Social-economic Consequences of the Chornobyl Catastrophe

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1. Introduction

The largest in its scale and consequences man-caused catastrophe that took place on April 26 1986 on the # 4 Reactor at the Chornobyl Nuclear Power Plant in the former Ukrainian Soviet Socialist Republic became national tragedy, condemned millions of people to sufferings, and showed how unprotected was the state in the face of global disaster in peace-time.

The Chornobyl NPP disaster was responsible for serious economic losses within the former Soviet Union and beyond. The accident disrupted production as well as the normal activities of daily life in many areas of Ukraine, Belarus, and Russian Federation. In Ukraine, it led to a significant loss of electrical power production and a direct impact on the regional industrial economy. Further, it caused substantial damage to the agricultural economy and limited the use of the area's forests and waterways (use restrictions were imposed on 5,120 km^2 of farmland and 4,920 km^2 of forest). For the entire Ukraine population, the reduction in the Gross National Product and the loss of monies that could have been spent on improving health care and preventive medicine, and in other areas to promote general health and well-being was a significant blow.

In 1986, approximately 116,000 persons were evacuated from areas with radiation level higher than 5 mRem per hour**.** This evacuation required the construction of additional housing for the evacuees. Approximately 15,000 apartments; several living quarters with a total capacity exceeding 1,000 persons; 23,000 houses; and approximately 800 social and cultural institutions were constructed during 1986 and 1987. The city of Slavutych was built to house former Pripyat residents (Chornobyl NPP workers and their families). Other people from the contaminated areas were located in Kiev.

The measures implemented by the authorities immediately following the accident were designed primarily to protect the public from the effects of radiation and minimize the immediate threat to human life and health. The evacuation was accompanied by various measures. To provide social and economic assistance to the public and individual enterprises, machinery, equipment, livestock, and other materials were relocated to less contaminated areas.

Assistance to the affected regions in Russia, Ukraine, and Belarus was provided from centralized all-Union financial and technical resources in the Soviet Union. The assistance focused primarily on restoring daily living activities. These activities included employment; restoring production activities (e.g., restarting evacuated industrial facilities, finding alternate power sources); decontaminating houses and roadways in areas believed to be salvageable; as well as providing social assistance, environmentally uncontaminated products, and medical services to members of the public who continued to reside in contaminated areas.

2. Assessment of losses caused by the Chornobyl catastrophe for the USSR economy

The 116,000 people who were evacuated from their homes and those who voluntarily left (known as the victim population) were partially compensated for material losses related to the evacuation: lost personal property, crops in the ground, residences, etc. Industrial and agricultural enterprises (including collective farms) were compensated for lost financial, material, and technical resources.

In regions with radioactive contamination levels less than 555 kBq/m^2 (15 Ci/km^2) (intensive radiation monitoring zones), which were not subject to evacuation under the regulations, each resident was paid approximately 30 rubles ($33) per month to purchase "uncontaminated" food products imported from elsewhere. (At this time 1 kg of meat cost approximately 2 rubles and bread cost 20 kopecks.[1]) The use of local foodstocks (such as meat, milk, vegetables, and potatoes) was temporarily forbidden.

In 1990, the USSR Finance Ministry assessed the direct losses as a result of the Chornobyl NPP accident. The losses were determined by analyzing data provided by various ministries and agencies, as well as the industrial departments of the USSR Council of Ministers and the Councils of Ministers of the union republics. The USSR Finance Ministry found that the total direct loss (including expenditures from all funding sources) for 1986–1989 was approximately 9.2 billion rubles or about 12.6 billion US dollars [2]. As Ukraine's share of the all-Union budget was 30%, Ukrainian losses from the accident are in the same proportion.

In 1990, the USSR State Budget included 3.324 billion rubles for remediation of the Chornobyl NPP accident. Another 1 billion rubles was appropriated from the individual budgets of the Russian Federation and Ukrainian and Belorussian republics. The USSR State Budget for 1991 had included expenditures of 10.3 billion rubles for these purposes; however, because of the disintegration of the USSR, only a portion of the funding came from the all-Union budget. By the end of the year, remediation efforts were being funded by the state budgets of the three newly independent and most severely affected countries (Russian Federation, Ukraine, and Belarus), Gosstrakh (an insurance company), and voluntary contributions to the Chornobyl NPP Accident Remediation Fund. A total of 2.97 million rubles of foreign currency resources (including 2.2 million dollars in convertible currency) were also received and used.

3. Assessment of summarized economic losses of Belarus Republic

According to estimations of leading Scientific Research Institutes and specialists of various branches of national economy, the summarized social-economic detriment to Belarus Republic caused by the Chornobyl Catastrophe over the period from 1986 up to 2015 comes to 235 billion US dollars [3-5].

The sum includes losses connected with bad effects on population health, detriment to industry and social sphere, agriculture, construction complex, transportation and communication, municipal services; contamination of mineral and raw material, land, water, forest and other resources; also additional expenses connected with mitigation and minimization of the consequences of the accident and providing safe conditions for vital activities of population.

In the structure of total detriment during the years 1986 – 2015 the main part (81.6%) take costs, connected with industry functioning support and protective measures implementation, which come to 191.7 billion US dollars. The part of direct and indirect losses totals approximately 30.0 billion US dollars (12.6%). Lost profits are valued at 13.7 billion US dollars (5.8%). Direct losses include the cost of taking out of use of constituent part of national wealth of the republic: main and circulating production funds, objects of social infrastructure, living premises and natural resources.

To indirect losses are attributed those caused by influence of economic and social factors (living conditions and state of health of population) that caused disruption and cessation of production, slowing down labour productivity, rise of costs and aggravating provisions of other installations of state, co-operative and privet property, also losses inflicted by population migration from affected areas.

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[1] A kopeck is equal to one-hundredth of a ruble.

[2] This information was officially presented at an ECOSOC (UN Economic and Social Council) meeting by the USSR, Belarussian, and Ukrainian delegations (letter No. A/45/342 and E/1990/102 dated 06 July 1990 addressed to the UN Secretary General).

Constituents of lost profits evaluated in money are: reduction of output, works and services in the contaminated territories, cost of food turned useless due to radiological contamination, additional expenses in order to make up for production failed to be produced, cost of restoration of the lost quality of production, losses from canceled contracts, annulled projects, credits kept idle, penalty, fine and forfeit payments, etc.

Additional costs include expenses on mitigating of the consequences of the accident and securing of he normal functioning of different branches of national economy in radioactively polluted zones, and providing safe conditions for vital activities of people. They also include compensating of consequences of negative factors effects, cost of additional resources, used to compensate losses and lost profit, cost of decontamination measures and of radiological monitoring.

The cited above evaluation of losses is not final as cause and effect relationship, reflecting that the effects of radiological contamination of territories on various aspects of vital activities are rather complicated. Science still doesn't have complete and final information on medico-biological, social and ecological consequences of the Chornobyl catastrophe.

Table 1. Sectoral structure of social-economic losses of Belarus Republic caused by Chornobyl NPP accident (billion of US dollars) [5]

Sectors of National Economy	years				
	1986-1990	1991-1995	1996-2000	2001-2015	1986-2015
Health of population	4.05	16.77	18.13	54.32	**93.27**
Agro-industrial complex	18.3	20.0	15.6	18.1	**72.0**
Forestry	0.58	0.68	0.70	2.15	**4.11**
Industry	0.06	0.13	0.11	0.33	**0.63**
Construction industry	0.15	1.25	0.32	0.96	**2.68**
Raw materials, mineral and water resources	2.00	0.12	0.15	0.40	**2.67**
Transportation and communication	0.93	1.20	0.36	0.90	**3.39**
Social sphere	2.84	5.45	2.96	6.45	**17.70**
Decontamination of the territories	0.04	4.19	22.48	10.12	**36.83**
Radio-ecological monitoring	0.05	0.21	0.19	1.27	**1.72**
Total	29.00	50.00	61.00	95.00	**235.00**

Belarus Republic still carries the burden of direct financial expenses for mitigation of the consequences of the Chornobyl catastrophe. For example, 200 million US dollars were spent on so-called "Chornobyl programs" from the state budget in 2004.

4. Assessment of summarized economic losses of Russian Federation

From 1986 through 1991 minimization of the consequences of the Chornobyl catastrophe in the Russian Federation was financed from the USSR budget. It should be mentioned that there is no data on the direct losses. It could be assumed that they were not as considerable as in Ukraine and Belarus, as there was no large-scale evacuation of population from the exclusion zone [6].

As for the period 1992 through 2000 when Russian Federation started to finance "Chornobyl" programs on her own, it was planned to allocate 247.7 billion rubles (on the value bases by the year 2000.) In fact during these years more than 46 billion rubles were finance from the Federal budget. Additional 36 billion rubles were paid as privileges and compensations, which gives us a total of more than 3 billion US dollars. Payments on "Chornobyl" programs from Russian Federation budget after the year 2000 are still kept in the same proportion.

5. Assessment of summarized economic losses of Ukraine

5.1. Direct losses. Direct expenses and indirect losses, including additional losses caused by prescheduled decommissioning of the ChNPP.

5.1.1. Assessment of direct losses

The city of Pripyat was completed in 1985 and had a population of 48,000 at the time of the accident. In 1986, the city contained three large enterprises under all-Union jurisdiction (Chornobyl NPP, the Jupiter plant, and an integrated residential construction plant); a vocational and technical school; a music school; a complex of hospital institutions; a recreation center; three libraries; and a movie theater.

When calculating losses caused by the consequences of the Chornobyl catastrophe, waste of infrastructure facilities located at the ChNPP construction site and in the territory of the exclusion zone, including the towns of Pripyat and Chornobyl are considered.

Losses caused by waste of material objects of national economy in the exclusion zone due to the Chornobyl NPP accident total to 1,010.6 million rubles (Table 2). [1]

Table 2. Losses from Ukraine Economic Facilities Removed from Service in the Exclusion Zone After the Accident.

Description of Physical Facility Lost as a Result of Chornobyl NPP Disaster	Year of Valuation as Fixed Asset or Inventory Item	Cost of Fixed Assets or Inventory Items	
		Rubles, thousands	Dollars, thousands
Facilities and expenses associated with stopping construction on ChNPP Phase III	1986[a]	99,028	136,120
ChNPP Unit 4	1964[b]	201,000	223,330
Chornobyl-2	1984[c]	97,700	137,027
Enterprises in telecommunications equipment industry (1)	1986	51,070	70,199
Enterprises in the metallurgical industry (1)	1986	44,700	61,443
Enterprises in the construction materials industry (1)	1986	7,750	10,653
Enterprises in the river transportation industry (2)	1986	21,050	28,935
Paved roads (353 km)	1986	60,550	83,230
Enterprises in the woodworking industry (1)	1986	4,720	6,488
Enterprises in the concentrated feed industry (1)	1986	4,550	6,254
Enterprises for primary processing of agricultural raw materials (1)	1986	4,900	6,735
Enterprises in the food industry (1)	1986	5,010	6,887
Enterprises engaged in the repair of tractors and agricultural machinery (1)	1986	760	1,045
Enterprises in the forestry industry (1)	1986	4,700	6,460
Collective farms (14)	1986	79,693	109,544
State farms (2)	1986	18,659	25,648
Joint enterprises (3)	1986	18,694	25,696
Water systems and facilities	1986	4,405	6,055
Sewer systems and facilities	1986	3,850	5,292
Electrical transmission and distribution	1986	315	433
Heating systems and facilities	1986	3,390	4,660
Housing space: - State-owned (402) - Privately owned (2,278) - Rural farmsteads (9,050)	1986	 209,750 7,101 28,200	 288,316 9,761 38,763
Vacation centers (10); hospital facilities (midwifery centers)	1986	29,104	40,005

Description of Physical Facility Lost as a Result of Chornobyl NPP Disaster	Year of Valuation as Fixed Asset or Inventory Item	Cost of Fixed Assets or Inventory Items	
		Rubles, thousands	Dollars, thousands
(44); Educational institutions in the vocational education system (3); general education schools (34); music schools (2); recreation centers (16); movie theaters (2); clubs (39)			
Total		1,010,649	1,338,979

(a)Exchange rate as of April 1986: $1 = 72.75 kopecks

(b)Exchange rate as of October 1984: $1 = 71.3 kopecks.

(c)Exchange rate as of 1964 $1 = 90 kopecks.

ChNPP = Chornobyl Nuclear Power Plant

In addition to the items in Table 2, the substantial loss of infrastructure facilities in the Exclusion Zone was accompanied by further losses of equipment, tools, and machinery that became contaminated with radionuclides during the accident remediation operations. These contaminated materials were disposed at the Buryakovka radioactive waste disposal site and at the Rozsokha Equipment Holding Facility 1 and 2. Items in the Buryakovka disposal site include 1,958 trucks, 14 fire trucks, and 19 bulldozers; the total estimated cost as of 1986 of the equipment in this disposal site was 17,566 thousand rubles or $24,146 thousand U.S. dollars (estimated cost as of 1986). This is from internal accounting data from Kompleks State Enterprise. Items in the Rozsokha holding facilities includes 30 helicopters and 11 residential buildings; the total estimated cost as of 1986 of the equipment in this holding facility is 16 million rubles or about $22 million U.S. dollars (estimated cost as of 1986).

The total loss -- loss of property and individual facilities of economic importance -- was 1,044 million rubles or $1,385 million U.S. dollars in the Exclusion Zone alone

Besides, other losses, caused by population evacuation and waste of fixed assets during the post-accident period, should also be considered. Those measures were taken after the radiation situation in the territory of the exclusion zone was specified in 1990's.

The cost of lost residential constructions and private property outside the Chornobyl exclusion zone equals to 0.2 billion rubles (as of the year 1984 prices.) The loss of fixed assets outside the exclusion zone equals approximately to 0.4 billion rubles (as of the year 1984 prices.)

Consequently, summarized direct losses of material objects and economic facilities outside the exclusion zone total 0.6 billion rubles, which is equal to 0.84 billion US dollars.

5.1.2. Assessment of Direct Costs

The cost of emergency measures was based on the general amount of financing of:

- works on direct mitigation of the consequences of the accident in the exclusion zone;
- social protection of the affected population and corresponding medical programmes,
- scientific research programmes;
- radiation monitoring of the environment;
- decontamination and RAW management

Summarized data on actual amount of financing is given in Table 3 [1]

Table 3.

Summarized data on actual amount of financing of mitigation of the consequences of the Chornobyl catastrophe and social protection of population for the period of 1986–1996 (1986 – 01.09.91 financed from the State budget of the USSR; from 01.09.91 – financed from the State budget of Ukraine) /in millions of US dollars/.

Line	Heading	1986 - 1991	1992	1993	1994	1995	1996	1997[(a)]
1.	Social protection of citizens, total	6606.55	197.33	196.51	478.07	383.97	545.65	636.93
2.	Special assistance	53.62	6.32	2.99	8.83	22.81	19.02	8.21
3.	Scientific research	57.76	3.23	4.45	4.99	5.92	7.04	10.54
4.	Radiation monitoring	63.79	1.99	1.64	2.28	3.15	4.44	5.4
5.	Environmental remediation	-	-	0.01	0.37	0.36	0.19	0.23
6.	Rehabilitation and disposal of radioactive waste	0.17	0.27	0.08	0.20	0.13	0.16	0.29
7.	Capital investment. Resettlement and creation of appropriate conditions for members of the public residing in contaminated areas	3173.62	276.07	197.78	205.28	167.44	194.10	89.87
8.	Work in Exclusion Zone	8923.75	19.70	25.84	46.45	44.95	52.08	56.1
9.	Other	228.97	17.72	15.88	25.91	41.94	43.36	37.0
	Total: Ukrainian portion[*]	19108.23 5732.47	510.81	436.01	755.72	638.30	835.19	844.6

*Assuming that in 1986-1991 the Ukrainian portion in the expenditures of all-Union budget was 30%, then the losses of Ukraine caused by the accident could be evaluated in the same proportion

Since 1998 from the State budget of Ukraine approximately in the same proportion to solve ‘Chornobyl’ problems expenditures were financed:

Year	Million US dollars
1998	584.72
1999	371.76
2000	332.64
2001	358.34
2002	376.00
2003	259.09
2004	450.11

It should be noted that since 2001 as the result of the pre-scheduled shut-down of the Chornobyl NPP Ukraine is put into additional expense to maintain safe condition of the shutdown reactor units of the Chornobyl NPP and to convert the object ‘Shelter’ into the ecologically safe system. Annual expenditure amounts approximately 50 million US dollars. Consequently, in the course of 4 years (up to 01.01.05) approximately 200 million US dollars were allocated for these purposes.

5.1.3 Analysis of Indirect Losses

Losses from inability to use contaminated arable lands, water and forest resources

The land contaminated by the Chornobyl NPP accident in Ukraine includes rich forests where mushrooms and berries were harvested and agricultural lands where thousands of metric tons of hay were harvested. The loss of the ability to use farmland, water resources, and forest resources because of contamination is currently estimated to be 8.6–10.9 billion rubles. This is more than 2% of the gross national income produced by Ukraine in 1986. These figures are for Ukraine alone from 1986–1991. All economic activity was suspended on land with contamination densities greater than 555 kBq/m^2 (15 Ci/km^2), and some activity was suspended on land with contamination densities between 185 kBq/m^2 and 555 kBq/m^2 (5 Ci/km^2 and 15 Ci/km^2). It will take several decades for the contamination on this land to decrease sufficiently to permit use.

Forestry industries also incurred significant losses. More than 5,000 km^2 of forest land was withdrawn from use. The direct losses due to loss of lumber were nearly 100 million rubles. The total loss incurred by forestry and related woodworking industries for the 1986–1991 time period was approximately 1.8–2.0 billion rubles (in 1984 prices).

Although only 0.6% of the pine stock in the former Soviet Union was located here, this area produced more than 50% of the total amount of resin collected in the former Soviet Union. Approximately 60,000 metric tons of coniferous sawdust per year, worth 15 million rubles, was collected here.

The loss to water resources and fisheries in the Dnepr and Black Sea watersheds because of radioactive contamination in bodies of water during the first few years following the accident was 2.3–3.1 billion rubles.

Thus, average evaluation of losses caused by inability to use contaminated arable lands, water and forest resources for the period of 6 years (1986 – 1991) gives us (8.6 + 10.9)/ 2 = 9.75 billion rubles. This indirect loss evaluated for a one year period gives us 9.75 / 6 = 1.625 billion rubles. In 30 years (to the year 2015) indirect losses in this field of activities will reach $1.625 \times 30 = 48.75$ billion rubles.

Loss of power production and its industrial impact

Because of the accident, electrical power was not produced using the Chornobyl NPP and goods and services were not produced because of the loss of power. These losses are especially important relative to the other losses resulting from the Chornobyl NPP accident. The amount of electrical power not generated because Unit 4 was not used for its entire design lifetime and because other Chornobyl NPP units were shut down in 1986 was 62 billion kWh. At a mean cost of 1.5 kopecks/kWh for Chornobyl NPP power, the direct loss was approximately 1 billion rubles. Economists estimate that each unit of electrical power cost supplied to other branches of industry increases national income by 20 units. Electrical power shortages have a substantial effect on production volume in areas such as machinery, light industry, food industry, and other processing industries. Thus, the total loss due to lack of electric power was approximately 20 billion rubles (in 1984 prices). < I think this estimate is acceptable in case there happened a large and long scale of electric shortage after the Chernobyl accident. I did not know such situation happened. Imanaka>

After the Chornobyl NPP accident, a moratorium was issued regarding bringing any new nuclear power plants on line at existing power plants. Because of this decision, the national economy failed to receive 6 million kW of installed capacity. Economists' estimates indicate that a mere 1-year delay in bringing 1 million kW of electrical power on line is capable of reducing the national income by 2 billion rubles. If the delay becomes long term, the cost of the moratorium could reach 48 billion rubles (in 1984 prices) within 4 years.

One might consider that the last mentioned arguments are not convincing. There are no known reports about long and deep shortage of electricity in Ukraine after the Chornobyl accident. But let us not forget, that at that time Ukraine was a part of the Soviet Union, which was a rather specific country. Beside it was large enough to mask underproduction of electricity in Ukraine by redistributing of its production and consumption over it's whole large territory, it was also closed country with the total control over information, especially that, which provided evidence of its weakening.

After disintegration of the Soviet Union the independent Ukraine in early and middle 90th of the 20th century faced problems of underproduction of electricity. The shortage in electricity production was so severe, that during autumn-winter periods the whole regions (including schools, hospitals and kindergartens), not only industrial enterprises, were being switched off electricity according to schedule or as a result of emergency cutout.

Of course it should be taken into account that the general economic and fuel crisis took place in Ukraine in middle 90th of the last century, but let us mention also that nuclear electrical power production was maybe the only stably operating branch of economy during this period. Since 1985 till 1993 electrical power production in Ukraine dropped down at 27% due to fuel shortage, but at the same time the share of NPP in produced electricity increased from 19.5 to 40% [7].

Thus, to summarize the indirect losses, the total irretrievable loss to Ukrainian economy from the Chornobyl NPP disaster is 116.75 billion rubles (in 1984 prices). The structure of the indirect losses is provided in Table 4.

Table 4. Structure of Ukrainian indirect losses due to Chornobyl NPP accident

Indirect Loss	Rubles in billions
Losses caused by inability to use arable lands, water and forestry resources	48.75
Cost of electricity not generated	20,0
Cost of moratorium against bringing new capacity on line at existing nuclear plants	48,0
Total:	116.75

As the exchange rate of the US dollar to the USSR ruble was approximately 71.3 kopecks, we can estimate the indirect losses as a result of the Chornobyl NPP accident to total 163.74 billion US dollars, or 3.4 times the Ukrainian gross domestic product for 1997. This is also as much as about 13 state budgets of Ukraine in 1997, or about 8 in 2005.< How many times larger than the state budget ?> It should be noted that indirect losses evaluation is given only on most affected branches of national economy.

5.2. Assessment of total economic losses of Ukraine

Direct losses (property and economic facilities) only in the exclusion zone in the territory of Ukraine totals 1044 million rubles or 1385 million US dollars.

Direct expenditures of Ukraine to mitigate the consequences of the Chornobyl catastrophe at the expense of different sources of financing during the period of 1986 – 1991 totaled approximately 6 billion US dollars. During the last 13 years, when Ukraine is independently financing costs of mitigation of the consequences of the accident, i.e. 1992 through 2004, expenditures reached 6.95 billion US dollars.

However, it is complicated to determine the scale of indirect losses, caused by inability to use contaminated agricultural lands, water and forest resources [2], decrease of power production, and sequentially decrease in output of goods and rendering services. The Ukrainian specialists estimations show that by the year 2015 summarized economic loss will come to 179 billion US dollars.

Consequently, summarized economic losses of Ukraine caused by Chornobyl catastrophe have the following scale and structure (**Table 5**)

Table 5. Structure of summarized Ukrainian economic losses till 2004

Item	Cost, million U.S. dollars
1. Direct losses of inventories and economic assets	
1.1 in the exclusion zone	1385.0
1.2 outside the exclusion zone	840.0
2. Direct costs of financing activities on mitigating of the consequences of the accident	
2.1 1986 – 1991 (Ukrainian share in the USSR budget expenditure)	5732.5
2.2 1992 – 2004 (Ukrainian expenditure after declaration of independence)	6953.3
3. Indirect losses according to Table 4 (for the 30 year period up to 2015)	163740
Total:	178650.8

These losses are not exhaustive, as they do not include all indirect Ukrainian economic losses but omit items such as:

- Loss of health and fitness for work (for the current and future generations)
- Future costs for reclamation of contaminated land and water bodies
- Future costs for decommissioning of the ChNPP, transform object 'Shelter' into ecologically safe system, disposal of radioactive waste from the Shelter.

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6. Conclusions and proposals

1. The accident brought out clearly that nuclear facilities safety expenses are considerably lower than those needed to mitigate the consequences of possible accidents – large-scale man-caused catastrophes do tremendous economic damage to countries that are located within the zone of their effect.

2. The Chornobyl catastrophe did enormous social-economic damage above all to three most affected countries: Ukraine, Belarus and Russian Federation.

As the result of direct losses of material and economic establishments and financial expenses on minimization of the consequences of the accident, the total sum of losses of Ukraine, Belarus and Russian Federation reached tens of billions of US dollars.

The Chornobyl accident is also characterised by considerable indirect losses, which **mean damnification caused by uderproduction in energetics, agriculture, forestry, fish industry, water facilities etc.I have changed this sentence< I can not understand the meaning. >**

3. Present estimations of indirect losses of Ukraine and Belarus are based on different methodological approaches and do not enable correct evaluation of health damage, demographic changes, future expenditure for rehabilitation of contaminated territories and facilities. In light of this development of universal approaches for estimation of indirect losses caused both by Chornobyl accident and other similar disasters are necessary.

4. Weight of expenditure to minimize consequences of the Chornobyl disaster will continue to be a heavy burden for the economy of three most affected countries for many years.

Considering that the extent of social-economic damage in Ukraine and Belarus is incommensurable with real economic resources of the countries, the assistance of the international community is essential.

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