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Dichlorodiphenyltrichloroethane (DDT) is one of the first chlorine based insecticides, originally prepared in 1873. However, the utility of the same as an insecticide was developed by Paul Muller of Geigy Pharmaceutical in Switzerland in the year 1939. This innovation got much attention even to a level that it fetched Paul Muller the Nobel Prize in medicine and physiology in 1948. After the World War II, the effectiveness of DDT against mosquitoes prompted its promotion all across the globe. The resultant prevention of Malaria made the chemical to be advocated by agencies like World Health Organization (WHO).

Malaria, which is caused by a parasite called Plasmodium is transmitted through infected mosquito bites. The disease can be detrimental if it's kept untreated till a stage that the blood supply to vital organs is disrupted (WHO, 2009). The World health Organization has released some alerting statistics with regard to the outspread of Malaria. Their reports estimate that on an average one child dies every second because of malaria. As per the records of 2006, there were 247 million cases of malaria of which one million accounted to death (WHO, 2009). The most of these cases were from the African lands. Another alarming reality is that almost half of the worlds' population is at risk of malaria (WHO, 2009). Taking an account of the economic damage that the disease causes, it has been estimated that almost 1. 3% slow down is caused in the economic growth of countries with high rates of malaria incurrence (WHO, 2009). Up to 40% of the total budget for public heath is With regard to all these dangers, it becomes much important to control mosquitoes, which are the vectors of the disease (WHO, 2009). The role of DDT thus becomes of much relevance. The reasons that have been pointed out in favor of DDT being preferred over other 12

recommended insecticides are its longer residual efficacy, the spatial repellency and the irritant effect (WHO, 2007). Resultantly, rather than killing the mosquitoes, they are repelled to the outdoor surroundings (WHO, 2007). However, the use of DDT has been proved to have many long term health effects coupled with damages to the environment, wildlife and the ecology in totality. There are a number of scientifically relevant researches which have confirmed the irreversible damages caused by DDT. The hydrophobic nature of the chemical makes it strongly absorbed to the soil and the green environment. This can cause irreversible damage to the organic base and the structure of the soil. In aquatic conditions, as DDT is soluble in water and turns to metabolites like DDE and DDD which gets into the food chain due to the absorbability by aquatic organisms and the marine system. Added to this, the longer residual effect of DDT ensures that the damage persists for a longer time. The effect on human health is of the most concern. The study by Rogan & Chen (2005, 763-773) has revealed that the DDT usage even at the levels as recommended for malaria control can cause preterm birth and early weaning. This is direct threat on the well being of a newer generation. Further it has been confirmed that the high level of exposure to DDT and other organochlorines can cause abnormalities in liver functioning, skin, and the nervous system (Longnecker; Rogan & Lucier, 1997, 211). It is also highly susceptible that DDT can cause cancers.

The malaria controlling effect of DDT is thus superseded by the damages caused by the chemical. This statement becomes of much relevance as there are much more viable and harmless options to control the vectors of malaria. The most important among them is the sanitary measures to prevent the outburst of mosquito population. The UN has announced a pilot program for

the promotion of non chemical measures to control malaria covering a geographic base of 40 countries (UNNC, 2009). Thus as non chemical measures are increasingly proving to be successful and more effective in controlling mosquito growth; there is no justice in further promoting the usage of DDT. Considering the detrimental effect of the chemical the usage of DDT must be banned all over the world with immediate effect and must be replaced with environmentally friendly and healthy measures.

References

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