

STUDY REPORT ON THE PROJECT
FOR
PROVISION OF VACCINES FOR CHILDREN
(GRANT AID FOR CHILD WELFARE)
IN
THE REPUBLIC OF UZBEKISTAN

SEPTEMBER 2000

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

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PREFACE

In response to a request from the Government of the Republic of Uzbekistan, the Government of Japan decided to conduct a study on the Project for Provision of Vaccines for Children (Grant Aid for Child Welfare) and entrusted the Japan International Cooperation Agency (JICA) to conduct the study with the assistance of the Japan International Cooperation System (JICS).

JICA sent to Uzbekistan a study team April 25 to May 12, 2000.

I hope that this report will contribute to the promotion of the project and to the enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of the Republic of Uzbekistan for their close cooperation extended to the team.

September 2000



Kunihiko Saito

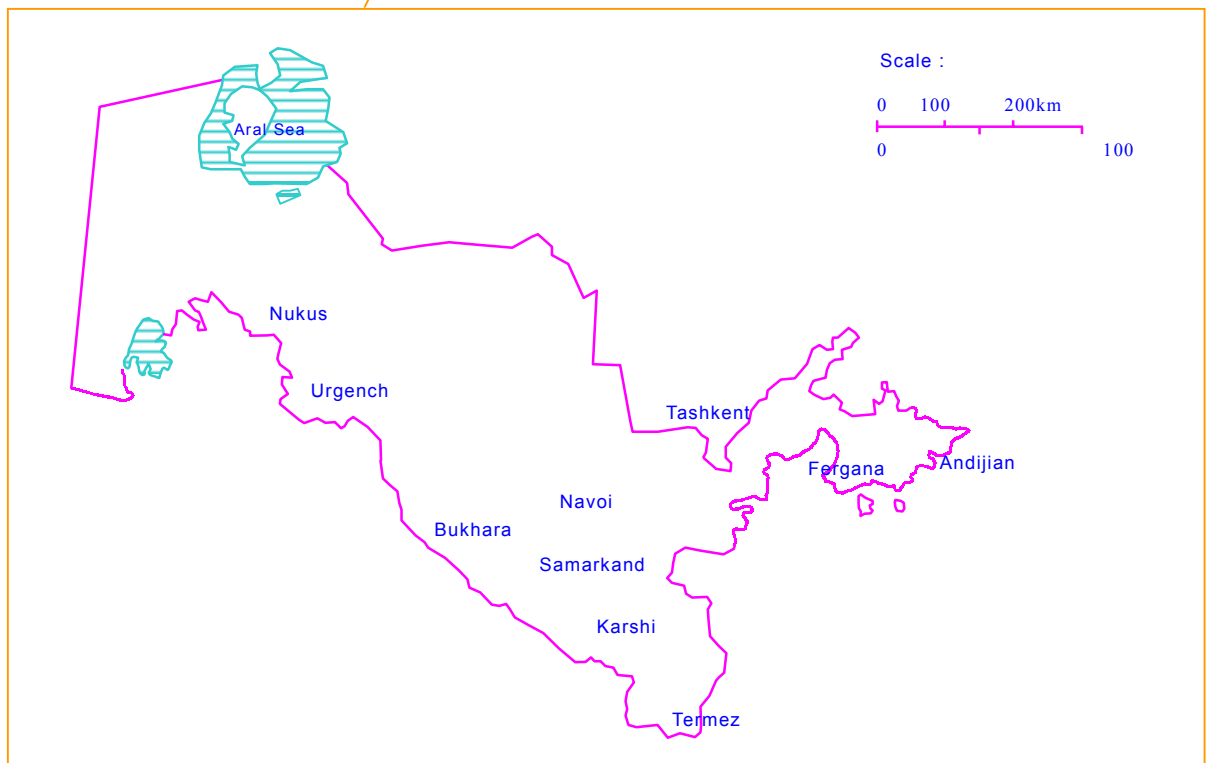
President

Japan International Cooperation Agency

LOCATION MAP



Central Asia



Uzbekistan

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ABBREVIATIONS

BCG	Bacillus Calmette-Guérin
CIS	Commonwealth of Independent States
CFC	Chlorofluorocarbon
DTP	Diphtheria, tetanus, pertussis vaccine
EPI	Expanded Program on Immunization
OPV	Oral Polio Vaccine
SES	Sanitary Epidemiologic Station
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization
NIP	National Immunization Program
VHB	Hepatitis B virus
VIIP	Vaccine Independent Initiative Program
IMF	International Monetary Fund
GDP	Gross Domestic Product
OECD	Organization for Economic Cooperation and Development
E/N	Exchange of Notes
B/A	Banking Arrangement
A/P	Authorization to Pay

Chapter 1 Background of the Project

1-1 Present Status and Challenges

1) Changes in Major Health Indexes

Table-1 below shows the changes in Uzbekistan's major health indexes in recent years:

Table 1 The changes in Uzbekistan's major health indexes

Index/Year	1991	1997
Population under 15 years of age (thous.)	8,447.0	9,400.8
Population at and over 15 years of age (thous.)	12,166.1	13,947.9
Number of women from 15 to 49 years of age (thous.)	4,822.5	5,755.0
Total fertility rate	4.1	3.4
Live birth (thous.)	723.4	609.5
Birth rate per 1000 pop.	34.5	25.8
Number of deaths (thous.)	130.3	138.6
Mortality rate per 1000 pop.	6.2	5.8
Natural increase rate per 1000 pop.	28.3	20.0
Number of infant deaths (thous.)	25.4	13.9
Infant mortality rate per 1000 live births	35.5	22.7
Number of pregnant women, in child births, puerperal, under 42 days after delivery	473.0	174.0
Maternal mortality rate, per 100 thous. of livebirths	65.3	28.5

Source : Public Health Services and Population Health in the Republic of Uzbekistan, 1997

Table-1 indicates that the Uzbekistani government's active efforts have led to the reduction in maternal and infant mortality rates. However those rates (28.5 per 100,000 persons and 22.7 per 1,000 births, respectively) are still high, and the infant mortality rate is not reaching WHO's target of 20.0 per 1,000 births.

Also, the Ministry of Health is concerned about the effect of prolificacy on maternal and child health.

2) Immunization Activities

In Uzbekistan, vaccines are administered according to the immunization calendar shown in Table-4. During the 1992 - 1993 period after the collapse of the Soviet

Union, however, the vaccine supply to Uzbekistan dropped to 40-60% of required amount due to cutting vaccine's supply from Russia. As a result, there were outbreaks of polio and diphtheria between 1994 and 1995 with 117 polio cases being reported in 1994 and 638 diphtheria patients in 1995. Also, there was an epidemic of measles in 1998, which raised the morbidity rate of the disease from 230-280 patients in 1995-1997 to 875 in 1998 and to 1193 in 1999. Under such circumstances, the Uzbekistani government endeavors to improve the vaccination rates through its own efforts, as well as in cooperation with Japan and other donor countries.

Table-2, Table-3, and Table-4 respectively show the numbers of patients and morbidity rates of infectious diseases that are subjects for immunization, vaccination rates, and the Immunization Calendar.

Table 2 No. of patients and morbidity rates of diseases preventive by vaccination

Disease	1997		1998		1999	
	No. of patients	Morbidity* Rate	No. of patients	Morbidity* Rate	No. of patients	Morbidity* rate
Measles	262	1.11	875	3.65	1,193	4.91
Pertussis	197	0.84	32	0.13	54	0.22
Tuberculosis	N/A	N/A	11,625	50.00	12,885	53.00
Diphtheria	33	0.14	4	0.02	5	0.02

* Per 100,000 population

Table 3 Vaccination rates (%)

	1994	1997
BCG	93	97
Polio	79	97
Diphtheria	65	96
Pertussis	65	96
Tetanus	65	96
Measles	71	88

Source: WHO, Immunization profile-Uzbekistan, 2000.4.20

Table 4 Immunization calendar

Age	Name of vaccines
1 day	VHB-1
2-4 days	OPV-0, BCG-1
2 months	DTP-1, OPV-1, VHB-2
3 months	DTP-2, OPV-2
4 months	DTP-3, OPV-3
9 months	Measles-1, VHB-3
16 months	DTP-4, OPV-4, Measles-2, Mumps-1

Source : Public Health Services and Population Health in the Republic of Uzbekistan

Note 1 : VHB (hepatite B), OPV (polio), DTP (pertussis, diphtheria, tetanus)

Note 2: The number following each vaccine name indicates how many times each vaccine will be administered at each age.

3) Vaccine Supply System

The resolution adopted by the Cabinet on November 22, 1994 mandated Uzbekistani Airline to air transport vaccines preferentially and free of charge. This has led to the establishment of a vaccine transportation system from the international airport via Republican SES* (or in some cases directly) to Regional SES's. To those regional SES's that are situated near Tashkent, vaccines are transported by land. Therefrom, vaccines are delivered to district SES's, and then to policlinic, rural outpatient clinics, and paramedic/midwifery points**. Figer-1 shows the vaccine supply system of Uzbekistan.

* An abbreviation for Sanitary Epidemiology Station, an organization under the jurisdiction of Ministry of Health of Uzbekistan and the implementing agency of the Project.

** Rural clinics where basic medical diagnosis and treatment are performed.

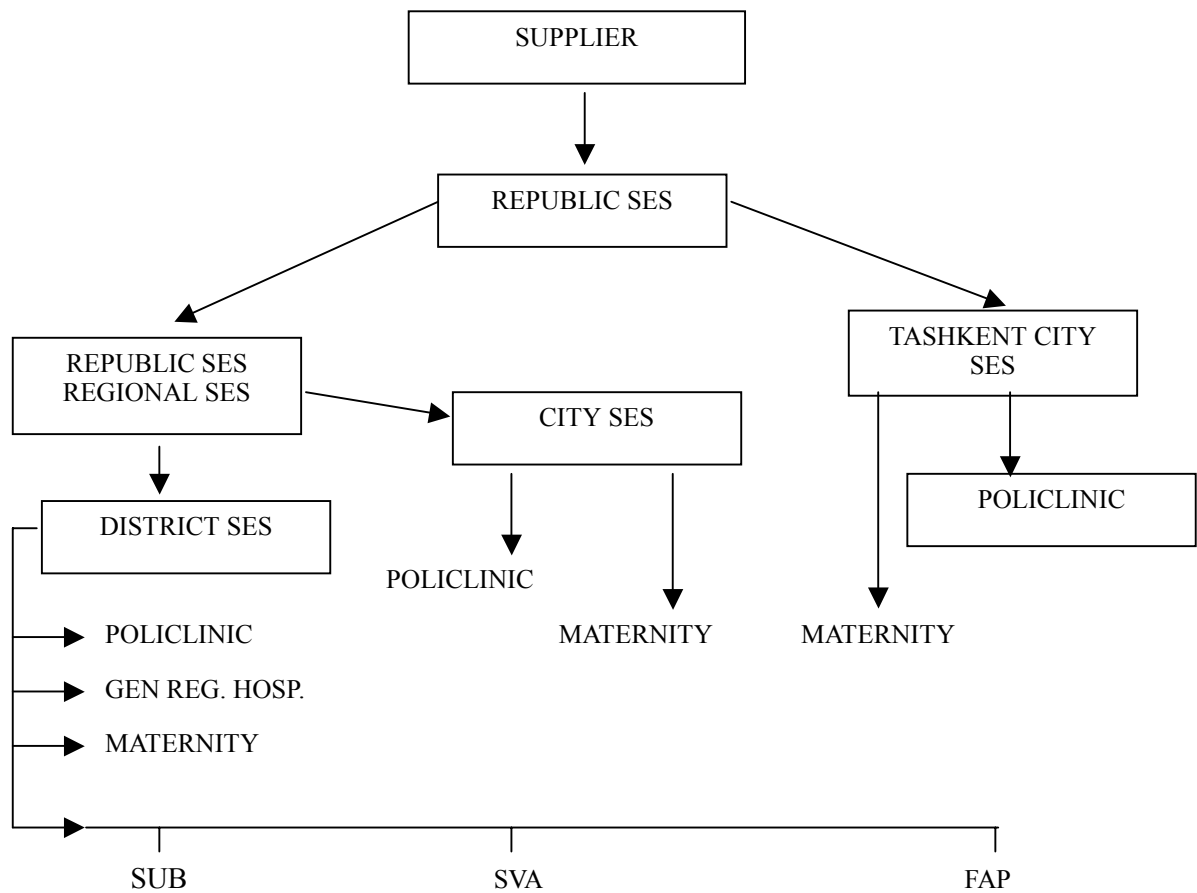


Figure 1 Vaccine supply system

4) Cold Chain Equipment

About 90% of the currently used cold chain equipment was made in the former Soviet Union and is becoming obsolete. Although UNICEF has been providing freezers and refrigerators for SES facilities since 1992, the UNICEF's focus has been mostly on the provision of freezers and not so much on supplying refrigerators. Of 1,351 broken refrigerators (or 46 refrigerators in district SES's alone), only 13 have been replaced as of 1999, which are hardly enough to cover the total requirement. Other types of equipment, especially vaccine carriers, are seriously in short supply, with 70% or so of the paramedic/midwifery points remaining under equipped.

The National Immunization Plan sets forth the disposition of cold chain equipment as follows:

- (1) Vaccines shall be transported by vaccine carriers with temperature monitors
- (2) A nation-wide emergency network for vaccine distribution by air cargo shall be established.
- (3) Maintenance Centers to provide repair services for storage freezers and refrigerators shall be established.
- (4) Cold chain equipment and refrigerated vehicles shall be provided for local health services and SES's

1-2 Outline of Request for Grant Aid

The contents of the final request are as follows:

Table 5 Required vaccine

Name of vaccine	Population	Quantities (vial)	Dozes/person	Priority
DPT (10 dozes/ vial)	563,373	292,960	4	A
Measles (10 dozes/ vial)	563,373	146,484	2	A
Polio (10 dozes/ vial)	563,373	366,200	5	A
Mumps (10 dozes/ vial)	563,373	73,248	1	B
Hepatitis B (10 dozes/ vial)	563,373	219,723	3	C

Table 6 Required equipment

No.	Name of Equipment	Regional SES	District SES	Policlinic	Rural outpatient clinic	Paramedic/ midwifery point	Total Quantity	Priority
1	Icelined Refrigerator	14	46	72	436		568	A
2	Vaccine carrier					4,327	4,327	B
3	Large Vaccine Cold Box		223				223	B

Chapter 2 Contents of the Project

2-1 Outline of the Project

2-1-1 Objectives of the Project

The Ministry of Health of Uzbekistan, in its Maternal and Child Health Improvement Program, states its intention to promote immunization activities. To further strengthen the national immunization activities after the completion of the Vaccine Independence Initiative Plan, the Ministry of Health developed the National Immunization Plan. However, the prospect of implementing the National Plan is rather bleak, and there may not be enough supply of vaccines for newborns for the year 2001. In view of such circumstances, the Project sets its goal to assist the smooth implementation of the immunization activities by providing EPI vaccines (DTP, measles, and polio) during the transition period before the commencement of the National Immunization Plan and thereby lower the morbidity and mortality rates of infectious diseases for infants under two. The Project also aims at strengthening vaccine supply system in Uzbekistan by providing cold chain equipment, such as icelined refrigerators, vaccine carriers, and cold boxes.

2-1-2 Subject Area and Facilities

With lowering the morbidity and mortality rates of infectious diseases for infants under two being the Project's objective, the subject area of the Project will be the entire land of Uzbekistan or 14 administrative districts consisting of one city, 12 regions, and one autonomous republic, including Tashkent city and Republic of Karakalpakstan. Listed below are the names of such administrative districts.

- | | |
|-------------------|--|
| - Tashkent (city) | - Samarkand |
| - Anjijan | - Surhandarya |
| - Bukhara | - Sirdarya |
| - Djizak | - Tashkent (region) |
| - Kashkadarya | - Fergana |
| - Navoi | - Khorezm |
| - Namangan | - Karakalpakstan (autonomous republic) |

Subject facilities of the Project are SES facilities that supervise immunization activities and medical institutions where vaccination actually takes place. These facilities

specifically refer to regional SES's, district SES's, polyclinic, rural outpatient clinics, and paramedic/midwifery points. However, regional SES's will be excluded from the Project, as these facilities are fairly equipped through UNICEF's assistance.

2-1-3 Items and Quantities of Equipment to be Procured

Specific items to be procured through the Project and the quantities thereof are listed in Table-7 below:

Table 7 Specific items and quantity to be procured

No.	Item to be procured	Quantity (vial)
Vaccine (year 2001)		
1	DPT (10 Dozes / vial)	275,000
2	Measles (10 Dozes/ vial)	137,900
3	Polio (10 Dozes/vial)	343,300
No.	Item to be procured	Quantity (unit)
Cold chain Equipment		
4	Icelined Refrigerator	554
5	Vaccine carrier	4,248
6	Cold Box	211

2-2 Basic Design of the Project

2-2-1 Design Concept

Under the Project, equipment and vaccines, as well as their grades, will be determined and procured based on the following concept:

1) Vaccines

(1) Items to be Procured

Only three types of EPI vaccines (DTP, measles, and polio), which the Uzbekistani government will have difficulty in procurement by itself after the completion of the Vaccine Independence Initiative Plan, will be provided through the Project. Vaccine products will be selected based on the standards of said Plan and from such manufacturers that have already met WHO's pre-qualifications requirement.

Vaccines against mumps and hepatitis B were also requested. However, they will be excluded from the Project, because each region is allocating a budget for purchasing mumps vaccines, and because hepatitis-B vaccines were not of high priority in Uzbekistan's request. In addition, some regions are conducting hepatitis-B vaccinations using their own budgets and under the GAVI plan.

(2) Project Period

As of May 2000, the President has not yet signed documents concerning the execution of National Immunization Plan that is to follow up on Vaccine Independence Initiative Plan. This makes it virtually impossible for Uzbekistan to appropriate funds for the procurement of three types of vaccines (DTP, measles, and polio) for the year 2001. In view of the forgoing, the Project will only cover vaccine supplies for 2001.

(3) Quantity

As shown in the Immunization Calendar in the Table-4, newborns will complete the first course of immunization* by 16 months of age in Uzbekistan. The Project will procure vaccines for the first course for neonates who will be born in 2001. The target population of 527,000 is calculated based on the estimated number of births, which was derived from the past data, population growth rate, and other statistics of the Ministry of Macroeconomics. The vaccine quantities were calculated based on the number of shots to be administered as listed on the Immunization Calendar, as well as the target population and the wastage factor (1.3).

2) Cold Chain Equipment

Three kinds of equipment, consisting of iceline refrigerators, vaccine carriers, and cold boxes, were requested for regional SES's, district SES's, policlinics, rural outpatient clinics, and paramedic/midwifery points.

(1) Icelined Refrigerator

Only refrigerators in district SES's, policlinics, and rural outpatient clinics that are beyond repair will be replaced. Regional SES's and paramedic/midwifery points will

* "First course" refers to a series of vaccinations given to infants for the acquisition of basic immunity.

be excluded. Owing to local efforts and UNICEF's assistance, regional SES's are relatively well equipped with refrigerators and freezers to store vaccines. Paramedic/midwifery points do not have high needs for refrigerators for long-term storage, as they are replenished with necessary quantities of vaccines before each immunization date.

Icelined refrigerators, which WHO recommends as EPI equipment for developing countries, are selected. This type of refrigerator is preferred because of the high atmospheric temperature, which sometimes exceeds 40°C in Karakalpakstan and other regions, and because of occasional power failures, which could last more than half a day despite a relatively stable supply of electricity.

(2) Vaccine Carriers

The Project intends to fully utilize the existing equipment and only supplement those in short supply. The target facilities will be limited to paramedic/midwifery points, which are struggling to secure transportation means and insufficiently equipped with vaccine carriers. The paramedic/midwifery point in Tashkent, which is conveniently located in an urban district where transportation to and from higher-level medical institutions are relatively easy, and that in Karakalpakstan, where there are more vaccine carriers than facilities, will be excluded.

To those lower-level facilities unequipped with refrigerators, the necessary amount of vaccines is supplied for each vaccination day, which is stored in the carriers until usage. Unused vaccines will be returned to higher-level facilities. Since it can take a whole day to deliver vaccines to remote facilities, a carrier type with cold life of 24 or longer hours will be selected from those recommended by WHO.

(3) Cold Boxes

Cold boxes are used to transport vaccines from district SES's to lower-level facilities. Cold boxes which each district SES possesses were made in the former Soviet Union and are becoming aged. Thus, the Project intends to renew superannuated ones and only provide a minimum of one unit for each district SES. SES's in Tashkent city and Karakalpakstan will be excluded for the same reasons as those for vaccine carriers.

Cold boxes recommended by WHO and having cooling life of 120 hours or longer will be selected, as it can take four to five days to deliver vaccines to remote facilities using

commodity-carrying trucks that travel around different facilities.

2-2-2 Equipment Plan

The Uzbekistani government is trying to maintain the system established through the Vaccine Independence Initiative Plan and improve the quality of its immunization activities. Since the Project's aims at supporting such efforts, the items to be procured under the Project shall have comparable grades to the products procured under said Plan.

The quantity of the items is outlined in Table 8 below. Vaccines and cold chain equipment will be distributed to each region according to Table-9 and Table-10, in which basis of calculation and quantities to be distributed are shown.

Table 8 Quantity of items

No.	Item	Quantity	Use
1	DTP vaccine	275,000 vials	Prevention of diphtheria, pertussis, and tetanus
2	Measles vaccine	137,000 vials	Prevention of measles
3	Oral polio vaccine	343,000 vials	Prevention of polio
4	Iceline refrigerator	554 units	Storage of vaccines
5	Vaccine carrier	4,248 units	Transportation of vaccines
6	Cold box	211 units	Transportation of vaccines

Table 9: Calculation of Vaccine to be procured and distribution plan

District	Estimated no. of births	DTP		Measles		Polio				
		Qty. (doses)	Required qty. (vials)	Distributed qty. (vials)	Qty. (doses)	Required qty. (vials)	Distributed qty. (vials)	Required qty. (vials)	Distributed qty. (vials)	
Tashkent City	31,620	164,424	16,443	16,500	82,212	8,222	205,530	8,300	20,553	20,600
Anijian	47,430	246,636	24,664	24,700	123,318	12,332	308,295	12,400	30,830	30,900
Bukhara	31,620	164,424	16,443	16,500	82,212	8,222	205,530	8,300	20,553	20,600
Djizak	26,350	137,020	13,702	13,800	68,510	6,851	171,275	6,900	17,128	17,200
Kashkadarya	52,700	274,040	27,404	27,500	137,020	13,702	342,550	13,800	34,255	34,300
Navoi	15,810	82,212	8,222	8,300	41,106	4,111	102,765	4,200	10,277	10,300
Namangan	42,160	219,232	21,924	22,000	109,616	10,962	274,040	11,000	27,404	27,500
Samarkand	57,970	301,444	30,145	30,200	150,722	15,073	376,805	15,100	37,681	37,700
Surhandarya	42,160	219,232	21,924	22,000	109,616	10,962	274,040	11,000	27,404	27,500
Sirdarya	15,810	82,212	8,222	8,300	41,106	4,111	102,765	4,200	10,277	10,300
Tashkent	42,160	219,232	21,924	22,000	109,616	10,962	274,040	11,000	27,404	27,500
Fergana	57,970	301,444	30,145	30,200	150,722	15,073	376,805	15,100	37,681	37,700
Khorezm	31,620	164,424	16,443	16,500	82,212	8,222	205,530	8,300	20,553	20,600
Karakalpakstan	31,620	164,424	16,443	16,500	82,212	8,222	205,530	8,300	20,553	20,600
Total	527,000	2,740,400	274,048	275,000	1,370,200	137,027	3,425,500	137,900	342,553	343,300

Note: Parameters and formula of calculation are as follows:

- 1) Wastage factor: 1.3
- 2) No. of doses per vial: 10 doses
- 3) No. of shots per person: DTP-4, measles-2, polio-5
- 4) Formula: Required no. of vials = estimated no. of births x no. of shots x wastage factor ÷ 10 doses
The quantities to be procured are rounded up to the nearest third place of decimals, as vaccines are supplied in units of 100 vials.

Table 10 Calculation of cold chain equipment to be procured and distribution plan

District	District SES's				Polyclinic			Rural Outpatient Clinics				Paramedic/midwifery points			Qty. of Equipment to be Procured			
	No. of facilities (1)	Refrig. (broken) A	Vaccine carriers I	No. of facilities (2)	Refrig. (broken) B	Vaccine carriers II	No. of facilities (3)	Refrig. (broken) C	Vaccine carriers III	No. of facilities (4)	Refrig. (broken) D	Vaccine carriers IV	No. of facilities (5)	Refrig. (broken) E	Vaccine carriers V	Cold boxes (6)		
Tashkent City	12	2	21	82	32	73	919	106	6	79	5	0	1,092	140	0	0		
Anijian	19	6	16	50	11	55	188	12	79	381	42	39	638	29	342	19		
Bukhara	14		35	47		21	233		141	232		23	526	0	209	14		
Djizak	15		23	32	6	17	111	12	105	214	8	68	372	18	146	15		
Kashkadarya	18	10	43	52	7	46	237	40	215	724	185	296	1,031	57	428	18		
Navoi	10	5	19	17	1	5	72	6	44	174	57	15	273	12	159	10		
Namangan	12		50	42		13	120		30	500		50	674	0	450	12		
Samarkand	21	6	36	50	5	45	276	14	226	802	140	560	1,149	25	242	21		
Surhandarya	15		30	36	3	19	211	33	60	619	45	30	881	36	589	15		
Sirdarya	13		29	24		12	68	2	64	117	1	10	222	2	107	13		
Tashkent	22		108	85		80	186		165	691		121	984	0	570	22		
Fergana	20		47	75		71	186	184	154	785	138	57	1,066	184	728	20		
Khorezm	13	1	33	41		16	109	9	37	326	90	48	489	10	278	13		
Karakalpakstan	19	16	77	40	7	36	116	18	135	482	86	500	657	41	0	19		
Total	223	46	567	673	72	509	3,032	436	1,461	6,126	797	1,817	10,054	554	4,248	211		

Notes:

Total no. of facilities: (5) = (1) + (2) + (3) + (4)

Total no. of broken refrigerators: E = A + B + C

Total no. of vaccine carriers: V = (4) - IV (Facilities in Tashkent City and Karakalpakstan are excluded.)

Total no. of cold boxes: Total no. of facilities in district SES's - no. of facilities in Tashkent City

Chapter 3 Procurement Plan

3-1 Procurement Plan

3-1-1 Procurement Concept

Vaccines shall be transported by air under strict temperature control to prevent deterioration. Since each regional SES has a limited storage capacity, vaccines will be delivered in two or more installments or biannually. Cold chain equipment will be supplied in one delivery.

3-1-2 Responsibilities of each government

<Japan>

- Procurement of vaccines and cold chain equipment and delivery:
 - vaccines to warehouse in Tashkent International Airport and cold chain equipment to the central warehouse of the Ministry of Health in Tashkent city

<Uzbekistan>

- Distribution of the procured equipment from the above mentioned sites to final sites in each region
- Installation of the equipment

3-1-3 Consultant Supervision

According to the following basic guidelines, the consultants will supervise the Project to ensure its smooth implementation. At the time of acceptance inspection and delivery of the equipment, supervising personnel will be dispatched from Japan.

- 1 Maintain close communications with the officials in charge of the Project to ensure the on-time delivery of vaccines and cold chain equipment.
- 2 Supervise the suppliers to ensure that they carry out the works pursuant to the contracts.
- 3 Provide appropriate technical guidance and suggestions for the smooth control and maintenance of the equipment by the Uzbekistani side after the delivery thereof.
- 4 Confirm the completion of contracted works by obtaining acceptance and approval of the Project from the Uzbekistani side.

3-1-4 Procurement Plan

1) Sources

Uzbekistan is in the process of adopting the WHO standards for vaccine and cold chain equipment. Thus, the Project will select manufacturers and equipment in accordance with those standards. The three types of vaccines (DTP, measles, and polio) are currently not being manufactured in Uzbekistan. As far as we have surveyed, there

are no manufacturers in Uzbekistan which produce cold chain equipment that meets said standards. Therefore, equipment will be procured from countries other than Uzbekistan and Japan.

Vaccines will be procured from suppliers who have already met WHO pre-qualifications. Cold chain equipment will be selected from EPI equipment, which WHO recommends for developing countries. In view of the availability of quality assurance, vaccines will be procured from pre-qualified manufacturers in DAC member nations.

Projected sources of vaccines and equipment are outlined in Table-11 below:

Table 11 Sources of vaccines and equipment

Item	Source		
	Uzbekistan	Japan	Third country
Vaccines			
1 DTP			
2 Measles			
3 Polio			
Cold chain equipment			
4 Icelined refrigerators			
5 Vaccine carriers			
6 Cold boxes			

2) Transport

The point of delivery of the vaccines and equipment to be procured through the Project will be the warehouse in Tashkent International Airport and MOH's warehouse in Tashkent City. After the delivery, the distribution of vaccines and equipment will be the responsibility of the Ministry of Health of Uzbekistan.

<Vaccines>

Vaccines will be transported by air from the source country to Tashkent International Airport. As the vaccine storage capacity of each regional SES is limited, vaccines will be delivered in two or more installments. As shown in Figure-2 below, vaccines that arrive at Tashkent International Airport will be directly transported to each regional SES by domestic air carrier, or by truck to the facilities near Tashkent.

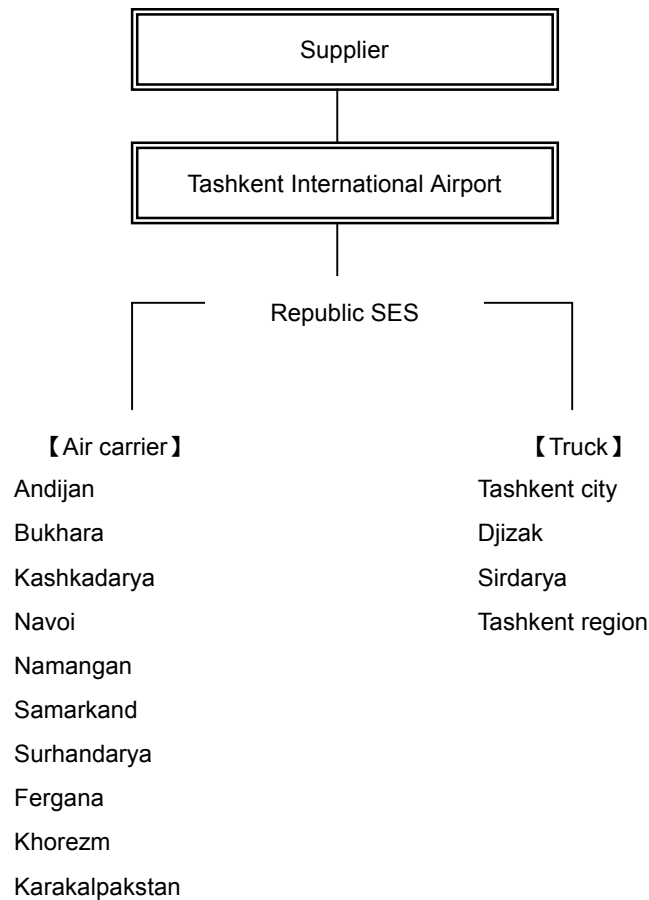


Figure 2 Vaccine transportation route

<Cold Chain Equipment>

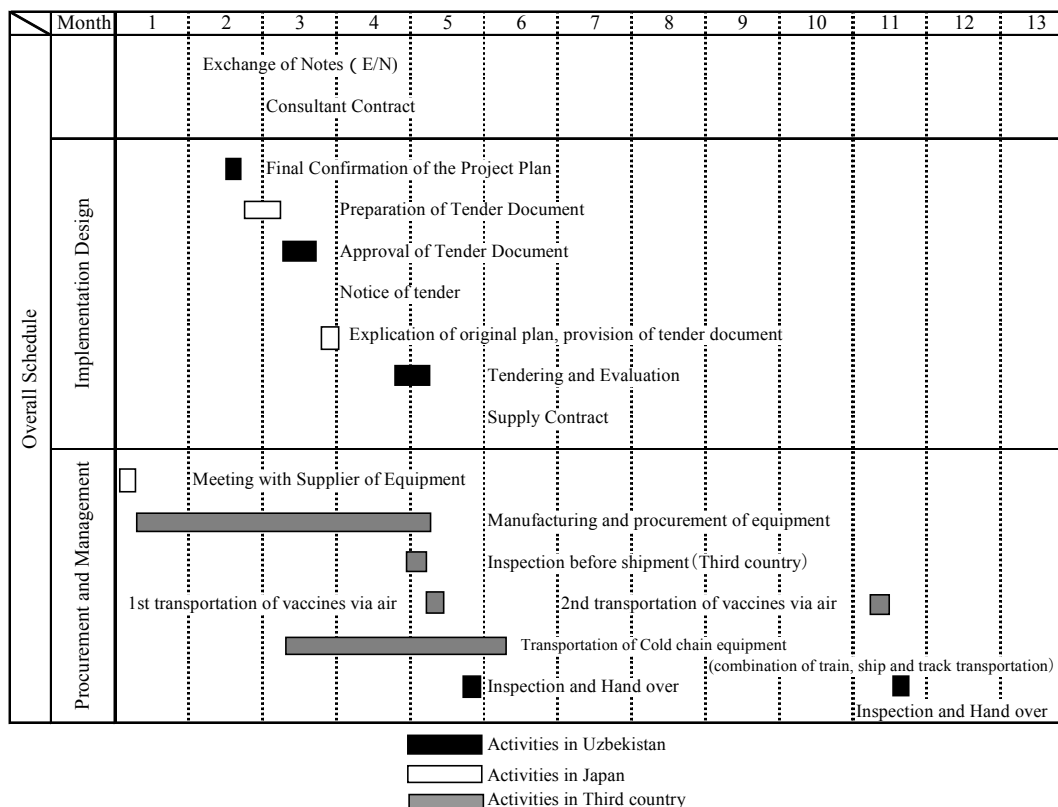
European countries or India are the possible sources of cold chain equipment. If procured from Europe, the equipment will be transported to Chukrsay Station by rail. In case of shipping from India, marine and land transport will be combined, and the equipment will be delivered from the port of discharge to the central warehouse by truck. The term of contracted prices of the Project is based on CIP and does not stipulate a specific transportation route.

3-1-5 Implementation Schedule

After the signing of E/N (Exchange of Notes), it will take 11 months to conclude agreements with suppliers and complete the Project by delivery it to the Uzbekistani side. The transportation of vaccines via air will take about one week, and that of cold chain equipment will take about 1.5 months if transported by rail from Europe, or three months if shipped via combined transportation from India. The entire Implementation schedule is outlined in Table-12.

Table 12 Implementation schedule

Overall Schedule (from E/N to hand over) : 15.5 months
 From E/N to signature of Contract : 4.5 months
 Deadline (from Supply contract to hand over) : 11.0 months



3-1-6 Obligations of the Recipient Country

The scope of work of the recipient country under the Project is as follows:

- 1) Issue an A/P (Authorization to Pay) and pay relevant bank charges according to B/A (Banking Arrangement).
- 2) Ensure prompt customs clearance of equipment procured for the Project and exempt them from taxation.
- 3) Accord Japanese corporations and individuals such facilities as may be necessary for their entry into Uzbekistan and stay therein for the performance of their work.
- 4) Exempt Japanese nationals, who provide products and services for the Project, from customs duties, internal taxes, and other fiscal levies.
- 5) Promptly deliver the supplies and equipment to target facilities according to the distribution plan.

- 6) Properly and effectively use and maintain the supplies and equipment to be provided through the Project.
- 7) Bear all expenses, other than those covered by the Grant, necessary for the Project.

3-2 Operation/Maintenance Costs

As for vaccines, a substantial increase in personnel or maintenance cost is not expected, as they will be delivered to each region using the supply system that has already been established through the Vaccine Independence Initiative Plan.

Maintenance costs for the icelined refrigerators will include electricity charges and repair fees in case of breakage. However, since only broken refrigerators that are beyond repair will be replaced, each subject facility will not incur additional maintenance cost, or may enjoy a saving by renewing frequently-broken refrigerators. To support the maintenance of the equipment, the Project will also supply spare parts that are recommended by WHO.

Chapter 4 Project Evaluation

4-1 Appropriateness of the Project

The Project is thought to help smooth transition from Vaccine Independence Initiative Plan to National Immunization Plan while maintaining the country's high immunization rate by supplying three types of EPI vaccines and supplementing cold chain equipment that are in short supply. More specifically, the following benefits are expected:

Direct Effects:

- 1) By immunizing 520,000 newborns estimated to be born in Uzbekistan in 2001, the country's low infection rates can be maintained.
- 2) By ensuring the execution of the first course of immunization for the entire target population, the Project will contribute to the eradication of measles and polio and the containment of the diphtheria, tetanus, and pertussis.
- 3) By providing cold chain equipment, the vaccine supply system will be strengthened, and the deterioration of vaccines can be prevented.

Indirect Effects:

- 1) The Project will help Uzbekistan to achieve its health/medical objectives to reduce the mortality rates of children under five and to raise the average life expectancy.
- 2) Lowered infant mortality rate will lead to the reduction in the loss of young population, who will play a major role in the country's future development, which will form a foundation of the socioeconomic development of the entire country of Uzbekistan.
- 3) Smooth transition to the National Immunization Plan will be realized.

4-2 Recommendation

1) Securing of Funds in the Ordinary Budget

For the implementation of the Vaccine Independence Initiative Plan between 1995 and 2000, the government of Uzbekistan has appropriated necessary funds according to the provisions of the Plan. However, as the expenditure was included in the extraordinary budget rather than the ordinary budget, the government has yet to secure funds for the procurement of vaccines for 2001 and thereafter. It is clear that immunization activities must continue every year on a financially independent basis eventually, for which the costs for vaccine procurement needs to be included in the ordinary budget from the early stages.

2) Smooth Transition to National Immunization Plan

The Project is designed in line with the objective set forth at the inception of the Vaccine Independence Initiative Plan that aims at Uzbekistan's independence and self-development in immunization activities for the year 2001. Therefore, self-procurement of vaccines from 2002 on, as well as the renewal of superannuated refrigerators, which are estimated to amount to 4,000 to 5,000 units nationwide, need to be realized as early as possible.

Since the provision of vaccines through the Project is limited to the year 2001, the Uzbekistan side needs to implement measures to procure vaccines independently thereafter. To this effect, early transition to the National Immunization Plan is strongly urged.

APPENDIX 1

MEMBER LIST OF THE SURVEY TEAM

Member List of the Survey Team

<u>Name</u>	<u>Title</u>	<u>Organization</u>
Hiroshi NINO	Leader	Japan International Cooperation Agency Uzbekistan office
Suguru YOZA	Equipment Planner 1	Japan International Cooperation System
Chiyuki SHITARA	Equipment Planner 2	Japan International Cooperation System
Toshio HORIUCHI	Interpreter	Japan International Cooperation Center

APPENDIX 2

SURVEY SCHEDULE

Survey Schedule

No	Date		Activity	Stay
1	25-Apr	Tue	Seoul (HY512/09 : 20) Tashkent (12 : 50) Courtesy call on Embassy of Japan and visit JICA office	Tashkent
2	26-Apr	Wed	Courtesy call on SES, Meeting with SES Visit Central Vaccine Storage	Tashkent
3	27-Apr	Thu	Meeting with UNICEF Courtesy call on Ministry of Health, Meeting with SES	Tashkent
4	28-Apr	Fri	Site survey in Djizak Site survey in Samarkand	Samarkand
5	29-Apr	Sat	Site survey in Navoi	Bukhara
6	30-Apr	Sun	Site survey in Bukhara	Tashkent
7	1-May	Mon	Internal Meeting	Tashkent
8	2-May	Tue	Site survey in Nukusu Visit the former Grant Project Site	Tashkent
9	3-May	Wed	Meeting with USAID Meeting with UNICEF Meeting with World Bank	Tashkent
10	4-May	Thu	Meeting with MOH Discussion on Specifications with SES	Tashkent
11	5-May	Fri	Discussion on Specifications with SES	Tashkent
12	6-May	Sat	Meeting with MOH	Tashkent
13	7-May	Sun	Internal Meeting	Tashkent
14	8-May	Mon	Meeting with MOH Visit Tashkent Research Institute for Vaccines and Sera Visit a local manufacturer Meeting with MOH	Tashkent
15	9-May	Tue	Internal Meeting	Tashkent
16	10-May	Wed	Signing of Minutes of Meeting Report to the Ministry of Foreign Economic Relations and Embassy of Japan	Tashkent
17	11-May	Thu	Visit to agents, Report to UNICEF	Tashkent
18	12-May	Fri	Report to JICA office, Internal Meeting Tashkent (OZ574/22 : 50)	on board

APPENDIX 3

LIST OF PARTIES CONCERNED IN THE RECIPIENT COUNTRY

List of Parties Concerned in the Recipient Country

Name	Title	Section
Embassy of Japan		
Kazutaka Yoshio	Second Secretary	
JICA Uzbekistan Office		
Hideki Tanabe		
Ministry of Health		
A. Sidikov	Head	Coordination External Economic Activity
Dadajanov Alijon	Deputy Chief	Coordination External Economic Activity
Ministry of Health		
Bakhtiyor I. Niyazmatov	Deputy Minister/State Chief Officer	
Nurmat S. Atabekov	Chief	The Republic Sanitary-Epidemic Inspection
San'at B. Shoumarov	Chief Doctor	The Republic Sanitary-Epidemic Inspection
Sabirov Ibadulla	Deputy Chief Doctor	Republican SES
Ashirova Inessa	Chief	Republican Center of Sanitary-Epidemiology
Ministry of Foreign Economic Relation		
Salombek P. Khabibullaev	Head	Asian pacific Ocean States Dept
Hasan S. Islamkhodjaev	Head	Directorate General for Analysis and Prospects of Foreign Economic Relations Development
The World Bank		
Elmira Muratova	Operations Officer	Social Sector
UNICEF		
Rudy Rodrigues	Assistant Representative	
Shukhrat Rakhimdjanov	Assistant Programme Officer	
USAID		
Cheri Vincent	Health Advisor	
Alisher Ishanov	MD, PhD, Health Assistant	
World Health Organization		
Shukhrat A. Ziyaviddinov	Administrative Assistant	WHO Liaison Office in Uzbekistan

APPENDIX 4

MINUTES OF DISCUSSION

**MINUTES OF DISCUSSIONS
THE STUDY ON THE PROJECT
FOR
PROVISION OF VACCINES FOR CHILDREN
TO
THE REPUBLIC OF UZBEKISTAN**

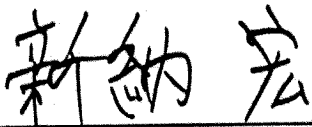
In response to a request from the Government of the Republic of Uzbekistan (hereinafter referred to as "Uzbekistan"), the Government of Japan decided to conduct a Study on Project for Provision of Vaccines for Children to the Republic of Uzbekistan (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent the Study Team (hereinafter referred to as "the Team"), headed by Mr. Hiroshi NINO, Resident Representative of JICA Uzbekistan Office, to Uzbekistan from April 25, 2000 to May 12, 2000.


The Team held discussions with the officials concerned of the Government of Uzbekistan and conducted a field survey at the study area.


As the result of discussions and the field survey between both sides, the team has confirmed to convey the requested main items as per attached to be considered by the Government of Japan.

Tashkent, May 10, 2000



Mr. Hiroshi NINO
Leader
Study Team
Japan International Cooperation Agency
Japan


Prof. Feruz NAZIROV
Doctor of Medical Sciences
Minister of Health
Uzbekistan



ATTACHMENT

1. Objective of the Project

The Project aims to reduce mortality rate of children under 5 years and maternity mortality rate, to raise the level of immunization care technology in pediatrics, obstetrics and gynecology, and clinical tests, and to rebuild the Uzbekistan's system and reinforcement of the system of sanitary.

2. Project site

The sites of the Project are the following areas;

Tashkent City, Andijan, Bukhara, Djizak, Kashkadarya, Navoi, Namangan, Samarkand, Surhandarya, Sirdarya, Tashkent Region, Fergana, Khorezm, Karakalpakstan.

3. Responsible and Implementing Agency

The Responsible Agency: Ministry of Health

The Implementing Agency: Ministry of Health

4. Items requested by the Government of Uzbekistan

4-1. After discussions with the Team, Government of Uzbekistan made a final request to the Government of Japan consider providing the items described in Annex-1 as part of the Project.

However, items to be included in the Project will be decided after further study in Japan.

4-2. Uzbekistan Side assigned in Annex-1 their own Priorities on the goods.

A=1st Priority / Essential

B=2nd Priority / Necessary to study

C=3rd Priority / If possible

5. Japan's Grant Aid Scheme

5-1. Uzbekistan Side understands the Japan's Grant Aid Scheme explained by the Team, as described in Annex-2.

5-2. Uzbekistan Side will take the necessary measures, as described in Annex-3, for smooth implementation of the Project, as a condition for the Japanese Grant Aid to be implemented.

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6. Schedule of the Study

JICA will prepare the study report on the Project in English around September 2000.

7. Other relevant issues

7-1. Preparation for Execution of the Project

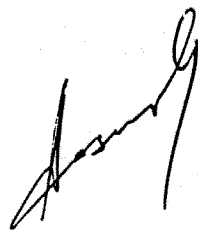
The Government of Uzbekistan will allocate the necessary budget and personnel for execution of the Project.

7-2. The Study for 2001 year

The Study team shall execute further study for the Request of procurement of goods for 2001 year.

7-3. Others

The Team requested Uzbekistan to explore possibilities of self-reliance in financing of vaccines.



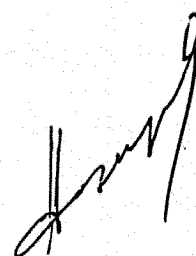
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(1) Requested Vaccines

No.	Type of vaccine	Population	Q'ty (vials)	Doses/person	Priority
1	DPT (10 doses/vial)	563,373	292,960	4	A
2	Measles (10 doses/vial)	563,373	146,484	2	A
3	Oral Polio (10 doses/vial)	563,373	366,200	5	A
4	Mumps (10 doses/vial)	563,373	73,248	1	B
5	Hepatitis B (10 doses/vial)	563,373	219,723	3	C

(2) Requested cold chain equipment

No.	Name of Equipment	Regional SES	District SES	Children's Polyclinic	Rural Doctor's Point	Assistant Dr. & Midwife's Point	Total Q'ty	Priority
1	Icelined Refrigerator	14	46	72	436		568	A
2	Vaccine carrier					4,327	4,327	B
3	Large Vaccine Cold Box		223				223	B



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Japan's Grant Aid Program

1. Japan's Grant Aid Procedures

(1) The Japan's Grant Aid Program is executed by the following procedures.

Application (request made by a recipient country)

Study (Study conducted by JICA)

Appraisal & Approval (appraisal by the Government of Japan and approval by the Cabinet of Japan)

Determination of Implementation (Exchange of Notes between both Governments)

Implementation (implementation of the Project)

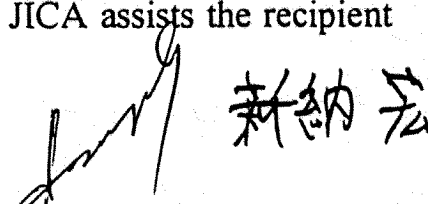
(2) Firstly, an application or a request for a Grant Aid project submitted by the recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for Japan's Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA to conduct a study on the request.

Secondly, JICA conducts the study, using (a) Japanese consulting firm(s).

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Program, based on the Study Report prepared by JICA and the results are then submitted to the cabinet for approval.

Fourth, the project approved by the cabinet becomes official with the Exchange of Notes signed by the Government of Japan and the recipient country.

Finally, for the implementation of the Project, JICA assists the recipient country in preparing contracts and so on.



2. Contents of the Study

(1) Contents of the Study

The purpose of the Study conducted by JICA on a requested project is to provide a basic document necessary for appraisal of the project by the Japanese Government. The contents of the Study are as follows:

- a) confirmation of the background, objectives, benefits of the project and also institutional capacity of agencies concerned of the recipient country necessary for project implementation,
- b) evaluation of the appropriateness of the project for the Grant Aid Scheme from a technical, social and economical point of view,
- c) confirmation of items agreed on by the both parties concerning a basic concept of the project,
- d) preparation of a basic design of the project,
- e) estimation of cost of the project.

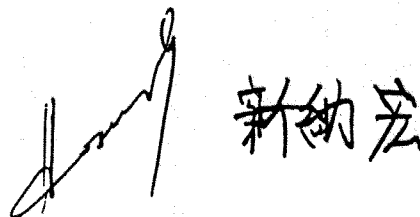
The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the project is confirmed considering the guidelines of Japan's Grant Aid Scheme.

Final project components are subject to approval by the Government of Japan and therefore may differ from an original request. Implementing the project, the Government of Japan requests the recipient country to take necessary measures involved which are itemized on Exchange of Notes.

(2) Selection of Consultants

For smooth implementation of the study, JICA uses (a) registered consulting firm(s). JICA selects (a) firm(s) based on the proposals submitted by the interested firms. The firm(s) selected carry(ies) out a The Study and write(s) a report, based upon terms of reference set by JICA.

The consulting firm(s) used for the study is (are) recommended by JICA to a recipient country after Exchange of Notes, in order to maintain technical consistency and also to avoid any undue delay in implementation should the selection process be repeated.



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3. Japan's Grant Aid Scheme

(1) What is Grant Aid?

The Grant Aid Program provides a recipient country with non reimbursable funds to procure the equipment and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with relevant laws and regulations of Japan. The Grant Aid is not supplied through the donation of materials or such.

(2) Exchange of Notes (E/N)

Both Governments concerned extend Japan's Grant Aid in accordance with the Exchange of Notes in which the objectives of the Project, period of execution, conditions and amount of the Grant Aid etc., are confirmed.

(3) "The period of the Grant Aid" means one Japanese fiscal year which the Cabinet approves the Project for. Within the fiscal year, all procedure such as Exchange of Notes, concluding a contract with (a) consulting firm(s) and (a) contractor(s) and a final payment to them must be completed.


(4) Under the Grant, in principle, products and services of origins of Japan or the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant may be used for the purchase of products or services of a third country.

However the prime contractors, namely, consulting, contractor and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

(5) Necessity of the "Verification"

The Government of the recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. The Government of Japan shall verify those contracts. The "Verification" is deemed necessary to secure accountability to Japanese tax payers.



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(6) Undertakings Required to the Government of the Recipient Country

In the implementation of the Grant Aid project, the recipient country is required to undertake such necessary measures as the following:

a) to secure land necessary for the sites of the project prior to the installation work in case the project is providing equipment,

b) to provide facilities for distribution of electricity, water supply and drainage and other incidental facilities in and around the sites,

c) to secure buildings prior to the installation work in case the project is providing equipment,

d) to ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid,

e) to exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the Verified Contracts,

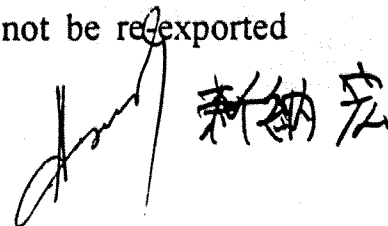
f) to accord Japanese nationals whose services may be required in connection with the supply of the products and services under the Verified Contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.

(7) Proper Use

The recipient country is required to maintain and use the equipment purchased under the Grant Aid properly and effectively and to assign staff necessary for the operation and maintenance as well as to bear all expenses other than those covered by the Grant Aid.

(8) Re-export

The products purchased under the Grant Aid shall not be re-exported from the recipient country.

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(9) Banking Arrangement (B/A)

a) The Government of the recipient country or its designated authority shall open an account in the name of the Government of the recipient country in a bank in Japan. The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by Government of the recipient country or its designated authority under the Verified Contracts.

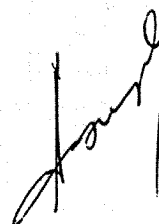
b) The payments will be made when payment requests are presented by the bank to the Government of Japan under an Authorization to Pay issued by the Government of the recipient country or its designated authority.



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Major Undertakings to be taken by Each Government

NO	Items	To be covered by the Grant Aid	To be covered by the Recipient side
1	To bear the following commissions to a bank of Japan for the banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●
2	To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country		
	1) Marine(Air) transportation of the products from Japan to the recipient country	●	
	2) Tax exemption and custom clearance of the products at the port of disembarkation		●
	3) Internal transportation from the port of disembarkation to the project site		●
3	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		●
4	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contract		●
5	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid		●
6	To bear all the expenses, other than those to be borne by the Grant Aid, necessary for the transportation and installation of the equipment		●



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APPENDIX 5

REFERENCE

Reference

- *Answers to questionnaires, by* Ministry of Health of the Republic of Uzbekistan, May 2000

- *Public Health Services and Population Health in the Republic of Uzbekistan, 1997*, Statistics Department of Ministry of Health of the Republic of Uzbekistan, 1998

- *National Immunization Program for 2000 - 2005*, Ministry of Health of the Republic of Health, 1999

- *Healthy Generation, State Program*, Cabinet of Ministers of the Republic of Uzbekistan, February 15, 2000

- *Kazakhstan, Turkmenistan and Uzbekistan, EPI Vaccine Independence Project, Fourth Progress Report*, UNICEF Area Office for the Central Asian Republics and Kazakhstan, February, 2000

- *Global Alliance for Vaccines and Immunization (GAVI), Guidelines on Country Proposals for Support to Immunization Services and New and Under used Vaccines*