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## MILITARY ACTIVITY INFLUENCES ON THE GEOLOGICAL ENVIRONMENT

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The armed conflicts of the people always influenced upon geological surrounding, already since then, when for attack or protection the person took in hands a stone to throw it or to construct protective fortifications. In territory of Ukraine since for a long time past years there exist many evidences of the lithosphere involving in struggle/ There are numerous destroyed and preserved castles and fortresses (Chotyn, Kamjanec-Podilsky, Medzyboz, Lutzk, Ostrog, Dubno, Sudack and other), fortress and ramparts (rampart of Trojan on area between the Danube and Dnjestr , the ramparts of Snake (Zmijov - in Ukrainian) southward from Kiev etc.). A choice of settlement places, the way of accommodation and built-up of habitation and other objects always took into consideration the danger of attack from the hostile neighbours.

On an example of Ukraine and its capital of Kiev one can see the negative and destructive impact of wartime upon components of geological environment and natural objects. We consider the most known of them:

- Tatar-Mongolian invasion XIII Century, which has brought for a long time decline of the country, - large cities have been completely destroyed (Kiev, Chernigiv, Perejaslav, Korosten and other);
- Struggle of Liberation of the Ukrainian people in XVII-XVIII Centuries , when Ukraine has become constant arena of the large states of Europe and Asia of Poland, Turkey, Russia and Sweden collisions. The complete destruction and devastation of large areas (Podillja, Wolyn, Hallychyna) took place. This interval of a history of Ukraine has received the name "Ruin".
- World War I and the Civil war (1914-1921) has also captured the whole territory of Ukraine, were accompanied by large destructions and robbery of Ukraine, export of its riches both to West and to East.

Cynical, unreasonable policy of the hostile for Ukraine forces its territory in 1939-1945 was transformed into continuous range of armed struggle with application of tremendous means of destruction and destruction. The influence of these events on geological environment at that time was maximum as a result of construction and destruction of fortifying, as well as destruction of villages, bridges, industrial objects. Especially significant damages of

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geological environment provoked destruction of shafts and mines on Donbass, Kryvbass, in other regions.

It is impossible to pass over in silence mass murders and disposition of burials in inappropriate places, that polluted underground waters.

During World War II in the territory of Ukraine more than 700 cities and settlements were destroyed 28 thousand Ukrainian villages became ruins. It was difficult to count material input, nevertheless the soviet researchers have estimated them in 1,2 billion of roubles, and it makes close 30 % of national riches of Ukraine.

After the World War II numerous troops were located in the territory of Ukraine. Its industry has become a constant appendage of mighty military-industrial complex of the former Soviet Union and was involved into unprecedented race of arms exhausting natural resources of the country. One of typical examples is the industrial history of Krivoj Rog region including large reserves of iron ores. The main part of these ores has been excavated and used for arms fabrication, meanwhile this process has resulted in "moon landscape" forming with enormous mountains like accumulation of harmful waste poisoning water and atmosphere.

It is difficult to model the generic situation of military-industrial complex and military activity negative impact upon geological environment due to absence of sufficient data. The data being available in publication show only separate reflections of a real situation.

We possess specific information concerning pollution of underground waters in neighbourhoods of military bases and airdromes due to inappropriate storage and spills of oil products (Belaya Cerkov city, pollution of neighbouring park "Alexandria", Dubno, Lutsk and other sites), degradation of natural relief in training areas of air, tank forces etc. (for example, bombing area in the limits of reservation "Tovtry").

The volume of resources having been used for arms and weapon production was enormous. For the instance only Ukrainian army carries out the elimination of 2000 modern tanks and the same quantity of armoured cars.

In the last decades the arms race has penetrated into the space that had provided significant increase of areas, speeds and capacity of hostilities impact upon the Earth surface. Finally the use of modern is capable to provoke strong disturbances of lithosphere, earthquakes and to break a mode of the Earth as of a space body.

Thus due to accumulation of enormous volumes of mighty weapons the mankind has faced the perspective of self-destruction, degradation of biosphere and finally the disturbance of the space order.

Hence, the problem of humanity survival as a whole comprises two aspects: political and technical.

The technical aspect comprises economically and ecologically accepted weapons reduction and restoration of territories having been exposed to destructive impact of host, facilities and military activity. The main aspects of territories and sites of military activity restoration are considered in the paper.