Environment Pollution and Climate Change

Zhang, Environ Pollut Climate Change 2017, 1:2

Editorial OMICS International

Pay Attention to the Heavy Metals Research of Environment in Arid Regions of Northwest China, and Central Asia

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Introduction

Heavy metals are an important class of pollutants which can produce considerable harm to the environment when they are above certain concentration [1]. In these days, heavy metals pollution are detected in the rivers, lakes, soils and atmosphere environment of the world, where have relatively much more man-made pollutions, such as mining area, factory parks, busy ports and gulfs, and sewage irrigation regions, etc. The research contents referred the total amount, the chemical forms and the biotoxicity of heavy metals of the environment [2].

In arid regions of northwest China and Central Asia, there have not so much pollution sources compared with eastern China, and other part of the world that with rapid economy progress. The high contents of heavy metals of the environment are often caused by relatively high natural background values. Such as in the soils and water environment (including rivers, lakes) of Tianshan Mountains, there have relatively high contents of Arsenic element, and in early 1980s, there found the first local Arsenic poisoning region of China in Kuitun, Xinjiang autonomous region, which made very serious threat to local human health [3]. But until now, researches about heavy metals pollution statue, potential ecology risks for the environment, health risks for the peoples as well as the chemical forms, the bio toxicity and the migration and transformation of the environment (including in rivers, lakes and soils) are insufficient.

According to our preliminary investigation, there have relatively high contents of heavy metals Zn, Cu, and As metalloid) of the sediments in rivers, lakes, and soils in north slope of xs and these made very serious potential threat for the environment and local people, because when the natural conditions changes such as the water amount of the rivers and lakes and the pH values of the soils, as well as the change of the precipitation and temperature of the basin, these all may made the migration and transformation of the high background heavy metals of the environment [4,5].

In current research, I suggest we should pay much attention to the researches on the pollution statue, potential ecology risks' assessment and health risks' evaluation as well as the chemical forms, the biotoxicity and the migration and transformation of heavy metals of the environment in northwest China and central Asia, where have similar economic development and natural geographical conditions. Meanwhile during the research, some new precision technological mean such as DGT (Diffusive Gradients In Thin Films) should be used in monitoring the release and the migration and transformation of heavy metals of the rivers, lakes and soils, (nowadays, in the research of the interface between sediment and water in Aibi lake, that located in north slope of Tianshan Mountains DGT has been used to monitoring the release of heavy metals). Then we can made valuable references for the protection of the eco-environment, the sustainable development of the fisheries, and the aquaculture and the protection of the human health of the region.

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Received October 18, 2016; **Accepted** October 19, 2016; **Published** February 26, 2017

Citation: Zhang Z (2017) Pay Attention to the Heavy Metals Research of Environment in Arid Regions of Northwest China, and Central Asia. Environ Pollut Climate Change 1: e105.

This article was originally published in a special issue, **Environmental Climate Change** handled by Editor(s). Arthur Viterito, Professor of Geography, USA