

## REDUCING THE USE OF HAZARDOUS PESTICIDES IN GEORGIA

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### Abstract

In Georgia, approximately 4 kg of pesticides on average are yearly applied on tilled soil, whereas various used pesticides are produced in Europe and their analogue pesticides in China, India, Turkey or Bulgaria. From August 2010 to July 2012, the project entitled Reducing the use of hazardous chemicals in developing countries: potential of implementing safer chemicals including non-chemical alternatives - tools for Georgia and the EECCA region, was implemented by WECF and its Georgian partners. One of the core aims of the project was to invest the usage of pesticides in agriculture in Georgia, its legislative regulation and to identify and demonstrate the usage of non-hazardous bio pesticides in agriculture.

As found by means of the project, in Georgia, the liberalisation of legislation in the field of hazardous chemicals has been

done through a very simplistic approach, and in many cases, the only action to be taken was the elimination of this or that law. At the same time, Georgia became party to a number of international conventions and treaties and country made important commitments on proper chemicals management. One of the findings of the project was that pesticides available on the Georgian market are partly not authorised, most of them being low quality chemicals. Packaging and marking of pesticides are neither regulated nor controlled. Distribution networks, users and consumers are unaware of the risks related to pesticides application. Interventions are indispensable, such as awareness raising, establishment and implementation of strict regulations on marking, packaging and labelling of harmful chemicals. Current regulations related to harmful chemicals and chemical substances should be reviewed. The first

step undertaken by the project team was the responsibility to develop a handbook with a pesticide database in Georgian language. Besides developing information materials on substitution of harmful pesticides, the project established a demonstration plot on organic farming and a safe pest management for the cultivation of crops and vegetables.

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### Keywords

Legislative regulation, authorisation, pesticides, agriculture.

### Introduction

Georgia is situated in the South Caucasus region, bordered by Armenia, Azerbaijan, Russia and Turkey. Georgia had 4.4 million inhabitants in 2011, 49% of which lived in rural areas. According to

statistical data, total area of tilled soil in Georgia is 472 thousand ha, with 100.215 ha under perennial crops. Up to 370.000 ha of this area (excluding the farms with small parcels up to 0.2 ha) is potential user of pesticides. From August 2010 to July 2012, the project Reducing the use of hazardous chemicals in developing countries: potential of implementing safer chemicals including non-chemical alternatives - tools for Georgia and the EECCA region was implemented by the Georgian NGO Greens Movement Georgia, SEMA, the Georgian Environmental and Biological Monitoring Association (GEBMA) and coordinated by WECF. The project received financial support from the SAICM Quick Start Programme Trust Fund. The aim of the project was amongst others to invest the usage of pesticides in agriculture in Georgia (Caucasus), its legislative regulation and to identify and demonstrate the usage of non-hazardous bio pesticides in agriculture. The presented project was based on 2 approaches: Firstly, investigation of the legal aspects of hazardous chemicals and its implementation; secondly, providing recommendations and information, accompanied by awareness raising, demonstration on substitution of hazardous chemicals in agriculture.

### Legal aspects of hazardous chemicals

Before 2003, the legislation of Georgia was mainly based on the approaches and norms remaining from the Soviet period, which made the requirements for production, use and disposal of hazardous chemicals stricter than in following period. After 2003, in line with general liberalisation of the legislation, the laws in the field of production, use and disposal of hazardous chemicals were also liberalised, which had a negative influence on the issues of protection of human life, health and economic interests. The project observed that liberalisation of legislation in the field of hazardous chemicals in Georgia has been done through a very simplistic approach, and, in many cases, the only action was eliminating a certain law without providing a substitution. The following laws were abolished:

The Law on Licensing of Activities in the Field of Production of Agrochemicals, Trade with Agrochemicals, Laboratory Activities in the Field of Agro-chemistry and Soil Protection and Detecting the Quality of Agrochemicals and on Issuance of Import and Export Permits for Agrochemicals; the Law on Licensing Production of and Trade with Pesticides and

Permits for their Export/Import, as well as for Import and Transit of Phytogenous Products Subject to Control; the Law on Hazardous Chemicals and the Georgian Sanitary Code.

At the same time, Georgia became party to number of international conventions and treaties, and country-made important commitments, including those in the field of hazardous chemicals. These international conventions, including 2001 Stockholm Convention on Persistent Organic Pollutants that obliges Georgia to ban 9 most hazardous for the environment pesticides (endrin, toxaphene, aldrin, dieldrin, heptachlor, chlordane, mirex, DDT and benzachlor) and extremely hazardous chemical group (polychlorinated biphenyls).

Despite the fact that in Georgia issues covered by the Stockholm Convention are regulated by not less than 4 ministries and many lower level state authorities, there still is not any legal act in place that corresponds to the obligations outlined in the convention. For example there is no regulating relation between these structures, and the rights and responsibilities of the Focal Point are not defined, neither the requirements for accountability and creation of unified national database. Since 2004, Georgia is a party to 1998 Rotterdam Convention on the Prior Informed

Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, which regulates international trade procedures for 37 hazardous chemicals. Amongst others the Rotterdam Convention sets out the following:

- Procedures for including new chemicals into the list of chemicals controlled by the Convention;
- Measures for raising public awareness, educating and informing the population of the countries on hazardous chemicals and cooperation between the countries in this area;
- Measures for improving efficiency of hazardous chemical monitoring and studies.

Convention also allows for exemptions:

- Upon request of the country, it can use one of the banned pesticides for a certain period of time;
- If the country registers its intention, it can produce or use DDT within the strictest framework of WHO requirements and only in cases when the purposes are local and the substance cannot be replaced by other accessible, efficient and allowable alternative means.

To summarise, at the current stage, the level of compliance of Georgia with the regulation of hazardous chemicals is far from satisfactory. Serious deficiencies in the field of informing the consumers have been identified.

Status of enforcement of the hazardous chemical import regulations

It was observed from the obtained documents that despite the legal ban, large quantities of the chemicals included in the list of the banned materials of the Ordinance No 133/n (26.03.2001) of the Minister of Labour, Health and Social Security are still being imported to Georgia. The investigation demonstrated that a number of chemicals banned are represented just by a generalised code; for instance, code 3808 50 000 00 includes the list of banned pesticides. Despite the ban, those chemicals are being imported under the general code and it is impossible to identify which substances in particular and for which purposes have been imported. In the period from January to March 2011, a total amount of 563 kg chemicals with the code 3808 50 000 00 were imported mainly from Turkey and China. Further, some of the chemicals included into the list of the Ordinance

No 133/n (26.03.2001) of the Minister of Labour, health and Social Security are not coded at all.

Georgian pesticide market

According to the official state statistical data, the total area of tilled soil in Georgia is 472.000 ha, with 100.215 ha under perennial crops. Up to 370.000 ha of this area (excluding the farms with small parcels up to 0.2 ha) are potential users of pesticides (approx. 4 kg/ha)

Currently, in such a small country as Georgia, up to 190 active substances and about 400 of their various derivative complex preparations are being registered. The total annual quantity of imported pesticides is about 1300-1500 tons, whereas in 2010, approximately 8000 kg of chemicals regulated by Rotterdam and Stockholm Conventions were imported to Georgia (based on the Customs Office data).

Year	Insectici des (kg)	Fungicides (kg)	Herbici des (kg)	Germici des (kg)	Rodentici des (kg)	Other (kg)	Total kg
2011	264 589	773 051,6	328 076,2	32 917	25 775	84 920,4	1 509 329
2010	240 337	804 266	166 387	780	39 054	54 640	1 305 464

Table 1: Overview of import of pesticides in 2010 into Georgia by types. (Source: web page of the Ministry of Finance)

Various pesticides from Europe produced by the companies like BASF, Syngenta, Bayer, Newfarm or Dupont, and their analogue pesticides produced in China, India, Turkey and Bulgaria, are being sold at Georgian market. In the experts' opinion, the European products are of higher quality, technologically purified and respectively expensive. As for Chinese, Indian and Turkish products, both, in terms of their price and purity and affectivity, the quality is relatively low; hence, their reliability is doubtful and their impact on the environment and human health due to unfiltered additional substances even more adverse. For the purpose of importing cheap chemicals, some importers register several analogues of one and the same chemical produced. For example, Fungicide "Acrobat" produced in China is much cheaper and its quality is much lower compared with its European analogue. Active substance

of the widely used preparation "dust" is Deltamethrin is registered in veterinary, but applied for plants protection as well, against various sucking mites and gnawing bugs. Though there are about 150 specialized pesticide shops, farmers' houses, and distribution networks, consumers are unaware of the risks related to pesticides' application, storage and disposal. Further packaging and marking (Georgian text and application instructions on the labels) of pesticides are neither regulated nor controlled.

Adequate measures are needed To mitigate the risks of harmful environmental impacts of the pesticides, the project identified the following required measures:

- The strictest regulations of marking and labelling the harmful chemicals should be

established, providing maximum information about harmful properties of such substances;

- Current regulations of storage, packaging, distribution and application of harmful chemicals and chemical substances should be reviewed;
- Mechanisms necessary for implementation of monitoring of turnover of the harmful chemicals within the country should urgently be introduced ;
- To achieve full transparency of turnover of the harmful chemicals, the codification system and mechanisms should be improved;
- Extensive campaign should be arranged to improve the awareness of population of pesticides' application safety rules;
- Personal protection means should be

available at all specialized shops, and such personal protection equipment should be offered along with the application instructions, and their use should be compulsory;

- A reliable data base on the properties of authorized pesticides should be made available in Georgian language to importers, retailers, authorities and farmers;
- A campaign on the substitution of harmful pesticides should be initiated.

Steps moving forwards:

Set up of a pesticide database in Georgian language

Due to the observed illegal import, the low awareness on the risks of pesticides among authorities, users and other stakeholders, the project took the responsibility to develop a handbook with a pesticide database in Georgian language. The Handbook presents the basic principles on pesticides toxicity and safe use, and on safe alternatives of hazardous pesticides. For each in Georgia registered pesticide of the main groups, namely organo-chlorines, organo-phosphorus compounds, carbamates, organic mercury compounds, copper and arsenic contained compounds and pyrethroids, information is given on its chemical formula, CAS, IUPAC numbers, phys-

ical and chemical properties, preventive and first aid measures, etc. It is intended for practitioners, agricultural workers, toxicologists, health physicians, teachers and students of universities, scientists and others. Synonyms and trade names of pesticides are arranged in alphabetical order.

Steps moving forwards:

Substitution of harmful pesticides

Unlike artificial technologies, currently ecologically clean production is being significantly promoted and demand for them grows annually all over the world. Adaption and implementation of the regulations on pesticides, dissemination of information on substitution of harmful pesticides should be the main task for a safer agriculture in Georgia. Therefore, the project started with providing the information about the alternative pesticides, their reliability and effectiveness in order to mobilise decision makers:

- A booklet with practical instructions on how to prepare plant tinctures for crop protection, as safe crop protection was developed for farmers, NGOs, training and extension services.
- The effectiveness of local-made preparations of bio-pesticides was demonstrated

The impact of crop rotation, intercropping and features of permaculture were made visible.

- One Georgian company has developed successfully certified bio-pesticides against mildew, false mildew and phytophthora and were launched on the market.
- The project has inventoried the policy vacuum on chemicals management and brought together stakeholders. A document with policy recommendations in cooperation with a wide range of stakeholders was produced and presented to all relevant policy-makers.
- The project raised awareness with the European Commission on chemical safety. The European Commission is negotiating the accession contract with the Georgian Government, where Georgia has to adapt its legislation to the EU legislation. This includes a proper legislation on harmful chemicals.

Conclusions

The project has been a major advance in promoting chemical safety in Georgia. The vacuum in policy created by political and economic transitions in recent years, has created a situation in which there is little awareness of chemical safety issues,

and public ability to regulate chemical use and protect workers and the public has declined.

The project has raised awareness both among policy makers and the public, built alliances among government, private sector, and non-governmental staff, demonstrated viable alternatives to the most hazardous chemicals in the agricultural sector, and raised the capacity of public officials and NGO staff to continue dealing with the daunting issues of chemical safety across the country

Though this project was an extremely important first step, it created political will in several departments of the ministries. However, there is still a limited number of people, organizations, companies, and government officials who recognize the scope of the problem and the urgency of alternatives. So work like this will need to continue to raise awareness and introduce new solutions, policies and practices.

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