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Strengthening of the coordination of humanitarian and disaster relief assistance of the United Nations, including special economic assistance: strengthening of international cooperation and coordination of efforts to study, mitigate and minimize the consequences of the Chernobyl disaster

Persistent legacy of the Chernobyl disaster

Report of the Secretary-General

Summary

The present report is submitted in accordance with General Assembly resolution 71/125 on the persistent legacy of the Chernobyl disaster and provides an update on the progress made in the implementation of all aspects of the resolution.

The report provides an overview of the recovery and development activities undertaken by the agencies, funds and programmes of the United Nations system and other international actors to address the consequences of the Chernobyl disaster. The United Nations system remains committed to promoting the principle of leaving no one behind and ensuring that the governmental efforts to support the affected regions are aimed at achieving the 2030 Agenda for Sustainable Development and the Sustainable Development Goals.

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I. General situation

1. Since the Chernobyl nuclear plant accident on 26 April 1986, the United Nations, along with the Governments of Belarus, the Russian Federation and Ukraine, has been leading the recovery and development efforts to support the affected regions. While extensive humanitarian work was conducted immediately after the accident, additional recovery and rehabilitation activities were conducted in the following years to secure the area, limit the exposure of the population, provide medical follow-up to those affected and study the health consequences of the incident.

2. The completion of the placement of the new safe confinement over the old shelter was a major milestone achieved in 2019, with €2.2 billion provided by over 45 donor nations through funds managed by the European Bank for Reconstruction and Development (EBRD). The new safe confinement was handed over to the Government of Ukraine on 10 July 2019. The scope of the project in terms of international cooperation is one of the largest ever seen in the field of nuclear safety.

3. Since the United Nations agencies have shifted their focus from humanitarian assistance to prevention, recovery, remediation and capacity development, an integrated approach to sustainable development was adopted to address the needs of the affected regions and communities. The agencies, funds and programmes have continued to work closely with the Governments of Belarus, the Russian Federation and Ukraine to provide development assistance to the Chernobyl-affected communities.

4. While the impact and continued legacy of the Chernobyl accident should be acknowledged, it is also important to recognize the significant economic and social potential of the affected regions, especially in sectors such as the green economy, entrepreneurship, tourism and technology. In this vein, together with the social aspects of its interventions, the United Nations has been putting stronger emphasis on the development of local entrepreneurship, environmental protection, the promotion of healthy lifestyles and employment opportunities for youth.

5. The present report outlines the key areas of support provided by the United Nations system and its partners to the Chernobyl-affected regions and communities.

II. Coordination of the work of the United Nations

6. Since 2004, the Administrator of the United Nations Development Programme (UNDP) has served as the United Nations Coordinator of International Cooperation on Chernobyl.

7. The Inter-Agency Task Force on Chernobyl, comprised of relevant international agencies under the leadership of UNDP and the three affected countries, constitutes the coordination mechanism for international cooperation. Chaired by the UNDP Administrator and the Director of the Regional Bureau for Europe and the Commonwealth of Independent States, the meetings of the Task Force were convened at UNDP headquarters in New York on 3 April 2017, 11 April 2018, and 16 April 2019 with the participation of representatives from the United Nations, Governments and other stakeholders to review the progress made in the Chernobyl recovery activities.

8. At the country level, the United Nations resident coordinators in Belarus and Ukraine coordinate the work of the United Nations country teams to ensure a cohesive and integrated approach to the development of the affected regions and advocate continued international support to the Chernobyl-affected communities. In September 2018, the resident coordinator in Belarus, together with the country team and in cooperation with the Ministry of Emergency Situations, organized a visit for donors

to the Chernobyl exclusion zone and hosted a round-table discussion on local development priorities in Brahin.

III. Ongoing United Nations assistance efforts

9. During the reporting period, the Chernobyl-related activities of the United Nations system and international stakeholders were organized around the priorities set out in the sections below.

A. Community-based development

10. UNDP has incorporated the support provided to Chernobyl-affected regions into its regular development programming in Belarus and Ukraine. In Belarus, UNDP, in cooperation with the Ministry of Economy and partners, implements a project funded by the European Union for local economic development, focusing on business incubators, access to microfinance and support for income-generating activities in three districts affected by the accident: Brahin and Khoyniki in Homyel Province and Bykhaw in Mahilyow Province.

11. In Belarus, UNDP promotes inclusive and efficient environmental management through:

(a) “Green school” resource centres and regional environmental monitoring clubs in Homyel, Mahilyow and Navahrudak cities;

(b) Ecotourism projects in a nature reserve in Slawharad district;

(c) Gardening for the local population in schools in Bykhaw, Slawharad, Cherykaw and Krasnapollye districts;

(d) Adaptation to climate change in the production of livestock feed in Smarhon’ district;

(e) Creation of a system for collecting waste from electric and electronic equipment in Salihorsk district;

(f) Environmentally sound disposal of hazardous waste in Homyel city and Rechytsa district.

12. UNDP works on promoting employment opportunities in Chavusy, Krychaw and Mstsislaw districts in Mahilyow Province. With funding from the Russian Federation, UNDP provides skills and business training sessions in Chavusy, Krychaw, Mstsislaw and other cities through six business incubators in Vitsyebsk and Mahilyow Provinces, and has conducted five study tours that have resulted in the launching of new businesses and the signing of three cooperation agreements between State institutions of Belarus and the Russian Federation.

13. In Belarus, UNDP plans to promote local economic development and efficient and inclusive environmental management and to launch a new project funded by the Global Environment Facility (GEF) to eliminate the legacy of persistent organic pollutants and foster the environmentally sound management of polychlorinated biphenyls in equipment by building the capacity to treat and dispose of hazardous waste at the Chachersk facility in Homyel Province.

B. Provision of information to affected communities

14. In Ukraine, UNDP manages awareness-raising programmes about radiological contamination for territories affected by the Chernobyl accident. Through the UNDP/GEF Small Grants Programme, an information centre serving more than 80,000 visitors a year was established near one of the checkpoints in the exclusion zone in Ukraine. The centre serves to raise the awareness of communities about the results of the regular environmental monitoring of radiation, the condition of the ecosystem in the area, possible avenues for sustainable development in the zone, measures to protect the population from the remaining effects of the accident and the results of scientific research. The centre is the first autonomous building in the zone designed in line with low-carbon and energy efficiency principles. As a result, it was given a "class A" rating, the highest energy efficiency label, avoiding 23 tons of carbon dioxide emissions annually.

C. Infrastructure

15. In Ukraine, UNDP/GEF is successfully cooperating with Chernobyl-affected municipalities on energy efficiency projects to promote low-carbon technologies and solutions for the capacity development of local communities. UNDP contributes to achieving energy efficiency, economic, social and environmental targets set by public authorities of the affected regions by focusing on activities to improve the energy balance at the urban level, reduce demand for primary energy from fossil fuels, increase renewable energy sources, adopt high-efficiency technological systems available in the market and reduce greenhouse gas emissions. A total of 22 solar panels were installed at the checkpoint building in Dytyatky village, providing 2.4 kW of electricity and decreasing the building's heating consumption by more than half.

D. Health

16. The United Nations Scientific Committee on the Effects of Atomic Radiation has been involved in the assessment of radiation exposure from and the health effects of the accident. In two of its reports, published in 1988[1] and 2000,[2] the Committee reviewed the experience gained in treating the immediate radiation injuries of workers and firefighters who had dealt with the emergency and the exposure of people who had been evacuated or who were still residing in the areas most affected by the accident. In 2008, the Committee published a report[3] in which it summarized more than two decades of experimental and analytical studies of the consequences of the radiation from the accident on the health of the exposed populations and on the environment.

17. Various epidemiological studies have shown that the thyroid gland is highly susceptible to the carcinogenic consequences of external exposure to radiation during childhood. In 2018, the Committee secretariat published a white paper[4] in which it evaluated data on thyroid cancer in regions affected by the Chernobyl accident to guide the Committee's future programme of work.

18. Despite the efforts made during the past decade to better understand the risk of radiation-induced thyroid cancer, the Committee notes that open questions still

[1] See www.unscear.org/unscear/en/publications/1988.html.
[2] See www.unscear.org/unscear/en/publications/2000_2.html.
[3] See www.unscear.org/unscear/en/publications/2008_2.html.
[4] See www.unscear.org/unscear/en/publications/Chernobyl_WP2017.html.

remain on the health status of the affected populations and that basic scientific research on the underlying processes of cancer development still requires continued follow-up. The Committee continues to closely follow up on scientific developments in order to integrate them into its knowledge and evaluations of radiation levels and the effects on the public and the environment. The three affected countries are members of the Committee and support its work, including in maintaining the dedicated website.[5]

19. The World Health Organization (WHO) has been contributing to the Chernobyl recovery efforts for three decades.[6] Its activities initially included emergency response followed by health impact management and support for the development and establishment of health research infrastructure; its activities were then focused on coordination and support for health follow-up studies; and currently, its focus has shifted to sustainable development, information dissemination and risk communication.

20. Long-term medical follow-up of the exposed populations and clean-up workers continues to be conducted by the WHO Collaborating Centres in the Russian Federation and Ukraine and the WHO International Agency for Research on Cancer. In the Environment and Radiation Section of the Agency, research on post-Chernobyl cancer risks is ongoing in the following projects:

(a) A thyroid cancer study on residents in Belarus and the Russian Federation who were exposed in childhood;

(b) A breast cancer study comparing trends before and after Chernobyl in the most contaminated areas of Belarus and Ukraine;

(c) A gene-environment interaction study on thyroid cancer after exposure in childhood, in collaboration with the Gustave Roussy Institute, based near Paris.

21. The International Agency for Research on Cancer continues its efforts towards launching a multidisciplinary research project on the health of clean-up workers and their offspring and the residents of contaminated territories to address existing research gaps and strengthen the collaboration on the health effects of Chernobyl, as was proposed in the project supported by the European Commission entitled “Cooperation on Chernobyl health research”.[7]

22. In Ukraine, WHO has continued its collaboration with the National Research Centre for Radiation Medicine in Kyiv, which leads the long-term follow-up of the Chernobyl-affected population and conducts studies to assess the ongoing health risks of radiation. The evidence from those studies supports the work of WHO in developing relevant technical guidelines for planning and responding to radiological and nuclear emergencies.

23. WHO hosts the global expert network known as the Radiation Emergency Medical Preparedness and Assistance Network, which functions as a technical arm of WHO for radiation emergency preparedness and response to actual radiological and nuclear emergencies. Experts in the Russian Federation and Ukraine are the Network focal points for the Eastern European region and provide technical assistance in the areas of public health and medical response, biodosimetry and, when required, psychosocial support. The Network is also involved in research and capacity-building activities related to radiation emergency preparedness and medical countermeasures research, exercises and training activities.

[5] See www.unscear.org/unscear/en/chernobyl.html.
[6] See www.who.int/ionizing_radiation/chernobyl/en/.
[7] See https://cordis.europa.eu/project/rcn/111052/factsheet/en.

24. WHO remains committed to cooperating on the implementation of the health components of the post-2016 Chernobyl strategy.

25. In Belarus, the United Nations joint programme (comprising UNDP, the United Nations Population Fund, the United Nations Children's Fund (UNICEF) and WHO) funded by the European Union, in partnership with the Ministry of Health, is aimed at improving maternal and child health care at the local level, preventing non-communicable diseases and generally promoting healthy lifestyles through grant schemes and awareness-raising activities.

26. In Ukraine, UNICEF continued to address the health needs of affected children by advocating healthy lifestyles and reproductive maternal and child health services. The advocacy work ensures that policy, programmes and social services at a decentralized level respond to the specific needs of the communities and young children and is aimed at raising the awareness of parents, families and other primary caregivers of healthy lifestyles and the needs and well-being of young children.

27. The International Federation of Red Cross and Red Crescent Societies has been active at the community level in Belarus and Ukraine by helping the most remote rural areas affected by the Chernobyl accident through the visiting nurses programme and through technical assistance to mobile diagnostic laboratories implemented by the national Red Cross Societies. Its experiences in Chernobyl and Fukushima, combined with its expertise in disaster risk reduction, have contributed to the programme on nuclear and radiological emergencies, which supports national Red Cross Societies to help them to prepare and engage. It continues to engage with relevant international actors to leverage their expertise and exchange best practices and will remain engaged with the affected communities, especially through national Red Cross Societies, their branches and the strong network of volunteers.

E. Radiation mitigation and standard setting

28. The Food and Agriculture Organization of the United Nations (FAO), through the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture, has remained committed to providing recovery and sustainable development assistance to the Chernobyl-affected regions, in line with the shift in strategy from humanitarian assistance to development aid. It has focused on facilitating the exchange of information on the remediation of radioactive contamination in agriculture, which has helped to ensure that development funds reach the affected rural communities and fuel economic growth and jobs. Information from the technical workshop on the remediation of radioactive contamination in agriculture, held in Austria in 2016, has been shared with States members of FAO and the International Atomic Energy Agency (IAEA) and will soon be published.

29. The Joint FAO/IAEA Division continued to provide policy advice on agricultural production and on understanding the feasibility of alternative land use scenarios in the Chernobyl-affected areas.

30. Efforts relating to information management for response and remediation measures include an international coordinated research project on responses to nuclear emergencies affecting food and agriculture, involving 10 countries, including the Russian Federation and Ukraine, and entailing the development of a decision-support system for nuclear emergencies affecting food and agriculture.

31. A new IAEA coordinated research project on monitoring and predicting radionuclide uptake and dynamics for optimizing the remediation of radioactive contamination in agriculture is being launched in 2019 and is aimed at enhancing the readiness and capabilities of societies to optimize the remediation of agricultural

areas affected by large-scale nuclear accidents through innovative monitoring, decision-making and prediction techniques.

32. FAO also develops and helps in the implementation of normative standards and guidance related to radioactivity in food and drinking water. It participates in the work of the Codex Alimentarius Commission and the Codex Committee on Contaminants in Food. The Codex Alimentarius Commission is the international standard-setting body for food safety and provides guidelines on the levels of radionuclides in food in international trade.

33. The Joint FAO/IAEA Division will continue its efforts in the areas of policy advice, practical support and information exchange, specifically on maintaining expertise on remediation in agriculture, information management through the development of future tools for managing radioactive contamination, norms and guidance on maintaining food and agriculture standards related to radioactivity and coordination of pertinent research activities.

F. Nuclear safety and radioactive waste management

34. The long-awaited placement of the new safe confinement, financed by EBRD through the Chernobyl Shelter Fund,[8] directly over the old shelter that had been completed in November 2016, together with the successful conclusion of the 72-hour trial operation test on 25 April 2019, mark the safe physical completion of this unique undertaking. The new safe confinement has a 100-year lifespan and will protect the environment from further releases of radioactive materials and enable the long-term safe and secure deconstruction of the old shelter and the destroyed reactor, as well as the removal of the radioactive inventory.

35. The IAEA technical cooperation programme supports Ukraine in the decommissioning of the Chernobyl nuclear power plant site and the radioactive waste management at the site. The project is focused on improving the technical capabilities, the efficiency and the safety of the work conducted in that regard. It also contributes to the establishment of an integrated system enabling the safe management of all types and categories of waste.

G. Environmental sustainability

36. The United Nations Environment Programme (UNEP) in Ukraine implements a project funded by GEF on conserving, enhancing and managing carbon stocks and biodiversity in the Chernobyl exclusion zone. The project is aimed at expanding the current use of the zone to encompass ecosystem values and provide services to the benefit of local, national and international stakeholders. The project activities include: the establishment of a biosphere reserve in the zone to improve the monitoring and research of large areas of forest, wetlands and other habitat types and the associated carbon benefits in the zone; the development of a research and environmental protection centre to lead the collection and synthesis of existing research and undertake gap analyses in order to develop and implement a research programme; and the dissemination of scientific knowledge at the global level.

37. The UNEP-established research and environmental protection centre has helped to improve the monitoring and research of forests, wetlands and other habitat types in the exclusion zone in Ukraine. UNEP also established a new protected area network

[8] See www.ebrd.com/what-we-do/sectors/nuclear-safety/chernobyl-new-safe-confinement.html.

to protect biodiversity and mitigate land degradation in the zone. UNEP is focused on widely disseminating its project results and pertinent lessons learned.

38. In Belarus, UNDP implemented a project funded by GEF on the conservation-oriented management of forests and wetlands. To improve the habitat of several globally threatened species, the project supports the financial sustainability and efficient management of forests and wetlands through the cleaning of the Sporawskaye bog and the rewetting of swamps in the Zvanets reserve.

39. In collaboration with the Government of Ukraine, UNDP plans to implement a project funded by GEF to promote sustainable livestock management and ecosystem conservation in northern Ukraine, including the Chernobyl-affected areas, through cooperatives of land users (of peat soil) and through partnership agreements with larger enterprises (in forest steppe areas), working together with water engineers to restore land, zone the land and subsequently apply best land use or conservation regimes.

40. The exclusion zone is prone to regular wildfires and peat fires, as wood and peat have accumulated radiation and can easily catch on fire, releasing into the air plutonium, which travels with the wind. The high temperatures and volumes of smoke produced in a forest fire can disperse contaminants hundreds of kilometres away from the exclusion zone, causing serious long-term health effects. In recent years, fires have become more frequent and more devastating, as the climate gets warmer and dryer. There is a great need to establish an effective fire prevention system and a sound governance structure to prevent fires within the thousands of affected hectares. UNDP in Ukraine will therefore work to enhance national capacity for risk management and mitigation of natural and human-made forest fires in the exclusion zone and the zone of mandatory resettlement. IAEA is also implementing a national project to support Belarus in controlling the impact of fires in the Belarusian side of the exclusion zone and adjacent territories. The project is aimed at developing appropriate capacities for the timely and accurate dissemination of reliable information on the radiological consequences of forest fires, including data on actual concentrations of radionuclides in the air. Addressing this issue is in line with the current Belarusian Chernobyl response and recovery programme for 2011–2015 and up to 2020.

41. In addition, IAEA implements a regional project in the three countries on the long-term management of contaminated terrestrial and freshwater environments of the Chernobyl-affected areas by supporting the development and implementation of national strategies and programmes for improving the remediation and management of these environments and developing recommendations. The project is aimed at improving the managerial skills of involved stakeholders and updating online resources with the most recently available information. A pilot information system for the collection, preservation and transfer of relevant information is also being developed.

42. IAEA will continue to focus on rehabilitation and environmental remediation. Over the past years, in its resolutions, the IAEA General Conference has consistently requested the IAEA secretariat to continue, within the framework of the technical cooperation programme, to render assistance and support to the areas most affected by the Chernobyl accident, demonstrating the full commitment of IAEA to this matter.

H. Disaster risk reduction and early warning

43. The World Bank is currently implementing a technical assistance project on enhancing disaster preparedness in Belarus. The project is focused on building capacities for disaster preparedness in Belarus covering: the identification of risks,

data availability and dissemination and the development of a national strategy for disaster risk reduction. The project has three components: providing support to the wider political dialogue on disaster risk management in Belarus; enhancing post-disaster damage and loss assessment systems; and improving hydrometeorological and radiological service delivery and early warning systems. The project is being implemented jointly by the Ministry of Natural Resources and Environmental Protection and the Ministry of Emergency Situations and will result in an integrated approach to risk evaluation (including radiation risks) in basic and technogenic emergency situations, a road map and an investment plan.

44. The World Bank is also working with the centre for hydrometeorology, the control of radioactive contamination and environmental monitoring of Belarus, known as Belhydromet, to develop a long-term approach to improving service delivery, focusing on the information and product needs of key users, such as the Ministry of Emergency Situations and the Ministry of Forestry. The aim is to support the delivery of better and more actionable information products, including on radiological hazards. This includes providing recommendations to strengthen cooperation between Regional Specialized Meteorological Centres of the World Meteorological Organization and Belhydromet to receive support in the production of more sophisticated nuclear release forecasts of atmospheric dispersion model results (e.g., on the wet deposition of radionuclides).

IV. Advocacy, information and public awareness

Anniversary commemorations

45. 26 April 2019 marked the thirty-third anniversary of the disaster. The Permanent Missions of Belarus, Ireland and Ukraine to the United Nations and Chernobyl Children International organized an event entitled “Legacy of the Chernobyl disaster: still topical” as a commemorative activity, during which a miniseries entitled *Chernobyl* was presented, depicting the nuclear disaster and the unprecedented cleanup efforts that followed. The critically acclaimed series was largely based on the book *Voices from Chernobyl: The Oral History of a Nuclear Disaster*, by the Belarusian winner of the Nobel Prize in Literature, Svetlana Alexievich. The miniseries has been a blockbuster success and has refocused international attention on Chernobyl and the affected area.

46. On 26 June 2019, the UNDP Director of the Regional Bureau for Europe and the Commonwealth of Independent States participated in an event organized by the Permanent Missions of Belarus and Kazakhstan to the United Nations, Project Chernobyl and the Russian American Foundation entitled “Invaluable lessons learned from the Chernobyl disaster and other world tragedies”, held at United Nations Headquarters. In Geneva, the Permanent Mission of Belarus to the United Nations Office and other international organizations in Geneva organized an informal meeting to commemorate the International Chernobyl Disaster Remembrance Day.

47. From 26 to 30 April 2017, WHO headquarters hosted a photo exhibition with the Government of Belarus dedicated to the recovery efforts and the return to normality.

Other initiatives

48. The advocacy efforts of UNDP in Belarus have been primarily focused on highlighting the progress that the affected communities have been making in their transition from the post-Chernobyl recovery to sustainable socioeconomic development. They have also been aimed at bringing the attention of donors and

partners to the existing development potential of the affected communities to further develop the resilience of the people.

49. Such efforts included: a media tour to UNDP local development project sites in Homyel and Mahilyow Provinces; an information tour, organized jointly with the Government of Belarus, for heads of diplomatic missions and United Nations agencies, to the Palyessye State Radioecological Reserve and regions of Homyel Province, including media coverage of the tour; media tours in April 2019 for foreign journalists to the affected districts to highlight opportunities for the development of tourism; and a working visit to the exclusion zone in June 2019, during which participants identified new socioeconomic and environmental opportunities that arose from the opening of the Belarusian side of the exclusion zone for tourism.

50. IAEA, together with other international organizations, held an international symposium on communicating nuclear and radiological emergencies to the public at its headquarters in Vienna in October 2018. Almost 400 experts on communication and emergency preparedness and response discussed how to better protect the public through more effective communication in a nuclear or radiological emergency. A webinar on food safety in a nuclear or radiological emergency was organized in October 2018 by the IAEA Incident and Emergency Centre and the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture.

51. From 3 to 5 July 2017, WHO held the 15th meeting of the WHO global network of expert institutions specialized in radiation emergency medical response and long-term follow-up of exposed populations. One of the sessions of the meeting was dedicated to radiation-induced thyroid cancer, during which a review was conducted of the experience gained from the 30 years of follow-up of Chernobyl-affected populations.

52. In 2017, the UNDP Regional Bureau for Europe and the Commonwealth of Independent States digitalized the United Nations files on Chernobyl, including all documents transferred to UNDP by the Office for the Coordination of Humanitarian Affairs in 2004, enabling digital access to historical records, scientific reports, information about Chernobyl-related cooperation and high-level engagement and programming. While the digitalized files are an internal United Nations resource, UNDP stands ready to assist partners in finding a specific publication, report, statement or other part of a historical record.

V. Lessons learned

53. Many lessons learned from the Chernobyl nuclear accident have helped to inform efforts to address other disasters. The focus of the international community has moved away from emergency response measures only, to include prevention, preparedness and recovery and rehabilitation. In that context, a comprehensive understanding, as well as a multi-hazard, multi-stakeholder, fully integrated approach, proved to be key for the successful reduction of disaster risk from human-made and technological hazards.

54. Given the slow speed with which communities were informed of the Chernobyl disaster, a recommendation was made in the Sendai Framework for Disaster Risk Reduction 2015–2030 to invest in, develop, maintain and strengthen people-centred multi-hazard, multisectoral forecasting and early warning systems. Lessons from the accident also contributed to the development by the United Nations Office for Disaster Risk Reduction of the *Words into Action Guidelines: Implementation Guide for Man-made and Technical Hazards*, which is aimed at strengthening national and local disaster management plans, providing support for training and capacity-building

and raising awareness of the risks and impacts of human-made and technological disasters.

55. Adopting an integrated development approach that prioritizes Chernobyl-affected communities in all relevant UNDP programmes and the overall United Nations programming goes hand in hand with the vision and spirit of the 2030 Agenda for Sustainable Development and the promise of leaving no one behind. The Governments of Belarus and Ukraine have continually invested in education, health and other social service infrastructure and prioritized economic development and employment opportunities in the affected regions.

56. One critical lesson learned from environmental disasters is the importance of looking for ways to optimize, transform and revive disaster areas rather than leaving them unattended. In the wake of the recent installation of a solar energy plant in the exclusion zone, scaling up renewable and alternative energy will continue to be a significant area requiring action by the United Nations. In the Chernobyl-affected forestry areas, emphasis should be put on prevention activities and awareness-raising campaigns for local populations, increasing preparedness by improving the fire danger rating systems and increasing the capacity to detect forest fires.

57. As a result of the lack of specific data on Chernobyl-affected areas, more targeted responses through national and regional plans and programmes become challenging; therefore, supporting the Governments of Belarus and Ukraine in addressing such data gaps is a priority.

58. The lessons learned from the long-term follow-up of the populations affected by the accident and from thyroid screening were utilized for the development by the International Agency for Research on Cancer of recommendations, developed in collaboration with a multidisciplinary group of international experts, on thyroid monitoring after nuclear accidents. WHO notes the important parallels between the Chernobyl and Fukushima nuclear tragedies, both of which have had a tremendous impact on the mental and emotional health of the affected populations. Therefore, emergency response plans should take into account: the mental and psychological health of the affected populations; effective risk communication strategies; community engagement and the building of trust; stakeholder involvement and coordination; and the identification of gaps and research and the prioritization of areas in which research is needed to support evidence-based policy development for emergency response planning.

59. As a result, using lessons learned in the aftermath of the Chernobyl and Fukushima accidents, WHO is currently developing a policy framework for managing and mitigating the psychosocial and mental health consequences of nuclear accidents. The framework will adopt existing WHO guidelines for managing mental health in emergencies and disasters.[9] The project is being implemented in collaboration with the Nuclear Energy Agency of the Organization for Economic Cooperation and Development and the German national agency for radiation protection. A joint international workshop is planned for March 2020, to be held in Munich, Germany.

VI. National reports

60. The annexes to the present report contain reports from the three affected countries.

[9] See www.who.int/mental_health/emergencies/en/.

VII. Conclusions and recommendations

61. **Throughout the years, the United Nations has continued to evaluate the effects of the Chernobyl accident, the support provided to improve public and environmental safety and the recovery of the areas affected by the accident. The experience to date shows that Chernobyl recovery efforts must be linked to the 2030 Agenda and be fully aligned with the national plans for sustainable development of Belarus and Ukraine. Addressing the complexities of the interrelated challenges posed by the nuclear accident requires breaking down the sectoral silos and applying a holistic and systemic approach to ensure that no one is left behind. The United Nations agencies are fully committed to further strengthening strategic partnerships, building alliances, mobilizing funding and attracting financing for the development of the Chernobyl-affected territories.**

62. **Communities and local public authorities play a key role in overcoming the consequences of the Chernobyl accident. Fostering collaboration among all relevant stakeholders, promoting dialogue and partnerships among the affected communities and building trust between the authorities and citizens are key prerequisites for swift recovery and resilience.**

63. **The international community and affected countries should continue to enhance and change the perception of Chernobyl-affected regions to that of "recovering regions". To continue the sustainable development of the recovering regions, programmes should be focused on the development of local entrepreneurship and tourism, the creation of new jobs, the transition of the technologies of local economies to green technologies, the inclusion of vulnerable groups in local development processes, the promotion of healthy lifestyles and transboundary cooperation for the conservation of ecosystems in Palyessye.**

64. **The United Nations agencies and the international community should continue to improve the visibility of the results achieved in the Chernobyl-affected communities and regions for advocacy purposes. Lessons learned from the Chernobyl response should be integrated into nuclear emergency planning and preparedness programmes.**

65. **Last, the Governments of Belarus and Ukraine, United Nations agencies and partners ought to explore innovative financing mechanisms and partnerships to secure investments for regions still requiring financial support.**

66. **Recovering and transforming Chernobyl remains a daunting long-term challenge. It is a tremendous undertaking, which will only be accomplished through collective actions by all partners, at all levels. The United Nations family remains firmly committed to the full recovery and sustainable development of the affected region through innovative approaches, in collaboration with the Governments of Belarus, the Russian Federation and Ukraine, and to ensuring that the legacy of Chernobyl will be a safer environment for the region and for all people.**

Annex I

Report of Belarus

[Original: Russian]

The Chernobyl disaster caused billions of dollars' worth of damage to the Belarusian economy and its aftermath has posed an unprecedented challenge to the young Belarusian State. Of the 3,678 settlements located in the contaminated areas, which had 2.2 million residents, 479 settlements no longer exist.

For more than 30 years, Belarus has been engaged in large-scale rehabilitation and recovery work in the affected areas. The Government is implementing its plan to mitigate the consequences of the Chernobyl disaster primarily through State-run programmes. Every year, about 3 per cent of the national budget is spent on such programmes. Since 1990, the Government has been implementing programmes to mitigate the consequences of the disaster at the Chernobyl nuclear power plant, the fifth of which covered the period from 2011 to 2015, followed by another for the period until 2020. A total of $19.3 billion will have been spent on the programmes from 1990 to 2020.

Belarus has resettled 137,000 people from its radionuclide-contaminated areas. They have been provided with new housing and decent living conditions, and a health-care and social welfare system has been established. As at 1 January 2019, 1,112,214 people, including 219,134 children, were still living in radiologically contaminated areas. In recent years, great importance has been attached to providing assistance to socially vulnerable groups. Act No. 9-3 of 6 January 2009 on social protection for persons affected by the Chernobyl disaster and other radiation accidents is aimed at protecting the rights and interests of persons who took part in the clean-up effort following the disaster at the Chernobyl nuclear power plant or other radiation accidents; persons who were evacuated, resettled or who independently moved from the areas contaminated by the Chernobyl disaster; persons residing in the such areas; and other categories of citizens.

The challenges encountered during the disaster clean-up have spurred innovation in the agricultural and forestry sectors.

The Republic of Belarus has received crucial international support from United Nations agencies, in the form of technical assistance programmes and projects; from the Governments of China, Japan and Switzerland; and from the Government of France, through the programmes of the European Union.

Charities in Italy, Germany, Spain, the United Kingdom and Ireland have provided valuable assistance by enabling more than one million Belarusian children to receive health treatments in these countries starting in the early 1990s.

The Republic of Belarus is grateful to international organizations, foreign States and private citizens of the countries that have helped to make the areas of Belarus affected by the Chernobyl disaster inhabitable once again.

At its seventy-first session, in a symbolic gesture supported by 60 Member States, the United Nations General Assembly designated 26 April as International Chernobyl Disaster Remembrance Day.

Belarus has identified the following priorities for the sustainable development of the affected regions:

– Managing the long-term transition to normal living conditions in the contaminated areas.

– Continuing to develop the existing radiation safety information system in the target areas.

– Promoting innovation and attracting investment to create new jobs.

– Improving radiation protection and providing long-term environmental and health monitoring.

– Introducing advanced technologies into agricultural production and forestry to minimize radionuclide intake.

– Using, to a limited extent and within reason, the most affected areas for pilot commercial ventures, provided that the associated risks are minimized and are exceeded by their social and economic benefit.

– Fostering closer ties between specialized national research institutions involved in the study of the long-term consequences of the Chernobyl disaster.

Belarus is continuing its efforts to mitigate the consequences of the accident and is counting on the support of United Nations agencies, the Member States, private investors and other partners.

Of particular interest are projects and programmes aimed at promoting the social and economic development of the affected areas in the Republic of Belarus and improving their attractiveness to investors, including by supporting local entrepreneurs.

Belarus is ready to contribute to international cooperation by sharing the knowledge it has acquired over some three decades relating to radiological disaster response and its experience with acceptable radiation exposure levels, zoning and psychosocial rehabilitation.

The Polesye State Radiation and Ecology Reserve, a unique research centre in the exclusion zone, welcomes cooperation and calls on interested partners to engage in joint research projects in the field of radioecology, radiobiology and the study of the natural world free from human interference.

Rehabilitating the contaminated areas and ensuring their economic stability and social development remain a pressing concern for the Government of Belarus, which was one of the countries most affected by the disaster.

Belarus believes that international cooperation on matters relating to Chernobyl remains vital and looks forward to fruitful cooperation with all its partners to mitigate the long-term consequences of the disaster and achieve the Sustainable Development Goals in the affected regions.

Annex II

Report of the Russian Federation

[Original: Russian]

Information on measures taken by the Ministry of the Russian Federation for Civil Defence, Emergency Situations and Disaster Relief from 2016 to 2019 to rehabilitate areas and assist citizens exposed to radiation as a result of the Chernobyl disaster

Since 1992, the Ministry of Emergency Situations of the Russian Federation has coordinated targeted programmes aimed at addressing matters of priority with social impact to mitigate the consequences of radiation accidents in the Russian Federation. The implementation of the federal targeted programme to mitigate the consequences of radiation accidents for the period leading up to 2015 was completed that year.

The programme's implementation in radiologically contaminated areas included measures aimed at establishing an economic infrastructure, improving the quality of life and public health care, restoring ecologically rehabilitated land to commercial use and improving the safety of living conditions for the residents of the radiologically contaminated areas.

Notwithstanding the progress achieved, in view of the scale and the long-term consequences of the Chernobyl disaster, a number of pressing concerns remain relating to the rehabilitation of the areas affected by the disaster and the well-being of their residents.

In 2015, the Ministry of Emergency Situations, together with the relevant federal authorities, prepared a draft federal targeted programme to mitigate the consequences of radiation accidents for the period from 2016 to 2020, requiring an estimated total of 11,398,200,000 rubles in funding.

The programme's proposed main areas of focus were:

– Ensuring safe living conditions and managing radiologically contaminated areas.

– Developing the economic infrastructure and fostering agricultural development in the areas contaminated as a result of radiological accidents and disasters.

– Conducting analyses and comprehensive assessments of changes in the radiation status of the contaminated areas.

– Developing technologies to protect the residents of radiologically contaminated areas and minimizing the health and psychosocial effects of radiation accidents.

– Informing the public about the radiation situation in the contaminated areas.

However, the draft programme did not receive the support of the Ministry of Finance or the Ministry of Economic Development of the Russian Federation.

It was noted that measures to mitigate the consequences of radiation accidents could be paid for by the federal authorities out of their current budgets and out of the budgets of the constituent entities of the Russian Federation.

The functions of the Ministry of Emergency Situations are as follows:

– Monitoring public safety in radiologically contaminated areas using a comprehensive system established for that purpose.

– Maintaining a rapid response force and resources in a constant state of preparedness for emergency situations in radiologically contaminated areas.

– Conducting comprehensive reviews of settlements with a view to declaring them ready to be excluded from the radiologically contaminated areas.

In 2018, the Ministry of Emergency Situations submitted proposals to the Government of the Russian Federation, the Ministry of Natural Resources and Environment, and the State Atomic Energy Corporation (Rosatom), recommending that measures aimed at reducing accumulated environmental damage in the radiologically contaminated areas be included in the national environmental programme. However, these proposals did not receive support.

The Ministry of Emergency Situations is an active participant in joint efforts by the Russian Federation and Belarus to mitigate the consequences of the accident at the Chernobyl nuclear power plant at part of addressing the priorities of the Union State.

The Ministry has developed a draft programme of joint activities of the Russian Federation and Belarus, to be undertaken under the aegis of the Union State, relating to public safety and the rehabilitation of areas affected by the disaster at the Chernobyl nuclear power plant; the programme outline was approved by Order No. 27 of 13 December 2018 of the Council of Ministers of the Union State.

The main objective of the programme to be implemented from 2019 to 2022 is to create safe living conditions in the areas bordering radiologically contaminated territories of the States parties to the Treaty on the Establishment of the Union State that were affected by the Chernobyl disaster.

The programme will address the following:

– Improving the public radiation safety system.

– Ensuring safe agricultural practices in relation to radioactive contamination in the Russian Federation and in Belarus.

– Enabling the reclamation of contaminated areas for normal use.

The programme will help to improve the safety of living conditions in the radiologically contaminated areas of the States parties.

The draft programme was agreed with the contracting authorities (the Ministry of Agriculture of the Russian Federation, the Russian Agency for Forestry, the Federal Service for the Oversight of Consumer Protection and Welfare, the Federal Service for Hydrometeorology and Environmental Monitoring, the Ministry of Emergency Situations of the Republic of Belarus, the National Academy of Sciences of Belarus) and with the science, economy and finance ministries of the two States, and submitted to the Standing Committee of the Union State for approval by the Council of Ministers of the Union State.

In addition, since 2016, the Ministry of Emergency Situations of the Russian Federation, together with the Ministries of Health of both countries, has been carrying out an initiative of the Union State to provide comprehensive medical care to certain categories of citizens in Belarus and the Russian Federation who were exposed to radiation as a result of the Chernobyl disaster. This social-impact initiative complements the array of health-care services already being provided to persons who have been exposed to radiation as part of national targeted programmes and builds on

the outcomes of prior programmes undertaken by the Union State aimed at mitigating the consequences of the Chernobyl disaster.

This initiative is aimed at:

– Increasing the availability and quality of medical care, including advanced care, for Belarusian and Russian citizens who were exposed to radiation as a result of the Chernobyl disaster.

– Reducing disability and mortality rates in this group.

The initiative is being implemented in collaboration with the following multidisciplinary medical institutions in the Russian Federation and in Belarus:

– The Republican Research Centre for Radiation Medicine and Human Ecology, Republic of Belarus, Homyel.

– The A.F. Tsyb Medical Radiology Centre, a branch of the National Medical Research Radiology Centre of the Ministry of Health of the Russian Federation, Obninsk.

– The A.M. Nikiforov All-Russian Centre for Emergency and Radiation Medicine of the Russian Ministry of Emergency Situations in St. Petersburg.

In the three years since the initiative began, more than 4,000 patients living in 37 constituent entities of the Russian Federation and three provinces of the Republic of Belarus have received comprehensive medical assistance paid for from the Union State budget.

This year, an estimated 1,300 patients will receive needed medical assistance through the initiative. An application has also been sent to the Standing Committee of the Union State to continue the initiative in 2020.

Joint work undertaken with the Republic of Belarus in areas relating to the Chernobyl disaster is detailed below.

Cooperation with Belarus in this area has been carried out primarily through the Union State as part of jointly implemented Union programmes and activities. Mitigating the consequences of the accident at the Chernobyl nuclear power plant and providing assistance to the people in the affected areas is discussed regularly by the Council of the Parliamentary Assembly of the Union State at meetings relating to the environment, natural resource management and accident response, the last of which was held on 13 June 2019 in Vitebsk. Meeting participants examined regulatory matters relating to the accounting for the victims of the accident at the Chernobyl nuclear power plant and the implementation of social assistance measures for the period ending in 2030, as well as the progress made in the development of Union State efforts to provide medical rehabilitation services to children from the regions most affected by the Chernobyl disaster in the Russian Federation and in Belarus.

The Russian-Belarusian information centre for mitigating the consequences of the Chernobyl disaster, which has branches in both countries, is helping to raise public awareness in the affected areas.

Since 2018 work has been under way to address the main priorities and challenges for the further development of the Union State for the period 2018–2022, approved by the Order of the Supreme State Council of the Union State of 19 June 2018; paragraph 19.4 of that Order provides for the development and implementation of a programme of joint activities by the Russian Federation and Belarus, in the context of the Union State, aimed at public safety and the rehabilitation of the areas affected by the disaster at the Chernobyl nuclear power plant. In 2019, the draft of the fifth programme prepared by the Ministry of Emergency Situations of the Russian

Federation, acting in its capacity as the contracting authority, and agreed with the Russian federal authorities and Belarus, was approved by Order No. 1245-r of 8 June 2019 of the Government of the Russian Federation. The Ministry of Emergency Situations of the Russian Federation has been instructed to submit this draft programme to the Council of Ministers of the Union State for approval.

In accordance with paragraph 19.5 of the Order on the main priorities and challenges for the further development of the Union State for 2018–2022, work is under way to improve health-care services for citizens affected by the Chernobyl disaster in the two countries. In particular, according to the information of the Standing Committee of the Union State, more than 2,500 Russian and Belarusian citizens affected by the Chernobyl disaster received advanced medical care from 2016 to 2017 as part of the aforementioned 2016 initiative of the Union State to provide comprehensive medical care to certain categories of citizens in Belarus and the Russian Federation who were exposed to radiation as a result of the disaster at the Chernobyl nuclear power plant. In 2018, the initiative received funding in the amount of 160 million Russian rubles, and about 1,500 people received comprehensive medical care at leading multidisciplinary medical centres, including the Republican Research Centre for Radiation Medicine and Human Ecology of the Ministry of Health of the Republic of Belarus (Homyel); the National Medical Research Radiology Centre of the Ministry of Health of the Russian Federation (Obninsk); and the A.M. Nikiforov All-Russian Centre for Emergency and Radiation Medicine of the Russian Ministry of Emergency Situations (St. Petersburg).

In addition, in accordance with paragraph 19.6 of the aforementioned Order setting the main priorities of the Union State, funds from the Union State budget are being used to pay for treatment and health improvement programmes for children from the regions of the Russian Federation and Belarus that were most affected by the Chernobyl disaster at children's recovery and health centres in the two countries. In 2018, approximately 1,200 children from the Russian Federation and Belarus spent time recuperating at Russian health resorts and about 800 at health resorts in Belarus. Funding in the amount of 53,000,000 Russian rubles was provided for children's health programmes in 2018.

These activities will receive the same level of funding from the budget of the Union State in 2019 as in 2018.

Provisions relating to close cooperation with Belarusian partners in international forums, in particular within United Nations system organizations, in order to minimize the consequences of the accident at the Chernobyl nuclear power plant, have been included in the current programme of coordinated foreign policy actions for 2018–2019 of the States Parties to the Treaty on the Establishment of the Union State.

Annex III

Report of Ukraine

The national policy of Ukraine on the integrated protection of the population affected by the consequences of the Chornobyl disaster is based on a number of principles, including international cooperation in the spheres of health protection, social-psychological and radiation protection and labour protection and the application of experiences from around the world in the organization of work on these issues.

In this regard, fruitful cooperation between Ukraine and the United Nations should be noted.

For many years, the Government of Ukraine, together with United Nations agencies, has successfully implemented international projects, the main purpose of which is to promote the processes of rehabilitation and development of the affected areas.

The purposeful interaction of all branches of power and public and international organizations on overcoming the consequences of the Chornobyl catastrophe is the key to solving a complex set of problems related to the revival and development of the affected areas and related to increasing the living standards of their inhabitants.

The return to normal life is a real prospect for people living in areas affected by the Chornobyl catastrophe. Achieving this goal requires sustainable socioeconomic development, the creation of new jobs, the attraction of new investments and the renewal of the community's sense of self-sufficiency. Despite the progress made, the need for international assistance remains relevant.

In general, more than 33 years after the Chornobyl accident, the radiation situation in the affected areas has improved. This was facilitated both by natural processes and by the implementation of the State policy to minimize the consequences of the Chornobyl catastrophe, which included a number of measures to protect the territories, work on decontamination and introduce countermeasures in agricultural production.

There are fewer territories in which there is an excess of radionuclide content in food products above acceptable levels. The analysis of the radiation situation in the contaminated areas shows that the main radiological problems (exceeding individual radiation doses and the consumption of food with the content of radionuclides above the permissible levels) are concentrated in separate settlements and, taking into account the forms of management in Ukraine, in the private sector of agricultural production.

One of the main directions of State policy on overcoming the consequences of the Chornobyl disaster is the social protection of the affected population. Priority efforts are directed towards ensuring the effective protection of the most vulnerable categories of citizens most in need of assistance.

The law of Ukraine on the status and social protection of citizens affected by the Chornobyl catastrophe established State-guaranteed compensatory payments, additional payments and various types of benefits that apply to all victims of the Chornobyl catastrophe in accordance with certain categories.

As at 1 January 2019, State support had been provided to 1,816,837 people affected by the Chornobyl disaster, other nuclear accidents and nuclear military exercises, including 193,798 people affected by the consequences of the Chornobyl disaster.

In view of the long-term nature of the consequences of the Chornobyl disaster, there is a need for further cooperation with the United Nations and other international organizations on the study and minimization of the medical, ecological and socioeconomic consequences of the Chornobyl accident and the promotion of the processes of rehabilitation and development of the affected areas.

According to the Ukrainian side, increased attention is required from the international community, in particular the United Nations, regarding the restoration and improvement of living conditions of the population, in particular the development of social infrastructure, especially in areas in which the status of settlements regarding the level of radioactive contamination and their transfer to the category of "clean" will be reviewed, as well as in areas in which problems of a radiological nature remain.

In Ukraine, these are the lands of Polissya in the Rivne and Volyn regions. A characteristic feature of these areas is a high birth rate, often of four to six children in a family. Unfortunately, the conditions for medical care, school education and pre-school facilities need to be substantially improved. At the same time, these areas are in a critical situation in terms of doses of internal radiation and excess of radionuclide content in agricultural products, and, in particular, forestry products.

Additional financial resources are required to develop the economic potential of the affected regions, create new enterprises, jobs, modern technologies for agro-industrial production and financial and institutional tools for supporting small and medium-sized businesses, improve the investment attractiveness of the region and reduce barriers to the implementation of products that are produced in these regions.

Particular attention needs to be paid to:

– The sharing of international best practices in the field of socioeconomic development and the socio-psychological rehabilitation of local communities;

– Assistance in modernizing the State systems for monitoring the radiation doses of the population living in contaminated territories;

– Assistance in conducting socio-psychological monitoring of the population living in contaminated territories;

– Assistance in disseminating among the population adequate, scientifically substantiated information materials related to the effects of radiation, as well as materials devoted to the conditions of residence in the territories contaminated as a result of the Chornobyl accident;

– Assistance in conducting long-term monitoring of the health of the victims of the Chornobyl accident and developing an early diagnostic system for diseases that may be related to exposure to ionizing radiation;

– Assistance in carrying out scientific research on the long-term medical consequences of the Chornobyl disaster;

– Assistance in preserving the unique cultural and historical heritage of Polissya; in this regard, Ukraine counts on the vast experience of the United Nations Educational, Scientific and Cultural Organization.

Today, Ukraine is taking steps to return to the use of land withdrawn from agricultural land. Thus, rapeseed is grown on an area of about 3,000 ha with a pollution density of 555 to 1,480 kBq per square metre. In the future, it is planned to increase the size of such areas for the cultivation of industrial crops.

In recent years, the number of appeals by local communities to return such lands to widespread agricultural use has increased. These lands are considered as the main resource that could ensure their socioeconomic development.

Therefore, Ukraine is interested in contributing to the creation of radiation-safe technologies, the development of radiological regulations for conducting such work and the updating of devices for radiological control centres that will support the monitoring of agricultural products grown on these returned lands.

From 2017 to 2019, work on the construction of a new safe confinement was carried out in accordance with the contract schedules.

On 29 November 2016, the transfer of the new safe confinement arch into its final position was completed.

Temporary facilities were put into operation during the period from 2017–2019 at the Chornobyl nuclear power plant. At the site of the shelter, engineering and technological research is under way. Work on the installation of the foundations of the new safe confinement, the concreting over of peripheral walls and columns and work on other external and internal auxiliary facilities of the new safe confinement, the installation of anchors for the sealing of block B and the sealing membrane are completed. Work was carried out on the testing of individual systems and elements of the new safe confinement. On 25 April 2019, the 72-hour test of the new safe confinement was successfully completed.

In 2018, Ukraine began work on the rehabilitation of areas with radioactive waste storage located outside the exclusion zone that were established in the early days of the Chornobyl disaster during the decontamination operations in the settlements. For more than 33 years, these repositories have been a radiation hazard for the population. The first object of this work was the storage of “Pisky-1”, located 500 m from the village of Pisky, in the Ivankiv district of the Kyiv region. Territory surveys and preparatory work have been carried out. Radioactive waste will be seized and transported to the disposal facility for engineering facilities in the exclusion zone. As a result of the measures taken, the risks of uncontrolled proliferation of radioactive materials will be greatly reduced and the social tensions associated with life near the radiation-hazardous object will be eliminated.

From 2017 to 2019, Ukraine continued to work on the collection, sorting, disposal (storage) of radioactive waste, the operation of burial and storage sites of radioactive waste and the decontamination of buildings, structures and territories that were contaminated after the accident in Ukraine in order to minimize the consequences of the Chornobyl accident in 1986.