

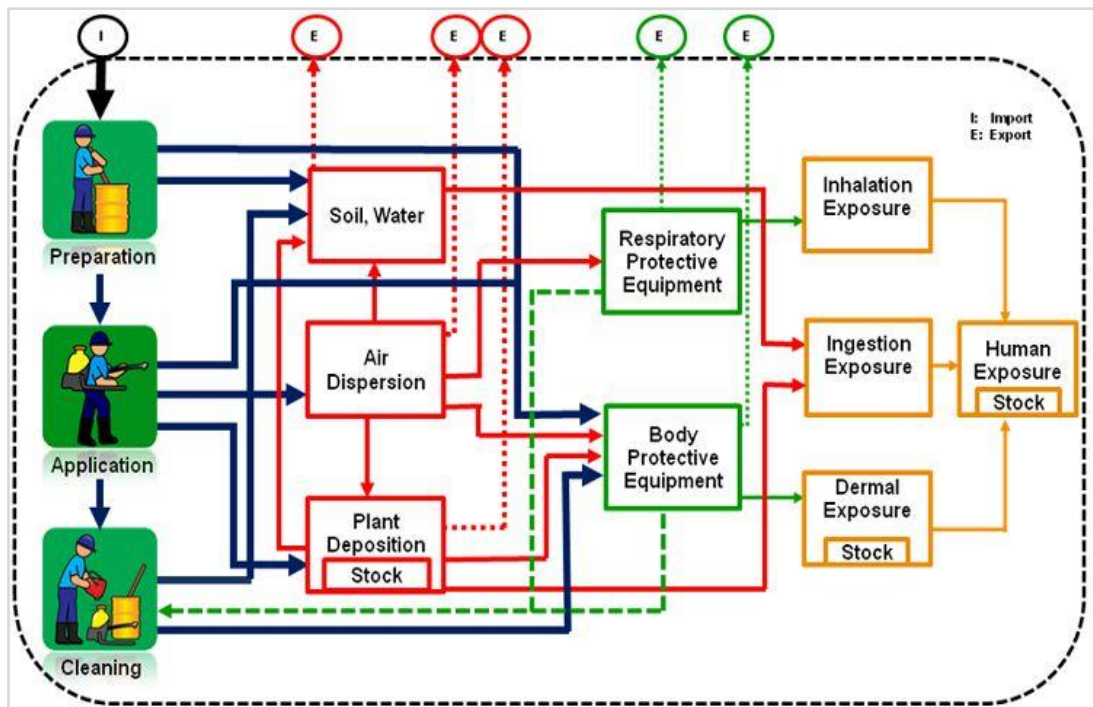
RISK: LIFE CYCLE HUMAN EXPOSURE AND RISK ASSESSMENT OF PESTICIDE APPLICATION ON AGRICULTURAL PRODUCTS IN COLOMBIA

Although the human health effects of pesticides have decreased significantly in industrialized countries, misuse of pesticides in developing countries is still problematic. Chronic health problems and environmental impacts have not been well investigated and are likely to be significant. Possible factors contributing to these impacts include the application of old products with high persistence and toxicity and missing or insufficient protection of workers during pesticide application and use. Because a significant portion of the crops imported into Europe come from developing countries, responsible consumers and authorities in the exporting and importing countries are interested in understanding and ultimately mitigating the life-cycle environmental and health impacts of these products.

The **objectives** of this project are:

1. Quantifying the direct and indirect exposure of pesticide applications along the whole value chain.
2. Identifying the most relevant exposure pathways within various case studies (i.e. potato, flowers and banana farming systems) to better understand the overall toxic effects of pesticides applied in Colombia.
3. To build a model for human exposure and risk assessment that could be extended also in other South and Central American Countries with similar production systems.

The **conceptual model approach** considers all the pathways followed by the pesticides after the application and its distribution in the different environmental compartments with special emphasis in the human exposure. The further development of the model will use two methods: material flow analysis and system dynamics.



Material flow analysis of pesticide application

Case Studies in:

Colombia: Vereda La Hoya (Potato Farming System),
 Sabana de Bogotá (Flower Farming System),
 Urabá Antioqueño (Banana Farming System)

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Project Partners:

ETH Zürich, University of Zürich,
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Funding:

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www.uni-graz.at/risk_pesticide