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Assignment 1

SEP 709 : Emerging Issues, Technology and Public Policy

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Global Policy on DDT: A Balanced Approach

1. Introduction

DDT (Dichlorodiphenyltrichloroethane) use presents a global dilemma involving public health, environmental sustainability, and socioeconomic factors. Synthesized in 1874 and widely used post-World War II, DDT has been instrumental in controlling vector-borne diseases like malaria, particularly in regions with limited alternatives (Ferriman, 2001). However, it poses serious risks to ecosystems and human health due to its persistence in the environment and bioaccumulation in living organisms (Kannan et al., 1997). This policy will explore the benefits and risks of DDT through a multidimensional framework incorporating economic, environmental, and social considerations.

2. Problem Analysis: Benefits and Threats

2.1. Health and Public Safety

DDT has played a critical role in disease control, especially for malaria and typhus in low-income countries (Rehwagen, 2006). The WHO endorsed its continued use in 2006, citing it as one of the few effective and affordable malaria control methods (Rehwagen, 2006). However, DDT persists in the environment and is stored in human fat tissues, raising concerns about its long-term health impacts (Kannan et al., 1994). Studies link DDT exposure to cancers such as pancreatic and liver cancers, especially in agricultural workers (Cocco et al., 1997).

2.2. Environmental Impact

The environmental damage caused by DDT is well-documented. Its persistence and ability to bioaccumulate have led to contamination of water, soil, and wildlife, including aquatic organisms and birds (Turusov et al., 2002). Effects such as eggshell thinning in birds and reproductive failures in fish are common due to DDT exposure (R.Krieger, 2010). Additionally, its widespread distribution, even in remote ecosystems, demonstrates the far-reaching consequences of its use.

2.3. Socioeconomic Impact

In malaria-endemic regions, DDT use is often a matter of survival, as malaria continues to claim hundreds of thousands of lives annually, particularly in Africa, Asia, and Latin America. Its low cost makes it a viable option for poor nations (Ferriman, 2001). However, transitioning to alternative strategies requires substantial financial and technical support from wealthier nations.

3. Decision-Making Framework

3.1. Policy Process

A global policy on DDT should balance disease control with environmental sustainability. This requires engaging stakeholders such as governments, scientists, public health experts, and affected communities. Policy decisions must be data-driven, incorporating epidemiological and environmental impact data. International cooperation, including collaboration with the WHO and UNEP, is essential to support nations transitioning away from DDT use.

3.2. Content of the Policy

Key policy components include limited and controlled DDT use for public health purposes in malaria-endemic regions with no viable alternatives. Investment in developing safer alternatives, such as integrated pest management, is crucial. Additionally, environmental remediation, especially bioremediation of polluted soils, should be prioritized (Mansouri et al., 2016).

3.3. Social and Economic Considerations

Wealthier nations should provide financial and technical assistance to help developing countries transition to safer alternatives (Mansouri et al., 2016). Education and capacity-building programs are needed to promote safe DDT use and environmental monitoring.

4. Conclusion

A balanced global DDT policy must recognize its importance in malaria control while addressing the severe environmental and health risks it poses. The goal should be to phase out DDT over time, ensuring vulnerable countries are not left without effective malaria control tools.

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