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BOOK OF ABSTRACTS

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**On behalf of the Ivane Javakhishvili Tbilisi State University
Thank you for participating in the International Conference**

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SCIENCE – CARTOGIS - PLANNING – GOVERNANCE**

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LAND USE ON SOILS POLLUTED BY HEAVY METALS AND PESTICIDES IN SOUTHERN UKRAINE

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Abstract

Soil is an invaluable natural resource that provides man with the necessary food resources. Today, soil pollution is a global problem because it has a detrimental effect on the soil and the environment as a whole. This is primarily due to the use of modern cultivation technologies in agricultural production and difficult environmental conditions.

Soil pollutants include heavy metals, pesticides, a number of derivatives of carbon, sulfur, fluorine nitrogen, synthetic organic substances, radionuclides and other harmful substances.

Recently, increased attention has been paid to the problem of soil and environmental pollution by heavy metals. They pose a great danger to both humans and natural and agricultural ecosystems. This is due to the fact that these elements accumulate quite quickly in the soil, but are very long removed.

Pesticides are widely used to eradicate diseases and pests of agricultural plants, which cause enormous damage to both soil and plants, which impairs their environmental friendliness. Pesticides spread over large areas and remain in the soil for a long time. When the least volatile components are used, more than half of the active substances are released directly into the atmosphere at the time of exposure, and eventually end up in various ecosystems that accumulate in significant quantities in the soil.

Once outside agroecosystems, pesticides have a negative effect on various components of natural ecosystems: they inhibit plant growth, reduce the biological productivity of phytocenoses, and ultimately pose a danger to humans. Pesticides containing chlorine (DCT, hexachlorane, dioxin, dibenzfuran, etc.) are

not only highly toxic, but also extremely biologically active and able to accumulate in various parts of the food chain.

Organization of land use on soils contaminated with heavy metals and radionuclides, aimed at obtaining products that meet sanitary and hygienic standards, as well as to prevent the spread of pollution, reduce or eliminate it.

Prevention of pollution due to economic activity is ensured by compliance with agricultural technologies (strict regulation of mineral fertilizers, plant protection products), regulatory system of organizational and territorial measures for livestock farms, production centers, mineral fertilizer storage facilities, design of special environmental engineering structures. Special organizational, agro-technical and agrochemical measures are applied to land use in polluted landscapes.

Keywords: land use, heavy metals, soil pollution.