

# Risk assessment paper

Literature, Russian Literature



Risk Assessment Introduction Risk assessment is the measure which is adopted by the individuals in protecting the environment from various aspects like accidents, diseases and pollution. The measures that are adopted should follow the social and environmental norms. The measures should not be expensive and before taking into consideration the measures should be clarified in keeping with the political concern so that individuals can get the permission to implement the steps. Generally, there are four steps which present the risk assessment such as hazard identification, dose-response, exposure and risk characterization (Davis, Hickox, & Denton, 2001). The objective of the paper is to discuss the insecticide which will be implemented in United States' city namely Genericville. To protect Genericville's environment from the diseases caused by mosquitoes a particular insecticide will be introduced. The name of the insecticide is Malathion and the disease is known as West Nile Virus (WNV). Hazard Identification Hazard identification is the first step in which the implemented chemical in protecting the environment is identified along with the affects that can be caused by the chemical upon environment and living beings are also observed (Agency for Toxic Substances and Disease Registry, 2007). In protecting Genericville from mosquito affected disease West Nile Virus (WNV), a chemical Malathion has been proposed by a wealthy city based resident to the council. The person will fund for spraying the chemical in those places where the chances of mosquito breeding is more. However, the long-term use of Malathion chemical can create damage to the environment along with the living beings. This context is presented by a study conducted by a governmental body. Agency for Toxic Substances and Disease Registry

stated in 2005, in its research stated that use of Malathion for long-term in a particular environment can affect human beings. The hazard that has been recognized as primary symptoms is Acute Cholinergic Poisoning which involves dizziness, drowsiness, agitation, miosis, nausea, lethargy and anxiety. The other severe poisoning distresses include chest tightness, bradycardia, hypertension, poor concentration, breathing problem, tachycardia, blurred vision, heavy salivation and confusion. Furthermore, the symptoms or conditions that have been observed as Life-Threatening comprise coma, respiratory arrest, loss of reflexes, seizures, pulmonary edema and flaccid, which especially occur due to excess use of Malathion (Agency for Toxic Substances and Disease Registry, 2007). The mosquito related problem can be reduced by providing proper educational awareness regarding available precautions. Educational awareness helps people to comprehend efficient ideas by which the problem of mosquito can be reduced without affecting the living beings along with the environment. If the Malathion spray directly gets in contact with the body, it creates severe irritation as well as discomfort and also can lead to death. Dose-Response In dose-response dimension, it can be observed that the community or healthcare should be aware of the dose of medication or treatment mechanism for curing the diseases caused by the chemical. In similar context, it can be stated that the use of Malathion for a shorter period causes less affect to human and environment, for which there are certain treatments as well. However, the use of Malathion spray for a longer period of time can cause life-threatening diseases for which treatments are not up to the mark by which life can be saved (Davis, Hickox, & Denton, 2001).

Therefore, it is better to serve and save the community by providing educational awareness promotional programs. Generally, it does not have any side affect on the environment and human beings. Exposure Exposure can be described as the process in which the use of chemical within an environment is measured along with the effects caused by the chemical in the environment. With reference to the provided context, it can be recognized that the use of Malathion chemical in Genericville’s environment is considered. The use of chemical in reducing the mosquito as well the WNV disease has certain considerable factors which are being discussed in this context (Davis, Hickox, & Denton, 2001). Every person should be provided awareness about the Malathion chemical. In case if any person is not aware of the chemical, government should take proper steps to educate those people about the advantages and the drawbacks of the use. This will help the communities to save themselves from the effects caused from the chemical along with taking precautionary measures beforehand. Genericville will not face such problems with financing because a wealthy city resident has promised to give full support. However, on one hand, it is good in reducing the mosquitoes while on the other hand in long-term it leads to life-threatening problems (Davis, Hickox, & Denton, 2001). Risk Characterization Risk characterization is the last step in risk assesment in which the risk is discussed. The risks and the negative effects that have been observed in all the three steps mentioned above are categorized. Those diseases and risks are measured in terms of cancer and non-cancer related risks. The causing of cancer does not generate only from the use of chemical rather it can also emanate from the genetic aspect. It is assumed that educational awareness

process of serving people with fundamental issues in reducing the mosquito problem from the environment is a more beneficial step instead of making use of the chemical. The use of chemical also varies according to the situation (Davis, Hickox, & Denton, 2001). Conclusion After reviewing the use of Malathion chemical in reducing the mosquito problem, it can be stated that there are many negative effects by which people are mostly affected. With this scenario, city council of Genericville will not get support from the political bodies because the social and the environment aspects are getting hampered considerably. Social aspects indicate the symptoms or diseases faced by the people from the use of Malathion. Environment is also affected in terms of the soil, water and air pollution by which nature is affected through incidents like death of birds, plants and others environmental aspects. From the study, it is assumed that educational awareness is suitable for city council of Genericville to reduce the mosquito related problem and the WNV disease instead of using the Malathion chemical spray. This is a time consuming process but would cause less affects to human beings and environment. This process can get support from various bodies such as political, other governments and healthcare units among others. References Agency for Toxic Substances and Disease Registry. (2007). Toxicologic information about insecticides used for eradicating mosquitoes (West Nile Virus Control). Retrieved from [http://www.atsdr.cdc.gov/consultations/west\\_nile\\_virus/malathion.html](http://www.atsdr.cdc.gov/consultations/west_nile_virus/malathion.html) Davis, G., Hickox, W. H., & Denton, J. (2001). A guide to health risk assessment. Retrieved from <http://oehha.ca.gov/pdf/HRSguide2001.pdf>