture holds the key to rapid economic transformation and industrial development of many Nations in Africa. The contribution of Agriculture to the revenue base and the overall Gross Domestic Products (GDP) of sub-Saharan African Nations are quite enormous, yet its full potentials have not been fully and efficiently harnessed and utilized.

Agricultural is important to the Nigerian economy as it engages about 70% of the labour force and contributes over 40% of the Gross Domestic product (GDP) (Koyenikan, 2008). It provides food for the teeming population and raw materials for industries. The sector is faced with mirage of problems which militate against optimizing its potential. Some of the constraints include low productivity, poor marketing and distribution infrastructures, inadequate access to credit, weak extension services and inadequate database among others. According to Manyong et al. (2005), the diversity of climatic conditions, the richness of soil types and water sources, and the high population density provide great potentials for crop, animal, fish, and tree production. In the 1960s and up to the early 1970s, Nigeria’s agriculture flourished and the country was one of the world’s highest producers of palm oil, cocoa, and groundnut. Over time, agriculture has declined in importance.

TSETSE FLY/TRYPANOSOMOSIS COMPLEX, AGRICULTURAL DEVELOPMENT AND RURAL POVERTY IN AFRICA

The major agricultural activities in rural Africa are animal and crop production. These remain their means of livelihood and economic well-being. However, the negative impacts of tsetse/trypanosomosis complex on the socio-economic life of the rural dwellers are quite enormous. Poverty is a human condition characterized by the sustained or chronic deprivation of the resources, capabilities, choices, security and power necessary for the enjoyment of an adequate standard of living and other civil, cultural, economic, political and social rights (Anonymous, 2001). This is the plight of rural Africans.

Tsetse fly and Trypanosomosis has devastating effects on the productivity and health of livestock as well as the livelihood and well-being of rural dwellers in Africa. Ruminant animals are deprived of vast pastureland for grazing while farmers are unable to utilize rich arable land for cultivation of crops resulting in hunger, poverty, food and nutrition insecurity as well as underdevelopment of rural areas among others. Nagana causes wasting of animals. This reduces their market value and thus a loss to the farmer who has invested a lot of money and time in rearing the animals. According to Oluwafemi et al. (2007), improved agricultural productivity, improved livelihood and improved economic well-being and land use were recorded in some areas within BICOT 1 as a result of successful tsetse control.

Tsetse flies (Glossina spp.) can be ranked among the world’s most destructive pests and are a vector for sleeping sickness in humans and African Animal Trypanosomosis (AAT) or Nagana in live stock (Vreyson, 2001). Tsetse flies infest about 10 million km² of fertile land spread across 37 countries on the African continent, from Senegal in the North, to South Africa in the south (Oluwafemi et al., 2007). The term Africa’s bane (Nash, 1969) was coined to encapsulate the detrimental effects on human health, agriculture, and the economic development of African countries due to the tsetse fly. According to WHO (2006), the prevalence of the disease differs both between and within countries. In 2005, major outbreaks occurred in Angola, the Congo and Sudan. In Chad, Congo, Tanzania, Cote d’Ivoire, Guinea, the Central African Republic, Malawi, and Uganda sleeping sickness is still an important health issue. Countries such as Burkina Faso, Equatorial Guinea, Cameroon, Kenya, Mozambique, Nigeria, Rwanda, Zambia and Zimbabwe are reporting fewer than 50 new cases per year. In countries such as Botswana, Ghana, Ethiopia, Mali, Gambia, Liberia, Namibia, Niger, Senegal, Sierra Leone Togo transmission seems to have ceased and no new cases have been reported for a number of decades. Sleeping sickness appeared to be under control in Africa during the 1960s and 1970s. However, recent decades have seen the disease spread to epidemic proportions due to the breakdown of control programmes causing a public health crisis in many affected areas (Smith et al 1998).

TSETSE FLY AND TRYPANOSOMOSIS CONTROL: THE JOURNEY SO FAR

In order to make efficient use of the abundant natural and human resources in tsetse/trypanosomosis infected areas for economic development, concerted effort must...
be given to the control/eradication of this disease complex. Towards achieving this goal, quite a number of control/eradication measures were employed. The control strategies of animal trypanosomosis over the years have been directed against both the parasites and the vector (Glossina). Vector control measures include bush clearing, the use of chemicals as insecticides and more recently the use of sterile insect Technique (SIT), the use of traps and screens, integrated and area-wide control among others. The main approach to controlling the parasite in the host has been by chemotherapy and chemo-prophylaxis.

Training, seminars and workshop about current and sustainable approaches to tsetse fly control should be given the necessary priority. Community participation will in no small measure contribute to the success of such effort and bring about the much needed improvement in agricultural production, rural development, poverty reduction and overall economic growth among others. The activities of the Programme Against African Trypanosomiasis (PAAT) and Pan-African Tsetse and Trypanosomiasis Eradication Campaign (PATTEC) on this issue is quite commendable. However, much still need to be done as all the proposed projects under PATTEC need to be mobilized for full operation if the dream of utilizing the abundant agricultural resources in Africa to achieve sustainable food and nutrition security is to be realized.

CHALLENGES POISED BY TSETSE/TRYPANOSOMOSIS COMPLEX TOWARDS MDG1 ATTAINMENT IN AFRICA

In sub-Saharan Africa, livestock plays a very important role in Agricultural production development. In Nigeria for example, its contribution to total agricultural GDP according to CBN (1999) was 12.7%. African Animal trypanosomosis constrains agricultural productions in the areas of Africa that hold the continents greatest potential for expanded agricultural production. The presence of tsetse flies and the disease they vector - trypanosomosis, prevents optimal productive livestock-keeping and mixed farming, resulting in inadequate food production, poverty and poor rural livelihood.

According to Dione (2004), about three-quarters of the total population and 70% of the total number of the poor live in rural area. Their income and food security depend primarily on agriculture which employs directly or indirectly 90% of the rural labour force. Therefore, the threat of tsetse fly and trypanosomosis, against the Millennium Development Goal 1 (MDG 1) of eradication of extreme hunger and poverty is quite enormous. In affected areas, the disease complex has reduced the number of work oxen thereby reducing farm size and the benefit of organic agriculture, it has also resulted in drastic reduction in the number and productivity of livestock with a resultant negative effect on meat and milk production as well as rural income among others.

This situation has resulted in farming being unattractive to the youth and aggravated the worsening problem of rural-urban migration in Africa. Therefore, a situation in which old people are left in the rural areas with poor infrastructures and farming tools, and in the midst of tsetse/trypanosomosis challenges will no doubt make the attainment of MDG1 an uphill task.

RECOMMENDATION

The negative impacts of tsetse fly and trypanosomosis on the livelihood and well-being of livestock and their owners as well as the economy of African continent in general has been severally reported, the consequences of this situation on the attainment of MDG 1 is quite considerable. Therefore, concerted effort must be reinforced in order to eradicate the disease. A situation whereby African Governments undermine the importance of agriculture in food and nutrition security by giving low percentage of budgetary allocation to agriculture which provides livelihood to over 70% of the population should be reversed.

In order to enhance the contribution of agriculture to MDG 1, the following areas should be accorded utmost priority: effective and efficient project planning, policy formulation and implementation, technology transfer, research and development, proper institutional funding and development, professionalism as well as regional and international partnership among others. In tackling tsetse and trypanosomosis challenges, the problems of reinvasion, transhumance, extension and climate change should be addressed.

CONCLUSION

Poverty is a major challenge facing the developing Nations today, hence, sustainable livelihood and economic development requires holistic and effective poverty eradication programmes. Therefore, the importance of appropriate, realistic and sustainable policies in this regard cannot be overemphasized.

Attaining the United Nations MDG1 of halving by the year 2015, the proportions of the World’s people whose income is less than $1 a day and the proportion of people who suffer from hunger and by the same date, to halve the proportion of people without access to safe drinking water, requires more than just paper work, propaganda or white elephant projects, rather, relevant agricultural, rural livelihood and other economic development related policies and programmes should be put in place. This should be backed by efficient and sustainable implementation strategy and managed by professionals.

There are many signs that agriculture is regaining its
past glorious importance. The country’s transformation agenda is on course, awareness about the sustainable potentials of agriculture is being promoted and the share of agriculture in real GDP is increasing in recent years. More importantly, the agricultural sector is receiving the expected attention from policy makers, which is manifested in several new presidential initiatives, e.g., for cassava and for rice. However, the impact of the agricultural transformation initiative on livestock production has not been felt. In order to give Nigerians the much needed animal protein, meaningful livelihood to rural dwellers and get the desired employment opportunity among other benefits from the livestock subsector, programmes and activities that will address livestock production challenges such as diseases, credit facilities, feed, conflicts and inputs among others should be renewed.

For instance, the challenges of tsetse fly and trypanosomosis remain one of the major hindrances to sustainable livestock production in some parts of this country. It is important to point out that this disease complex is prevalent in the area which supplies over 70% of the beef consumed by Nigerians. A number of control/eradication activities in the past brought some relief for some years only because of the absence of a sustainable control programme. The phase I of the Biological Project of Tsetse fly (BICOT) in Nasarawa State is an example. The first phase was successful but some of the areas suffered reinvasion (Oluwafemi et al., 2001) due to non continuation of the second phase.

REFERENCES


