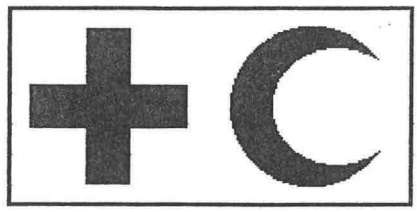

The Red Cross Chernobyl Humanitarian Assistance and Rehabilitation Programme

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Introduction

This report has been prepared at the request of the Federation's Delegation in Kiev following the International Workshop held in Kiev in November 1993 which met to discuss the first two and a half years of operation of the Chernobyl Humanitarian Assistance and Rehabilitation Programme (ChARP).

It is based on papers presented to the Workshop, progress reports from the field, situation reports from the Federation and the Evaluation Report prepared by International Federation experts prior to the Workshop.

The purpose of this report is to put into one document the various papers and reports on the Red Cross Humanitarian Assistance and Rehabilitation Programme so as to present a coherent picture of what is an innovative and original programme for the Red Cross Movement.

1. The Chernobyl Nuclear Power Plant Disaster

On April 26th 1986, the fourth power unit of the Chernobyl Nuclear Power Plant exploded causing partial destruction of the nuclear reactor followed by radioactive blow-outs and subsequent contamination of large areas in Ukraine, Belarus and the Russian Federation. Within 24 hours of the accident, the radioactive release was registered in Poland, Sweden, Norway, France and Great Britain. According to the UN report, in the three days following the accident, the radiation from Chernobyl was registered in the atmosphere of the whole northern atmosphere. Research presented at the International Conference IBA in Montreal showed that fall-out of Chernobyl radionuclides had been registered in the continental and ice deposits as far away as Greenland and northern Canada.

As a result of the reactor accident, large quantities of different radionulides were emitted. Within hours of the accident, emergency relief measures were taken by Government authorities. Initially these consisted of efforts aimed at eliminating the possibility of any further blow-outs. At the same time, a mass evacuation of the population living within the disaster zone was set in motion. Over 10,000 Red Cross workers were involved in this operation and in the programme of resettlement of these people. By 5th May 1986, 92,000 people had been moved out of the worst affected area. Also, within hours of the disaster, Soviet Red Cross staff and volunteers were mobilised to assist public health services in prevention, health and hygiene efforts, both in the disaster areas and among the evacuees, especially among children, the elderly and the handicapped. (A detailed analysis of the activities undertaken by the Russian, Belorussian and Ukrainian Red Cross Societies in the immediate aftermath of the disaster, can be found in the next section of this report.)

The worst contamination hit first of all the areas within the 30 km radius then over the following weeks it spread to the regions beyond the 30 km radius. Contamination occurred in irregular patterns largely due to meteorological conditions. Approximately 10,000 km^2 are considered contaminated with more than 15 Ci/km^2 caesium^{137} of which:

7,000 km^2 in Belarus
2,000 km^2 in the Russian Federation
1,000 km^2 in Ukraine

The total number of population living within the contaminated areas are estimated at approximately:

Belarus	2,400,000
Russian Federation	700,000
Ukraine	1,000,000
Total	**4,100,000**

Whilst it is possible to put such a figure to the total number of people affected by the Chernobyl accident, it is as yet impossible to know what the affects are, or will be, both in the short and long term, on the health of the population. Two main reasons can be identified: Firstly, following the break-up of the Soviet Union there has been a general decline in the economic situation in all the former Republics accompanied by a rapid fall in the standards of living. This in itself has profoundly influenced the general state of health and continues to do so. With this in mind, it is hard to know if an increase in the mortality rate can be attributed solely to the Chernobyl accident. Secondly, by the very nature of the medical consequences, it will be many years before their full extent becomes apparent.

What is known, however, is that the number of people affected by the consequences of the accident is increasing and that the general health of the population living in and around the contaminated territories continues to deteriorate. For example a considerable growth in the number of cases of thyroid disease has been observed in the Gomel region of Belarus. Before the accident, cancer of the thyroid gland among children was practically non-existent. Following the accident, one case was registered in 1988; in 1990 - 13, in 1992 - 46 and in 1993 - 63 cases.

Similarly, it is impossible to give an exact figure for the number of casualties, a recent estimate (see IFRC Kiev Delegation Situation Report, Jan. 1994) puts the number of deaths directly caused by the accident at over ten thousand. The numbers of settlements and population in the areas contaminated with caesium^{137} are as follows:

	Number of settlements		**Population numbers**
	1-15 Ci/km^2	>15 Ci/km^2	areas with >15 Ci/km^2
Belarus	3,223	395	102,000
Russian Fed.	1,286	154	90,000
Ukraine	1,130	57	25,000
Total	**5,639**	**606**	**217,000**

The following regions continue to be most seriously affected by the radioactive contamination: Gomel and Mogilev in Belarus; Kiev, Zhitomir, Rovno, Chernigov in Ukraine; Bryansk in the Russian Federation. The size of the affected area is vast. For instance, nearly a quarter of the territory of Belarus (home to one fifth of the population) is now contaminated with radioactive substances. As much as 22% of agricultural land is contaminated with hazardous concentrations of radio-nuclides, of which 264,000 hectares are now unusable. Similarly, 12 of Ukraine's 25 regions, covering 86 administrative districts, are contaminated with long-life radionuclides. This covers an area of over 7 million hectares including 3 million hectares of agricultural land and 2 million hectares of forest used for agricultural purposes.

Map of areas affected by Chernobyl Disaster

Apart from the radioactive material which was ejected into the atmosphere when the accident took place, a considerable amount of radioactive waste was produced during the course of the clean-up operation in the vicinity of the Chernobyl Nuclear Power Plant (ChNPP). There are over 800 dump sites located within the 30 km zone around the ChNPP containing radioactive waste, the total volume of which exceeds 1.2 mln cubic metres. The containers used are temporary and lack any protection systems.

There are other long term dangers associated with the Chernobyl disaster. Today, within the ruins of the power block of the ChNPP are 180 tonnes of highly active uranium fuel and a vast amount of material (sand, lead etc.) used to encase it as well as hundreds of thousands of cubic metres of destroyed metal and concrete construction. On the basis of the most optimistic of forecasts, the life span of the protective construction encasing the ChNPP is, at most, 15 years, of which over 7 years have already passed.

2. Response by the Russian, Byelorussian and Ukrainian Red Cross Societies to the Chernobyl Disaster

Within hours of the Chernobyl disaster, the Red Cross Societies of all three affected Republics quickly became involved in various capacities in the ensuing relief operation. This section will deal with the programmes undertaken by the three Red Cross Societies, from the moment the disaster took place until the time when the International Federation of Red Cross and Red Crescent Societies became formally involved in the Chernobyl Humanitarian Assistance and Rehabilitation Programme, i.e. the period from April 26th 1986 to January 1990. During this period the National Red Cross Societies of Byelorussia, of the Russian Federation and of Ukraine, carried out their own separate programmes within the framework of the programme of the Alliance of Red Cross and Red Crescent Societies of the USSR.

Initially, during the emergency phase immediately following the disaster, Red Cross volunteers from all three affected Republics were mobilised to assist medical services in helping the many victims and aiding in the evacuation. Also, several Red Cross first aid teams were sent to the immediate vicinity of the Nuclear Power Plant.

With a view to extending the work of the Red Cross in the affected areas in the longer term, a fund-raising campaign was quickly established. See table:

	Income	**Roubles**
a.	Public donations (1986-1989)	12,570,000
b.	Disaster Relief Fund of the Alliance	3,020,000
c.	Other income	1,017,000
	Total income	**16,607,000**
	Expenditure	
e.	Transfer to Ukrainian RC Society	7,500,000
f.	Transfer to Byelorussian RC Society	7,050,000
g.	Transfer to Russian RC Society	500,000
h.	Transfer to other RC Societies	540,000
	Total expenditure	**15,590,000**
	Balance of funds at 1/1/90	1,017,000

Within the very first few days following the Chernobyl disaster, the Red Cross Societies were active in organising the evacuation and giving aid to the victims. As the situation developed and the extent of the disaster became apparent, the need arose for a more organised approach and for there to be a plan of action. The programme developed by the three National Societies consisted principally in assisting in and facilitating daily life both among the evacuees and in the disaster affected areas, where a total of four million people were living. Special emphasis was given to assisting children, the elderly and the handicapped. The following projects were included in the programme:

- **Health education for those living in marginally contaminated areas;** In Ukraine, with the aim of objectively informing the population about the developing emergency situation and radiation control measures, leaflets produced by the Red Cross were distributed among people living in the affected areas by specially organised field missions of Red Cross workers. In Byelorussia and Russia, the National Societies organised regular information bulletins via newspaper, radio and television on the hazards of radiation and means of protection.

- **Financial and material aid for the disaster victims;** All those evacuated from the 30 km zone, were given financial assistance. In Ukraine, nearly 100,000 evacuated victims received material aid from teams of volunteers. The Ukrainian Red Cross organised special missions to health/rehabilitation centres, housing mothers and children evacuated from the disaster zone, to provide material aid consisting of school equipment, toys and fruit. The elderly were provided with warm winter clothes.

- **Health/Social care;** Among those people still living in the contaminated areas, for a period of 2 years, children received extra meals and there was free provision of medicine for invalids and for the elderly. Children from the disaster zone were sent on summer vacations sponsored by the Red Cross. In order to ensure medical care of the elderly and of war invalids, the Ukrainian Red Cross set up over 200 additional positions for nurses.

- **Improvements to medical institutions**; The medico-prophylactic institutions for children in Kiev, Zhitomir, Rovno and Chernigov regions were given over 100,000 disposable syringes by the Ukrainian Red Cross as well as receiving over 2 million roubles for the improvement of facilities.

- **Other actions taken**; The Byelorussian Red Cross purchased 600 dosimeters, enabling the accurate radiometric monitoring of the contaminated territory.

The list, whilst by no means exhaustive, gives a fair idea of the important role played by all three National Red Cross Societies in alleviating many of the problems faced by the population.

3. Involvement of the International Federation in The Chernobyl Humanitarian Assistance and Rehabilitation Programme

At the request of the Alliance of Red Cross and Red Crescent Societies of the USSR, a mission was sent by the International Federation to carry out a survey of the affected areas from 9th-16th January 1990. It consisted of representatives from several National Red Cross Societies (Great Britain, Federal Republic of Germany, Japan, The Netherlands and Sweden) including experts in the fields of medical radiology, psychology and Red Cross operational management. As a result, a series of recommendations was drawn up outlining potential areas of cooperation between the Alliance and the International Federation. Based on its own survey of the situation, information from governmental sources and recommendations from the Federation's assessment mission, the Alliance took the decision, on 5th April 1990, to considerably enlarge the scope of its assistance programme to the population affected by the disaster and to appeal to the International Federation for help in mobilising external assistance, to supplement the Alliance's efforts.

Several factors lay behind this decision:

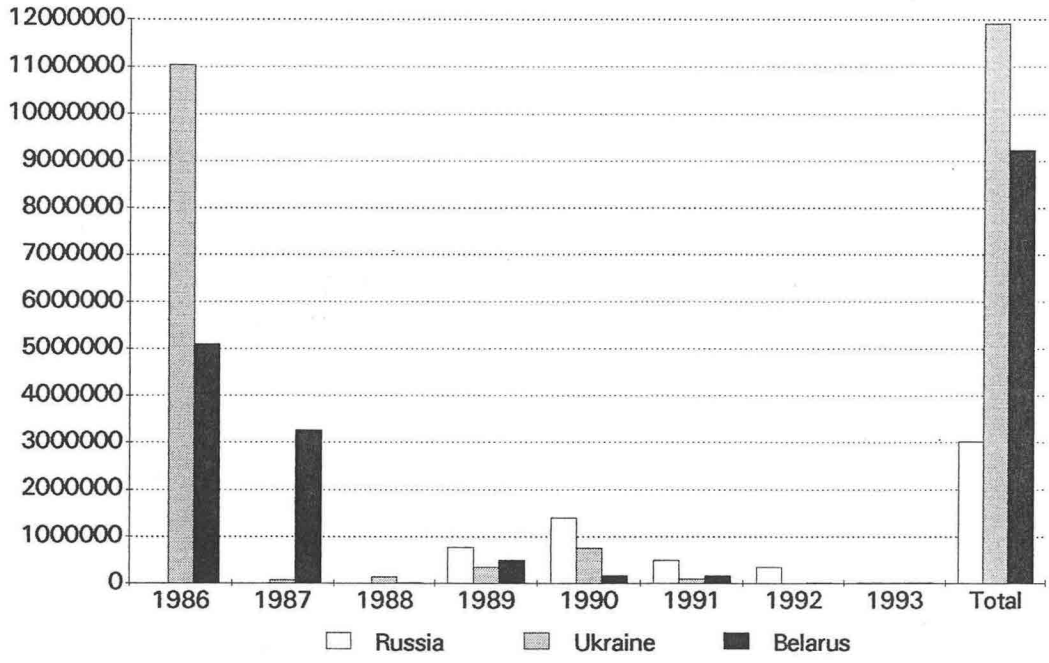
- At that time, the economy of the USSR was in rapid decline which meant that the Rouble was quickly losing its value. This inevitably had a major effect on the spending power of the National Societies and hence on their ability to carry out fully their programmes (see diagram of expenditures by the National Societies below).

- Political changes in the USSR and the new policy of openness - *glasnost*, whilst not encouraging greater cooperation with the West, at least increased the likelihood of western organisations being allowed to operate within the Soviet Union. And, in this particular case, the International Federation was actually approached by the Soviet Government for assistance.

- The International Federation had only recently become involved in the relief operation in the wake of the Armenian earthquake disaster, and so had already established its presence in the Soviet Union.

- Finally, in the given situation, it can be seen, that without external assistance, the programmes already in operation were in serious danger of collapse.

Expenditures of the National Societies within the framework of the Chernobyl Humanitarian Assistance Programme (1986-1993) in US $



Total expenditures of the National Societies (1986-1993):

Russian Red Cross	-	$ 3,015,850
Ukrainian Red Cross	-	$ 11,910,617
Byelorussian Red Cross	-	$ 9,226,000

Based on the results of the assessment mission, the following recommendations, while not presuming to cover all the problems related to the consequences of the disaster and follow-up requirements, were put forward by the Federation as proposals for action :

- The provision of accurate information to people directly affected by the accident.

- Counselling to help alleviate the psychological problems that are apparent in much of the population living in the affected areas.

- Provision to the Red Cross workers of the necessary equipment to ensure daily control of contamination levels in the affected areas.

- Encouragement of closer cooperation between scientists and other interested parties, both within and outside the Soviet Union.

- Supply of medical equipment.

- Health education for the population living in marginally contaminated areas.

- Upgrading of health and social institutions directly involved in the rehabilitation and treatment of the affected population.

- Exchange of experience and information within the Red Cross Movement, on coping with the consequences of nuclear and other technological disasters.

Of those targeted to benefit from the programme special attention is focused on the following groups:

- children, the elderly and the disabled

- orphans

- volunteers and servicemen who participated in the decontamination operations immediately after the disaster

The main thrust of the proposed plan was the continued and improved monitoring of radiation levels in people and food, through the provision of diagnostic equipment and training, closely linked with an information/health education programme.

The above recommendations were laid down as a basis for further work of the Alliance in establishing a long term operational plan with assistance from the International Federation. Thus 1990 saw the start of the Chernobyl Humanitarian Assistance and Rehabilitation Programme as a joint operation between the Alliance of Red Cross and Red Crescent Societies of the USSR and the International Federation.

To enable the plans outlined above to be put into action, funds had to be raised and a new operational structure be put in place. Most of the work completed in the course of 1990, was concerned with achieving these objectives. In order to fulfill the first of these, the Federation launched an appeal on 25th June 1990, which raised over CHF 3,000,000. During the second half of 1990, an IFRC delegation was established in Kiev.

In line with the proposed plans, specifically those concerned with improving monitoring of radiation, 350 portable radiation meters were purchased at the end of 1990 and distributed among the three Red Cross National Societies. At the same time, the Byelorussian Red Cross purchased 500 Soviet made portable radiation meters for use within the framework of the project. In early 1991, these gamma-radiation detectors became operational thus enabling the National Societies to immediately provide reliable information on environmental contamination directly to the population and to the authorities. In Ukraine alone, over 4,000 measurements were taken in January and February of 1991 and in Byelorussia, approximately 10,000 measurements were taken in 231 settlements in the period May - June 1991. During 1992, as reported by the three National Societies, more than 120,000 measurements of background gamma radiation were taken in over 3,500 different settlements.

Since the accident, one of the most serious risks to health has been the eating of contaminated food. Food monitoring is an important means of detecting the levels of contamination in foodstuffs and is the first step in preventing their continued consumption. In the first half of 1991, 32 food monitors were distributed among the three National Societies. In conjunction with the food monitoring programme, the population is being made aware of the health risks associated with the consumption of contaminated food. This has been achieved through counselling and the distribution of leaflets and booklets with information on how to avoid and/or treat contaminated products. The Russian Red Cross, assisted by the German RC, produced 100,000 copies of a booklet on means of decreasing contamination of food.

Part of the agreement signed on 26th April 1991 by the Alliance of Red Cross and Red Crescent Societies of the USSR, was concerned with the establishment of the RC Mobile Monitoring Project. Without a doubt, the Mobile Laboratories constitute the most challenging part of the ChHARP. Over eighty percent of the workload of the programme is linked with the organisation and logistics concerning their running.

Six custom-built laboratory vehicles equipped for making radiological and medical investigations, sponsored by the British and German RC, were handed over to the RC Societies in December 1991. The staff (24 specialists including 6 drivers) assigned to operate the Mobile Laboratories were sent to a special training seminar held in Germany at the end of 1991. The mobile laboratories have been in operation since the beginning of 1992 with each one examining about 300 people a day. Those people who are found to be in need of further medical attention are sent for treatment to local health centres.

Of all the programmes in operation in the affected areas, the Red Cross Chernobyl Humanitarian Assistance and Rehabilitation Programme is unique both in the scope of its activities and breadth of application. The Red Cross programme does not target relief to specific groups but offers assistance to all those affected. It includes radiometric stations (measuring environmental gamma-radiation), food monitoring stations (measuring concentration of radionuclides in foodstuffs) and mobile laboratories (performing health examinations). As a direct result of the Programme, over half a million people have received reliable individual information on their state of health, on the contamination of their surroundings, houses and food.

4. The Red Cross Chernobyl Humanitarian Assistance and Rehabilitation Programme

In May 1992, as a result of the problems raised by the collapse of the Soviet Union, the three National Red Cross Societies of Belarus, Ukraine and the Russian Federation and the International Federation signed an agreement on extending the Chernobyl Programme as a single entity. The primary task since the end of 1992 and during the whole of 1993 has been to maintain the Programme and to ensure that it continues to function successfully.

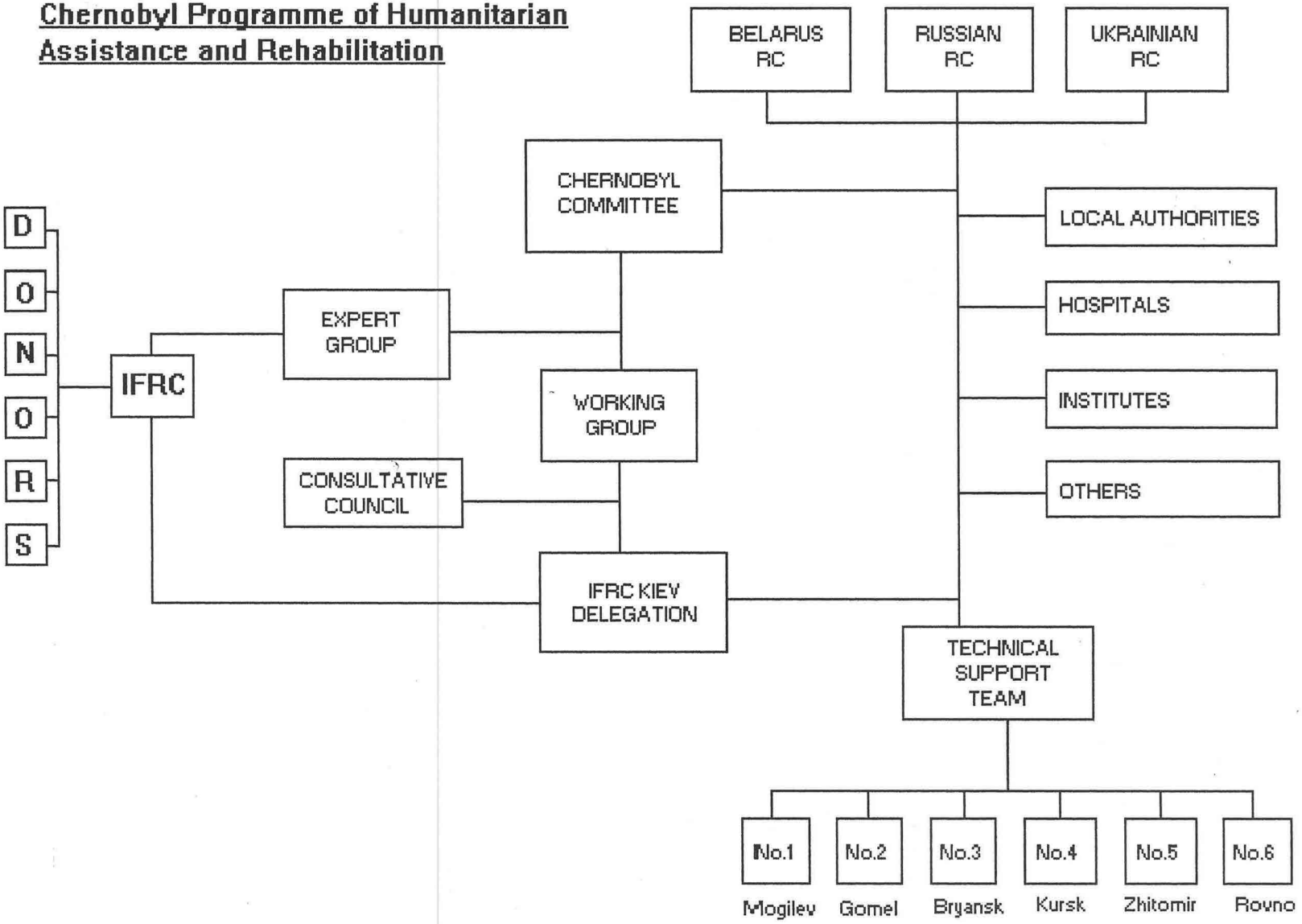
4.1 Operational Structure of Chernobyl Programme

From the outset it has been a matter of principle that the Chernobyl Programme should function as a joint project of the National Societies of Belarus, Ukraine and the Russian Federation with the International Federation. The organisational structure (see chart below) reflects this aim and is designed to ensure close cooperation between the National Societies, the International Federation and the various local authorities and institutions. Central to the successful coordination of all the activities of the Programme are the Chernobyl Coordination Committee and the Working Group, each of which includes representatives from the three National Societies as well as from the Federation. The Chernobyl Coordination Committee is the main decision-making body. The Working Group's responsibility is to advise the Coordination Committee and to implement its decisions.

Another vital element in the organisational structure is the Technical Support Team, which acts as the link between the field workers and the operational centre in Kiev. Members from this Team continuously monitor the work undertaken in the various regions by the mobile laboratories and the dosimetric stations. They are also responsible for providing them with equipment, reagents, vehicle spares, vitamins and for collecting data.

As mentioned previously, the Red Cross Chernobyl Programme consists of three main elements; environmental dosimetric control, food monitoring and mobile laboratories.

Operational Structure
Chernobyl Programme of Humanitarian Assistance and Rehabilitation



4.2 Environmental Dosimetric Control

Much of the stress generated as a result of the accident originates in the population's understandable fear of radiation which in itself, is largely due to the lack of specific information on how it may affect people's health. The single and most effective means of alleviating this anxiety is to provide the population with reliable and objective information on the extent of radioactive contamination in the environment. This fact was recognised early on by the Red Cross which was particularly well placed to carry out such a role mainly due to the fact that it is a well trusted organisation. A further reason behind the setting up of this part of the Programme was the population's mistrust of the government's own radiation monitoring programme.

The project was begun in early 1991 with the distribution of 350 dosimeters among the three National Societies, 95 to the Byelorussian RC, 80 to the Russian RC and 175 to the Ukrainian RC. The dosimeter used is the Alnor RDS-100, a portable hand-held unit designed for the measurement of gamma-radiation levels.

In the three years since the start of this programme, over 400,000 measurements have been taken in nearly 10,000 locations; 1,001 in Belarus, 1,165 in Russia and 6,993 in Ukraine (see tables below). The locations have mainly included public buildings, residential areas and schools. On the basis of the data obtained, firstly appropriate action can and has been taken by the local authorities, and secondly it has enabled the Red Cross to build up an accurate picture of the distribution and concentration of radioactive contamination and more importantly to identify local "hot spots". Finally, as a by-product of this operation, whose primary concern has been and continues to be the provision of accurate information to the public, the substantial amount of data collected is extremely valuable from a scientific point of view.

As can be seen from the chart below, the largest number of surveys was carried out in 1992. Since then there has been a marked decrease in the frequency of dosimetric measurements. This is due largely to a diminishing demand for dosimetric control which seems to indicate that measurement of gamma-radiation has been of greatest use during the acute phase following the Chernobyl accident. In the future the gamma-radiation detectors could best be put to use within the 30 km zone around Chernobyl where radiation levels remain high as in other locations where there is the risk of radioactive contamination eg. in the vicinity of other Nuclear Power Plants.

Data from Radiation Monitoring by Belarus Red Cross as on 1/11/93

Region	Number of Units	No. settlements surveyed	No. sites surveyed	Number of measurements	Registered levels mkSV/hour min - max
Brest	10	52	1,535	4,882	0.07 - 0.45
Vitebsk	8	288	4,769	14,625	0.05 - 0.25
Gomel	24	55	4,590	36,727	0.06 - 2.70
Grodno	7	180	1,746	3,699	0.08 - 0.36
Minsk	19	100	2,310	16,320	0.05 - 0.28
Mogilev	27	326	3,732	33,643	0.07 - 1.32
Total	95	1,001	18,682	109,896	0.05 - 2.70

Data from Radiation Monitoring by Russian Red Cross as on 1/11/93

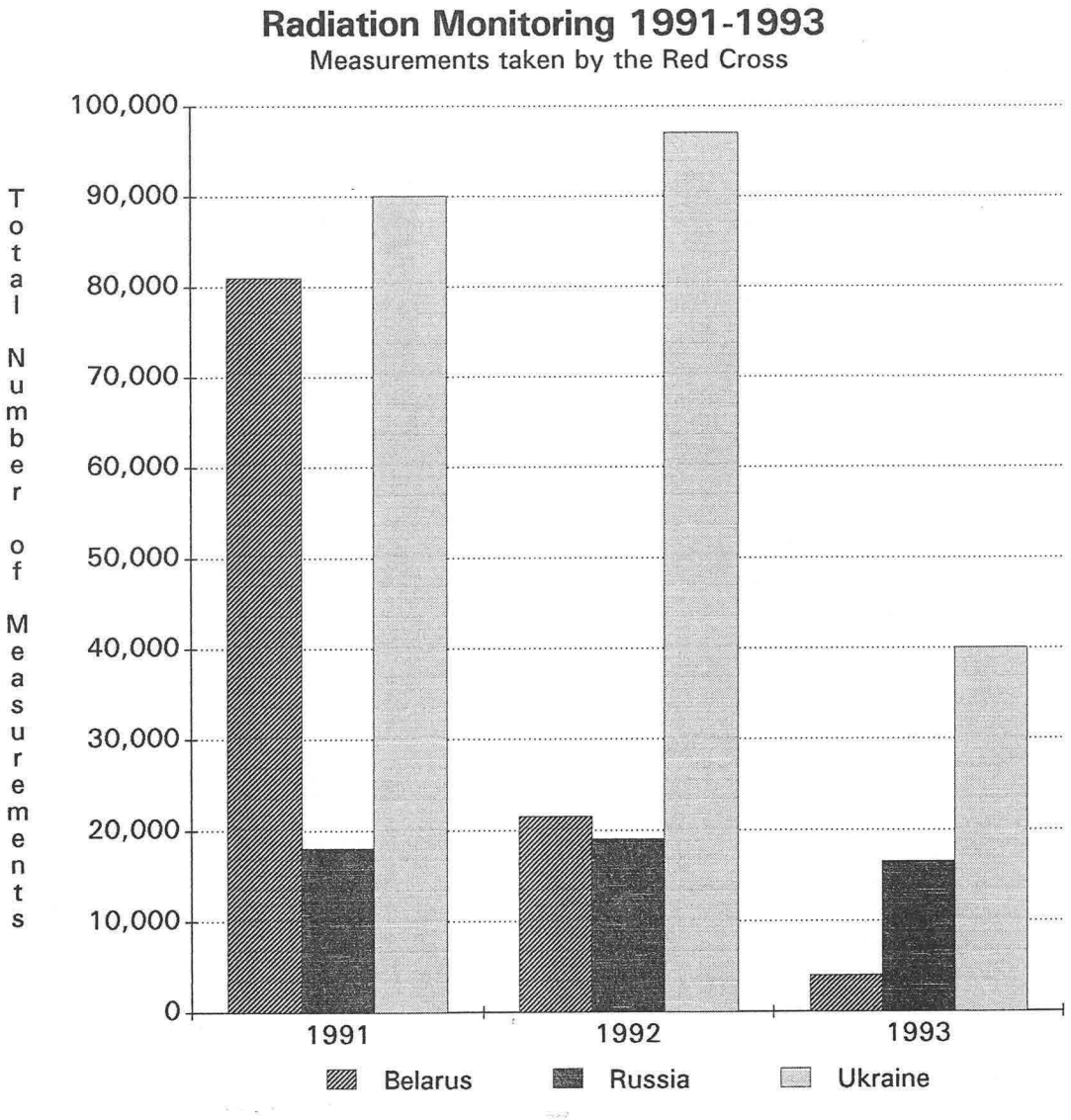
Region	Number of Units	No. settlements surveyed	No. sites surveyed	Number of measurements	Registered levels mkSV/hour min - max
Belgorod	2	45	220	845	0.05 - 0.30
Bryansk	57	616	7,451	23,335	0.06 - 2.10
Voronezh	1	2	12	23	0.07 - 0.20
Kaluga	5	65	1,424	8,152	0.08 - 1.70
Kursk	1	31	501	3,428	0.05 - 0.50
Tula	2	73	402	1,247	0.04 - 0.80
Lipetsk	1	4	65	118	0.05 - 0.10
St Petersburg	1	3	20	68	0.06 - 0.90
Orel	2	181	1,746	5,413	0.08 - 0.90
Ryazan	1	102	2,310	7,190	0.06 - 0.70
Smolensk	2	28	349	652	0.05 - 0.10
Tambov	1	2	7	14	0.06 - 0.20
Orenburg	2	2	9	21	0.07 - 0.90
Chelyabinsk	1	10	163	625	0.08 - 2.10
Moscow	1	1	10	36	0.05 - 0.09
Total	80	1,165	14,689	51,167	0.04 - 2.10

Data from Radiation Monitoring by Ukrainian Red Cross as on 1/11/93

Region	Number of Units	No. settlements surveyed	No. sites surveyed	Number of measurements	Registered levels mkSV/hour min - max
Kiev	17	753	1,232	5,746	0.08 - 1.24
Vinnitsa	3	176	2,402	8,637	0.08 - 0.45
Volyn	4	372	3,554	4,070	0.08 - 0.45
Zhitomir	62	1,998	21,840	61,925	0.08 - 3.11
Rovno	43	2,567	20,070	47,700	0.07 - 0.80
Cherkassy	3	366	1,220	3,670	0.07 - 0.50
Chernigov	43	761	12,532	107,997	0.11 - 1.41
Total	175	6,993	62,850	239,745	0.07 - 3.11

Data from Radiation Monitoring by Belarus, Ukrainian and Russian Red Cross as on 1/11/93

Region	No. Instruments Delivered	No. Settlements Surveyed	No. Sites Surveyed	No. Meas-urements	Registered Levels mkSv/Hour min - max
Belarus	95	1,001	18,682	109,896	0.05 - 2.7
Russia	80	1,165	14,689	51,167	0.04 - 2.1
Ukraine	175	6,993	62,850	239,745	0.07 - 3.11
Total	350	9,159	96,221	400,808	0.04 - 3.11


Radiation Monitoring 1991-1993
Measurements taken by the Red Cross
Total Number of Measurements
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
1991
1992
1993
Belarus
Russia
Ukraine

4.3 Food Monitoring

Since the Chernobyl disaster it has been clearly demonstrated that apart from the more obvious dangers presented by the widespread radioactive contamination of the environment, the population is further at risk from the consumption of contaminated food. It has been found that the main path of penetration of radioactive substances into the human body is through the consumption of contaminated food. Therefore a continuing aim is to limit the use of such foodstuff. This should significantly decrease the dose load of radioactivity among the population and in particular among children. Such an objective could best be realised by the establishment of a well organised system of food monitoring.

The primary task is to determine the concentration of radionuclides in foodstuffs and if the levels are found to be above acceptable limits, then to take appropriate action. At the same time, a further important aim of the Red Cross Chernobyl Programme can be accomplished, namely to clearly and objectively inform individuals on their situation.

In order to carry out such measurements, special portable gamma-radiation monitors were needed that could be operated by non-skilled personnel. In 1990, on the recommendations of experts, 10 'Alnor' and 10 'Berthold' food monitors were purchased and distributed to seven different regions in the three affected countries; Kaluga, Tula and Ryazan in Russia, Vitebsk and Minsk in Belarus, Zhitomir and Kiev in Ukraine. In 1991 a further 12 food monitors were distributed among the 6 Red Cross Mobile Laboratories.

Prior to the start of the Red Cross food monitoring programme, a similar programme was already in operation by the government. However, people were not receiving results of the food monitoring until at least a month after the measurements had been taken, largely because measurements could only be taken at a laboratory. In contrast, the Red Cross food monitoring programme operates in the field so the local population receives the results almost immediately. At the same time, Red Cross workers are on hand to give advice and answer peoples' questions.

Since the start of the food monitoring programme, The Red Cross radiometric stations have carried out over 20,000 measurements of foodstuffs (see table below), of which 4.1 % were found to contain excessively high concentrations of radiocaesium. These tended to be produce gathered from the wild eg. mushrooms, berries, herbs and in a few instances, honey.

This work is much appreciated by local people, firstly because they have (understandably) a rather negative attitude towards information coming from official sources and so are glad to receive information that can be trusted, and secondly, having such reliable information relieves the people of much of the stress arising from their ignorance of certain simple facts.

Having said that, the programme has been frustrated somewhat by the rapidly deteriorating economic climate. This has meant that with food becoming increasingly scarce, much of the population, especially in rural areas, grow their own products. Consequently, people are becoming less inclined to have their foodstuffs checked - should an excessive dose of radiation be detected there is little or no chance of replacing them with clean products. In these circumstances, people have no choice but to consume food, knowing that it is contaminated - something which inevitably causes much worry.

Whilst this highlights the importance of the Red Cross food monitoring programme it also raises the question of how it could be improved to take into account the difficulties caused by the current economic situation.

Data from Red Cross Food Monitoring Programme as on 1/11/93

FOODSTUFFS	Belarus					Russia					Ukraine				
	Number of Samples	Over Acceptable Level	%	Activity Bq/l, Bq/kg min	max	Number of Samples	Over Acceptable Level	%	Activity Bq/l, Bq/kg min	max	Number of Samples	Over Acceptable Level	%	Activity Bq/l, Bq/kg min	max
1. Drinking Water	839	-	-	-	-	1568	-	-	-	-	669	-	-	-	-
2. Milk and milk products	2384	386	16	52	3700	2431	59	2.4	29	1431	801	186	23	36	3402
3. Meat and meat products	3593	281	7.8	78	1317	1305	18	1.4	47	985	53	13	25	41	1707
4. Potato and root crops	1028	17	1.7	93	819	486	5	1	84	724	387	18	4.7	86	753
5. Flour, cereals, sugar, honey	18	2	11	106	756	98	-	-	-	-	29	-	-	-	-
6. Oils and fats	-	-	-	-	-	202	-	-	-	-	-	-	-	-	-
7. Vegetables, garden fruits	368	-	-	-	-	156	-	-	-	-	504	-	-	-	-
8. Mushrooms (fresh)	610	24	3.9	156	19000	81	7	8.6	92	97000	17	5	29	69	40000
9. Mushrooms (dried)	431	25	5.8	48	31000	62	5	8.1	63	159000	75	73	97	127	65000
10. Mushrooms (preserved)	-	-	-	-	-	29	-	-	-	-	92	75	82	-	-
11. Forest berries	189	8	4.2	150	9760	213	3	1.4	100	10816	129	76	59	275	8517
12. Fish and fish products	142	6	4.2	70	526	145	7	4.8	93	657	26	8	31	56	967
13. Medicinal ingredients	80	-	-	-	-	68	-	-	-	-	39	17	44	-	-
14. Canned vegetables, fruits	21	-	-	-	-	15	-	-	-	-	-	-	-	-	-
15. Other food products	480	25	5.2	306	1745	501	4	0.8	131	1600	89	17	19	107	1834
Total	**10183**	**774**	**7.6**			**7360**	**108**	**1.5**			**2910**	**488**	**17**		

4.4 Red Cross Mobile Laboratories

In 1991 it was decided to create six Red Cross Mobile Laboratories. These were distributed in December 1991to the three National Societies of Belarus, Russia and Ukraine. They have been based in the following regions; Gomel and Mogilev (Belarus), Bryansk and Kursk (Russia), Zhitomir and Rovno (Ukraine). The mobile laboratories are based on Mercedes Benz trucks and are designed to work independently in almost any location.

The objectives of this programme are as follows:

i. to gather information on the general health of the population living in the affected areas.

ii. to provide individuals with accurate information on their health, and if found necessary, to refer the individual to a specialised hospital for further treatment.

iii. to provide accurate information on the contamination of the environment, food and drinking water, and if necessary alerting the appropriate authorities whenever excessive radiation levels are detected.

iv. to counsel, give consultations and advise the public on how to avoid further exposure to radioactive contamination.

v. to distribute essential medicines and vitamins.

The main purpose of these mobile laboratories is to enable Red Cross workers to conduct a whole series of medical/radiological examinations of the population (especially children) and of the radioactive contamination of the environment, the principle aim being, to provide the affected population with reliable and understandable information on radiation levels and their effects on personal health. In order for these examinations to be carried out, each vehicle is fitted with the following equipment:

i. Environmental gamma-radiation monitor *Mira-661*
To detect and measure levels of Caesium^{137} contamination in soil.

ii. Surface alpha/beta radiation monitor *Minicont*
To detect and measure levels of Strontium^{90} and Plutonium^{239} contamination of soil surface.

iii. Food monitor *Berthold LB 200*
To measure the radioactivity of gamma emitting radionuclides in foodstuffs and liquids.

iv. Whole-body monitor *Incorporations Monitor H13010*
To examine people with the aim of measuring Caesium^{137} accumulation in the body and assessing the internal irradiation dose.

v. Ultrasound scanner *Aloka SSD-210DXII*
To make investigations of the thyroid gland.

vi. Urine analyser *Clinitek 100*
To analyse several components, enabling a rapid diagnosis of the general state of health of the subject being tested.

vii. Hematological analysers *QBC II* and *Cobas Ready*
To analyse 11 different blood components, enabling a rapid diagnosis of the general state of health of the subject being tested.

In the course of the last two years of operation, the composition of personnel attached to each mobile unit has gradually been altered in order to extend the range of examinations undertaken. At present the Mobile Laboratory team consists of the following, including 13 specialists:

- endocrinologist
- therapist/hematologist
- pediatrician
- ultrasound diagnostics specialist
- physician/laboratory assistants (2)
- field doctor/laboratory assistants (2)
- medical nurses (3)
- Whole Body Monitor operator
- medical registrar
- driver

The six Mobile Laboratories and their staff are attached to and operated by various bodies; the Regional Red Cross Committee in Kursk and Mogilev, the specialised radiation prevention centres in Gomel, Zhitomir and Rovno, and the regional diagnostic centre in Bryansk. Each Mobile Laboratory team is headed by a senior doctor who, as well as carrying out the medical examinations, is also in charge of the management and day-to-day running of the Mobile Laboratory. The areas in which each Mobile Laboratory is to operate are selected in advance taking into account several factors, namely:

i. The known level of contamination in the given territory.

ii. The distances of the settlements and villages from larger towns and cities.

iii. The extent of specialist medical help already available in the locality.

iv. The proximity of medical institutions.

v. Requests made by local and/or national government.

Once the area has been decided on, the local government and health authorities, schools and other public institutions are informed. This is done, firstly so that arrangements can be made to properly coordinate the visit, and secondly to alert the local population.

Many of the locations visited by the Mobile Laboratories are extremely isolated and lack the most basic of medical facilities, and in the case of settlements located within the 30km zone, some are without any electricity or means of communication. In such cases the Red Cross Mobile Laboratory is the only source of medical assistance that is available. To illustrate this, the Vyetkovsky region of Belarus, home to over twelve thousand including some two thousand children, did not, at the time of the visit by a Mobile Laboratory, have a single physician/pediatrician on its territory. Understandably, perhaps, local people are very supportive of the Mobile Laboratories programme.

When visiting a settlement, in order that the maximum number of people can be seen, the examination of the population normally takes place in a residential area or if facilities allow, in the nearest local medical centre.

The examination itself typically takes the following form:

i. Registration (5-7 min.)
Registering personal details, and issuing a medical card to the patient.

ii. Taking blood & urine samples (3 min.)
Performing analysis (10 min.) and registering results in the medical card.

iii. Whole Body Monitor (3 min.)
Taking measurements and registering the results in the medical card.

iv. Ultrasound examination (10 min.)
Examination of the thyroid gland and registering the results in the medical card.

v. General medical examination (10 min.)
Carried out by the therapeutist, who also gives out basic medicines and vitamins.

vi. Recording of the results of the medical examinations onto computer (7-10 min.) and if necessary issuing the patient with a certificate for further treatment.

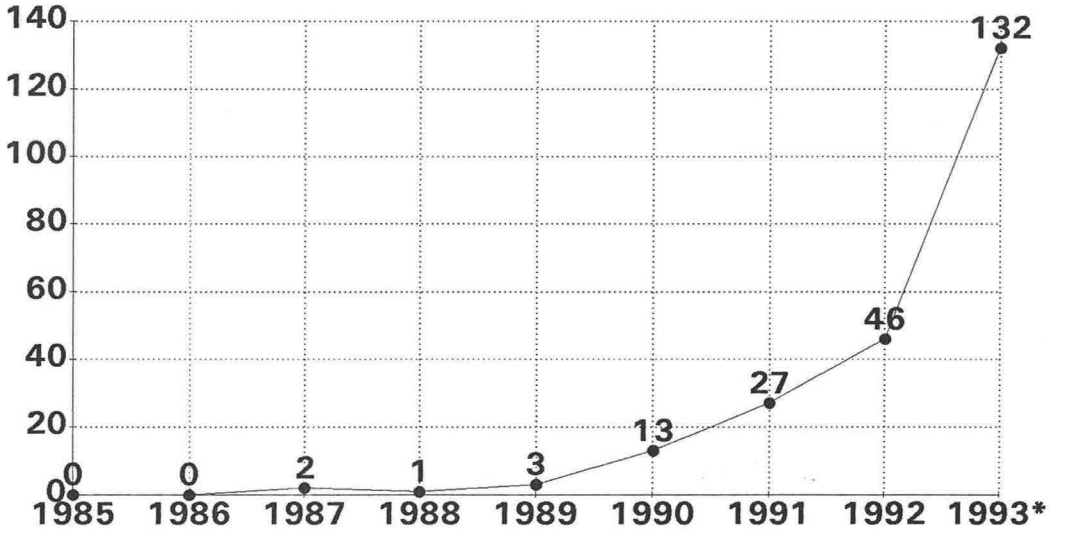
Once the Mobile Laboratory has finished its work in a location, the results of the medical examinations with recommendations for action are passed on to the relevant institutions and to other interested bodies. Between them, the six Mobile Laboratories examine up to 300 people a day. During 1992 and 1993 more than 200 thousand people have been examined by the Mobile Laboratories. The actual number of measurements taken (as of 1/11/93) are as follows:

Gamma radiation monitor (Mira-661)	18,607
Alpha/Beta radiation monitor (Minicont)	11,662
Food monitor (Berthold LB 200)	9,705
Whole-Body monitor	68,093
Urine analyser (Clinitek 100)	16,363
Blood analyser (QBC II & Cobas Ready)	39,475

The data amassed from these numerous examinations has enabled the Red Cross to build up an accurate picture of the distribution and frequency of medical disorders in the contaminated territories. This information is extremely useful, firstly as an accurate indicator of the efficacy of measures already undertaken to assist the population, and secondly, and perhaps more importantly, as a pointer to future steps.

As an illustration of this, statistics from the Gomel region have indicated an alarming rise among children in the number of cases of cancer of the thyroid gland:

Registered Number of Cases of Thyroid Cancer among Children in the Gomel Region



***January - October**

In response to these findings, in September 1993, the Red Cross equipped the Mobile Laboratories with ultrasound scanners (Aloka-210 SSD) to enable investigations of the thyroid gland to be made. Lists of all those examined and found to have pathology of the thyroid gland are handed over to local health authorities. Depending on the severity of the illness, all the patients are sent for further examination at specialised clinics.

From this example, it can be seen that the Red Cross programme differs from all the other programmes currently in operation in the affected areas, what is more, the work undertaken by the Mobile Laboratories is unique in several ways;

(a) The primary aim is to assist the population in the ways described above.

(b) It is not a research programme, though its findings are used for research purposes by other organisations.

(c) After the screening of the population it is anticipated that those needing further treatment and or analysis will be referred to specialised institutions. At the same time vitamins and basic medicines are distributed by the mobile teams, if the problem identified is one of general poor health.

It is possible to conclude from the above points, that the success of the programme is ultimately dependant on and limited by there being sufficient appropriate facilities for the further treatment and rehabilitation of those affected by the Chernobyl disaster. Having said that, the Red Cross programme has made a substantial contribution, both in terms of the sheer number of people seen and in the range of examinations performed (see tables below).

Number of Measurements taken by Mogilev Mobile Laboratory

	MIRA-661		MINICONT		LB 200		Whole Body Monitor		QBC		CLINITEK	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
January	-	72	-	36	-	93	0	960	-	410	-	243
February	-	143	-	49	-	124	0	685	-	494	-	124
March	-	219	-	58	-	128	0	628	-	436	-	239
April	-	377	-	34	-	97	0	273	-	-	-	-
May	-	259	-	93	-	73	0	432	-	358	-	26
June	426	160	271	242	137	108	496	303	496	-	292	-
July	301	296	179	40	198	93	730	-	730	-	730	-
August	547	234	217	202	213	194	662	390	662	320	662	36
September	234	-	74	250	159	-	700	336	692	360	174	47
October	187	-	58	-	132	-	589	-	413	-	209	-
November	115	-	69	-	188	-	442	-	312	-	234	-
December	83	-	-	-	126	-	1715	-	410	-	243	-
Total	1,893	1,760	868	1,004	1,153	910	5,334	4,592	3,715	2,708	2,544	1,115

Number of Measurements taken by Gomel Mobile Laboratory

	MIRA-661		MINICONT		LB 200		Whole Body Monitor		QBC		CLINITEK	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
January	-	26	-	27	-	-	-	730	-	-	-	-
February	-	74	-	38	-	-	-	796	-	-	-	-
March	-	138	91	147	-	454	-	474	-	-	-	-
April	-	416	589	475	-	947	-	383	-	437	555	192
May	-	130	34	380	-	513	-	528	-	535	542	23
June	-	86	44	76	-	59	-	228	-	229	433	209
July	-	81	158	-	-	-	-	658	-	482	38	-
August	-	-	45	177	-	-	-	-	-	-	312	-
September	-	-	109	-	-	-	-	1700	-	-	92	-
October	-	-	200	-	-	-	-	-	-	-	168	-
November	-	-	210	-	-	-	-	-	-	-	152	-
December	-	-	-	-	-	-	-	-	-	-	211	-
Total	1,306	1,577	1,480	1,320	3,923	1,973	3,356	7,255	2,322	2,773	2,503	1,514

Number of Measurements taken by Bryansk Mobile Laboratory

	MIRA-661		MINICONT		LB 200		Whole Body Monitor		QBC		CLINITEK	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
January	-	-	-	-	-	-	-	516	-	-	-	-
February	-	-	-	-	-	-	-	844	-	-	-	-
March	-	-	-	-	-	-	-	927	-	-	-	-
April	231	-	-	-	-	-	-	748	-	-	-	-
May	244	-	-	-	-	-	-	-	-	-	-	-
June	115	-	-	-	-	-	-	-	-	-	-	-
July	91	-	-	-	-	-	-	-	-	-	-	-
August	68	-	-	-	-	-	-	630	-	-	-	-
September	152	-	-	-	-	-	-	-	-	-	-	-
October	141	-	-	-	-	-	-	-	-	-	-	-
November	72	-	-	-	-	-	-	-	-	-	-	-
December	37	-	-	-	-	-	-	-	-	-	-	-
Total	1,151	0	0	0	0	146	4,834	5,513	4,596	3,881	3,070	1,904

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Number of Measurements taken by Kursk Mobile Laboratory

	MIRA-661		MINICONT		LB 200		Whole Body Monitor		QBC		CLINITEK	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
January	-	97	-	220	-	-	-	232	-	-	-	-
February	-	144	-	193	-	-	-	380	-	-	-	-
March	-	219	-	276	-	-	-	640	-	-	-	-
April	-	132	213	580	-	-	-	200	-	-	-	-
May	-	307	188	329	-	-	-	423	-	-	-	-
June	-	169	267	-	-	-	-	-	-	-	-	-
July	-	165	119	104	-	-	-	713	-	-	-	-
August	-	183	353	106	-	67	-	682	-	-	-	-
September	-	-	109	-	-	-	-	-	-	-	-	-
October	-	-	86	-	-	-	-	-	-	-	-	-
November	-	-	68	-	-	-	-	-	-	-	-	-
December	-	-	47	-	-	-	-	-	-	-	-	-
Total	2,412	1,416	1,450	1,808	692	67	5,797	3,270	5,066	3,204	0	0

Number of Measurements taken by Zhitomir Mobile Laboratory

	MIRA-661		MINICONT		LB 200		Whole Body Monitor		QBC		CLINITEK	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
January	-	166	-	108	-	-	-	681	-	-	-	-
February	-	253	-	190	-	-	-	780	-	-	-	-
March	-	321	-	272	-	-	-	940	-	-	-	-
April	-	93	-	187	-	18	-	510	-	-	-	-
May	-	99	-	93	-	39	-	535	-	392	-	-
June	-	-	-	-	-	-	-	-	-	-	-	-
July	-	-	-	-	-	-	-	-	-	-	-	-
August	-	-	-	-	-	-	-	-	-	-	-	-
September	-	-	-	-	-	-	-	-	-	-	-	-
October	-	-	-	-	-	-	-	-	-	-	-	-
November	-	-	-	-	-	-	-	-	-	-	-	-
December	-	-	-	-	-	-	-	-	-	-	-	-
Total	2,172	932	1,310	850	342	57	3,104	6,151	3,900	392	0	402

Number of Measurements taken by Rovno Mobile Laboratory

	MIRA-661		MINICONT		LB 200		Whole Body Monitor		QBC		CLINITEK	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
January	-	-	-	-	-	-	-	-	-	-	-	-
February	-	-	-	-	-	-	-	-	-	-	-	-
March	296	-	-	-	-	-	1,625	-	-	-	-	-
April	181	421	216	90	87	-	1,895	1,163	-	-	-	-
May	154	367	158	102	105	13	1,172	1,317	-	-	-	-
June	206	293	96	210	38	46	1,428	1,025	-	-	-	-
July	354	511	180	163	41	38	1,862	1,040	-	-	-	-
August	193	349	52	117	36	-	525	1,322	-	-	-	300
September	301	178	88	-	18	-	611	1,078	-	-	-	-
October	152	-	100	-	20	-	1,165	-	-	-	-	-
November	-	-	-	-	-	-	-	-	-	-	-	-
December	-	-	-	-	-	-	-	-	-	-	-	-
Total	1,837	2,151	890	682	345	97	10283	8,604	3,734	3,184	2,990	321

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Operational Statistics of Red Cross Mobile Laboratories as on 1/11/93

Number of measurements taken using: **MIRA 661** Total: **18 607**

	Mogilev		Gomel		Bryansk		Kursk		Zhitomir		Rovno	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
January	-	72	-	26	-	-	-	97	-	166	-	-
February	-	143	-	74	-	-	-	144	-	253	-	-
March	-	219	-	138	-	-	-	219	-	321	296	-
April	-	377	-	416	231	-	-	132	-	93	181	421
May	-	259	-	130	244	-	-	307	-	99	154	367
June	426	160	-	86	115	-	-	169	-	-	206	293
July	301	296	-	81	91	-	-	165	-	-	354	511
August	547	234	-	-	68	-	-	183	-	-	193	349
September	234	-	-	-	152	-	-	-	-	-	301	178
October	187	-	-	-	141	-	-	-	-	-	152	-
November	115	-	-	-	72	-	-	-	-	-	-	-
December	83	-	-	-	37	-	-	-	-	-	-	-
Total	1,893	1,760	1,306	1,577	1,151	0	2,412	1,416	2,172	932	1,837	2,151

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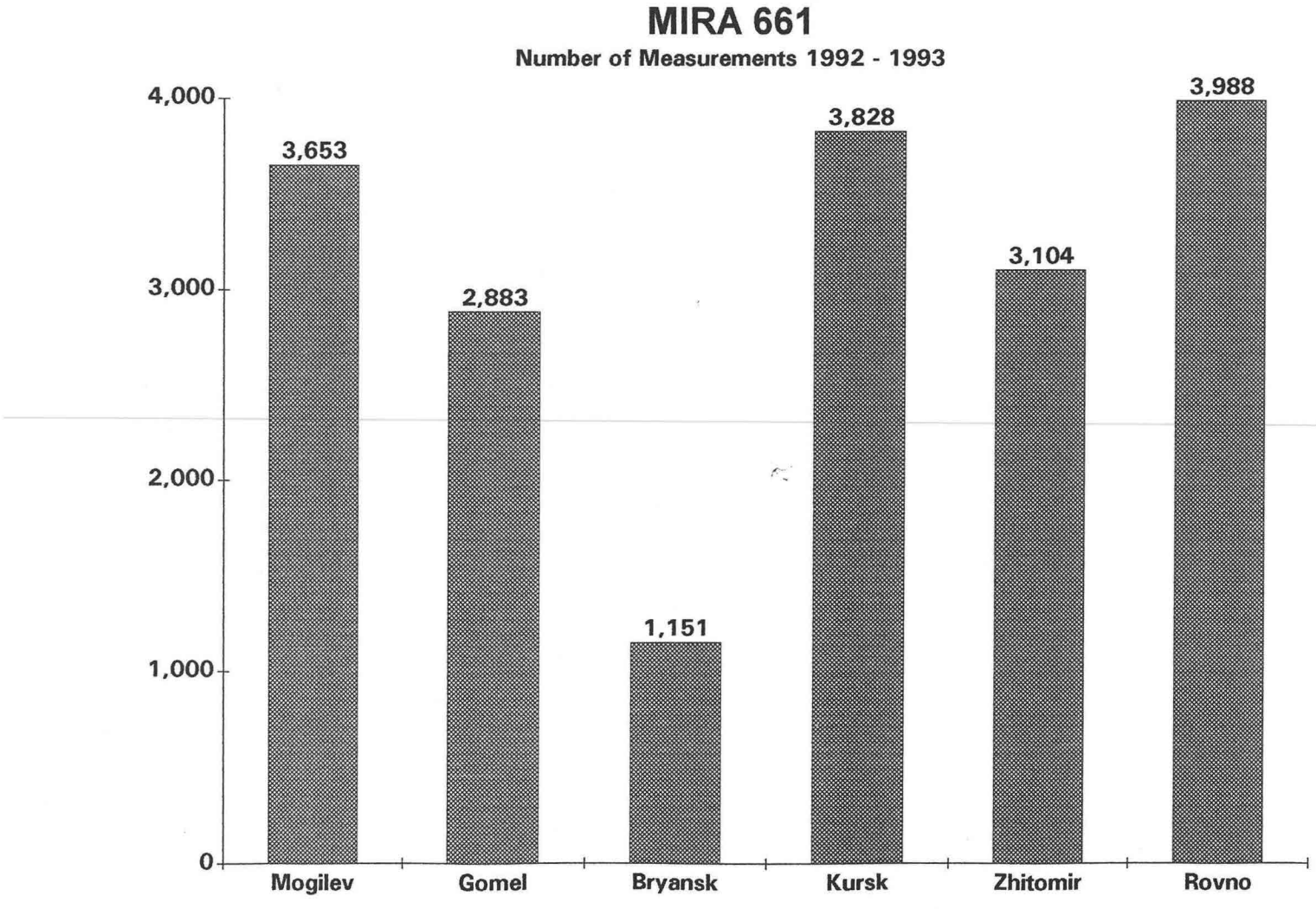

Operational Statistics of Red Cross Mobile Laboratories as on 1/11/93

Number of measurements taken using: **MINICONT** Total: **11 662**

	Mogilev		Gomel		Bryansk		Kursk		Zhitomir		Rovno	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
January	-	36	-	27	-	-	-	220	-	108	-	-
February	-	49	-	38	-	-	-	193	-	190	-	-
March	-	58	91	147	-	-	-	276	-	272	-	-
April	-	34	589	475	-	-	213	580	-	187	216	90
May	-	93	34	380	-	-	188	329	-	93	158	102
June	271	242	44	76	-	-	267	-	-	-	96	210
July	179	40	158	-	-	-	119	104	-	-	180	163
August	217	202	45	177	-	-	353	106	-	-	52	117
September	74	250	109	-	-	-	109	-	-	-	88	-
October	58	-	200	-	-	-	86	-	-	-	100	-
November	69	-	210	-	-	-	68	-	-	-	-	-
December	-	-	-	-	-	-	47	-	-	-	-	-
Total	868	1,004	1,480	1,320	0	0	1,450	1,808	1,310	850	890	682

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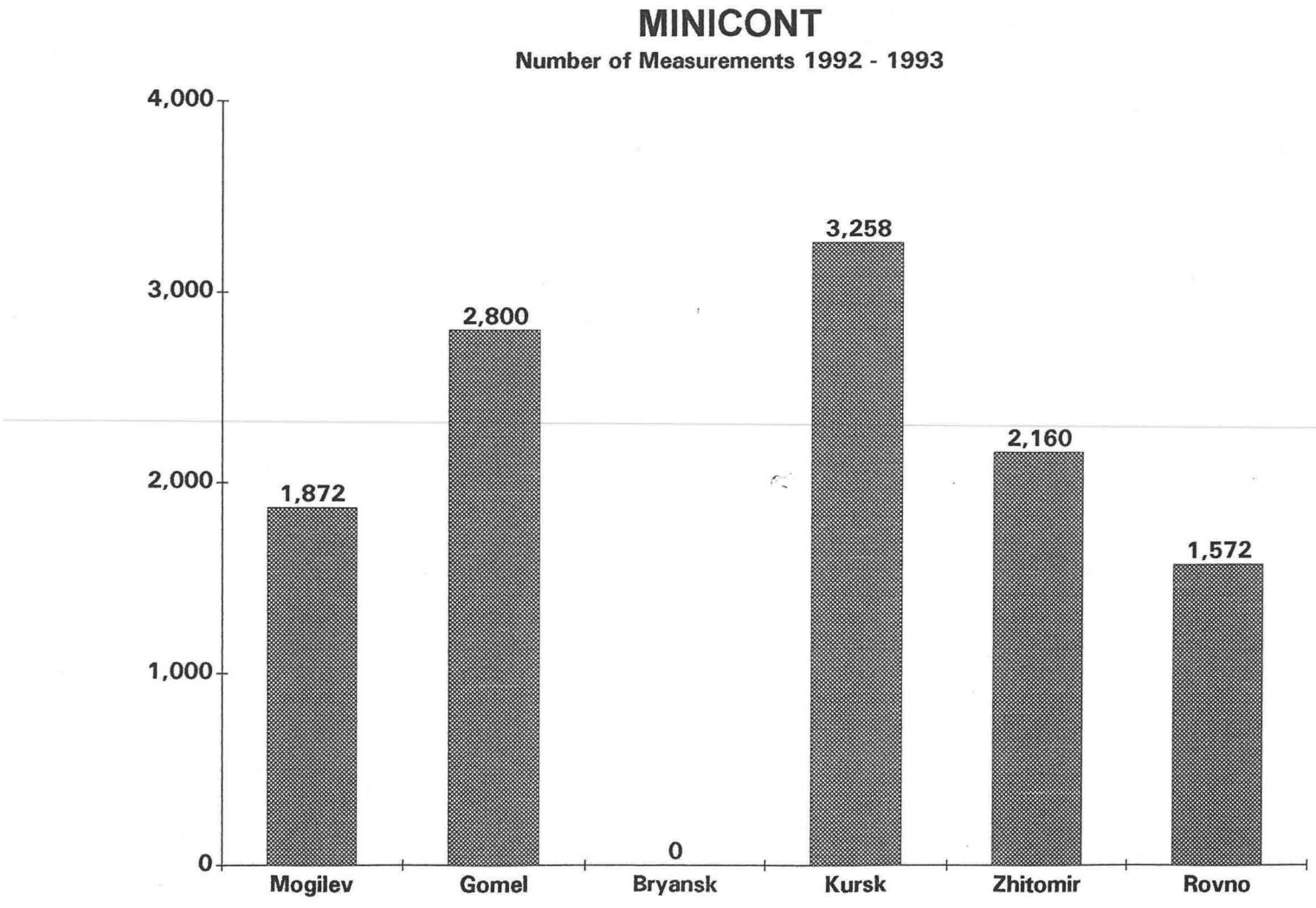

Operational Statistics of Red Cross Mobile Laboratories as on 1/11/93

Number of measurements taken using: **LB 200** Total: **9 705**

	Mogilev		Gomel		Bryansk		Kursk		Zhitomir		Rovno	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
January	-	93	-	-	-	-	-	-	-	-	-	-
February	-	124	-	-	-	-	-	-	-	-	-	-
March	-	128	-	454	-	-	-	-	-	-	-	-
April	-	97	-	947	-	-	-	-	-	18	87	-
May	-	73	-	513	-	-	-	-	-	39	105	13
June	137	108	-	59	-	-	-	-	-	-	38	46
July	198	93	-	-	-	-	-	-	-	-	41	38
August	213	194	-	-	-	-	-	67	-	-	36	-
September	159	-	-	-	-	-	-	-	-	-	18	-
October	132	-	-	-	-	-	-	-	-	-	20	-
November	188	-	-	-	-	-	-	-	-	-	-	-
December	126	-	-	-	-	-	-	-	-	-	-	-
Total	1,153	910	3,923	1,973	0	146	692	67	342	57	345	97

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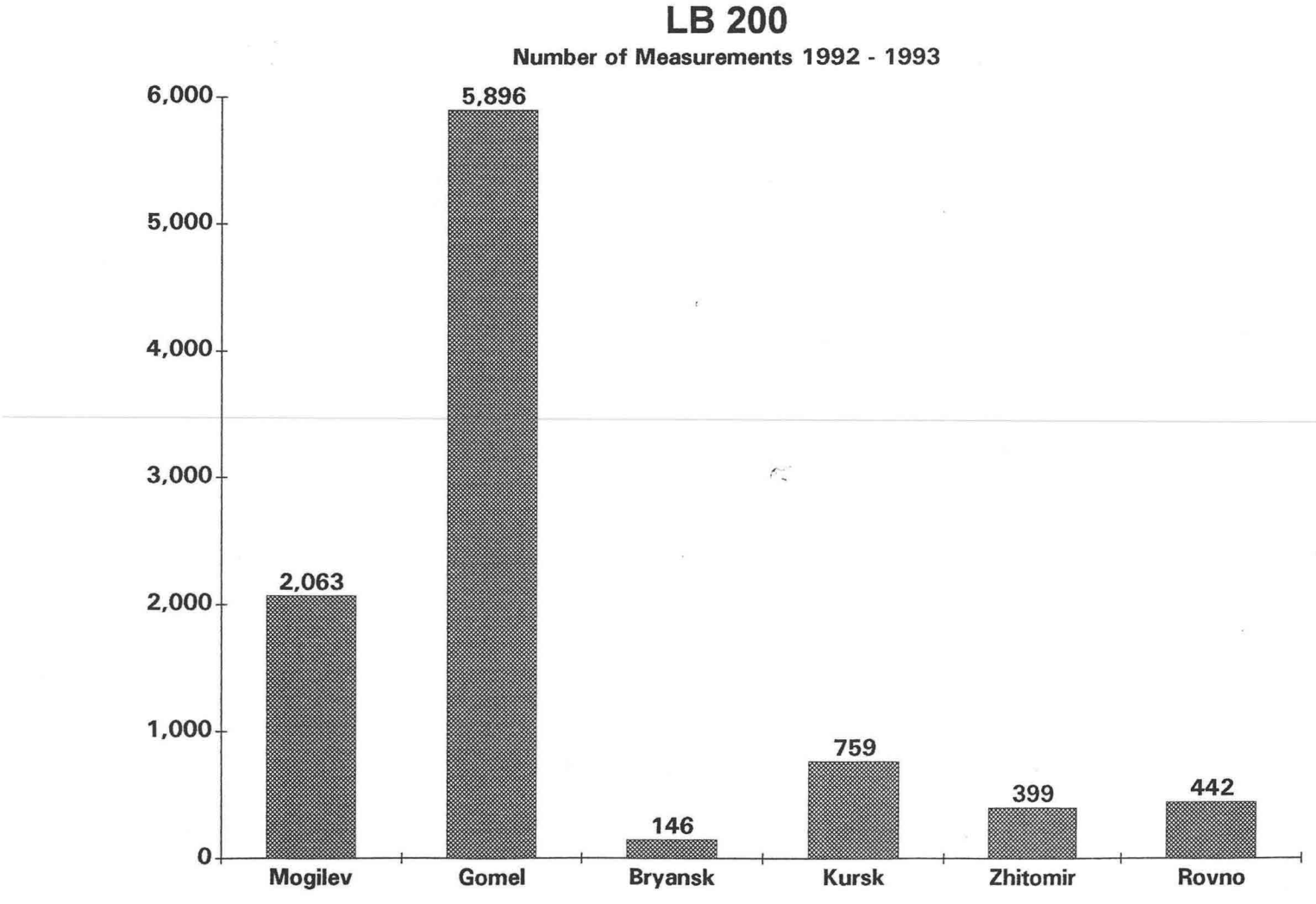

Operational Statistics of Red Cross Mobile Laboratories as on 1/11/93

Number of measurements taken with: **WHOLE-BODY MONITOR** Total: **68 093**

	Mogilev		Gomel		Bryansk		Kursk		Zhitomir		Rovno	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
January	0	960	-	730	-	516	-	232	-	681	-	-
February	0	685	-	796	-	844	-	380	-	780	-	-
March	0	628	-	474	-	927	-	640	-	940	1625	-
April	0	273	-	383	-	748	-	200	-	510	1895	1163
May	0	432	-	528	-	-	-	423	-	535	1172	1317
June	496	303	-	228	-	-	-	-	-	-	1428	1025
July	730	-	-	658	-	-	-	713	-	-	1862	1040
August	662	390	-	-	-	630	-	682	-	-	525	1322
September	700	336	-	1700	-	-	-	-	-	-	611	1078
October	589	-	-	-	-	-	-	-	-	-	1165	-
November	442	-	-	-	-	-	-	-	-	-	-	-
December	1715	-	-	-	-	-	-	-	-	-	-	-
Total	5,334	4,592	3,356	7,255	4,834	5,513	5,797	3,270	3,104	6,151	10283	8,604

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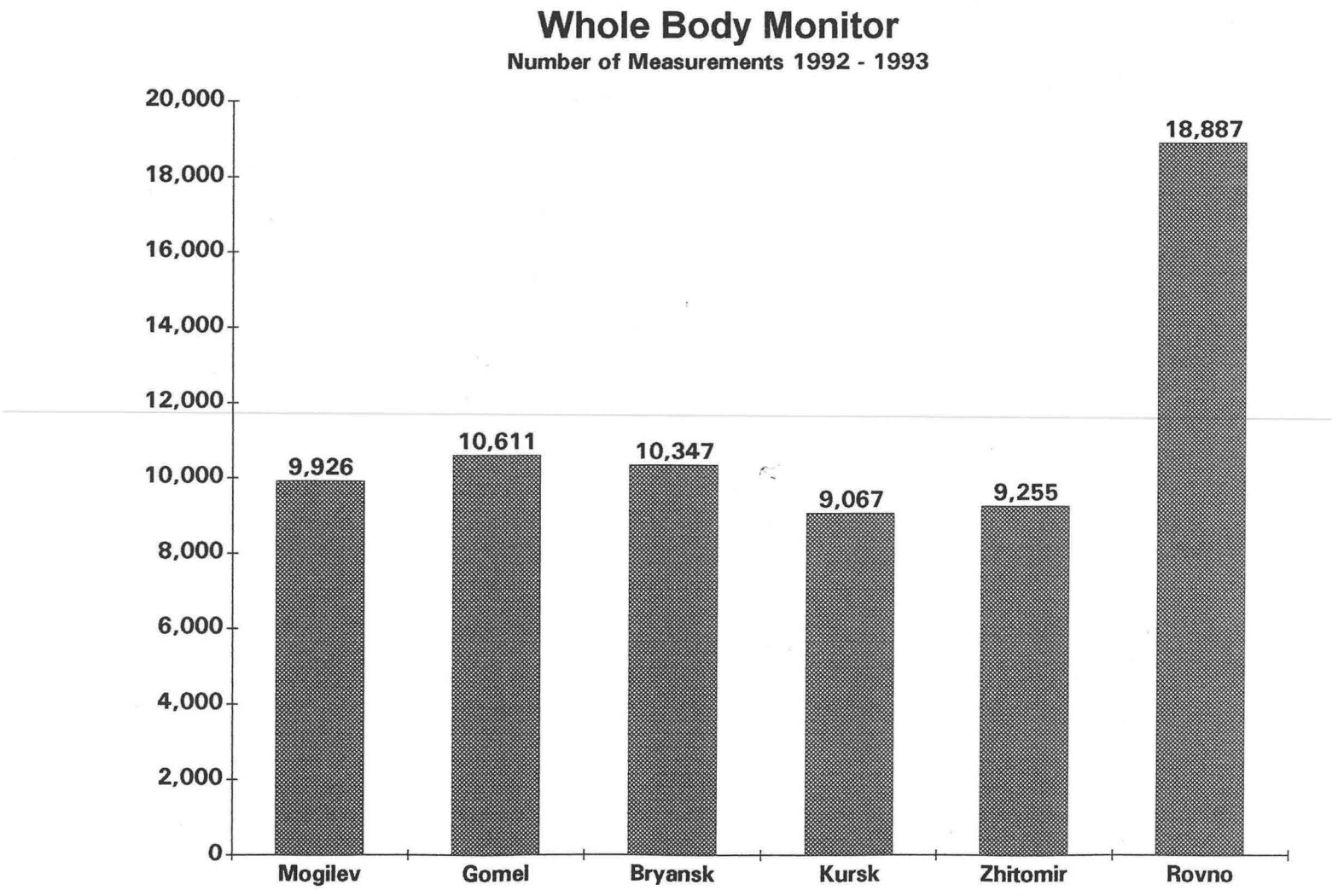

Operational Statistics of Red Cross Mobile Laboratories as on 1/11/93

Number of measurements taken using: **QBC II** Total: **39 475**

	Mogilev		Gomel		Bryansk		Kursk		Zhitomir		Rovno	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
January	-	410	-	-	-	-	-	-	-	-	-	-
February	-	494	-	-	-	-	-	-	-	-	-	-
March	-	436	-	-	-	-	-	-	-	-	-	-
April	-	-	-	437	-	-	-	-	-	-	-	-
May	-	358	-	535	-	-	-	-	-	392	-	-
June	496	-	-	229	-	-	-	-	-	-	-	-
July	730	-	-	482	-	-	-	-	-	-	-	-
August	662	320	-	-	-	-	-	-	-	-	-	-
September	692	360	-	-	-	-	-	-	-	-	-	-
October	413	-	-	-	-	-	-	-	-	-	-	-
November	312	-	-	-	-	-	-	-	-	-	-	-
December	410	-	-	-	-	-	-	-	-	-	-	-
Total	3,715	2,708	2,322	2,773	4,596	3,881	5,066	3,204	3,900	392	3,734	3,184

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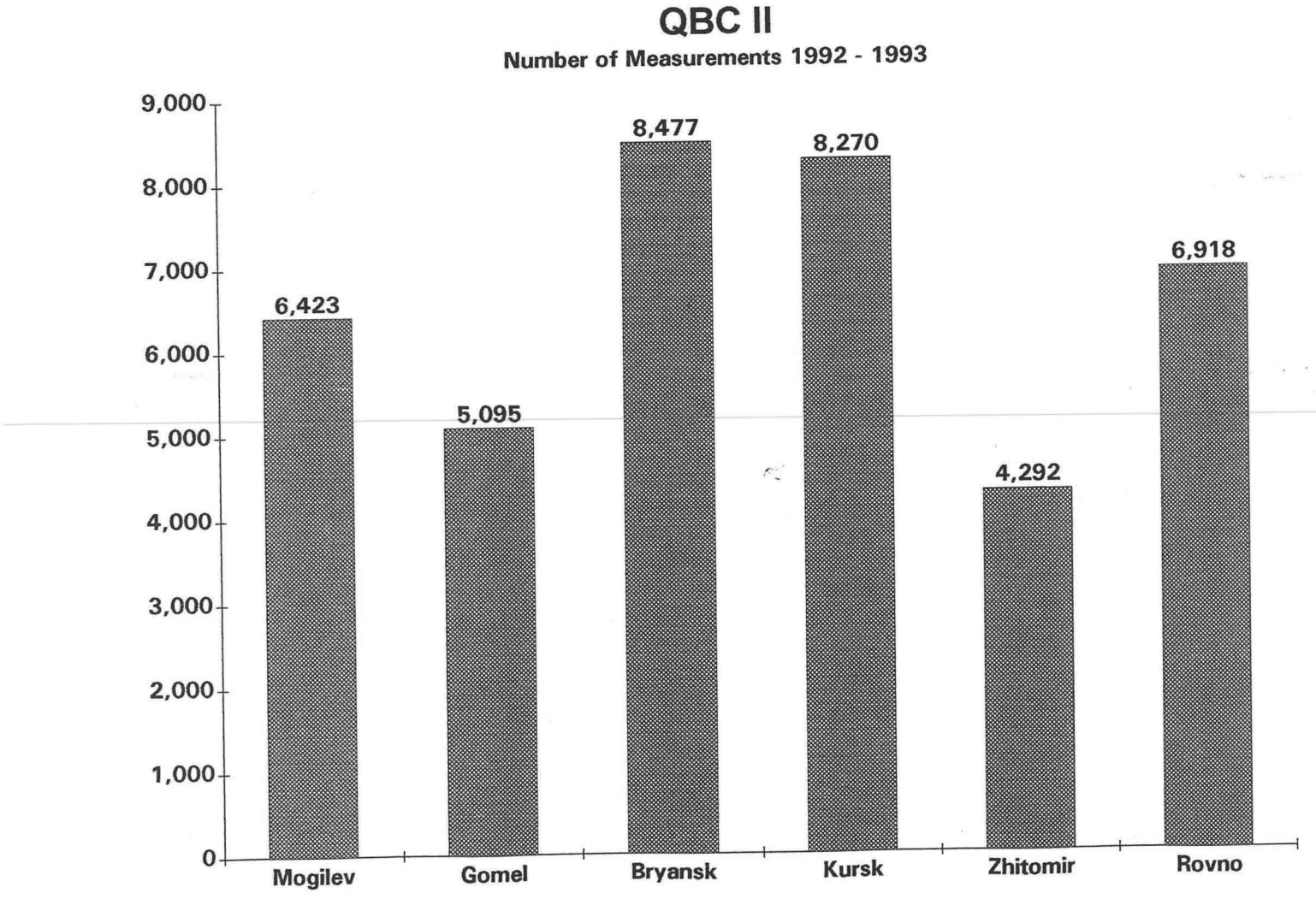
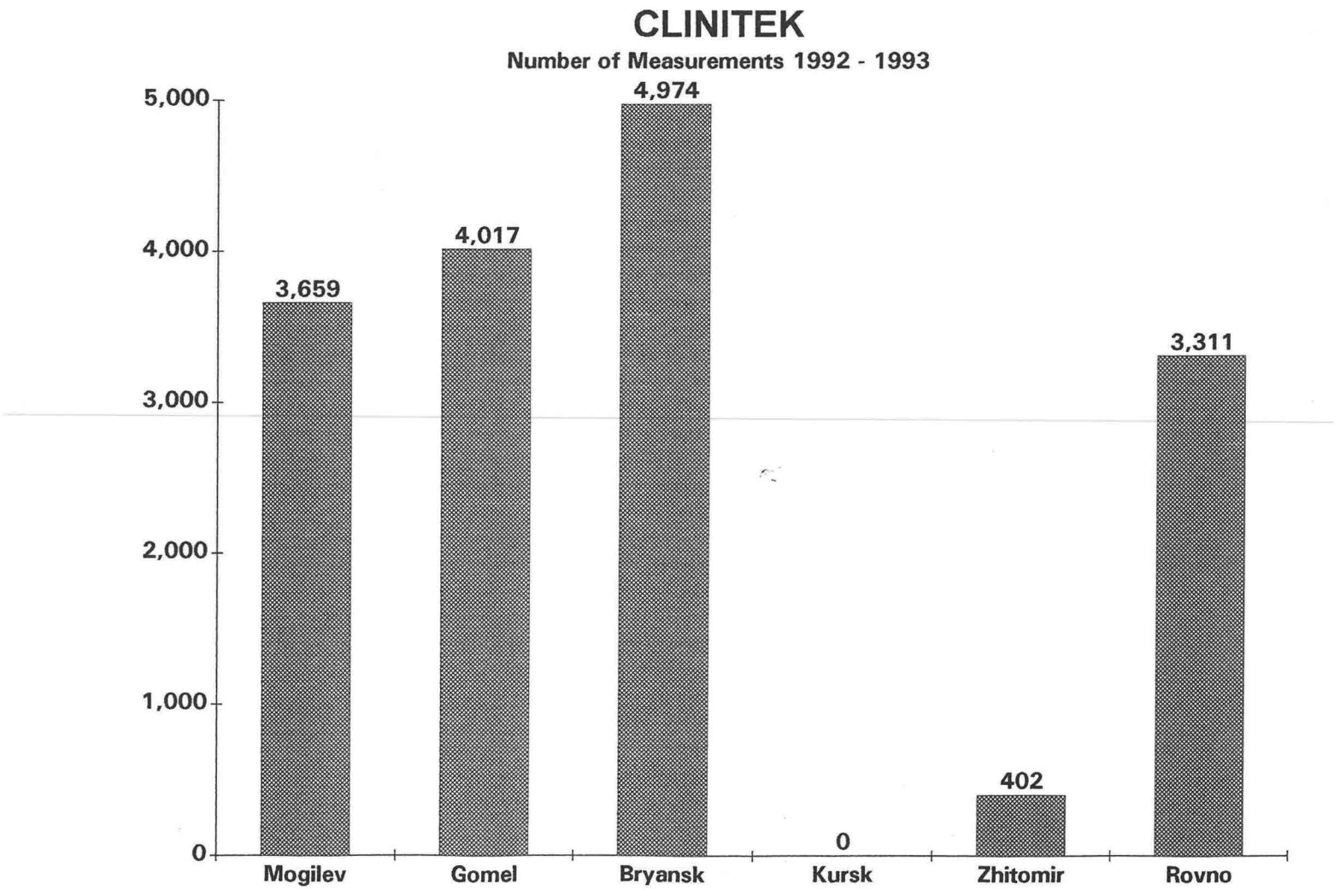


Operational Statistics of Red Cross Mobile Laboratories as on 1/11/93

Number of measurements taken using: **CLINITEK** Total: **16 363**

	Mogilev		Gomel		Bryansk		Kursk		Zhitomir		Rovno	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
January	-	243	-	-	-	-	-	-	-	-	-	-
February	-	124	-	-	-	-	-	-	-	-	-	-
March	-	239	-	-	-	-	-	-	-	-	-	-
April	-	-	555	192	-	-	-	-	-	-	-	-
May	-	26	542	23	-	-	-	-	-	-	-	-
June	292	-	433	209	-	-	-	-	-	-	-	-
July	730	-	38	-	-	-	-	-	-	-	-	-
August	662	36	312	-	-	-	-	-	-	-	-	300
September	174	47	92	-	-	-	-	-	-	-	-	-
October	209	-	168	-	-	-	-	-	-	-	-	-
November	234	-	152	-	-	-	-	-	-	-	-	-
December	243	-	211	-	-	-	-	-	-	-	-	-
Total	2,544	1,115	2,503	1,514	3,070	1,904	0	0	0	402	2,990	321

minus sign indicates monthly figure unavailable



5. Recommendations for Further Action by the Red Cross

In November 1993 specialists from the Ministries of Health of Belarus, Russia and Ukraine, experts of the International Federation of Red Cross and Red Crescent Societies, representatives of the three operational National Societies participated in a workshop together with 150 representatives from thirteen National Red Cross Societies, government ministries. The workshop discussed the results of two and a half years of activities and made recommendations for the further development of the programme.

The workshop felt, that although the Chernobyl Humanitarian Assistance and Rehabilitation Programme had experienced a number of unforeseen and unpredictable events during the initial implementation phase, the programme has picked up considerably and now serves a large number of beneficiaries that would not otherwise have had access to healthcare and screening. Overall it was felt that the need for humanitarian assistance will persist but this need will only in part be as a result of the Chernobyl disaster. Since the initial objectives and strategies were determined, there have been dramatic socio-economic and political changes, which have markedly influenced both the living conditions of the population as well as the ability of the public and private services to reverse a rapidly declining situation.

Recommendations and Conclusions

Organisation and Management

i. The responsibility for running the Chernobyl programme should, over a period of two years, be gradually passed over to the three operational National Societies. Until such time as this is done, the International Federation Delegation in Kiev should continue to serve as coordination centre.

ii. A programme coordinator should be appointed to assist the three National Societies and the Chernobyl Coordination Committee in their task of organising and coordinating the programme activities and the gradual take-over during the next two years.

iii. In order to improve the coordination of operations in Russia, Belarus and Ukraine, greater recognition is required in the three countries of the role and status of the Federation Delegation in Kiev.

iv. Widen and strengthen collaboration and cooperation between the Red Cross and other international organisations and national state health services. Set up a consultative group to manage this within the framework of the Chernobyl Programme.

v. In order to define the terms and conditions governing cooperation between the Mobile Teams and associated hospitals and clinics, formal agreements need to be established outlining the use of vehicles, the employment of staff and their salaries, supply of equipment, medical apparatus and reagents.

vi. Set up a system, whereby equipment and vehicles used within the framework of the Chernobyl Programme can be serviced and repaired.

vii. Increase training and development of Red Cross workers, to improve implementation of the programme.

viii. Improve and strengthen coordination between the Red Cross and other organisations with the aim of sharing data, and more importantly, to build on the combined experience of all the organisations involved in the consequences of the Chernobyl disaster and thus operate more effectively within this broader framework.

ix. Many of the staff working for the Red Cross within the framework of the Chernobyl Programme, are unfamiliar with the guiding principles behind both the programme and, more seriously, behind the Red Cross Movement itself. Staff should therefore undergo some form 'indoctrination' as part of their training.

x. Whilst the current methods of collecting data on the population's health status may be adequate, there is room for improvement so that better use can be made of the results.

Information

Ever since the inception of the Chernobyl Programme there has been discussion about the necessity for establishing desk-top publishing facilities within one of the National Societies. The need for this was raised at the Workshop with a view to:

i. Compiling and publishing a booklet containing instructions on how to reduce contamination in foodstuffs.

ii. Publishing leaflets containing information about personal hygiene.

iii. Publishing statistical information gathered by the food monitors, mobile laboratories etc. for the benefit of the affected population.

Health

The launching of the Chernobyl Humanitarian Assistance and Rehabilitation Programme coincided with a rapid decline in the quality of service provided by the Health Services. Whilst the main emphasis of the programme has always been and should remain the screening of the general population and onward referral of those identified by the mobile teams, it has become very clear that there is growing concern, among the population as well as among local health professionals, about the health status of the people. A few years ago ill-health was almost invariably linked to the Chernobyl disaster, whereas today additional factors have come into play: poor food supplies, lack of medicines, poorly equipped health centres, low morale among health personnel etc.

Whilst the Mobile Teams will clearly have to concentrate on the programme as outlined above, the Red Cross cannot fail to become aware of the worsening situation and may be obliged to adapt the scope of its programme accordingly.

The Workshop felt that:

i. Support should be increased for those institutions directly involved with the Red Cross and in particular those connected with the work of the Mobile Teams, by supplying them with syringes, bandages and basic medicines.

ii. Laboratories supporting the Mobile Teams should be provided with the necessary reagents.

iii. The RC may have to look into the necessity of widening the role of the Mobile Teams in the area of public health.

iv. On the basis of the data collected from the measurement of radiation contamination, the dosimeters should now be redistributed according to a new scheme to other areas where there is the risk of radioactive contamination, eg. in the vicinity of other nuclear power stations.

Mobile Teams

i. Appoint an assistant to the Mobile Team Coordinator to help deal with the increased workload.

ii. Continue to provide the Mobile Laboratories with the necessary reagents and spares for carrying out investigations.

iii. Equip the Mobile Laboratories with electro-cardiagraphs.

iv. Provide the Mobile Laboratories with extra equipment and reactives for the measurement of T_3-T_4 hormone levels of the thyroid gland.

v. Continue to supply Mobile Laboratories with mineralised vitamins for distribution.

vi. Make the vehicles clearly identifiable as Red Cross Mobile Laboratory to distinguish them from ordinary ambulances.

vii. The system of supply of spare parts for the vehicles and their servicing needs to be improved.

viii. The Red Cross branches responsible for the Mobile Laboratories must ensure that their teams make optimum use of the equipment in their care. If necessary under-utilised equipment should be transferred to areas of greater need.

ix. Undertake measures to ensure the safety of Red Cross workers and Mobile Laboratory teams when working within the zone of radioactive contamination.

6. Summary

The decision taken by the International Red Cross Workshop in Kiev November 1993 to extend the programme for another two years is a recognition of the long term nature of the difficulties the programme is tackling. As already mentioned in this report, there have been difficulties in both setting up and implementing the programme but there is a general feeling that a sound start has been made.

The Chernobyl Humanitarian Assistance and Rehabilitation Programme is unique in that it is the only programme in the former USSR supported by the International Federation, that is completely run by the local National Societies and is not merely a relief programme. Red Cross Branches within the three National Societies have taken on operational responsibilities to which they were not accustomed and the National Societies themselves have had to establish a new form of cooperation amongst themselves as well as with the International Federation. All this at a time of dramatic change and upheaval.

What is clear from the present state of the programme is that it seeks to reach people where they live and also seeks to meet a real need that has existed throughout the affected area since the disaster at Chernobyl eight years ago. Many scientists and researchers have come and gone and their findings have been well documented and discussed at various seminars and conferences. However the effectiveness of the Red Cross Humanitarian Assistance and Rehabilitation Programme will, at the end of the day, have to be judged by the response of the affected population.

It is important that the International Federation with the support of National Societies around the World supports the programme until it is clear that the population in the affected areas feels that there is some improvement in their lives ie. The Red Cross Humanitarian Assistance and Rehabilitation Programme must be seen to have accomplished at least some of its original objectives.