

NEED OF PESTICIDES

Prof. Dr. Farkhanda Manzoor
Head of Department
Department of Zoology
Lahore College for Women University
Lahore



PESTICIDES

Any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest.

It includes:

- ❖ 28% herbicides
- ❖ 25% insecticides
- ❖ 20% fungicides/nematocides
- ❖ 4% rodenticides
- ❖ 23% biocides



PESTICIDES



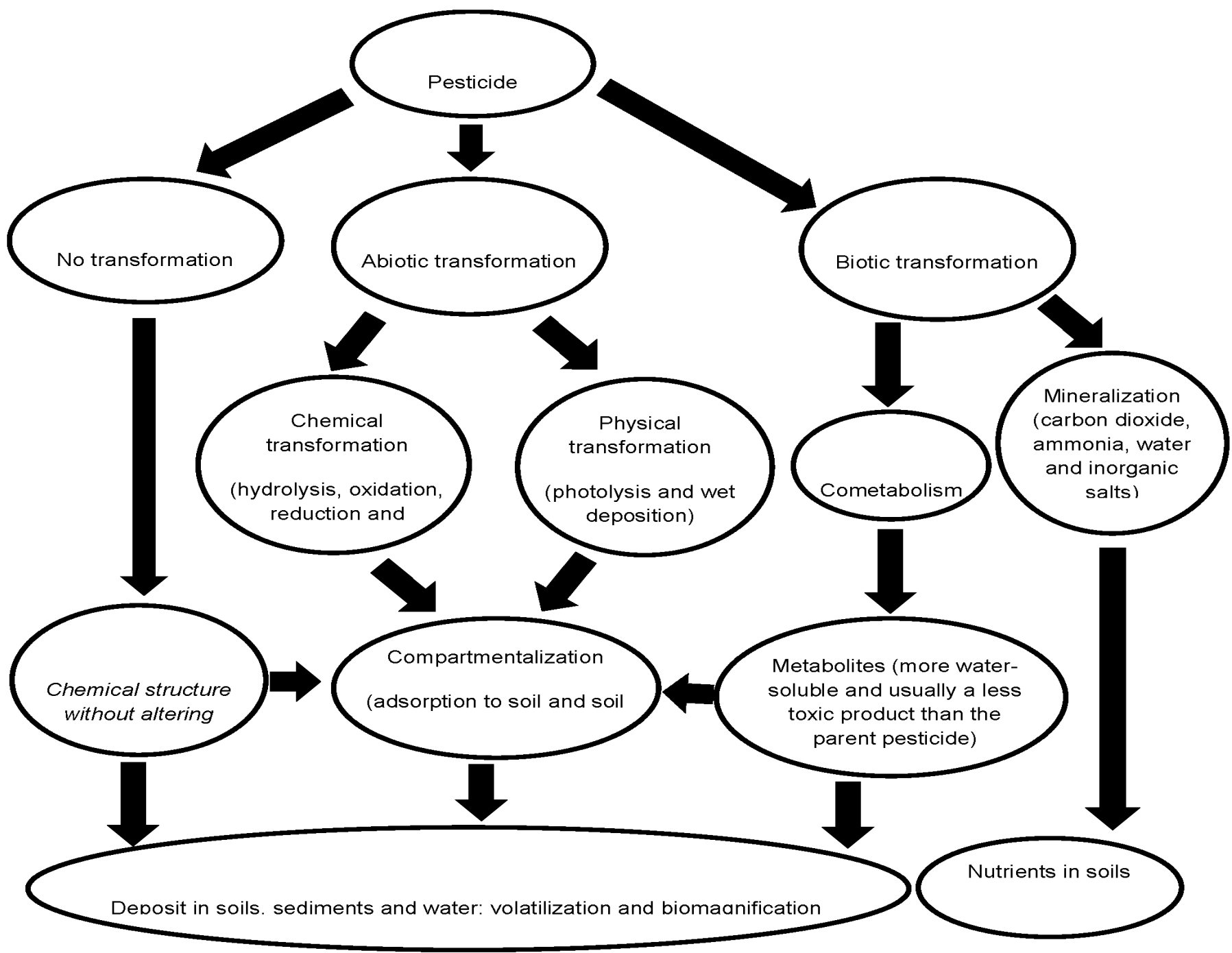
REMOVAL OF PESTICIDES

- Crop production decline as much as 50%.
- Farm exports would decrease by 50%.
- Consumer expenditures for food would increase.
- Increase in inflation-as food prices increase.



NEED OF PESTICIDES

- One-third of the world's food crops are destroyed by pests during growth harvesting, and storage.
- Cocoa production in Ghana has been tripled.
- Sugar production in Pakistan was increased one-third because of the use of insecticides.
- Pesticides increase the profits of farmers by reducing the need for hand labor.
- Increase yields.
- Assist in the management of harvests.
- Prevent losses in storage.
- Provide a more salable product.
- Synthetic insecticides can markedly reduce the risk of insect-borne diseases



DISEASES TO HUMANS

Many diseases can be transmitted to humans by insects, ticks, or mites such as:

- Malaria
- Yellow fever
- Sleeping sickness
- Chagas' disease
- Encephalitis
- Typhus
- Relapsing fever
- West Nile virus
- Chial asthma



IMPACTS OF PESTICIDES

Pesticides are used in our countryside, urban areas, homes and gardens



IMPACTS HEALTH

Exposure can cause fertility and reproductive issues, diabetes, obesity, degenerative diseases e.g. Parkinson's, cancers, asthma, depression, anxiety, ADHD etc.



PREGNANT MOTHERS AND CHILDREN

This group is particularly sensitive as exposure can cause disruption to endocrine systems, childhood cancers, neuro-developmental issues and other disorders.



DRAINS ECONOMIES

Pesticides cause illness and injury resulting in lost work days. Exploitative markets keep farmers on the pesticide treadmill, crops develop resistance, and incorrect use affects yields.



DECREASES BIODIVERSITY

Pesticides have been linked to declines in bees and pollinators, beneficial insects, birds, mammals, aquatic animals and non-target plants etc.



IMPACTS ON WATER, SOIL AND AIR

Run-off contaminates surface and ground water. Soil microorganisms and earthworms are poisoned, affecting soil fertility, and drift and volatilisation contaminates air, rain, fog and snow.

- More insecticides were applied to control insects in cotton and corn than other crops.
- Organophosphate insecticides for controlling termites, livestock pests, and mosquitoes.
- It have been one of the most important classes of insecticides used for protecting crops, livestock, and human health over the past 60 years.

PESTICIDES ECONOMICS

Pesticides have become increasingly expensive to develop.

The present cost of discovery and development averages about \$50 million-\$100 million per pesticide.

On the average, a company must synthesize and screen 35,000 compounds for each one registered and sold commercially.

Nowadays the time period from discovery to initial sales ranges from 5-9 years.

Increased time and costs have had a significant impact on the rate of introduction of new pesticides and on their unit costs, once they have been developed.

Reason for the slowdown in the development of new pesticides is that increasing restrictive legislation by Congress and corresponding regulation by the EPA have increased both the costs and the time required for the process.