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Consideration of the status and operation of the Treaty and other matters important for achieving the objectives and purpose of the Treaty: victim assistance, environmental remediation and international cooperation and assistance (articles 6 and 7)

Assessments of the consequences of nuclear tests on the territory of Kazakhstan

Report submitted by Kazakhstan

1. The territory of the former Semipalatinsk test site is located at the intersection of three regions of the Republic of Kazakhstan (the Pavlodar, Karaganda and Abai regions).[1] Its total area is 18,311.4 km^2.

2. Over 40 years, from 1949 to 1989, about 456 nuclear tests were conducted on the territory of the Semipalatinsk test site, including 30 surface, 86 aerial and 340 underground nuclear explosions.

3. The test site was closed on 29 August 1991 by decree of the President of Kazakhstan. Since then, Kazakhstan has conducted comprehensive environmental surveys of the test site and has taken measures to dismantle military infrastructure located therein.

4. In 1992, at the initiative of the United States of America and with the support of the Russian Federation, Kazakhstan began the implementation of the international Cooperative Threat Reduction Program, also called the Nunn-Lugar Program. The Program contained a set of measures, including the destruction and decontamination of military infrastructure and facilities remaining on the territory of Kazakhstan after it gained independence in 1991, the dismantlement of strategic offensive weapons, the creation of an export control system, improvement of the management and control of nuclear materials and the conversion of the defence industry.

5. By 2000, the nuclear weapons testing infrastructure at the Semipalatinsk test site had been dismantled and 181 tunnels in the Degelen mountain range, 13 unused boreholes and 12 silo launchers at the Balapan site had been closed.

* TPNW/MSP/2023/1.

[1] From 1939 to 1997, the territory of the Abai region was the territory of the Semipalatinsk region. In 1997, the Semipalatinsk region was incorporated into the East Kazakhstan region. The Abai region was established in 2022 within the territorial frontiers of the former Semipalatinsk region.

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6. In 2020, the Experimental Field site, where 116 air and ground nuclear explosions were carried out, was brought to a safe state.

7. Today, the territory of the Semipalatinsk test site has been completely cleared of the consequences of nuclear military activities that took place before 1991. All the tunnels and wells that were intended for underground explosions of nuclear charges have been put in a condition unsuitable for their originally intended purpose.

Environmental consequences

8. Kazakhstan was the first country in the world to conduct a full-scale assessment of the radiation situation on the territory of a former test site. A comprehensive environmental survey of the Semipalatinsk test site was carried out from 2008 to 2021.

9. A physical protection system has been created at certain facilities of the Semipalatinsk test site, providing reliable physical barriers to exclude unauthorized access.

10. A methodology was developed to conduct a comprehensive environmental survey of land plots where nuclear weapon tests were carried out. The Semipalatinsk test site was converted from a source of military threat to a scientific research facility. To date, 100 per cent of its territory has been surveyed, and more than 2 million field measurements and more than 100,000 laboratory tests have been carried out.

11. In the course of a comprehensive environmental survey, the content of technogenic radionuclides (^{137}Cs, ^{90}Sr, ^{241}Am, $^{239+240}$Pu, ^{3}H) in the main environmental objects – soil, water and air, flora and fauna – was studied, and on the basis of this data, the degree of radiation hazard of the surveyed area was determined. During the survey, areas with significant radioactive contamination were identified, and therefore they fall under the categories of low- and medium-active radioactive waste.

12. The survey made it possible to conclude that radioactive contamination is local in nature and is not spread throughout the entire territory of the site. The main part of the contaminated land is located within the test sites where nuclear weapon tests were conducted: Experimental Field, Balapan, Degelen, Sary-Uzen, Telkem, Aktan-Berli and sites 4 and 4A.

13. In other contaminated sites located outside the test sites, radioactive contamination was formed in two ways: as a result of radioactive fallout from some nuclear tests (traces of radioactive fallout), stretching for tens and hundreds of kilometres from the epicentres of explosions in the south-east and south direction, and as a result of the migration of human-made radionuclides in underground and surface waters outside the test sites.

14. The survey of the Semipalatinsk test site made it possible to determine the boundaries of land plots that pose a radiation hazard to the population, on which it is necessary to carry out measures to eliminate the consequences of nuclear tests, and the boundaries of land plots that do not pose a radiation hazard to the population.

15. Based on the results of the survey, the territory of the Semipalatinsk test site can be divided into two categories:

Category 1 – a territory that poses a radiation hazard to the population and requires the adoption of a special legal status and should be converted to the zone of nuclear safety;

Category 2 – an area that potentially does not pose a radiation hazard to the population and can be recommended for removal from the category of restricted lands.

16. Studies of the radiological and ecological situation on the territories adjacent to the Semipalatinsk test site have been carried out since the first explosion.

17. From 1953 to 1996, the Research Institute of Radiation Medicine and Ecology (formerly, Dispensary No. 4 of the Ministry of Health of the Union of Soviet Socialist Republics) conducted research on the radiation situation in the settlements of the former Semipalatinsk region (now the Abai region) adjacent to the site.

18. After the prohibition of ground and atmospheric tests in 1962, the reduction of local and global fallout and the processes of natural decontamination of soil and radioactive decay, the total volume of radionuclides in environmental objects (soil, vegetation, water) and food of the studied settlements systematically decreases.

19. Joint research has been carried out by specialists of the Research Institute of Radiation Medicine and Ecology and the Research Institute of Radiation Biology and Medicine (Hiroshima University, Japan) since 1995 to study the effects of radioactive fallout from nuclear weapon tests, both on the environment and on the population of the Semipalatinsk region.

20. The outcomes of the research on certain territories outside the Semipalatinsk test site allow to draw the following main conclusions:

- The levels of Cs-137 in soil samples outside the territory of the Semipalatinsk test site and within the Semipalatinsk region are comparable to the global level;
- The levels of Pu239, 240 at many local sites are from 10 to 100 times higher than the global level.

21. Thus, decades after the end of nuclear testing in the atmosphere, short-lived and medium-lived technogenic radioactive elements disintegrated and the relatively long-lived Sr-90 and Cs-137 partially disintegrated and also migrated from the surface to deeper soil horizons. The level of accumulation of Cs-137 in certain territories adjacent to the Semipalatinsk test site does not differ from the general global level. Modern research shows that Pu concentrations are high in these territories.

22. The radiological and ecological situation in the territories adjacent to the Semipalatinsk test site is currently being determined and will be further determined in the future by the level of accumulation of radionuclides, primarily Pu and Am. The real status of environmental pollution by these components has not yet been studied.

Health consequences for the local population

23. The legacy of nuclear tests at the Semipalatinsk test site includes not only the residual radioactive contamination of its test sites and environmental objects but also the consequences of irradiation of the population living in areas of radioactive fallout.

24. Today, according to approximate estimates, there are about 1.5 million people affected by nuclear tests and their descendants.

25. Nuclear testing at the Semipalatinsk test site was the cause of the following challenges and problems:

- The need for a reconstruction and calculation of radiation doses received by the population;
- Determination of the quantitative and age and sex composition of radiation risk groups;

– Estimates of medical and demographic consequences and calculations of medical losses;

– Prevention of radiation-induced diseases and rehabilitation of the affected population.

26. The medical consequences for the population exposed to ionizing radiation are addressed in a number of research papers published by Kazakhstan and foreign scientists. Studies focused on the population in relevant regions of Kazakhstan who were exposed to ionizing radiation as a result of nuclear testing.

27. It was found that even 40 to 48 years after exposure to radiation the average annual prevalence of the levels of most categories and classes of diseases among the affected population and their descendants was significantly higher than in the control groups.

28. In 2018, an assessment of the health status of citizens exposed to ionizing radiation was carried out. The assessment was performed both for persons living in the affected territories and for those living in the rest of Kazakhstan.

29. The prevalence of cancer levels in radiation-exposed individuals and their descendants was significantly higher than in the control groups and ranged from 261.6–278.5 cases per 100,000 population, as opposed to 146.8–154.2 cases in the control groups. The relative risk is 1.73–1.78. In the structure of oncological diseases in the main group, the following diseases prevailed: lung and bronchial cancer (men and women), breast cancer in women, eye cancer, cancer of the brain and other parts of the central nervous system, as well as of the haematopoietic and lymphoid tissue. In the control groups, the share of lung and bronchial cancer and breast cancer in women was two times less than in the main group.

30. The prevalence of circulatory system diseases in the main group also exceeded the control indicators, amounting to 695.3–732.4 cases per 100,000, while in the control groups it amounted to 450.8–470.2 cases. These results demonstrate the established pattern of a significant excess of levels of circulatory system diseases among persons exposed to direct radiation and their second-generation descendants in comparison to the control groups, as well as the effects of premature ageing induced by radiation exposure.

31. The analysis of the dynamics of mortality rates makes it possible to identify the significant excess of mortality in the main group compared with the control groups, both in terms of general mortality and in terms of certain types of diseases as causes of death. The average annual level of general mortality among the population exposed to radiation at a dose of 20 centisievert (cSv) or more was significantly higher than in the control group and ranged from 1,915.6–1,938.4 cases per 100,000, while in the control group it amounted to 1,902.7–1,909.2 cases. The average annual relative risk is 1.74. It was found that the annual damage to the health of the population exposed to radiation at a dose of 20 cSv or more amounted to 361.8 additional cases to the expected cases of diseases per 100,000, including circulatory system diseases (79.6 cases), respiratory diseases (74.7 cases), digestive system diseases (48.2 cases) and malignant neoplasms (46.2 cases) per 100,000. In the same group, 309.4 more deaths per 100,000 were registered, including 187.5 cases from circulatory system diseases, 43.5 cases from malignant neoplasms and 27.3 from respiratory diseases.

32. According to 2021 statistical data (when the Abai region was part of the East Kazakhstan region), the East Kazakhstan region ranked first in mortality from diseases of the circulatory system (408.1 per 100,000 population), second in mortality from malignant neoplasms (94.3 per 100,000 population) and third in registered cases of malignant neoplasms and circulatory system diseases. The total mortality rate among men living in the East Kazakhstan region in 2021 was 15.14 per 1,000 (second place

nationwide). The total mortality rate among women living in the East Kazakhstan region in 2021 was 12.59 per 1,000 (fourth place). The East Kazakhstan region is ranked second in the country for the lowest life expectancy among men (64.68 years), and in terms of women's life expectancy it is ranked third.

33. When analysing the indicators of disability, it was taken into account that the main pathologies that have a causal relationship with radiation exposure are malignant neoplasms and diseases of the circulatory system. In more than 70 per cent of cases, the reason for referral to medical authorities to determine the cause of death related to exposure to ionizing radiation was cancer. As of 2023, the overwhelming majority of citizens who applied for assessment of both disease and cause of death were diagnosed with malignant neoplasms (69.52 per cent), as well as pathologies of the cardiovascular system (27.32 per cent).

34. It is also noteworthy that in addition to the established somatic diseases associated with radiation exposure, in a large percentage of cases, medical specialists register medical and psychological tensions associated with prolonged stressful exposure to radiation, which leads to the formation of radiation-related anxiety, radiophobia and an increase in social anxiety.

Practical assistance to the affected population

35. In order to address the consequences of nuclear testing, the Law of the Republic of Kazakhstan No. 1787-XII on the social protection of citizens who suffered from nuclear tests at the Semipalatinsk nuclear test site was adopted on 18 December 1992.

36. The Law established the classification of territories exposed to nuclear tests and the rates of radiation exposure of the population living in these territories.

37. Depending on the value of the effective equivalent dose of exposure of the population, contaminated territories were subdivided into:

– The zone of extreme radiation risk, with a dose of exposure of the population of more than 100 cSv for the entire duration of testing;

– The zone of maximum radiation risk, with a dose of exposure of the population from 35 to 100 cSv for the entire duration of testing;

– The zone of increased radiation risk, with a dose of exposure of the population from 7 to 35 cSv for the entire duration of testing;

– The zone of minimal radiation risk, with a dose of exposure of the population from 0.1 to 7 cSv for the entire duration of testing;

– A territory with a preferential socioeconomic status, with a dose of exposure of the population below 0.1 cSv for the entire duration of testing.

The classification of territories and the rates of doses were established on the basis of:

– Information from the ministries of the Union of Soviet Socialist Republics involved in the operation of the Semipalatinsk test site;

– Archives of Dispensary No. 4;

– Results of the work of the special commission of the Ministry of Health of Kazakhstan, which included specialists of the former Ministry of Defence of the Union of Soviet Socialist Republics and specialists in radiation hygiene and radiation protection of Kazakhstan and Russia.

38. The classification of territories by radiation risk zones in 1992 was a relevant and objective measure.

39. The territorial principle was the basis for social protection measures for citizens who suffered from nuclear tests at the Semipalatinsk test site.

40. Since 1992, new factors influencing the change in legal and social relations have emerged. They include:

– Large internal migration flows, both from and to the affected territories;

– Significant reduction in background radiation of the affected territories;

– Emergence of the second, third and fourth generations of survivors: children born of parents exposed to excessive ionizing radiation.

41. The rights and social guarantees of citizens affected by nuclear testing are protected and provided under several laws, including the 1992 law, legislative acts on pensions, disability-related social benefits, social protection measures for persons with disabilities, special social services and services for veterans.

42. According to the current legislation, citizens who have lived or are living in radiation risk zones and territories with preferential socioeconomic status are guaranteed one-time cash compensation for damage caused by nuclear tests, the amount of which is determined individually depending on the place and the period of residence in the affected territories.

43. To date, over 1.1 million citizens have received one-time cash compensation.

44. Citizens living and working in the radiation risk territories, as defined by law, are also entitled to additional remuneration and additional annual paid leave. Women living in these territories are entitled to additional pregnancy and childbirth leave.

45. Children of citizens who have lived, worked or served (including mandatory military service) in affected territories from 1949 to 1990 may be recognized as victims of nuclear testing and entitled to relevant social benefits, provided that they have disabilities or diseases associated with exposure to ionizing radiation and that there is a causal relationship between their health status and the fact that one of their parents has been in radiation risk zones.

46. Persons with disabilities associated with radiation exposure during nuclear tests and their consequences are entitled to monthly disability allowances. Recipients are divided into three groups (severe disability, less severe disability and moderate disability) and entitled to monthly payments of 113,993 tenge, 97,361 tenge and 81,540 tenge, respectively. The value of the payments is linked to minimum living wage and reviewed annually.

47. Family members of those who died as a result of radiation-related diseases or consequences of nuclear tests are also entitled to allowances.

48. In addition to cash payments, citizens are entitled to medical screening and assistance.

49. In 2002, the State Scientific Automated Medical Register was created. Its main tasks include: providing long-term medical records of victims of nuclear testing and their descendants; registering radiation doses; monitoring the health status and providing an objective assessment of the damage caused; conducting research on the influence of the radiation factor on health and mortality in the affected population; and developing optimal strategies to minimize health consequences.

50. Currently, 372,686 individuals are registered under the State Scientific Automated Medical Register. From 2002 to 2022, 104,510 patients underwent complex medical examinations. The following observations can be made from the medical examinations:

– In 1,746 cases (26 per cent), diseases of the circulatory system were registered;

– In 1,640 cases (24 per cent), vascular lesions of the central nervous system were registered;

– Thyroid diseases were registered in 1,174 cases (18 per cent), diseases of the gastrointestinal tract were registered in 1,144 cases (17 per cent) and diseases of the musculoskeletal system were registered in 979 cases (15 per cent).

During the period from 2002 to 2022, 22,775 patients received inpatient treatment and 3,795 received outpatient treatment.

51. The Regional Expert Council was established in 1995. The Council conducts advisory work to assess the relationship of diseases, disability and mortality with exposure to radiation. Its research activities are aimed at studying the impact of nuclear tests and other radiation factors on the health of the population and the medical, psychological and social consequences of nuclear testing and their minimization.

52. The following scientific programmes were implemented and funded by the Government:

1. Epidemiological studies based on archival data (1991–1994);

2. The study of the medical-demographic and radiation-hygienic consequences of the impact of nuclear weapons testing on the population and territories adjacent to the Semipalatinsk test site and the development of criteria for the formation of risk groups and medical and rehabilitation measures for victims (1995–1999);

3. Patterns and features of the formation of radiation risks among the population living in the territories adjacent to the Semipalatinsk test site and development and implementation of programmes for the medical and social minimization of post-radiation effects (2000–2002);

4. Development and implementation of new technologies for recording, analysing and treating the medical and social consequences of irradiation of the population of Kazakhstan as a result of nuclear weapon tests and the impact of volumetric technogenic sources of ionizing radiation (2003–2005);

5. Ranking and clinic-epidemiological identification of radiation and non-radiation risk factors and assessment of their impact on the formation of the health of certain segments of the population of the East Kazakhstan, Pavlodar and Karaganda regions of Kazakhstan (2006–2007);

6. Development of scientifically based programmes to improve the State Scientific Automated Medical Register of the population of Kazakhstan exposed to ionizing radiation and medical and social monitoring of long-term consequences (2007–2009);

7. Methods of complex medical and genetic indication and prevention of radiation-induced effects among the descendants of persons exposed to radiation (2010–2012);

8. The influence of environmental factors on the health of the population of urbanized territories (2010–2012);

9. Development of science-based technologies to minimize environmental risk and prevent adverse effects on public health (2012–2014);

10. Retrospective and prospective assessment of medical and radio-ecological impact on the population and territories adjacent to the Semipalatinsk test site (2014–2016);

11. Development of scientific and methodological foundations for minimizing the environmental pressure and ensuring medical care, social protection and health improvement of the population of environmentally impacted territories of the Republic of Kazakhstan (2017–2019);

12. Evaluation of the effectiveness of protective and rehabilitation measures for the population exposed to ionizing radiation as a result of the activities of the Semipalatinsk test site and development of proposals for their improvement (2017–2019).

53. In July 2023, the law on the establishment of the Semipalatinsk zone of nuclear safety was adopted. The law defines the zone as a limited part of territory characterized by excessive radioactive contamination as a result of nuclear weapon tests at the Semipalatinsk test site, and establishes a special legal regime. It aims to ensure nuclear and radiation safety and the maintenance of the nuclear non-proliferation regime on the territory affected, as well as to provide measures for its rehabilitation. According to the law, the following measures are to be implemented:

– Differentiation of excessively contaminated and relatively clean lands of the Semipalatinsk test site;

– Creation of conditions for the transfer of relatively clean lands into public domain;

– Restriction of access to excessively contaminated lands;

– Rehabilitation of lands;

– Continuous monitoring and radiological and ecological research.

54. To implement these measures, 3.596 billion tenge of government funding has been allocated until 2027.

International cooperation

55. Kazakhstan has been pursuing international cooperation in order to eliminate the infrastructure and consequences of nuclear weapon tests, ensure the conversion of the former military-industrial complex for peaceful purposes and promote scientific and technical cooperation in the field of safe nuclear energy and radiological ecology. The leading agency in this area – the National Nuclear Centre – cooperates with partners from the United States, Russia, Japan, France, the United Kingdom and international organizations. Activities related to the Semipalatinsk test site are an outstanding and unique contribution of Kazakhstan to nuclear non-proliferation and joint scientific, technical and development work.

56. Currently, the National Nuclear Centre is continuing its efforts to reduce the risk of spreading nuclear waste on the territory of the Semipalatinsk test site. New methods for the identification and evaluation of nuclear waste have been developed. Special software and hardware solutions have been put in place that allow for both conducting large-scale spectrometric studies and automating their subsequent processing. The use of the existing scientific base made it possible for the first time to develop a methodology for the identification and assessment of nuclear waste both on the soil surface and in the subsurface layer.

57. It was the use of innovative methods for determining and evaluating nuclear waste that allowed for large-scale research work to be carried out in the shortest possible time (on areas of hundreds of square kilometres) and to identify all nuclear test sites and sites for various experiments, both on the territory of technical sites and

beyond. The research results became the starting point for the development of technical solutions to ensure the non-proliferation of identified nuclear waste.

58. The competencies obtained can potentially be made available to foreign States affected by nuclear testing, in strict compliance with international norms.

59. The following international scientific projects have been implemented at the Semipalatinsk test site:

1. Reconstruction and calculation of retrospective dose loads in the territories adjacent to the Semipalatinsk test site (soil, water, tree bark, bricks, electron paramagnetic resonance dosimetry of tooth enamel, etc.). Japan (Hiroshima University), Russia (Institute of Biophysics) and United States of America (National Institutes of Health) (1996–2009);

2. The study of the impact of nuclear weapons testing in the Semipalatinsk test site on the health of the population of the Semipalatinsk region. International grant jointly implemented with the Institute of Radiation Hygiene (Munich, Germany) from the European Commission within the framework of the INCO-COPERNICUS programme (1997–1999);

3. Assessment of reproductive health following radiation exposure among the population living in the immediate vicinity of the nuclear test site in Semipalatinsk. International grant from the World Health Organization jointly implemented with the Institute of Cancer Research, London (2000–2006);

4. Creation of the State Scientific Automated Medical Register of victims of the activities of the Semipalatinsk test site. International project with the Radiation Effects Research Foundation, Hiroshima, Japan (2003–2011);

5. Socio-psychological consequences for the population living in the territories subjected to nuclear weapon tests. International project with the Peace Institute (Hiroshima University) (2009–2011);

6. The study of genetic changes in descendants whose parents were exposed to radiation. Creative cooperation agreement with the Institute of Evolution at the University of Haifa, with the Ecological Imperative Scientific and Technical Association, Haifa, Israel (2011–2015);

7. The elemental composition of natural environments and human bio-substrates in the area of influence of the Semipalatinsk nuclear test site. Contract with the State Educational Institution of Higher Education, National Research Tomsk Polytechnic University (Tomsk, Russian Federation) (2011–2013);

8. The effect of microsatellite instability on the genetic predisposition to radiation-induced carcinogenesis. Together with the Institute of Evolution at the University of Haifa, Israel, and the University of Virginia, United States of America (2012);

9. Research on the influence of “heavy” water on the quality of life and health of the population of some regions of Kazakhstan. Together with the Ecological Imperative Scientific and Technical Association and the University of Haifa, Israel (2012);

10. Prospective cohort study on the population of the territories adjacent to the Semipalatinsk nuclear test site. International grant between the International Agency for Research on Cancer, France; the Norwegian Radiation Protection Authority, Norway; the Bundesamt für

Strahlenschutz (Federal Office for Radiation Protection, Germany); and the National Institute of Radiological Sciences, Japan (2013–2015);

11. Low-dose research towards multidisciplinary integration (DoReMi project), a three-generation study. International grant implemented jointly with the Federal Office for Radiation Protection, Germany (2014–2015);

12. Molecular studies of biological samples of residents near the Semipalatinsk nuclear test site in Kazakhstan and training in biodosimetry in Kazakhstan. International grant implemented jointly with the Belgian Nuclear Research Centre (2014–2015);

13. Assessment of the impact of radiation on the population and territories of the southern region of the Abai region. Start-up project of Semey Medical University, Non-Commercial Joint-Stock Company, together with Hiroshima University, Japan (2022–2025);

14. The risk of thyroid cancer in persons who experienced prolonged exposure to ionizing radiation as a result of living near the Semipalatinsk nuclear test site. Start-up project of Semey Medical University, together with the International Agency for Research on Cancer, Lyon, France (2023–2025).

60. Over the past 30 years, Kazakhstan and the International Atomic Energy Agency (IAEA) have jointly worked on a number of key initiatives and projects:

1. Closing the Semipalatinsk nuclear test site: Kazakhstan and IAEA successfully collaborated to close the Semipalatinsk nuclear test site, one of the largest in the world. This process helped to isolate and safely manage radioactive materials at the testing site;

2. Rehabilitation of radioactively contaminated areas: Kazakhstan and IAEA have jointly developed and implemented projects for the rehabilitation of lands and areas exposed to radioactive contamination. These projects help to improve the life and safety of the local residents;

3. Training and sharing experiences: the cooperation also involves sharing experiences and occupational training in nuclear safety and radiation protection. IAEA actively supports training and advanced training of Kazakh experts;

4. Peaceful use of atomic energy: joint efforts are aimed at promoting the peaceful use of atomic energy in Kazakhstan and the region. This involves nuclear medicine projects and occupational training in nuclear power engineering;

5. Enhancing nuclear safety: Kazakhstan actively cooperates with IAEA in efforts to strengthen nuclear security and nuclear non-proliferation worldwide.

61. Overall, 42 national projects have been completed and are ongoing under the IAEA Technical Cooperation Programme.

62. Notably, the objective of the IAEA KAZ9016 project is to improve informed decision-making regarding the transfer of the former Semipalatinsk test site lands for economic use. This project will have a great influence on the social and economic welfare of the population at the Semipalatinsk test site, which is expected to be transferred for economic use (crop production, animal production, mining and others) following all the health-care and safety regulations for the population. As a result of the comprehensive research on these lands, which will continue during the existing project, the territory will be divided into three zones: (a) a zone that shall not be covered by regulatory control (can be transferred for economic use); (b) a zone that

shall require rehabilitation measures to be excluded from control or to be subjected to periodic control; and (c) a zone that shall remain under strict regulatory control. The expected result of the effort will be the transfer of more than 95 per cent of the lands for economic use.

63. Additionally, the objective of the IAEA KAZ9018 project is to establish a specialized biodosimetry laboratory or core laboratory that can use an in-house calibration curve to quantitatively evaluate an absorbed human exposure dose by means of cytogenetic biodosimetry. Filling this gap in this strategically significant domain of knowledge would help to ensure quality biological dosimetry in a variety of activities performed by the population of Kazakhstan and would allow a quality breakthrough to be made in reliably estimating the absorbed dose.

64. To promote further cooperation on the issue of rehabilitation of the former Semipalatinsk test site, Kazakhstan has put forward a General Assembly resolution entitled “International cooperation and coordination for the human and ecological rehabilitation and economic development of the Semipalatinsk region of Kazakhstan” in the framework of the Second Committee. This resolution was initially introduced in 1997 and has been since adopted on a biennial and later on a triennial basis. It was again reconfirmed in November 2023 by consensus, with 85 Member States acting as co-sponsors.

65. In the resolution, the General Assembly acknowledges the fact that a number of international programmes in the Semipalatinsk region have been completed since the closure of the nuclear testing ground, including through programmes and actions of the Government of Kazakhstan and the international community, including United Nations agencies, but that serious social, economic and ecological problems continue to exist. The Assembly equally recognizes the important role of national development policies and strategies in the rehabilitation of the Semipalatinsk region, including the newly established Abai region, with the city of Semey as its administrative centre. Finally, the Assembly urges the international community to provide assistance to Kazakhstan in formulating and implementing special programmes and projects for the treatment and care of the affected population, as well as in efforts to ensure economic growth and sustainable development in the Semipalatinsk region, including increasing the effectiveness of existing programmes and providing the technical, expert and financial contributions necessary for the implementation of national development programmes for the rehabilitation and development of the Semipalatinsk region.

66. Kazakhstan, jointly with Kiribati, in their capacity as Co-Chairs of the informal working group on victim assistance, environmental remediation, international cooperation and assistance (articles 6 and 7 of the Treaty on the Prohibition of Nuclear Weapons) are leading the effort to establish an international trust fund to fund projects on victim assistance and environmental remediation.

67. In October 2023, at the seventy-eighth session of the General Assembly, the First Committee tabled a new resolution entitled “Addressing the legacy of nuclear weapons: providing victim assistance and environmental remediation to Member States affected by the use or testing of nuclear weapons”. The resolution has passed with the support of 171 Member States (41 delegations co-sponsored the resolution).

68. In the resolution, the General Assembly encourages, inter alia, further international cooperation and discussions to assist victims, and assess and remediate environments contaminated by the use and testing of nuclear weapons and other nuclear explosive devices, including through bilateral, regional and multilateral frameworks, such as relevant treaties.

69. In the same resolution, the General Assembly also urges that Member States, which have used or tested nuclear weapons or any other nuclear explosive devices, to share, as appropriate, technical and scientific information regarding the humanitarian and environmental consequences of such use and testing with Member States affected by the use or testing of nuclear weapons or any other nuclear explosive devices, and calls upon Member States, in a position to do so, to contribute technical and financial assistance, as appropriate.