## 1. Background

Pesticide Action Network (PAN) is a network of over 600 participating nongovernmental organizations, institutions and individuals in over 90 countries working to replace the use of hazardous pesticides with ecologically sound alternatives. Its projects and campaigns are coordinated by five autonomous Regional Centers.

This PAN International position paper came out from the PAN working group on Alternatives and was collectively developed by the PAN Regional Centres and their partners. This paper provides PAN's views and analysis on alternatives to synthetic pesticides in agriculture, proposes solution and presents the network's commitment to resolve the issue. Other position papers related to the five strategic objectives of PAN as well as supporting technical papers are also available. This position paper has a strong focus on agriculture – including production as well as consumption issues. However, this position paper also covers the use of chemical pesticides in non-agricultural areas, for example, for managing pests in private and public spaces.

## 2. The problem

Today overwhelmingly agricultural commodities are produced under so-called conventional agricultural methods. This includes a pest control strategy based on high input of synthetic pesticides as a sole means to tackle pests, weeds and diseases. Associated with this manner of production manifold problems arise:

- **Health problems:**
  Farmers, farm workers and their families, bystanders and consumers are exposed to dangerous synthetic pesticides. Handling, storage and disposal of these chemical agricultural inputs can cause acute and chronic negative health effects, cause cancer and negatively influence reproduction or disrupt the endocrine system. Pesticide residues in food and drinking water can cause similar problems affecting an even greater number of people.
- **Social and economic problems:**
  The use of synthetic pesticides very often is connected to a vicious cycle of financial dependency and dependency on credits for these inputs. This agrochemical treadmill is leading to increasing indebtedness of farmers with immense negative effects for the economy of farm families and rural communities. Suicides committed because of debts are common. Other consequences of indebtedness are migration, loss of land and culture. External costs due to pesticides impact on health and environment are not reflected in the costs of pesticides (e. g. costs for health treatment, costs arising from illness related lack of work, loss in biodiversity and costs for water treatment). The high input of synthetic pesticides in conventional agriculture creates a spiral of dependency

as they destroy beneficial organisms and induce resistance, creating the need for new and more expensive pesticides. The total dependency on chemical pesticides and the pesticides industry results in a lack of choice for farmers and their families in terms of choice of crops, choice of seeds, choice of production system, and it contradicts the right to food sovereignty. Pesticide-based agriculture deprives women of access to land, to seed and to credit.

- **Environmental problems:**
  Pesticides are nowadays found in virtually all natural habitats, including those where pesticides have never been applied. They have severe negative effects on natural flora and fauna, biodiversity, water resources and ecosystem functioning and the equilibrium of agricultural systems.

## 3. The solution

PAN challenges the paradigm that the world can only be fed with pesticides. PAN believes that eliminating dangerous synthetic pesticides requires some strategic approaches:

1. Pest management practices based on toxic synthetic pesticides need to be abandoned. Production systems need to be holistic and sustainable.

2. Adequate institutional frameworks, like policy and marketing incentives, must be enabled in order to create an environment where alternatives can flourish.

3. Consumer awareness and consumption patterns that support alternative production must be developed.

PAN recognises that alternative or sustainable farming practices already exist for a wide range of crops but are not yet widely adopted. PAN therefore works at all levels (such as scientific and field research, farmer exchanges, information and awareness campaigns) to promote organic, biodynamic, agroecological, permaculture, low external input and indigenous knowledge systems.

There are many practical case studies which reveal that pesticides are not necessary, especially to the extent they are used today. Therefore, PAN supports the generation, innovation and promotion of ecological alternatives to pesticide use. PAN also supports efforts to reduce pesticide use in the immediate term. The main goal is not how to replace specific pesticides but how to redesign agricultural cropping systems.

Pest management must be seen in a broad context of crop and livestock management and sustainable farming systems which includes also nutrient cycling, regenerative technologies, soil fertility and water management. Many different PAN projects from different PAN groups are dealing with alternative agricultural approaches. One of them is OISAT, the Online Information Service for the Tropics and Sub-Tropics from PAN Germany. Regarding general agricultural production, PAN believes that current paradigms of food and fibre production must be

changed, incorporating instead the following aspects of a sustainable and socially just agriculture which:

- follows a holistic approach.
- is based on participatory research and experimentation
- integrates and develops local and indigenous knowledge
- empowers women, improves their access to income and control over their own production
- protects consumers from residues from synthetic pesticides and other agricultural inputs which can cause acute or long-term health effects
- uses appropriate low-risk technology, that can be managed and controlled by the growers
- maintains and enhances bio-diversity and agro biodiversity
- enables and strengthens farmer-based seed conservation and exchange
- keeps all water resources, especially drinking water, free from pesticide residues
- increases yields and productivity in traditional, marginal agricultural systems without harming the environment
- improves natural soil fertility and long-term sustainability of farming systems
- enables farmers to gain control over resources like land, water, seeds and forests
- increases real income of marginalized farmers
- protects rights and health of farm workers and rural communities, especially peasant, landless and indigenous farmers
- offers solutions for small-scale as well as for large-scale farming systems
- offers solutions for local food production as well as the production of cash crops

## 4. The commitment

PAN is working to create the climate for implementing our vision of sustainable agriculture for food and fibre production. To do this, PAN's main challenge is to make use of the following approaches: policy instruments, non-governmental and inter-governmental forums and standards, working with producers to promote alternatives, and our own campaigning. PAN is committed to realising these goals for a sustainable agriculture and to curb pesticide misuse and overuse. This not only covers the production system but also the entire trade chain of the commodities.

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