

REPUBLIQUE DU NIGER

Association Vie & Développement (AVD-Kowa
Murna)

Arrêté N° 052/MI/D/DAPJ/DLD

BP : 13.236 Niamey – Tel : 97 77 70 02

Siège : Villa N°100 Poudrière-Niamey



Executive Summary of Highly Hazardous Pesticides (HHPs) Country Situation Report- Niger



Vendor at the Diffa market (Niger)

1. Introduction of agriculture in Niger

Agriculture is the most important sector of Niger's economy. It accounts for more than 40% of the national gross domestic product (GDP) and is the main source of income for more than 80% of the population. However, the performance of the agricultural sector is highly unstable due to the negative impact of climate change on the sector. Over the past 30 years, Niger has incurred numerous droughts, floods, locust invasions and other pest attacks. These disasters have a negative impact on the performance of the agricultural sector, household income, balance of national budgets and the economic growth of the nation.

The agricultural production system is based mainly on smallholder farmers with landholding of up to one hectare. The performance of the agricultural sector remains generally insufficient due to declining yields, which occur as a result of the gradual decline in soil fertility, the absence of fallow and the deficit in water balance. Only a quarter of the 15,000,000 ha of arable land is now developed. In addition, 70,000 to 80,000 hectares of new land are occupied annually by agriculture at the expense of forests and livestock itself, which are highly extensive. Agriculture is mainly rain-fed and cereal food crops form the basis of production.

According to the results of the 2005 General Census of Agriculture, Niger had 1,627,294 farms with a total estimated agricultural population of 10,108,795 persons (number of persons living on agriculture). The surface area under cultivation is estimated at 6,534,881 ha exploited by 1,583,118 agricultural households (excluding Agadez, a region of northern Niger) or an average surface area per operator of 4.12 ha. This surface area has more than doubled between the two censuses conducted at the national level.

In the eight regions of the country, agriculture is dominated by food production depending heavily on rain. The main species of rain-fed crops are cereals (mil, sorghum, fonio, corn) and cash crops (cowpea, peanut, voandzou, sesame, sorrel, stump). Irrigated crops include rice, wheat, vegetable crops (pepper, onion, tomato, cabbage, carrots, garlic) and some fruit crops (dates, citrus fruits, mangoes).

2. Objectives of this project and achievements

The objectives of this project are to establish the national situation of the use of Highly Hazardous Pesticides in the country and to outline the measures taken to eliminate them. The main activities include:

- Collecting general data on the volume of HHPs used in agriculture;
- Collecting general data on the volume of HHPs used for non-agricultural purposes (household health and public health);
- Providing the list of HPPs banned in other countries but used in the country;
- Highlighting human health, environmental or human rights problems related to HHPs in the country; and
- Indicating applied precautionary principles in Niger as well as national provisions to progressively phase out HHPs, to ban pesticides and to remove already-registered pesticides.

As part of pesticide management, Niger has put in place an institutional and regulatory framework that is comprehensive enough to deal with the health and environmental problems generated by the use of these products.

For example, institutions such as the General Directorate of Plants Protection (DGPV) are responsible for the design and implementation of the national policy on plant protection products. It is supported in its tasks by several national and international structures as well as non-governmental organizations. The DGPV's mission is to ensure the phytosanitary protection of the territory through the fight against crop pests as well as the controls on the import, export and transit of plants, plant products and pesticides.

3. Pesticide use in specific crops and % of HHPs on total pesticide use

Treatments are sometimes organized by the state through the relevant technical services (like the services in charge of large-scale invasion of locusts, caterpillars or others) or by the farmers themselves who buy the registered or non-registered pesticides. We hear them say, « We have no choice »; many of them know the harmful effects of pesticides, but they do not believe that they have other efficient options to control pests in their crops.

In Niger, state-supplied pesticides are approved by the Sahelian Committee of Pesticides (CSP) of the CILSS. However, the majority of pesticide products for sale in Niger, and used by commercial farms, are mainly imported from Nigeria and Ghana, both non-CILSS countries, which are the major producers. Non-registered pesticides are the most dangerous and prohibited from use; the sales of them are fraudulent. The use of pesticides is almost systematic in most cases by all the commercial farms in the face of crop pest infestations.

Niger has signed and ratified all the Conventions dealing with pesticides and several international agreements. These legal instruments are transposed at the national level by relevant laws, decrees and orders to regulate the importation, storage, sale and use of pesticides. In Niger, in accordance with international regulations, an order has been made to formally ban dangerous pesticides. This is Decree No. 0177/ MAG/EL/DGPV of October 20, 2016 setting out the list of pesticides banned in Niger.

Regions	Areas treated by airplanes	Areas treated by trucks	Areas treated by brigades	Total areas treated	Quantity of products used (liters)
Agadez	0	0	4 530	4 530	1 650
Diffa	0	4 950	2 940	7 890	7 890
Dosso	0	355	4 482	4 837	5 200
Maradi	0	2 100	5 701,5	7 801,5	7 801,5
Tahoua	0	864	3 733	4 597	5 740
Tillabéri	0	5 440	2 224	7 664	8 868
Zinder	0	1 500	4 008	5 517	5 964
Niamey	0	0	176	167	167

Total	0	15 209	27 795	43 004	43 281
Percentage	0	35,37	64,63	100	

Source: DGPV (General Directorate of Plant Protection) - Niger

These pesticides consist of persistent organic pollutants (POPs), dioxins and furans, and formulations containing the active ingredients prohibited by the Sahelian Committee of Pesticides, which are: Acetochlore, Atrazine, Carbofuran, Endosulfan, Fipronil, Hexazinone, Methamidophos, Monocrotophos, Triazophos, Paraquat and Glyphosate.

In terms of quantities, the statistical data are poorly controlled. However, with regard to the areas sown with cowpea and market garden products, in particular peppers, onions, tomatoes and cabbage, and with regard to the number of treatments carried out on certain crops, the quantities of pesticides applied are significant.

By way of illustration, during the 2017/2018 campaign, the areas cultivated with peppers in the Diffa region were 3,568 hectares, or 36.12% of the national area (EPER, 2018). When you consider that this crop is subject to 3 to 7 treatments depending on the site, you can imagine the quantity of pesticides applied to protect this crop and the environmental and social impacts generated.

Fortunately, the main routes of contamination by pesticides, as well as their harmful consequences on health and the environment, are well known by the populations. In a simplified manner, the cutaneous route, the respiratory route by inhalation or the oral route can be listed as transmission channels. Impacts on health can range from disorders of the reproductive, endocrine, immune or nervous systems to teratogenic or carcinogenic effects; passing through skin and eye irritations.

In Niger, the people generally exposed to pesticides are mainly store managers, technicians from Plant Protection Services (PV) and agriculture agents, illicit pesticide sellers, phytosanitary brigadiers, and those involved in large public treatment operations, especially farmers and artisanal breeders.

Pesticides are extremely dangerous to the environment and people's health, but there are good practices and alternative methods to reduce use and risks to the environment and health.

The use of pesticides is almost systematic in most cases by all the commercial farms in the face of crop pest infestations. Pesticides are imported fraudulently into the country and used with all risks to human health and the environment.

Insecticides account for almost half (49%) of the pesticides found. Thereafter follows herbicides (13) and acaricides (4%).

The most encountered chemical families of insecticides are pyrethroids (51%), organophosphates (28%) and avermectins (21%). Among herbicides, the amino acid family is the most important (40%), followed by that of the sulfonylureas (20%). The Figure below shows that 63% of pesticides sold in the area are not approved by the Sahelian Pesticides Committee (CSP, 2018).

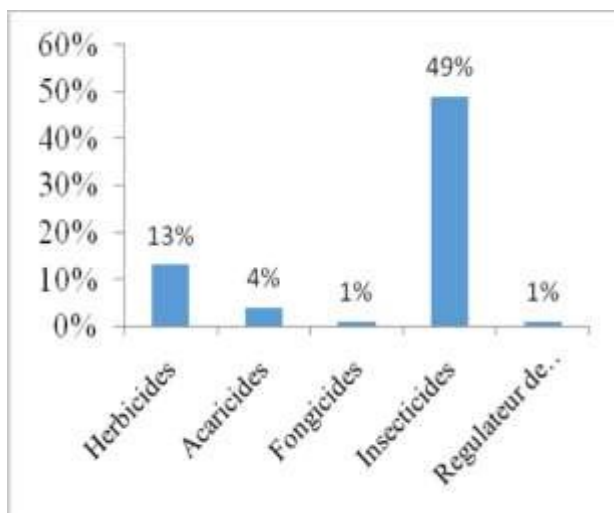


Figure 1: Types of pesticides

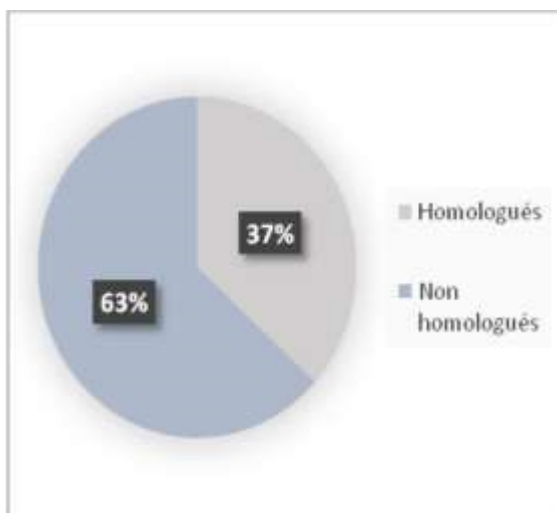


Figure 2: Status of pesticides

4. Alternatives to HHPs used in Niger (Bio, IPM ...)

In Niger, measures are in place across the country to phase out HHPs and to ban already registered dangerous pesticides. Non-chemical control methods are expanding in the country, including actions by several partners in their areas of intervention. With the support of some partners, DGPV and INRAN (Institut National de Recherche Agronomique du Niger) have developed non-chemical methods in collaboration with the University of Diffa to protect cereal, market and forage production.

In some areas (Tahoua, Tillabéri, Diffa, Maradi, Agadez), biological control is successfully applied against the borer caterpillar of the *Heliocheilus albipunctella* millet, by multiplying and releasing its natural enemy *Habrabracon hebetor*.

Biological control was applied against grasshoppers using the bio-pesticide GREEN MUSCLE, based on an entomopathogenic fungus, *Metarhizium anisoplae*. During several campaigns, this bio pesticide was sprayed by trucks and even by planes in the Goudoumaria Division and especially in Mainé Soroa. The trials were successful. Other satisfactory results were obtained with a new strain of this fungus, NOVACRID, tested in the regions of Zinder (Belbéddji) and Diffa (Goudoumaria), respectively in 2016 and 2017.

Other initiatives are underway with the use of natural products such as *neem* or *chilli* to control certain pests. Integrated pest and disease management is an economic control system that employs all appropriate techniques and methods to keep the pest population at economic threshold levels: the use of resistant/tolerant varieties, appropriate cultivation practices and rational application/use of pesticides (with an emphasis on organic pesticides).

Through the Farmers' Field Schools, the projects promote this concept, which emphasizes the use of non-chemical control methods and the rational use of pesticides for pest control. This approach is used to monitor new pests such as the tomato's caterpillar *Tuta absoluta* and the fall legionnaire caterpillar *Spodoptera frugiperda* to avoid introduction to other areas. There is

no official data about organic farming, but rather some practices are carried out via projects financed by international organizations like the World Bank, IFAD, etc.

5. Availability of policies supporting phase out of HHPs

Policies to phase out of HHPs in Niger are taken first at the sub-regional level with the Inter-State Standing Committee for Drought in the Sahel (CILSS) consisting of nine member states: Burkina Faso, Cape Verde, Gambia, Guinea Bissau, Mali, Mauritania, Niger, Senegal and Chad. Since 2014, CILSS has had thirteen (13) member states with the accession of Guinea, Togo, Côte d'Ivoire and Benin. As part of the implementation of the PPR (Projet Pôles Ruraux), CILSS will have a role to play through its two institutions, the AGRHYMET (Agro- Hydro-Météorologie) Regional Centre and the Sahel Institute (INSAH) for pesticide registration.

The Economic Community of West African States (ECOWAS) agricultural policy aims to reverse heavy trends in West African agriculture by attempting to remove barriers to productive investment and improved productivity, and create a favorable trading environment for producers in the region. The overall objective of the West African Economic Community's agricultural policy is to make a sustainable contribution to meeting the food needs of the population, to economic and social development, and to poverty reduction in the Member States, as well as inequalities between territories, areas and countries.

Niger's agricultural policy develops synergies with other sectoral and cross-cutting policies and strategies: livestock, environment, trade, water, health, nutrition, vocational training, meteorology, gender, land use, local development, microfinance, etc. Agricultural policy provides a unifying framework for all existing agricultural strategies focused on the following themes: horticulture, agricultural mechanization, seeds, input supply, large irrigation, small irrigation, rice farming, and promotion of the 27 agricultural professional organizations, plant health legislation and environmental monitoring. Agricultural policy fits perfectly with:

- Sustainable Development and Inclusive Growth Strategy (SDDCI Niger 2035);
- The Economic and Social Development Plan (PDES) which is consistent with the political orientations of the "Renaissance Programme" of the President of the Republic and the General Policy Declaration (DPG) of the Prime Minister;
- The 3N initiative "Nigerians Feed Nigerians";
- International Strategies and Programmes (SDGs), Continental (African Union Agenda 2063) and Regional (ECOWAS and UEMOA- Union Economique et Monetaire Ouest Africaine-Strategic Plans)

At the national level, there is no a clear policy of HHPs elimination in Niger. Rather, HHPs elimination policies are integrated into the national agriculture policy that incorporates the various international conventions signed by Niger through the Pest and Pesticide Management Plans.

6. Availability of policy supporting organic agriculture, IPM...

Organic farming is not sufficiently developed in Niger, but some attempts are being made at the level of INRAN and ICRISAT (Institut international de Recherche sur les Cultures Tropicales en Zones Semi-arides), two national research institutions, some development projects (such as the Climate Risk-Sensitive Agriculture Support Project) and some agricultural enterprises.

Practices are taking place as a replacement for conventional agriculture, but this does not go without some challenges. Reforms are under way, particularly in terms of policy and support to producers.

The State encourages initiatives, notably with the organization of a forum on technological innovations for agriculture, livestock and environment fairs.

7. Suggestions on ways forward

Agricultural strategies and policies need to be updated to adequately meet production needs (quantity) but also consumer demand (quality). For this, reforms must be initiated by our States, in particular through regional and sub-regional structures, in order to translate them at the national level. The fight for the elimination of HHPs involves strengthening the capacities of producers and non-governmental organizations, the adoption of non-chemical agricultural practices and the promotion of alternative methods.

This supposes an accentuation of the control of the imports of HHPs in Niger and the sensitization of the farmers on the risks on health and the environment, but especially on the knowledge of HHPs.

Farmers can avoid HHPs only when they are able to differentiate them from approved and / or non-toxic products.