BRIEF REPORT ON THE 7:30 BREAKFAST DEBATE – FEBRUARY 29TH, 2008

DDT POLICY FOR MALARIA CONTROL IN TANZANIA

In Tanzania like elsewhere in Africa, Malaria remains the largest single burden of disease and an enormous public health problem ranking number one in both outpatient and inpatient statistics. It is a major cause of mortality in children under 5 and its socio- economic impact includes costs of treating the disease, low productivity due to days lost to sickness, days away from school, and decline in tourism, all contributing to poverty and underdevelopment.

Despite this, many efforts to combat and control malaria have hardly been successful although simple, effective and affordable preventive and curative measures exist. These include better public health education and communication, improved case management, use of insecticide treated mosquito nets, and prevention and prompt treatment of malaria in pregnancy. However, such measures face many challenges due to limited human, material and financial resources rendering the goal to combat and control the disease elusive. This has resulted in the Tanzanian government opting for the use of DDT as part of its concerted efforts to defeat malaria. This alternative has created a lot of debate with the regards to DDT's environmental damage and human health effects and that is why Policy Forum dedicated its February 2007 Breakfast Debate on the subject.

The debate included two presentations: One on the status of Dichlo- Diphenyl- Trichloroethane (DDT) use for malaria Vector control in Tanzania by **Dismas Mwalimu- PHO Entomology** from the Ministry of Health and Social Welfare- Vector Borne Diseases Control unit, and another by **Dr. Paul Saoke** Executive Director of the Physicians for Social Responsibility in Kenya (PSR) who talked about the human health effects of DDT. Ms. Gertrude Mugizi facilitated the session.

Mwalimu started by introducing malaria as a major public Health problem in Tanzania saying that approximately 31.6 million people are currently at risk of malaria and this number was expected to rise to 40.9 million by the year 2010. He stressed that the disease is a heavy burden as it consumes an estimate of $ 119 million of national resources per year of GDP.

He said that the use of DDT is only in malaria epidemic prone districts of Tanzania (25) and that the country banned its use in agriculture in 1991 due to several factors one being its environmental effects. For malaria, he said DDT use is a Silver Bullet as it is effective than any of the other insecticides available and it is sprayed indoors in small quantities of about 1- 2gm/m2 with minimal environmental effects. He said it is affordable for poor African countries compared to synthetic pyrethroids. He stressed that the public health benefits of DDT outweigh the perceived health risks. The environment effects were due DDT use in agriculture and the Plant Protection Act (1997) & Plant Protection Regulation (1999) prohibit its use in the sector. Moreover, Mwalimu said DDT was a silver bullet because there is evidence of malaria resurgence in areas where DDT has been discontinued.

He said that the major challenge regarding DDT use in Tanzania is a workable management system to prevent it being used by farmers. However, Mwalimu said there were proposed management systems for DDT use in public health:

- Strategic environment Impact assessment in the areas that DDT will be used,
- Only one company to import DDT,
- Community sensitization and education,
- Management of DDT taken to the field, i.e. monitoring of deposits on the sprayed surface,
- Strengthening of facilities for DDT management (Transport and storage).

Dr. Paul Saoke, following up on the presentation made by Mwalimu, argued that DDT is harmful to human health. He showed several pictures of people harmed by exposure to DDT and showed evidence of harm to the environment adding that use of the chemical undermining the Stockholm

Convention. He said many children of tomorrow will be victims of the folly of DDT use of yesterday and today. He said using malaria control as a pretext was short-sighted and he urged that everyone has the right to know as per Article 10 of the Convention which provides for Public Information, awareness and education. Moreover, in *Article 9(b)* paragraph 5 reads: "For the purposes of this Convention, information on health and safety of humans and the environment shall not be regarded as confidential".

Dr. Paul Saoke said DDT has health effects to human beings in Endocrine Disruption and reproductive health effects. In endocrine disruption, DDT attaches to proteins in cells known as "hormone receptors", they may mimic the normal hormone, increasing female or male functions, may block the normal function, resulting in decreased female or male functions, feminization of males may occur but not the reverse. Also, there is what is called Testicular dysgenesis syndrome (TDS), which comprises of poor sperm quality or testicular cancer. There was evidence, he said, that where DDT was extensively used, a dramatic drop in sperm density was recorded. This affected conception. Another effect of DDT is external genitalia birth defects in new born babies (sometimes ambiguous genitalia making it difficult to determine the child's sex). DDT was also linked to infant mortality, by increasing the risk of pre- term birth and by decreasing the duration of breast feeding after birth, he noted. Moreover, Dr. Saoke said its use can determine the baby's size.

He concluded his presentation by articulating the need to protect human life and the environment. He quoted Lou Guillette who had said: "Every man sitting in this room today is half the man his grandfather was, and the question is, are our children going to be half the men we are?" in a statement he had made to US Congress in 1993 referring to the perceived decrease in human sperm counts.

Comments and questions from Plenary Discussions:

- From statistics it is shown that every 5 minutes we lose almost 20 children due to malaria. What are the plans made by the Ministry to tackle this Problem facing Tanzania?
- The Government has to analyze before introducing/ making/ passing policies, for example DDT has been introduced for the 2nd time regardless of the consequences caused by it to the society.
- The problem is on the side of decision-makers i. e. the Government, they like magic Bullets, they don't like to go to the villages and convince the people to change attitudinally or advise them on how they can prevent malaria. People in villages are not aware of how malaria can be fought.
- In the EU, the precautionary principle is applied when considering the use of a chemical that is potentially harmful to the environment. That is, until there is adequate research to support that a chemical is safe, it is not emitted into the environment.

Questions:

- Who finances DDT use for malaria control in Tanzania? Mr. Mwalimu replied that is was the government of Tanzania.
- What criteria were used to select the 23 districts? Mr. Mwalimu said it was based on the districts that were most prone to malaria (incidents of malaria).

Mr. Mwalimu further elaborated on the questions by stating that:

- DDT is always spread on the wall 1-2mg per meter square, it's a very small amount, meaning that a significant accumulative amount is required to develop what is called cancer. That is why DDT is regarded as a silver Bullet.
- Currently, we are using ITN coverage which is 24-36% based on the behaviour of Mosquitoes.

- Based on the life expectancy of a Tanzanian (which is 47 years), after being exposed to DDT it takes quite a very long time for the impacts to be seen if there are any at all. Cancer develops in a person when he is above 50 years of age, which is above the expected lifespan of a Tanzanian (This was disputed vehemently by Dr. Saoke.
- Malaria is the leading killer disease in Tanzania. Besides, when you have malaria there is a wide chance of getting other diseases.

Dr. Saoke, responding to the questions and suggestions made a number of observations:

- He presented a "DDT Resistance map" showing vector resistance to DDT in Africa. He said DDT is largely losing its effectiveness and efforts should be made to prevent malaria using other effective methods.
- There was an over-estimation of malaria. A lot of people who suffered any sort of fever reported that they had malaria. He cited Tanzania as an example of where many people claimed to have malaria without being diagnosed.
- He said because DDT proven to be harmful to children, it should not be taken lightly (Human lives should not be taken cheaply).

Ms. Gertrude Mugizi closed the discussion by emphasizing the need for the policy on DDT use to be clear to Tanzanians and the Government ensuring that there are efficient regulatory frameworks in place.