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Molecular Identification of Mosquito Vectors and Their Management

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Environmental Management and Sustainable Control of Mosquito Vector: Challenges and Opportunities

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Abstract

Millions of people are affected by mosquito-borne diseases in many endemic tropical and sub-tropical countries which greatly hinder their economic development. In the early 1900s, environmental management was at the centre place in controlling mosquito vectors in many parts of these regions. Modification of the local environment after proper understanding of the ecology of mosquito vectors reduces their favourable habitats resulting in substantially reduced transmission of mosquito-borne diseases. With the discovery of DDT and other organochlorines, drugs and insecticides have completely replaced the environmental management as the most preferred mosquito-borne disease control measures. However, indiscriminate use of these insecticides has resulted in the development of resistance among the mosquito vectors. Further, most of these insecticides are persistent organic pollutants having severe long-term negative impacts on health and the environment. Overreliance of the mosquito control programme on chemical control methods brings more loss than benefits and hence, is highly unsustainable. Though environmental management could be a strong, economic, and sustainable vector-borne disease control measure, its success requires the collaboration of different public sector organizations to work in close co-ordination. Planning process of infrastructural projects should identify and quantify adverse health effects at the earliest possible stage and

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