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## Conseil des droits de l'homme

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**Promotion et protection de tous les droits de l'homme,  
civils, politiques, économiques, sociaux et culturels,  
y compris le droit au développement**

## **Rapport du Rapporteur spécial sur les conséquences néfastes des mouvements et déversements illicites de produits et déchets toxiques et nocifs pour la jouissance des droits de l'homme, Okechukwu Ibeanu**

Additif

### **Mission au Kirghizistan\* (30 septembre-9 octobre 2009)**

#### *Résumé*

Le Rapporteur spécial s'est rendu au Kirghizistan du 30 septembre au 9 octobre 2009, à l'invitation du Gouvernement kirghize. Sa mission avait pour objectif d'examiner les problèmes liés aux mouvements et déversements illicites de produits et déchets toxiques et nocifs et leurs effets néfastes sur les droits de l'homme. Il s'est penché sur trois questions en particulier: les résidus d'uranium, les pesticides obsolètes ou interdits et les déchets contenant du mercure. Pendant sa mission, le Rapporteur spécial a rencontré un grand nombre de représentants du Gouvernement et d'acteurs non étatiques et a visité des décharges ou des installations de stockage pour produits chimiques dangereux ou déchets à Orlovka, à Kara-Balta et à Kant.

Le Rapporteur spécial salue les progrès réalisés par le Kirghizistan dans l'action qu'il mène pour faire face aux graves menaces transfrontières que font peser les résidus d'uranium sur la santé et l'environnement dans les pays d'Asie centrale et pour faire appel à la communauté internationale afin de trouver une solution à long terme à ce problème. Il accueille également avec satisfaction les mesures prises par le Gouvernement kirghize pour promouvoir et protéger les droits de l'homme des personnes et communautés qui vivent à

\* Le résumé du présent rapport est distribué dans toutes les langues officielles. Le rapport proprement dit est joint en annexe au résumé, et il est distribué dans la langue originale et en russe seulement.

proximité de sites d'entreposage des résidus ou d'installations de stockage pour produits chimiques obsolètes. Parmi ces mesures figurent l'élaboration d'un plan national visant à protéger la santé et l'environnement contre les effets néfastes des polluants organiques persistants et la mise en œuvre, avec l'appui de la communauté internationale, de plans de réhabilitation d'urgence de certains sites d'entreposage de résidus désignés comme prioritaires.

En dépit des progrès réalisés, le Rapporteur spécial recense un certain nombre de défis importants dans le domaine de la gestion des déchets radioactifs et des produits chimiques. Il formule plusieurs recommandations sur les mesures à prendre pour éliminer ou réduire autant que possible les effets néfastes des déchets radioactifs et des matières dangereuses, y compris des pesticides, sur la santé et l'environnement des personnes et des communautés touchées. Ces recommandations sont notamment les suivantes:

- a) Déplacer les résidus d'uranium et les pesticides à base de polluants organiques persistants les plus dangereux vers des sites plus sûrs;
- b) Réhabiliter les mines abandonnées, les sites de résidus d'uranium et les installations de stockage de déchets afin de prévenir la contamination de l'environnement et l'accès non autorisé à ces matières;
- c) Procéder à une évaluation complète des effets néfastes des matières radioactives et dangereuses sur la santé des personnes et communautés vivant à proximité des sites d'entreposage de résidus et des installations de stockage de produits chimiques dangereux;
- d) Améliorer le cadre réglementaire applicable à la gestion des déchets radioactifs et des produits chimiques en vue de garantir sa conformité avec les normes et règles internationales;
- e) Préciser les rôles et fonctions des différents ministères et organismes publics prenant part à la gestion des déchets radioactifs et des produits chimiques, et créer des mécanismes appropriés en vue de garantir une coordination et coopération accrues entre ces institutions;
- f) Organiser des campagnes d'information et des actions de sensibilisation portant sur les risques que font peser les installations de stockage de déchets dangereux et radioactifs sur les populations locales et l'environnement, et sur les mesures de sécurité destinées à réduire ces risques.

## Annexe

### **Report of the Special Rapporteur on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights on his mission to Kyrgyzstan**

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## **I. Introduction**

1. The Special Rapporteur on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights conducted a country visit to Kyrgyzstan from 30 September to 9 October 2009. He would like to thank the Government of Kyrgyzstan for allowing him to carry out a very informative and productive visit.

2. The agenda for the visit of the Special Rapporteur was arranged in close cooperation with the Ministry of Foreign Affairs, the United Nations Development Programme (UNDP) in Kyrgyzstan and the Regional Office of the High Commissioner for Human Rights (OHCHR) for Central Asia. The Special Rapporteur wishes to thank all those involved in the preparation of his mission for their valuable cooperation and assistance.

3. The aim of the mission was to examine, in the spirit of cooperation and dialogue, existing problems relating to the movement and dumping of toxic and dangerous products and wastes and their adverse effects on human rights, with a view to making concrete recommendations and proposals on adequate measures to control, reduce and eradicate these phenomena. In particular, the visit offered the Special Rapporteur a valuable opportunity to consider the progress made, and the difficulties encountered, by Kyrgyzstan in reducing the transboundary threats that uranium tailings, obsolete or banned pesticides and mercury waste pose to the health and the environment of countless individuals and communities living in Central Asia.

4. During his visit, the Special Rapporteur met with senior representatives of the following: the Ministry of Foreign Affairs, including the Minister of Foreign Affairs, Kadyrbek Sarbaev; the Ministry of Emergency Situations; the Ministry of Agriculture, Water Resources and Processing Industry; the Department of Sanitary and Epidemiological Surveillance of the Ministry of Health; the State Agency for Environmental Protection and Forestry; and the State Agency for Geology and Mineral Resources. The Special Rapporteur also met members of the Parliament (Jogorku Kenesh), representatives of United Nations specialized agencies, programmes and bodies, academics, civil society organizations and representatives of the private sector.

5. The Special Rapporteur had the opportunity to visit a number of sites where toxic and dangerous products and wastes are stored, including uranium tailings in Orlovka and Kara-Balta, as well as storage facilities for obsolete pesticides and chemicals in Kant. During the course of the on-site visits, the Special Rapporteur was able to meet local residents. He also visited analytical laboratories in Bishkek and Orlovka.

## **II. General information**

6. Kyrgyzstan is located at the juncture of two major mountain systems: the Tien Shan and the Pamir. About 94 per cent of its territory lies over 1,000 metres above sea level, and more than half is at an elevation higher than 2,500 metres. The climate is sharply continental: air temperature varies from -40°C in the winter to +40°C in the summer.

7. Due to its geological features and climatic conditions, the country is exposed to many forms of natural disasters, including mudslides and landslides, flooding during the snow-melt, avalanches and others. The whole country is classified a zone of high tectonic activity, and an estimated 40 per cent of the population lives in a zone, which includes Bishkek, that is at risk of earthquakes reaching a strength of 9 on the Richter scale. The most vulnerable areas are valleys where human settlements, transport and other infrastructure are concentrated. Jalal-Abad and Osh oblasts are the areas most frequently

affected by earthquakes. The latest deadly earthquake struck Osh oblast in October 2008, killing more than 70 people.

8. The total population was 5.3 million in 2007. Bishkek, the capital and the largest city, has approximately 900,000 inhabitants; Osh, the second largest city, has a population of 220,000. About two thirds of the population live in rural areas. Almost half of the population lives below the national poverty line. Significant disparities exist between urban and rural areas: in 2007, the urban poverty level was 28.3 per cent, as opposed to 55 per cent in rural areas.

9. High unemployment rates, decreases in living standards and lack of social protection force a large number of individuals to leave their villages to find employment opportunities and a better standard of living elsewhere, either abroad or within the country. About 400,000 citizens leave the country every year. Most choose to migrate, both legally and illegally, to Kazakhstan and the Russian Federation. The number of Kyrgyz labour migrants officially registered as living and working in these countries was about 600,000 in August 2009. The main direction of internal migration flows is from the impoverished south to the more prosperous northern regions, in particular to the capital city. Since independence (1991), the population of Bishkek has almost doubled because of the large inflow of migrants.

10. Kyrgyzstan is rich in natural resources. It possesses substantial reserves of gold and water, and also produces mercury, uranium, antimony, beryllium and rare earth metals. Kumtor, an open-pit gold mine located in the Tien Shan mountains, is one of the largest gold deposits in the world. In 2005, the mine's production accounted for 6.2 per cent of the gross domestic product (GDP) and 38.5 per cent of industrial output. The decline in gold output that the country experienced in recent years has significantly slowed the overall growth of the Kyrgyz economy, although growth rates recovered in 2007.

11. Agriculture also continues to be a significant economic sector. Although its share of GDP has declined since the mid-1990s – mainly owing to the start of large-scale gold mining in the country – agriculture still accounts for around one third of GDP, and employs more than 50 per cent of the total labour force. Because of the country's mountainous topography, animal husbandry remains a significant part of the agricultural output. Main crops include tobacco, cotton, vegetables and fruits.

### **III. Legal framework**

#### **A. International obligations**

12. Kyrgyzstan is a party to seven core international human rights treaties and five protocols, including the International Covenant on Economic, Social and Cultural Rights, and the International Covenant on Civil and Political Rights and its Optional Protocol. Pursuant to these treaties, the country has undertaken an obligation to protect individuals and communities within its jurisdiction by eliminating, or reducing to a minimum, the risks that hazardous products and wastes pose to the enjoyment of several human rights, including the rights to life, the enjoyment of the highest attainable standard of physical and mental health, safe and healthy working conditions, food, safe drinking water, adequate housing, access to information and public participation.

13. Kyrgyzstan has ratified a number of multilateral environmental agreements regulating the sound management and disposal of toxic and dangerous products and wastes, including the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, the Rotterdam Convention on the Prior Informed Consent

Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and the Stockholm Convention on Persistent Organic Pollutants.

14. It is also a party to several conventions negotiated under the auspices of the United Nations Economic Commission for Europe, including the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention), the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) and the Convention on the Transboundary Effects of Industrial Accidents.

15. International agreements ratified by Kyrgyzstan are incorporated into national legislation (art. 12, para. 3, of the Constitution) and can be directly applied in national courts.

## **B. Constitutional and legislative framework**

16. The Constitution, approved by referendum in October 2007, has supreme legal force and direct application in Kyrgyzstan. It recognizes a number of human rights and fundamental freedoms, including the right to life (art. 14), the right to healthy and safe conditions of work (art. 28) and the right to protection of health (art. 34). According to article 35, the citizens of Kyrgyzstan have the right to a healthy and safe environment, as well as the right to obtain compensation for damage caused to their health or property by activities involving the exploitation of natural resources.

17. Since its independence, Kyrgyzstan has enacted a number of legislative and regulatory acts to protect the environment and natural resources. They include Framework Law No. 53 of 16 June 1999, on environmental protection, which lays down the basic principles of environmental protection in many regulatory areas, including waste management, hazardous chemicals and access to environmental information and education, and Law No. 54 of 16 June 1999, on environmental expertise, which provides detailed regulations on the environmental impact assessment procedure to assess the adverse impact that economic or other activities may have on the environment. A draft environmental code is currently being reviewed by the Parliament. The code seeks to codify in a single legal instrument environmental norms previously scattered in a large number of laws and regulations, some of which will be repealed *de jure* or *de facto*.

18. Law No. 168 of 1 August 2003, on radiation safety of the population of the Kyrgyz Republic, and Law No. 57 of 26 June 2001, on tailings and mining dumps, are aimed at protecting human health and the environment from the adverse effects of ionizing radiation sources. The former defines the main responsibilities of the Government, ministries, State agencies and local administrations in the area of radiation safety, and lays down general rules for the protection of the local population and the environment in the event of a radioactive accident. The latter establishes basic principles to monitor the safety of uranium tailings and mining dumps and ensure the sound storage, transport, disposal or recycling of the radioactive materials they contain.

19. Kyrgyzstan has adopted several laws and regulations on the sound management, transport and disposal of hazardous products and wastes. In accordance with the existing regulatory framework, hazardous products and wastes fall into different categories: pesticides, highly toxic chemicals, potentially toxic chemicals, industrial or domestic wastes, oil products, medicines and medical wastes, uranium tailings and waste dumps.

20. The registration of potentially hazardous chemicals is carried out in accordance with Law No. 60 of 26 June 2001, on the sanitary and epidemiological well-being of the population, Government Resolution No. 376 of 27 July 2001, on measures to protect the environment and human health from the adverse effects of some hazardous chemicals and

pesticides, and Resolution No. 279 of 13 July 1995, on the National Registry of Potentially Toxic Chemicals, which are aimed at collecting information on the intrinsic properties and potential uses of hazardous chemicals, their possible adverse effects on human health and the environment, and the measures and precautions to be adopted to ensure their proper handling, management and disposal. Law No. 12 of 25 January 1999, on chemicalization and plant protection, and Regulation No. 62 of 5 March 2003, on the registration of pesticides and agrochemicals<sup>1</sup> lay down the rules and procedures for the testing and registration of pesticides.

21. The management and disposal of toxic wastes is regulated by Law No. 89 of 13 November 2001, on industrial and domestic waste. The national definition of hazardous wastes is in accordance with annexes I and II of the Basel Convention. Licences for hazardous waste management are issued pursuant to Law No. 12 of 3 March 1997, on licensing. Restrictions on the transit, import and export of hazardous wastes and other wastes for final disposal and for recovery are regulated by Government Resolution No. 193 of 6 April 1999, on measures to control the transboundary movement of hazardous and other wastes.

22. The issues of access to information, participation in decision-making and access to justice are dealt with in the Constitution as well as in several legislative and regulatory acts, including the Law on environmental protection, the Law on environmental expertise, Law No. 943-XII of 2 July 1992, on health protection, and Law No. 167 of 1 August 2003, on occupational safety and health. Law No. 213 of 28 December 2006, on access to information held by public authorities and local administrations, seeks to promote the effective implementation of the Aarhus Convention, but the procedures currently in place are not sufficiently detailed to make its legal provisions applicable in practice.

#### **IV. Institutional framework**

23. Unlike other countries in the region, Kyrgyzstan has not established a regulatory body with overall responsibility for nuclear and radiation safety. The control over enterprises mining or processing uranium ores, the management of abandoned radioactive and toxic waste dump sites, and the protection of the population and the natural environment against radioactive contamination fall under the jurisdiction of a number of ministries, State agencies, regional and local governments, scientific institutions, State-owned analytical laboratories and private enterprises, including:

(a) The Department for Monitoring and Forecasting Emergency Situations and Managing Tailings, of the Ministry of Emergency Situations, which is responsible for the management and monitoring of uranium tailings and waste dumps of closed enterprises in order to prevent possible threats to the safety of population and the environment arising from environmental or man-made disasters. The Department is also responsible for the rehabilitation and the recultivation of uranium tailings;

(b) The Department of Sanitary and Epidemiological Surveillance, of the Ministry of Health, which monitors the implementation of relevant health and safety standards to prevent possible adverse effects caused by radioactive and toxic materials or wastes on human health;

(c) The State Agency for Environmental Protection and Forestry, which monitors, through the issuance of licences and a system of periodic inspections, the activities of functioning mining enterprises to prevent environmental contamination. The

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<sup>1</sup> Issued by the Ministry of Agriculture, Water Resources and Processing Industry.

Agency also maintains contacts with the International Atomic Energy Agency (IAEA) and is responsible for the implementation of relevant IAEA standards;

(d) The State Agency for Geology and Mineral Resources, which exercises control over the rational use and conservation of mineral resources by mining enterprises and provides expert advice on issues concerning radiation safety.

24. Several Government bodies, scientific institutions and private laboratories collect and analyse data on the radiological or ecological safety of radioactive and toxic waste storage facilities, including:

(a) The State Agency for Hydrometeorology (Kyrgyzhydromet) under the Ministry of Emergency Situations, which monitors radioactive contamination of the atmosphere in Bishkek and other major cities through daily measurements;

(b) The Department of Sanitary and Epidemiological Surveillance of the Ministry of Health, which monitors the radioactivity of drinking water and surface-water samples;

(c) The Ministry of Emergency Situations, which sporadically measures radiation levels in and around tailing sites, usually at the request of local communities or after natural processes which could endanger the stability of the tailings;

(d) The GeoPribor Scientific Engineering Centre at the Institute of Geomechanics and Mineral Prospecting of the National Academy of Sciences, which monitors dangerous natural or anthropogenic processes and their possible impact on the safety of dams in tailings and waste dumps;

(e) Private radio-ecological or geochemical laboratories, such as the Chui Ecological Laboratory in Kara-Balta, which monitor radioactivity levels at the request of private enterprises or Government agencies.

25. As in the case of radioactive waste management, several ministries, State agencies, local authorities, scientific institutions, and State-owned and private laboratories have competencies in the field of chemicals management. They include:

(a) The Department of Chemicalization, Plant Protection and Quarantine, of the Ministry of Agriculture, Water Resources and Processing Industry, which tests and approves fertilizers and pesticides that can be used in Kyrgyzstan, keeps a Government list, and oversees the import, management, transport and utilization of chemicals in agriculture;

(b) The Ministry of Health, which coordinates overall policy on chemical safety and manages the National Registry of Potentially Toxic Chemicals. Its Department of Sanitary and Epidemiological Surveillance monitors the use of pesticides and fertilizers in agriculture in order to prevent their possible adverse effects on human health;

(c) The State Agency for Environmental Protection and Forestry, which monitors the implementation of existing legislation on chemicals and waste management to prevent possible adverse effects on the environment and serves as the Government focal point for the implementation of the Basel Convention, the Stockholm Convention and the Rotterdam Convention. The Agency also issues licences to authorize the transboundary movement and disposal of toxic substances, including persistent-organic-pollutant (POP) pesticides.

26. These institutions also monitor the impact of pesticides and agricultural chemicals on human health and the environment. The laboratories of the Department of Chemicalization, Plant Protection and Quarantine, for example, measure residual concentrations of pesticides, including DDT and products of its decomposition, in crops, soil, water and air. The laboratories of the Department of Sanitary and Epidemiological Surveillance determine the levels of pesticides in foodstuffs, soil, drinking water and



workplace air, while the Department of Environmental Monitoring of the State Agency for Environmental Protection and Forestry collects and analyses air, water and soil samples to monitor the impact of pesticides on the environment.

27. A number of Governmental or inter-agency commissions have been established to facilitate coordination and cooperation between different ministries and State agencies with responsibilities in the field of radioactive waste or chemicals management. Commissions are headed, as a rule, by the minister or a deputy minister, and organizational aspects are handled by the lead agency (usually, the Ministry of Emergency Situations for radioactive waste management and the Ministry of Agriculture for pesticides). Such commissions are usually established on an ad hoc basis either to fulfil a specific task, as is the case with the coordination committee charged with elaborating a national implementation plan in compliance with the requirements of the Stockholm Convention, or to cover specific aspects of radioactive waste or chemicals management. At present, there are no mechanisms to facilitate consultation and coordination between central Government bodies and local administration.

## V. Positive developments

28. The Special Rapporteur notes with appreciation that since independence the country has ratified, or acceded to, several international human rights and environmental treaties, and played an active role in international and regional forums to address human rights and global or regional environmental issues.

29. The Special Rapporteur welcomes the efforts made by the Government of Kyrgyzstan to address the significant threats that uranium tailings and hazardous waste dumps pose to human health and the environment, as reflected in two major strategic documents on environmental protection and sustainable development adopted by the Government in recent years.

30. The Country Development Strategy for 2009-2011, which is the mid-term overall development strategy of the Government, includes the rehabilitation of radioactive and hazardous dump sites among its strategic priorities related to environmental protection. This goal is linked to the Strategy's mid-term objective of ensuring the safety of the population and territories of Kyrgyzstan and its neighbouring countries from emergencies involving radioactive and toxic contamination. The Ecological Security Concept 2007-2020 also includes the sound management and rehabilitation of uranium tailings and toxic waste dump sites among the country's long-term priorities in the field of environmental protection.

31. The Government of Kyrgyzstan has successfully managed to attract funds from donors and international organizations to build country capacity and preparedness to tackle the transboundary threats that uranium tailings and hazardous waste dumps would pose to the local population and the environment in case of natural disasters. At present, the Ministry of Emergency Situations is implementing a total of 33 project proposals, amounting to a total of US\$ 142 million. For instance, the World Bank is implementing a project to minimize radiation exposure in the Mailuu-Suu area and to improve the effectiveness of emergency preparedness and response by national and subnational authorities and local communities. The Organization for Security and Cooperation in Europe is carrying out several projects to improve the socio-economic situation in towns affected by uranium tailings and hazardous waste dumps by creating conditions for generating income, such as the provision of grants and microcredits to women and young people to run small businesses.

32. The Government of Kyrgyzstan is also playing an instrumental role in raising international awareness and mobilizing donor assistance to find a long-term solution to the serious transboundary threats of contamination of groundwater resources and rivers located in the Central Asian region and their possible adverse effects on the local populations. On 29 June 2009, the Government and UNDP organized a high-level international forum in Geneva entitled “Uranium Tailings in Central Asia: Local Problems, Regional Consequences, Global Solution”. The forum brought together high-level delegations from Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan, members of the donor community, representatives of international and regional organizations and financial institutions, and experts from the region to discuss radioactive management issues in the region.

33. In the final joint declaration, participants reaffirmed their readiness to resolve problems of radioactive and toxic waste through joint actions, and stressed the importance of preventive measures to rehabilitate contaminated areas in accordance with the highest safety standards and best mining practices. They also highlighted the importance of international and regional cooperation in addressing the transboundary threats posed by uranium legacy sites, and urged the international community to continue supporting Central Asian countries in their efforts in this area.

34. The Special Rapporteur also wishes to congratulate the Government of Kyrgyzstan for the progress made in the field of chemicals management. In July 2006, the State adopted a national plan to implement its obligations under the Stockholm Convention on Persistent Organic Pollutants. The plan aims at protecting human health and the environment from the adverse effects of POPs. A preliminary inventory of existing stockpiles of POP pesticides and POP-contaminated sites has been elaborated on the basis of the national implementation plan. Priority measures as defined in the plan include the harmonization of national legislation with international laws on POPs, the creation of a National Coordination Committee and Chemical Safety Centre, the establishment of a POP inventory, national capacity-building on monitoring and evaluation, the elimination of stockpile sites, the improvement of public awareness and education, and the promotion of research.

35. Lastly, the Special Rapporteur notes with satisfaction the enabling legal and regulatory framework established to facilitate access to environmental information held by public authorities. He also commends the involvement of non-governmental organizations and the general public in decision-making processes, for example in the discussion of draft legislation or in environmental-impact assessment procedures.

## **VI. Issues of concern**

### **A. Uranium tailings**

36. The countries of Central Asia were the main suppliers of uranium in the former Soviet Union. Large-scale uranium ore mining and processing in the region led to the creation of a large amount of radioactive and toxic wastes, which have been stored in waste dumps and tailings.

37. Uranium tailings are a by-product of milling, which is the process of grinding the ore and adding chemicals, usually sulphuric acid, to extract the uranium it contains. Mining and milling remove hazardous constituents from the ore and convert them to a fine sand, then sludge, whereby the hazardous materials become more susceptible to dispersion in the environment. In addition to radioactive materials (uranium, thorium-230 and radium-226), the sludge contains heavy metals (lead, arsenic, mercury, rare-earth metals) and chemical reagents used during the milling process.

38. The Special Rapporteur notes with concern that unless properly managed to ensure their long-term stability and security, uranium tailings and waste dumps pose significant threats to the enjoyment of human rights, including the right to life and the right to health.

39. Acute exposure to ionizing radiation can cause burns and radiation sickness, and, depending on the dose, can result in death within hours or days. Long-term, low-level (chronic) exposure is known to cause various forms of cancers, and can also have other adverse health effects, including damage to the nervous system, genetic defects and mental retardation in children. Exposure to heavy metals like lead, mercury or arsenic can also lead to severe long-term health effects, including cancer and damage to the nervous, digestive, reproductive and respiratory systems. In particular, lead has long been associated with the permanent reduction of the cognitive capacity of children, even at extremely low levels of exposure.

40. Today, Kyrgyzstan hosts 92 uranium tailings and waste dumps containing more than 254 million cubic metres (about 475 million tons) of radioactive or toxic wastes. The Ministry of Emergency Situations is responsible for the management of 36 tailings and 25 dumps of closed mining enterprises which were abandoned after the fall of the Soviet Union, whereas tailings and waste dumps of functioning mining companies remain under the control of the enterprises. Major sites include Mailuu-Suu, Min-Kush, Ak-Tyuz, Orlovka and Kara-Balta.

41. Radioactivity levels vary from one site to another, with open and dilapidated sites having higher levels of radioactivity. In Mailuu-Suu, for example, background radiation on the surface of the tailings is between 100 and 600 microroentgens per hour (mR/hr) (the maximum permissible level is 17 mR/hr), and radioactivity levels in private houses are four times higher than the maximum permissible levels. According to some experts, radiation levels in certain places can be as high as 2,000-3,000 mR/hr.<sup>2</sup>

42. Potentially dangerous natural processes were not taken into account during the planning and construction stages of radioactive or toxic waste storage facilities. Most sites are located near towns and villages, in mountainous areas characterized by high seismic activity and soil erosion processes typical of mountainous regions (floods, mudslides and landslides). Natural phenomena such as earthquakes or floods can damage the dam or destroy it altogether, while seepage may cause contamination of surface water and groundwater resources.

43. Furthermore, most tailings sites are situated near the banks of transboundary rivers (Naryn, Mailuu-Suu, Chu, Sumsar) that form the base of the large water basin of the Central Asian region. Since Kyrgyzstan is situated at the upper portion of the region's water basins, a natural disaster at one of the sites would quickly spread radioactive and toxic wastes into the neighbouring countries, threatening the life, health and environment of an estimated five million people living in the densely populated Ferghana or Chui valleys.

44. In December 1964, one of the tailings dumps in Ak-Tyuz was damaged by mudflows, and around 600,000 cubic metres of radioactive and toxic wastes flowed into the Kichi-Kemin and Chu Rivers. This resulted in the contamination of the lower part of the Kichi-Kemin Valley, which is shared with Kazakhstan. In 2002, an examination of soils near the Chu River in Kazakhstan showed continued high levels of thorium, its decay

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<sup>2</sup> See, for example, the framework document prepared for the High-Level International Forum on "Uranium Tailings in Central Asia: Local Problems, Regional Consequences, Global Solution", Geneva, 29 June 2009, p. 84. Available from <http://www.un.org.kg/en/un-in-kyrgyzstan/what-we-do/article/233-what-un-does/3557-uranium-tailings-in-central-asia>.

products, and other toxins, which are peculiar to rare-earth production.<sup>3</sup> Less serious accidents took place in Mailuu-Suu in 1994 and 2002, when mudslides blocked the course of the Mailuu-Suu River and threatened to submerge another waste site.

45. Many tailings sites and waste dumps of closed enterprises lie in dilapidated conditions, without any fencing or warning signs to prevent unauthorized access. Due to the low awareness of the consequences of exposure to the radioactive and hazardous materials contained in these sites, local populations sometimes break into abandoned uranium mines or scavenge in tailings and dump sites to collect metal structures, construction materials, electrotechnical equipment and cables which are later sold on the black market or used for construction and domestic needs. In recent years, two men died in Kadji-Sai and one died in Mailuu-Suu after collecting contaminated scrap metal at the tailings. Furthermore, people graze animals on the tailings and use the heavily contaminated drainage water of tailings for animal husbandry and agriculture, thereby exposing themselves to additional sources of ionizing radiation through contaminated meat, dairy products or vegetables.

46. During his visit to uranium legacy sites, the Special Rapporteur witnessed the serious social impact that the curtailment of uranium production has had on local communities that once relied heavily on the uranium ore mining and processing industry. Although no comprehensive study has been carried out to analyse the magnitude of this problem, poor socio-economic conditions are visible in almost every populated area and region where uranium mining and processing were carried out.

47. The economic decline of these once booming towns can be seen in the overall worsening of living conditions, characterized by high unemployment rates, deterioration in the quality of education and health care and limited access to sources of pure drinking water and uncontaminated food products. The lack of employment opportunities and the environmental degradation caused by the uranium ore mining and processing industries have in turn forced large parts of the working-age population, in particular men, to migrate to Bishkek or abroad.

48. Finally, the Special Rapporteur notes that the lack of any form of control to prevent unauthorized access to abandoned uranium mines or radioactive waste storage facilities poses a remote, but potentially serious, risk of possible terrorist theft of radioactive materials. In recent years, the Central Asian region has witnessed political instability and the spread of religious extremism, with some of the Central Asian Islamist groups believed to have terrorist ties. Kyrgyzstan does not possess highly enriched uranium (which can be used to produce nuclear weapons); however, it is uncertain whether highly radioactive materials – which could be used to produce radiological dispersal devices (“dirty bombs”) – exist inside the tailings or in abandoned equipment at these sites, due to large-scale abandonment after the break-up of the Soviet Union and lack of access to Soviet-era documents.

## **B. Obsolete and banned pesticides**

49. During Soviet times, almost 5,000 tons of pesticides were used annually in the country, and pesticides containing POPs, which were outlawed during the Soviet era, accounted for 30 per cent of the total quantity. According to a preliminary inventory, 104.7 tons of outdated or banned pesticides, including 31.9 tons of POPs, are buried at 183 sites in the regions of Osh, Chui, Issyk-Kul and Naryn.<sup>4</sup> However, the Special Rapporteur was

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<sup>3</sup> Ibid., p. 24.

<sup>4</sup> Kyrgyzstan, National Implementation Plan for the Stockholm Convention on Persistent Organic

informed that stockpiles existing in the country could be significantly larger, since large quantities of obsolete or banned pesticides appear to be stored on private farms.

50. Obsolete pesticides are usually stored in warehouses or burial sites that do not meet basic safety requirements. Burial areas are not fenced off and/or marked with warning signs, and local populations are generally not aware of the dangers associated with the improper handling or use of chemicals stored in the warehouses. Some of these sites have been fully or partly destroyed, and construction materials have been removed and used to build houses, mosques or shelters for domestic animals. Other stores have been re-equipped to be used for different purposes, such as for storing agricultural produce. In many cases, the pesticide packaging has been damaged, and pesticides have been washed away by rain, causing widespread environmental pollution.

51. The Special Rapporteur considers that obsolete and banned pesticides, including POP pesticides, represent one of the major environmental challenges the country faces today. He notes that chronic, low-level exposure to hazardous pesticides that had expired or were outlawed during Soviet times could cause a wide range of potentially life-threatening medical conditions, including cancer, kidney and liver dysfunction, hormonal imbalance, immune system suppression, birth defects, premature births, reproductive disorders and learning disabilities. The adverse impact of chronic, low-level exposure to pesticides on human rights, including the rights to life and to the enjoyment of the highest attainable standard of physical and mental health, has been explored by this mandate (see E/CN.4/2006/42).

52. The Special Rapporteur also notes that POP pesticides, such as DDT or dieldrin, are particularly harmful to human health and the environment. POPs persist in ecosystems for long periods, and accumulate in the fatty tissue of living organisms, including humans. Such pollutants have the potential to harm humans and other organisms even at concentrations that are commonly found in ordinary foods. There is good medical evidence linking POPs to potentially fatal illnesses, including various forms of cancer, birth defects and reproductive and neurological disorders. POPs are particularly harmful to the developing foetus and to infants, which are exposed to them through breast milk.

53. High levels of DDT and other POPs have been found in the soil and in surface water and groundwater resources around many burial sites, as well as in vegetable oil, meat, dairy products and vegetables throughout the country. According to a study carried out by the Ministry of Health in 2004, samples of breast milk of women who live in rural areas in the south showed high levels of DDT and other POP pesticides, and POPs were also found in the placenta and amniotic fluid of over one third of pregnant women examined. Children from southern regions are more often diagnosed with iron-deficiency anaemia, tuberculosis, viral hepatitis and acute respiratory viral infections than children from other areas of the country. Furthermore, the incidence of some hormone-dependent tumours, such as breast and ovarian cancers, has increased among women from cotton- and tobacco-growing areas.

54. Due to the lack of proper control at the storage facilities and the low standards of living of rural populations, banned pesticides are sometimes stolen from burial sites, and either sold in local markets or smuggled into neighbouring countries, especially Uzbekistan. In addition, obsolete, prohibited or poor quality pesticides, such as DDT manufactured in China, continue to be illegally imported into and exported out of the country due to the lack of adequate controls at the borders with China and Tajikistan. Such pesticides are frequently unlabelled or are labelled with information that farmers or agricultural workers cannot read (because they are not in local languages or because of insufficient literacy).

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Pollutants (2006).

## C. Mercury

55. The mercury plant in Khaidarkan, wedged in the remote mountains of southern Kyrgyzstan, began operating in 1941, and is today the world's last known mercury mine which supplies primary mined mercury to the global market. While other mercury mines elsewhere in the world have closed their activities under the pressure of growing international concern regarding mercury pollution, the remoteness of Khaidarkan and its unfavourable climatic and geographic conditions have so far discouraged any effort to identify alternatives to mercury mining. The majority of the population – about 10,000 people – is directly or indirectly employed by the mercury mine, which explains the apparent indifference of many people in town to the threat that mercury mining poses to their health and the surrounding environment.

56. Mercury was widely used in thermometers and scientific instruments (due to its unique chemical properties), as well as in many other products and processes. Its use, however, is being reduced throughout the world due to its toxicity and the availability of substitutes. Certain forms of mercury and its compounds can damage neurological development and affect internal organs. Effects are most pronounced in pregnant women, infants and children. Mercury can spread far and wide through air and water, and is ingested by fish and other marine life, where it becomes concentrated as it moves up the food chain.

57. Mercury contamination poses a significant risk to the local population and the environment. Mercury mining and processing in Khaidarkan has generated over 13 million tons of slag, 4 million tons of tailings and several million tons of waste rock, which have been deposited in close proximity to the town.<sup>5</sup> Next to these huge deposits, there also is a smaller sludge pond that contains several thousand tons of high concentration mercury waste originating from the mercury purification process. Due to the lack of containment, water drains from these waste sites, polluting surrounding agricultural lands and surface and groundwater used for irrigation or drunk by cattle in the area.

58. Limited studies on the impact of mercury on the health of local population have shown that mercury has accumulated in various tissues and parts of the body (hair, blood, urine) of the persons analysed. Maximum levels were registered among workers employed in the mercury plant. Higher concentrations of mercury were also observed in children's blood and in the milk of nursing mothers. Although no comprehensive study has been carried out to assess the extent of mercury contamination, elevated mercury concentration, often exceeding maximum allowable concentration norms, have been recorded in air and water resources in areas surrounding large enterprises that are currently producing or had produced mercury in the Batken and Osh oblasts.

59. The United Nations Institute for Training and Research and the United Nations Environment Programme have assisted Kyrgyzstan in developing an action plan on primary mercury mining in the country and its impact on human health and the environment. The aim of the action plan, which is currently being considered by the Government, is to facilitate the closure of the mine and the replacement of the present mercury mining operations in the area with other viable economic activities (small-scale gold mining, non-metallic mining, agriculture and artisanal activities). The plan is also aimed at raising public awareness on the harmful impact of mercury on health and the environment and at

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<sup>5</sup> United Nations Environment Programme (UNEP), *Khaidarkan Mercury: Addressing Primary Mercury Mining in Kyrgyzstan* (Nairobi, UNEP and United Nations Institute for Training and Research, 2009), pp. 24-25.

identifying environmentally acceptable and economically affordable rehabilitation techniques to deal with contaminated waste and land.

60. The Special Rapporteur notes with concern that, according to information received, an increasing amount of mercury is illegally imported into the country and obtained by artisanal or small-scale miners from “unofficial” sources for gold refining. He is concerned that artisanal or small-scale miners may not use safety equipment such as gloves, dust masks, boots and glass retorts in the course of extracting and processing gold or be aware of the risks associated with handling mercury or other dangerous chemicals used for the amalgamation of gold. The Special Rapporteur also notes that existing legislation, which prohibits the use of mercury and other dangerous products during the extraction process, is not properly enforced due to the lack of sufficient financial and human resources.

#### **D. Legislative and institutional framework**

61. The Special Rapporteur notes that despite the efforts made by Kyrgyzstan to implement the various human rights and environmental agreements to which it has become a party, the existing legal framework on the sound management and disposal of hazardous products and wastes remains obsolete and not effectively harmonized with international norms and requirements. He notes in particular that most of the legislation on environmental protection is of a framework nature, and requires the adoption of more detailed laws or regulations to be effectively applied. In this regard, the Special Rapporteur regrets that the draft environmental code, which seeks to develop a comprehensive legal framework for environmental protection in accordance with the international environmental obligations undertaken by the country, has not yet been adopted.

62. The existing regulatory framework on radioactive waste management and radiation safety needs to be elaborated and developed further in several areas. Radiation and environmental safety norms and standards are obsolete. Existing laws and regulations do not clearly define the procedures to be followed in the event of a natural or man-made disaster resulting in the release of radioactive or toxic materials into the environment, nor do they specify the measures that need to be adopted to prevent such accidents and ensure the sound management of uranium tailings and waste dumps. Furthermore, there is a critical lack in the regulatory basis for the rehabilitation and recultivation of uranium tailings, for licensing procedures and for monitoring.

63. Norms and standards on chemicals management are scattered over a great number of laws and regulations. The Special Rapporteur notes that some chemical substances fall into more than one category, which makes it difficult to identify the applicable legal regime, while others do not seem to be covered by any regulation. He is of the view that this situation of legal uncertainty risks undermining the protection of human health and the environment from the threats arising from the unsound handling, management, use, transport and disposal of hazardous chemical products.

64. In Kyrgyzstan, a number of ministries, State agencies and local authorities are involved in the design, implementation, enforcement and monitoring of legislation and policies on radioactive waste and chemicals management, with no strict delineation of functions and little coordination of their respective actions. This situation makes it difficult to identify the role and specific competencies that different institutions have. Furthermore, their functions and responsibilities often overlap, since they are identified not on the basis of a specific group of substances (for example pesticides, highly toxic or potentially toxic substances, radioactive substances and wastes), but rather on the nature of their activities (health care, environmental protection and so on).

65. The Special Rapporteur notes with concern that the overlapping functions carried out by these Government authorities, and the lack of an effective mechanism to ensure their coordination and cooperation, have so far hampered the efforts undertaken by Kyrgyzstan to minimize the adverse effects that the unsound management and disposal of hazardous chemicals and radioactive wastes have on the enjoyment of human rights. He is aware that several governmental and inter-agency commissions have been established on an ad hoc basis to facilitate a coordinated approach on specific aspects of radioactive waste or chemicals management, but is of the view that a better coordinated approach is needed in order to eliminate the duplication of responsibilities that characterizes the current system of radioactive waste and chemicals management. The Special Rapporteur is also concerned at the lack of effective mechanisms to facilitate consultation and coordination among central Government bodies and regional and local administrations.

66. In the last decade, the country has experienced a number of institutional changes in its Government, which have in turn affected the institutional framework for the management of hazardous products, including pesticides, and toxic wastes. One of the negative consequences of this frequent restructuring is the lack of management continuity. For instance, a new environmental authority – the State Agency for Environmental Protection and Forestry – was created in 2005 after its separation from the structure of the former Ministry of Ecology and Emergency Situations and established as an independent body under the Government. The Special Rapporteur is seriously concerned about the current status of the national environmental authority, which is lower than that of a ministry. The Director of the Agency does not participate in Cabinet meetings. Furthermore, a State agency is not as well positioned as a ministry to organize and manage the activities of an inter-agency commission.

## **E. Monitoring mechanisms**

67. The Special Rapporteur notes with concern that the status of uranium tailings, toxic waste and pesticide storage facilities is not monitored in a systematic way due to the lack of sufficient human, technical and financial resources. This situation has so far prevented Kyrgyzstan from carrying out a comprehensive assessment of the impact that radioactive wastes, POP pesticides and other hazardous substances have on the environment and on the health of people living in the regions where storage facilities are located. As a result, no Governmental institution or private laboratory possesses comprehensive information on the radiological or ecological safety of these storage facilities and the potential risks they pose to local populations and the environment.

68. Ministries and State agencies do not have adequate financial resources, the technical means or sufficient expertise to ensure the adequate maintenance and rehabilitation of existing storage facilities for radioactive or toxic wastes. State-owned analytical laboratories are both understaffed and overloaded, and suffer from a regular brain drain of specialists possessing knowledge and skills in this field. A lack of equipment needed for the calibration of instruments for measuring radioactivity compromises the accuracy of the data obtained. Private radio-ecological laboratories, such as the Chui Ecological Laboratory in Kara-Balta, usually have better equipment and instruments for monitoring and measuring radioactivity levels, but there is no unified approach in their work, and no coordination with the work carried out by Government agencies. They also suffer from limited financial resources, a shortage of qualified staff and lack of equipment needed for the verification and calibration of instruments needed for measuring radioactivity.

69. Control over the activities of private enterprises is hampered by the existing restrictions on access to industrial sites. Enforcement authorities, including the State Agency for Environmental Protection and Forestry, can carry out only one annual planned



inspection, regardless of the risk posed by the industrial site. Further inspections need to be requested, and authorized, in advance. This results in increased risk of accidents and persistent non-compliance.

## **F. Access to information**

70. The Special Rapporteur is seriously concerned that despite the serious risks that radioactive waste and obsolete pesticides pose to human health and the environment, public awareness on these issues remains alarmingly low. Information on the status of the uranium tailings and waste dumps is limited, especially at the local level, due to failures of the primary data collection system owing to inadequate infrastructure and resources for continuous environmental monitoring. In addition, lack of knowledge of these issues and poor reporting by journalists negatively affect the quality of information provided by the mass media.

71. Local populations near contaminated areas often poorly perceive the real or potential dangers that hazardous substances pose to their health. For example, several misconceptions on radiation exposure persist, such as the idea that exposure to low levels of radiation is beneficial to health. Apart from small-scale initiatives undertaken at the local level, no information campaign or awareness-raising activity has been organized to inform local populations and the public in general about the potential harmful impact posed by radioactive waste and obsolete pesticides and the measures to be adopted to minimize the risks. The limited information available at the local level also negatively affects the right of local communities to participate in the design, implementation and monitoring of strategies aimed at reducing the risks posed by hazardous products and wastes dumped or stored near their villages.

72. The Special Rapporteur notes with concern that health and safety legislation concerning chemicals management is not effectively enforced, and that employees in the chemical or energy sector who handle hazardous chemicals are often unaware of the risks that these chemicals pose to their health and the protective measures they must adopt in order to reduce these risks. Similarly, farmers and the public in general have limited access to information on chemicals available in the country, including chemicals that are illegally imported or exported. In this regard, the Special Rapporteur notes that hazardous chemicals are usually sold at the local markets by unqualified persons, and that instructions on how to use the pesticides and minimize health risks are either unavailable or provided in foreign languages (mainly in Chinese).

73. The Special Rapporteur is concerned that despite the efforts undertaken by Kyrgyzstan to transpose the Aarhus Convention into national legislation, some challenges still exist in the implementation of the country's normative framework on access to information, public participation in decision-making and access to justice on environmental matters. The country has not yet developed a detailed strategy or an action plan for the implementation of the Aarhus Convention. The general public is still not sufficiently familiar with the Aarhus Convention, and the lack of training opportunities for civil servants hinders public involvement in the decision-making process.

74. The Special Rapporteur also notes that there is no or insufficient information on many aspects of the state of the environment, as highlighted above. When information is available, it is often accessible only in hard copy at public offices in Bishkek and other major cities, which hinders access to information for individuals or organizations from rural areas. Electronic information is scarce, and access to it is in practice limited to those individuals and organizations having access to the Internet.

## **G. International cooperation**

75. The Special Rapporteur notes with concern that the country has neither defined its national priorities for foreign funding in the areas of radioactive waste and chemicals management nor elaborated a clear strategy to guide foreign donors. International financing and technical assistance from abroad have not always been used as efficiently as they should due to the lack of effective coordination among the various ministries, State agencies and regional and local authorities involved in the design and implementation of legislation and policies on radioactive waste and chemicals management. He also notes that while the donors have set up their own strategy - the Joint Country Support Strategy - to improve the efficiency of their assistance to the country, too often they follow their own development strategies, which are not always country-needs oriented.

## **VII. Conclusions and recommendations**

76. **The mission to Kyrgyzstan allowed the Special Rapporteur to learn more about the legislation, policies and practice of the country in the field of sound management and disposal of toxic and dangerous products and wastes. In particular, the mission offered a valuable opportunity to assess the progress made and difficulties encountered by the State in addressing the adverse effects of uranium tailings, obsolete or banned pesticides and mercury waste on the enjoyment of human rights.**

77. **In order to assist the country in identifying and prioritizing its action in the field of radioactive waste and chemicals management, the Special Rapporteur would like to recommend the adoption of the following measures.**

### **Priority measures**

78. **The Special Rapporteur recommends that Kyrgyzstan take, as a matter of priority and with the assistance and support of the international community, all appropriate measures to eliminate, or reduce to a minimum, the threats that uranium tailings, toxic waste dumps, obsolete or banned pesticides and mercury waste pose to the enjoyment of human rights of thousands of people living close to these sites.**

79. **Such measures should include the relocation of the most dangerous uranium tailings and persistent-organic-pollutant pesticides to more secure locations and the rehabilitation of abandoned mines, uranium tailings and waste storage facilities to prevent soil and water contamination caused by the seepage and leaking of radioactive and toxic materials.**

80. **Existing facilities for the storage of radioactive and hazardous waste and banned pesticides should be fenced off, marked with warning signs and controlled by armed guards in order to prevent unauthorized access by the population to contaminated materials.**

81. **The Special Rapporteur is of the view that the lack of comprehensive information on the radiological or ecological safety of radioactive and hazardous waste storage facilities and the potential risks they pose to local populations and the environment has so far hampered the efforts undertaken by the country to protect affected individuals and communities from the impact of radioactive and hazardous materials on their human rights, including the right to life, the right to health and the right to a safe environment.**

82. **He therefore urges Kyrgyzstan to carry out, with the assistance and support of the international community, a comprehensive study on the levels of**

radiation/chemical pollution in dump sites and adjacent areas and a comprehensive assessment of the harmful impact of radioactive and hazardous substances on the human rights of people living in the regions where storage facilities are located.

83. The Special Rapporteur encourages the Government of Kyrgyzstan to implement, as a matter of priority and with the technical support of the United Nations Institute for Training and Research and the United Nations Environment Programme, the action plan on primary mercury mining in Kyrgyzstan. In view of the serious adverse impact that mercury may have on public health and the environment, the Special Rapporteur urges the country to consider closing, as soon as reasonably practicable, the mine in Khaidarkan, and replacing the present mercury mining operations with other viable economic activities.

84. The Special Rapporteur calls on Kyrgyzstan to develop and implement, in close consultation with the affected local communities, programmes aimed at improving the socio-economic conditions in villages and towns that once relied heavily on the uranium and mercury ore mining and processing industries. Priority actions should include the creation of new employment opportunities and the improvement of access to education, health care and safe drinking water.

#### Normative framework

85. The Special Rapporteur calls on Kyrgyzstan to finalize the adoption of the draft environmental code.

86. The Special Rapporteur recommends that Kyrgyzstan review and expand its regulatory framework on radioactive waste management and radiation safety in order to ensure its consistency with international norms and standards on radiation safety and the security of radioactive sources.

87. The Special Rapporteur also recommends that Kyrgyzstan review its normative framework on chemicals management, and consider adopting a comprehensive law on chemicals management. Such a law should rationalize existing norms, standards and procedures to protect human health and the environment from the threats arising from the unsound handling, management, use, transport and disposal of hazardous chemical products.

88. Considering that the country is situated at the upper portion of the region's water basins, and taking into account the transboundary threat posed by radioactive and toxic wastes stored on its territory, the Special Rapporteur calls on the Government of Kyrgyzstan to consider ratifying the United Nations Economic Commission for Europe Convention on the Protection and Use of Transboundary Watercourses and International Lakes and its Protocol on Water and Health.

#### Institutional framework

89. The Special Rapporteur believes that the role and functions of the various institutions responsible for the implementation and enforcement of national legislation on radioactive waste and chemicals management at the central, provincial and local levels should be better defined, and appropriate mechanisms should be developed in order to ensure better coordination and cooperation among these institutions.

90. As recommended by the International Atomic Energy Agency (IAEA), Kyrgyzstan should consider establishing an independent regulatory body with overall responsibility for radioactive waste management and radiation safety, and allocate adequate human, financial and technical resources to enable it to carry out its functions.

91. The Government should also consider reviewing the status of the State Agency for Environmental Protection and Forestry, with a view to raising it to that of a ministry.

#### **Enforcement and monitoring**

92. The Special Rapporteur recommends that Kyrgyzstan provide, with the support of the donor community, adequate human, technical and financial resources to the ministries, State agencies, and local authorities which are responsible for the implementation and enforcement of national legislation on radioactive waste and chemicals management.

93. The Government should also allocate, with the support of the donor community, adequate financial resources, technical means and expertise to State-owned analytical laboratories, so as to improve their capacity to ensure accurate measurements of radiation and chemical pollution.

94. The Special Rapporteur calls on relevant international organizations such as the World Health Organization and IAEA to organize professional trainings for staff of analytical laboratories and provide laboratories with state-of-the-art equipment needed to monitor radioactivity levels and to calibrate the instruments used for measuring radioactivity.

95. The current system of environmental inspections should be reviewed. Existing restrictions on access to industrial sites should be eliminated, and inspection authorities should be granted the power to carry out, in addition to the annual planned inspection, additional inspections without prior notice whenever the safety situation at the industrial site so requires.

96. The Special Rapporteur recommends that Kyrgyzstan adopt all appropriate measures to combat the illegal import and export of hazardous products, including mercury and banned pesticides, to and from the country, including the allocation of adequate human and financial resources to custom authorities and the provision of training opportunities for custom officials. The country should also strengthen its capacity to prosecute and punish environmental crimes by, inter alia, organizing appropriate training opportunities for judges and prosecutors.

#### **Right to information and participation**

97. People living near radioactive or hazardous waste storage facilities are often unaware of the serious risks that long-term exposure to radioactive or toxic materials or substances poses to their health and the environment. The Special Rapporteur recommends that Kyrgyzstan ensure, through public information and awareness-raising campaigns, access to information on the status of tailings and waste dumps, on the adverse effects of exposure to radioactive materials or hazardous substances, and on the safety measures to minimize these risks.

98. Information on chemical products sold in the country should be available, accessible, user-friendly, adequate and appropriate to the needs of all stakeholders. People handling hazardous chemicals, such as farmers and employees in the chemical or energy sector, should receive appropriate information and training on such chemicals and their intrinsic properties, and on how to use them in ways that minimize adverse health consequences. The Special Rapporteur calls on the Government to consider ratifying the Convention concerning Safety in the Use of Chemicals at Work, 1990 (No. 170) of the International Labour Organization.

99. Kyrgyzstan should develop a detailed strategy or an action plan for the implementation of the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention). Such a plan should envisage the organization of adequate training opportunities and information campaigns to familiarize civil servants and the general public with the Convention.

#### **International cooperation**

100. The Special Rapporteur considers that better assessment and prioritization of required action at the country level is needed in order to ensure a more efficient use of international financing and technical assistance in the areas of radioactive waste and chemicals management.

101. He also wishes to emphasize that, in accordance with the Charter of the United Nations, international cooperation for the realization of civil, cultural, economic, political and social rights is an obligation of all States. He therefore calls on the donor community, international and regional organizations, financial institutions and the private sector to continue to provide the Government of Kyrgyzstan with assistance and financial support in order to enable it to strengthen the protection of individuals and communities within its jurisdiction from the adverse effects of uranium tailings, obsolete or banned pesticides, mercury and other hazardous wastes.

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