

1. Project Profile and Japan's ODA Loan



Site Map: Nationwide Project



Site Photo: Domingo Mandamiento Health Post

1.1 Background

Due to the economic disorder and subsequent reform in Peru in the 1980's and the beginning of the 1990's, the health sector had serious problems delivering services, especially to lower income groups. Public investment in the health sector was the lowest among South American countries; only 8 to 10 U.S. dollars per capita was invested in 1991, an amount equivalent to 1.3 % of Peru's GDP, and 5-6 % of the government budget.

The problems stemmed from both institutional and financial issues: (i) institutional weaknesses at both the central and regional levels, which led to poor coordination among the various health care establishments and (ii) a lack of sufficient equipment, inputs and basic medical products, due to both the financial problems of the country and to cuts in health care spending. The Peruvian government therefore aimed to develop a national health care service system that would effectively deliver services at the regional level, giving priority to: 1) defining the institutional operating framework, especially at regional level, where responsibility for providing services lies; 2) coordinating the delivery of services at all levels; 3) restoring the capacity of health care establishments to provide services; and 4) re-establishing a national health information flows in order to facilitate sectorwide planning and thus channel resources to the groups need them most.

In this context, the Government, with assistance from the Inter-American Development Bank (IDB), formulated the "Program to Strengthen Health Services" to promote the above policies. This program (hereafter referred to as "the Project") comprises three components: (1) Institutional and pre-investment studies, (2) Institutional strengthening of the Ministry of Health (hereafter MINSA, the Spanish abbreviation) and of the decentralized bodies, and (3) Support for the network of health care establishments. Japan's ODA loan funded the procurement of equipment for component (3) (hereafter "the ODA portion" refers to a part of the equipment supply component).

1.2 Objectives

(1) To conduct the studies and concrete activities necessary to lay the groundwork for the implementation of sector reform programs, taking into account the role of social security and the impact of other entities providing public and private health services, (2) to strengthen MINSA as a policy-setting and regulatory entity and build up the capability of decentralized bodies to serve as coordinating and

regulatory bodies, and (3) to create the minimum conditions for fulfilling the most urgent public health care requirements in the poorest areas, by strengthening the management capacity of the establishments and providing the basic medical equipment necessary to restore their capacity to deliver priority health care services.

The objective of the component financed by Japan's ODA loan is to improve access to medical services for low-income groups through the provision of medical equipment and medical supplies.

### 1.3 Project Scope

The Project includes three components intended to interact with and complement one another:

- 1) Institutional and pre-investment studies,
- 2) Institutional strengthening of the Ministry of Health and of decentralized bodies, and
- 3) Support for the network of health care.

Of the above components, a part of (3) was financed by the ODA loan from Japan (hereafter "the Loan" refers to the Japan's ODA loan). Medical equipment and supplies were to be provided to hospitals, health centers and health posts in 15 of 23 health care networks<sup>1</sup> identified in a pre-investment study as low income areas where public health service was in remarkably bad condition.

The medical equipment listed below is example of those to be procured for the respective facilities:

#### 1) Health centers and posts without beds

Equipment for attaining operating capacity that could meet the demand for activities under the facility's responsibility: stethoscopes, sphygmomanometers, anthropometric scales and other medical instruments.

#### 2) More sophisticated health centers

Necessary equipment to improve operating capacity and enable facilities to operate effectively as referral centers: equipment for first-aid, outpatient and basic laboratory services.

#### 3) General hospitals

Basic equipment, such as operating tables, and auxiliary equipment.

### 1.4 Borrower / Executing Agency

Republic of Peru / Ministry of Health (MINSA)

### 1.5 Outline of Loan Agreement

Loan Amount	2,240 million yen
Loan Disbursed Amount	2,221 million yen
Exchange of Notes	March 1994
Loan Agreement	April 1994
Terms and Conditions	
Interest Rate	3.0 % p.a.
Repayment Period (Grace Period)	30 years (10 years)
Procurement	General Untied
Final Disbursement Date	July 1999

<sup>1</sup> Peru intends to improve the population's access to health care services by expanding the health care network, called "el red" in Spanish, composed of hospitals, health centers and health posts. The objective of this network is to coordinate at each level, medical facilities for better medical care for the patient.

## 2. Results and Evaluation<sup>2</sup>

### 2.1 Relevance

The project objective was relevant to the situation at the time of appraisal, due to the serious shortage of equipment in all health care establishments. During the 1980s, Peru suffered severe financial difficulty, including hyper-inflation. At the end of the 1980s, the health sector allocation in the national budget had fallen to 50 % of the amount allocated in 1985. In the beginning of the 1990s, the government initiated economic reforms that entailed a further reduction in public expenditures, especially for social programs. Because of insufficient public spending on health, MINSA's health care establishments<sup>3</sup> throughout the country were understaffed and under-equipped.

In the context of current health sector policy, the project objective remains relevant. Basic social infrastructure is still not sufficient, although it improved in the 1990s, mainly as a result of international development assistance, including this project. The availability and quality of Medical equipment in public organizations is better than before, but continues to be insufficient. According to "World Health Report 2000," published by the WHO, public expenditures on the health sector in Peru are still low. At US\$112 per capita in 1998, government spending is still about half of the Latin American average, and only 2.5% of Peru's GDP. The Government's Multi-year Health Strategic Plan 2002-2006 (Plan Estratégico Multianual de Salud 2002-2006) emphasizes guaranteed access to health services for low-income groups as one of its general objectives. The Plan also puts a priority on the supply and maintenance of equipment at health care establishments.

### 2.2 Efficiency

#### 2.2.1 Project Scope

The number of health care networks provided with medical equipment by the Loan increased to 17 from 15, the originally planned number. This is because the total number of health care networks in the country increased from 23 to 41 during project implementation. The definition of districts within the health care network changed, and some health care networks were divided to create a number of new networks in the last 10 years. The number of health care establishments covered by the Loan also increased, jumping from 1,191 to 1,684, a 41% increase. The total number of health care establishments covered by the Project as a whole expanded 84%, from 1,909 to 3,516.

The specific area covered by the Loan was also modified so as to avoid duplication with other aid projects implemented during the same period. After the initiation of this project, MINSA revised the target area to accommodate parallel projects such as "Project 2000 (Proyect 2000)," with the U.S. Agency for International Development (USAID), and "Basic Health and Nutrition Project (Proyect de Salud y Nutricion Basica)" with the World Bank.

#### 2.2.2 Implementation Schedule and Institutional Arrangement

A Project Coordination Unit (PCU) was established in MINSA to manage overall project implementation. The unit worked well and fulfilled its objectives within the time framework set for the Project. In order to complement the PCU's lack of experience in procurement, MINSA drew on the expertise of several international organizations. The United Nations Office for Project Service (UNOPS) under the United Nation Development Program (UNDP) conducted the bidding and procurement of equipment, and the Pan-American Health Organization (Organización Pan-americana de Salud: OPS), under the World Health Organization (WHO), provided technical assistance for project implementation.

Within the Project, "needs assessment" studies were carried out with the technical assistance of OPS. In the studies, five consultants assessed health care establishments throughout the country with respect to

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<sup>2</sup> Due to data availability, 2.2 *Efficiency* and 2.5 *Sustainability* refers to just Japan's ODA loan portion.

<sup>3</sup> MINSA's health care establishments include hospitals, health care centers, and health posts under MINSA's jurisdiction. Private, military hospitals fall outside the ministry's jurisdiction.

their needs for medical equipment and their human resource capacity, and made a list of medical equipment to be purchased under the Project. Together, the consultant and each Regional Health Office (Dirección de Salud: DISA) prioritized the list of equipment to be purchased for each region. In 1996, the consultants started procuring the equipment on the lists<sup>4</sup>. According to the executing agency, this careful process of “needs assessment” resulted in greater transparency and efficiency in the implementation process.

Originally, three tenders were planned for the portion financed by the Loan, as the needs assessment process was to be carried out in three stages. For the actual implementation, however, needs assessment for the whole country was conducted at the same time. As a result, ODA loan executed two tender phases.

The ODA-financed portion was completed 6 months behind schedule. There was delay when some suppliers could not deliver equipment on time. The procedures followed by UNOPS were also time-consuming. However, MINSA affirmed that UNOPS contributed to transparency in the bidding process, and that involvement of international agencies improved project effectiveness.

### 2.2.3 Project Cost

The scope of the Support for Network of Health Care Establishments component, including the portion financed by the Loan, was expanded. However, there was no cost increase in the ODA loan portion because of the fluctuation of the yen-other currency exchange rate during the project implementation period. In addition, some contract fees were reduced when suppliers were required to pay penalties for delivery delays. The ODA loan portion was, therefore, finally smaller than the planned amount.

## 2.3 Effectiveness

### 2.3.1 Health Care Service Coverage by the Project

The Project financed the purchase of equipment for 3,516 health care establishments, which accounts for 84% of hospitals, 64% of health centers and 54% of health posts, based on 1999 figures. The ODA loan portion covered 1,684 health care establishments, or approximately 50% of the establishments supported by the Project (refer to **Table 1**).

Health centers and health posts received more equipment than hospitals (about 80% of the total amount). This was because the project objective was to “satisfy the most urgent public health care requirements in the poorest areas,” and many health posts are located in rural areas, where the incidence of poverty generally is higher.

**Table 1: The number of health care establishments to which equipment was supplied under the Project**

Establishments	Total of the Project	Japan’s ODA Loan Portion
Hospitals	117	62
Health Centers	713	365
Health Posts	2,686	1,257
Total	3,516	1,684

Source: MINSA

According to MINSA, during project implementation, the number of health centers and health posts under its jurisdiction increased (refer to **Table 2**).

<sup>4</sup> Detailed information is based on an interview with the consultant in charge of the project during implementation.

**Table 2 : The number of health care establishments under MINSA**

Year	1990	1992 <sup>1)</sup>	1996	2001 (October)
Hospitals	-	455	136	132
Health Centers	-	1,083	1,028	1,169
Health Posts	-	3,079	4,762	5,316
Total	3,731	4,617	5,926	6,617

Source: MINSA: *II Censo de Infraestructura Sanitaria y Recursos del Sector Salud (II Census of Sanitary Infrastructure and Resources of the Health Sector)*. Lima, 1996.

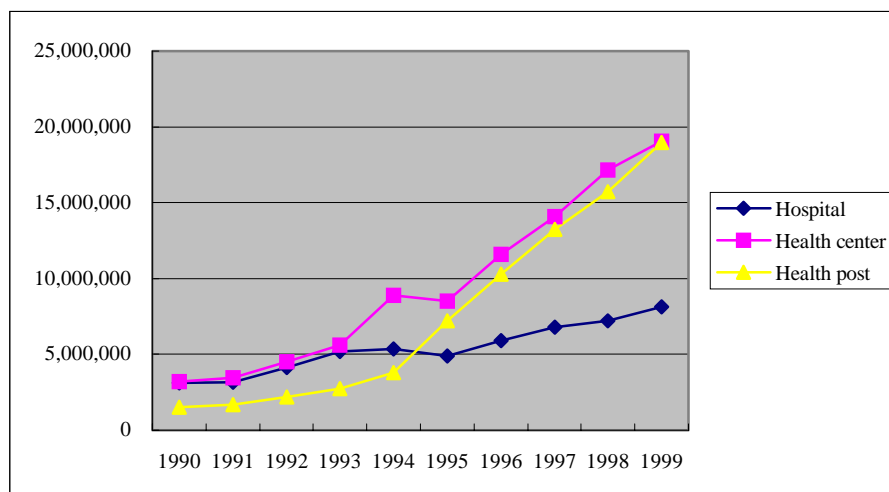
MINSA: *MINSA Infraestructura Sanitaria de Salud (Sanitary Infrastructure for Health)*, 1999. Lima OGEI, e.t.c.

Note: 1) includes the number of all types of jurisdiction including the MINSA, private, military and others.

### 2.3.2 Increase in the Number of Medical Consultations

The number of visits to health care establishments has increased at all network levels (refer to **Figure 1**). In particular, the increase in the number of cases seen at Health Centers and Health Posts has been a prominent trend since 1994, the year the Project began. When comparing the rate of increase in the number of Health Centers and Health Posts with that in the number of medical visits at these health establishments in the latter half of 1990s, the former is around 13% and the latter 58%. Thus, it may be fair to assume that, together with other projects implemented in the parallel, the Project has contributed to improvement in efficiency of health establishment under the MINSA's jurisdiction in serving more people.

**Figure 1 : The number of medical visits at MINSA's health care establishments**



Source: MINSA, Oficina de estadísticas (Office of Statistics)

This assumption is also supported by the result of the National Standard of Living Survey (ENNIV<sup>5</sup>). According to ENNIV, the percentage of people who have ever received professional medical consultation has increased (refer to **Table 3**). In 1994, one year after the start of the Project, 41.7% of those with illness or physical trouble received professional consultation. In 1997, this figure rose to 54.7%, and in 2000, it improved further to 55.9%. In particular, the utilization of MINSA's health care establishments has improved significantly when compared to the project implementation period; the percentage of total consultations conducted at MINSA's health care establishments rose from 39% in 1994 to 52.8% in 2000.

<sup>5</sup> The National Standard of Living Survey (ENNIV) is a representative sample at the national level of 3,843 households, divided into the following areas of study: Metropolitana Lima, Callao, Urban Coastal, Rural Coastal, Rural Sierra, Urban Sierra, Urban Jungle and Rural Jungle. ENNIV is conducted by a private institute in each three years.

**Table 3: Utilization of health services**

	1994	1997	2000
(1) Total % of those who received medical consultation	41.7%	54.7%	55.9%
(2) % of those who received medical consultation at MINSA's health care establishments	16.3%	25.0%	29.5%
% of consultation at MINSA's establishment in the total medical consultation (2)/(1)	39%	45.7%	52.8%

Source: ENNIV

### 2.3.3 Improvement in Quality of Health Care Service

In addition to the quantitative improvement, some interviewees also acknowledged the important effects that the Project brought to the nation. According to the project consultant<sup>6</sup>, the Project contributed significantly to improving the quality, as well as the quantity, of health care services. Because of the lack of adequate equipment at the beginning of the 1990s, necessary health care services could not be provided. Through the Project, new equipment such as X-ray machines, ambulances and lab equipment was purchased, and obsolete equipment -- operation tables, medical instruments and vehicles -- were replaced. Therefore, in some cases, the Project provided health care services that had never existed in rural parts of the country.

According to the Evaluation Report by MINSA<sup>7</sup>, in 1994, health centers referred 40 to 50 % of their patients to other facilities, due to a lack of capacity, but the referral percentage decreased during the project implementation period and is now only 12%. This decline demonstrates that health centers have become more capable of handling patients with the equipment provided. The evaluation report by MINSA concludes that the equipment provision component of the Project contributed significantly to the sector in terms of health care coverage and quality of care.

## 2.4 Impact

### 2.4.1. Improvement in Health Indicators

Since there were several parallel projects funded by other donor agencies, it is difficult to identify what direct impact this project had on the health sector of Peru as a whole.

However, it is important to highlight the likely relationship among equipment provision, improvement of access to services, better quality services, and the improvement of health indicators. As shown in **Table 4**, between 1990 and 2000, several health indicators improved significantly<sup>8</sup>. Crude birth rate, crude death rate, infant mortality rate and total fertility rate indicate the improving health status of the Peruvian population in the last decade. Considering that the Project was the largest funding program for Peru's health sector in the 1990s<sup>9</sup>, it may be safe to assume that the Project had contributed to the improvement of health indicators.

In conclusion, it can be said that although the positive impact of this project on Peru as a whole is not quantifiable, the project contributed to the establishing a basis for the recuperation and reform of the health sector. In particular, the equipment component of this project has contributed tangibly to increased efficiency, equity and effectiveness in the health sector.

<sup>6</sup> Dr. Juan Ortez Fernandez, a former consultant in the equipment supply component of the Project. He was one of the five consultants who managed purchase, delivery, inspection and registration of medical equipment purchased under the Project. He was in charge of 6 of 23 health networks

<sup>7</sup> "Evaluacion de Logros y Resultados del Programa de Fortalecimiento de Servicios de Salud" (Evaluation of Achievement and Outcomes of Health Service Strengthening Program)

<sup>8</sup> Due to a lack of accurate annual health statistical data, only data from 1990 and 2000 are compared.

<sup>9</sup> This was statement made by Dr. Augusto Meloni Navarro, Coordinator General of the Project. The Project provided funding of 98 million dollars. "Basic Health and Nutrition Project (Proyecto de Salud y Nutricion Basica)" and "Health Reform Program (PAR SALUD)" provided 44 million dollars and 60 million dollars respectively.

**Table 4: Comparison of selected demographic indicators, 1990 and 2000**

Indicator	1990	2000
Annual population growth (%)	1.9	1.7
Crude birth rate (per 1,000 pop.)	29.0	23.7
Total fertility rate (children per woman)	3.7	2.9
Life expectancy at birth (years)	65.6	69.1
Crude death rate (per 1,000 pop.)	7.2	6.3
Infant mortality (per 1,000 pop.)	61.6	39.0
Maternal mortality (per 100,000 pop.)	N/A	265 *

\* Corresponds to 1996.

**Sources:** INEI. Peru: *Estimates and Projections of the Population by Calendar Year and Basic Age, 1970-2025*. Lima: INEI (National Institute of Statistics and Information) 1995.  
INEI. Peru: *Status of the Peruvian Population 2000*. Lima: INEI, 2000.

#### 2.4.2 Environmental Impact

Since the equipment provision component of the Project did not build any infrastructure, potential impact to the environment was considered to be minimal. The Project also incorporated recommendations by the Social and Environmental Impact Committee and tried to avoid any negative impact. Abandoned or obsolete medical equipment could have caused negative environmental impact as there is no policy for the disposal of obsolete equipment established yet. According to MINSA, however, in many cases, obsolete equipments has stayed on site. No survey of this equipment was conducted.

#### 2.5 Sustainability

Although the provision of medical equipment has had a positive effect on Peru's health sector, the sustainability of this impact may be compromised by the lack of funds for maintenance of the equipment purchased.

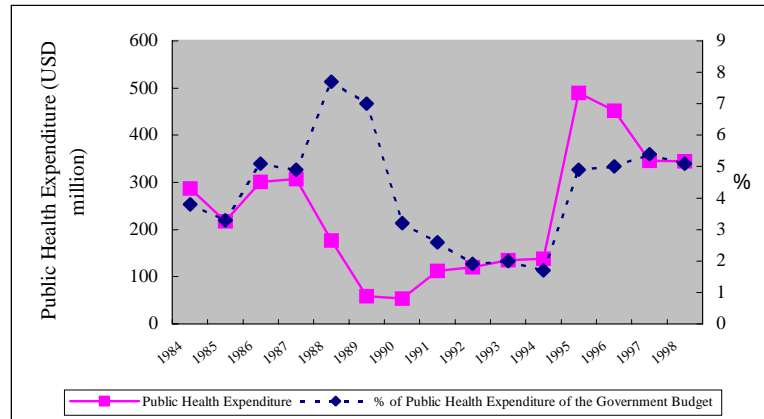
##### 2.5.1 Maintenance of the Project Facilities

MINSa reports serious problems with equipment that has not been appropriately maintained or is otherwise deteriorating. During the site survey conducted at a health center in Huacho by the mission for this evaluation, for example, it was seen that some equipment had broken or was not being used due to a lack of spare parts. The Pan American Health Organization (PAHO) also emphasizes poor medical equipment maintenance at MINSa's health care establishments in their report "Health Services System Profile of Peru (2<sup>nd</sup> ed. 2001) " This information suggests the need to strengthen MINSa's maintenance function.

##### 2.5.2 Financial Constraints

MINSa explained that the deficiency in maintenance is the result of general economic problems and the low priority given to public health activities. Although public expenditures on the health sector have increased recently, as a percentage of the total they are still limited (see **Figure 2**). Also, at interviews with staff at the health center during the abovementioned site survey, they confirmed that deficiency in the maintenance was due to lack of money for maintenance.

**Figure2: Public health expenditure (1994-1998)**



Source: *Public Expenditure in Basic Social Services in Latin America and the Caribbean (Gasto Público en Servicios Sociales Básicos en América Latina y el Caribe)*, UNDP/CEPAL/UNICEF 1999

These facts imply that the perennial scarcity of funds for repair and maintenance of equipment is causing considerable difficulty. There seems to be a huge gap between the actual budget allocation and the budget required for maintenance. For example, a study<sup>10</sup> conducted by MINSA under the Project shows that daily maintenance expenditures per bed are US\$1.14 while the theoretical cost is US\$ 4.73-11.59, estimated on the basis of necessity.

The government generally allocated funding for operation and maintenance through the Regional Health Offices (Dirección de Salud:DISA) to health care establishments (except for some hospitals directly under MINSA). In an interview with the DISA North (Norte) Lima Department, officials pointed out that funding consistently fails to cover need because DISA's budget requests can exceed the previous year's expenditure by only 5% and do not reflect the amount actually needed. Although there is no specific data to examine the financial situation of all MINSA's establishments, this situation was apparent generally. In this respect, it is necessary to reconsider the financial framework for health care establishments to obtain more funding sources for maintenance.

### 2.5.3 Organizational and Technical Aspect of Operation and Maintenance

The Project provided training for the staff at health care establishments on operating and managing the equipment. Within MINSA, the Institute of Human Resources was created to enhance the capacity of the health sector and to complement the Project. In general, it appears that there is no serious problem with technical capability.

However, the organizational capacity of those establishments to manage and sustain the equipment has been not necessarily sufficient. Those organizations receiving equipment: hospitals, health centers, health posts and DISAs, are responsible for equipment management. There are some initiatives taken by MINSA to increase the management capacity for equipment maintenance, including efforts to improve information systems and control budgets such as "the National Maintenance Program (Programa Nacional de Mantenimiento)" and "Technical Maintenance of Hospitals Project and General Service Rehabilitation of the Hospitals" in the Macro Region North, South, Center, and East of Peru. However, the budget for these programs is so limited that they have supported only a limited number of health care establishments. They have not been effective solutions to the country's problems. In order to improve maintenance function, reinforcement of institutional capacity and financial matters must be tackled at the same time.

## 3. Recommendations

In order to assure the long-term effectiveness of the Project, it should be necessary to allocate sufficient budget to hospitals, health centers, health posts and DIAs so to maintain appropriately equipments

<sup>10</sup> "Diagnosis of Maintenance System (Diagnóstico del Sistema de Mantenimiento)" Ministry of Health, Program to Strengthen Health Services, 1998.



procured under the Project and to deliver health services to the population.

Policy for disposal of obsolete health care equipment should be established in Peru.

### Comparison of Original and Actual Scope

Item	Plan		Actual			
(1) Project Scope <sup>1)</sup> Improvement of Health Service  - Medical Equipment - Medical Supply	<b>Total</b>	<b>ODA</b>	<b>Total</b>	<b>ODA</b>		
	No. of Health Care Networks	<b>23</b>	<b>15</b>	No. of Health Care Networks	<b>41</b>	<b>17</b>
	Hospitals	<b>1,909</b>	<b>1,191</b>	Hospitals	<b>3,516</b>	<b>1,684</b>
	Health Centers	53	31	Health Centers	117	62
	Health Posts	335	200	Health Posts	713	365
		1,521	960	(Others) <sup>3)</sup>	2,686	1,257
					(38)	(8)
			No. of equipments supplied	89,061	41,399	
(2) Implementation Schedule						
Phase 1 (Needs assessment study, Tender, Delivery)	April 1994 to April 1996		April 1994 to Oct. 1997			
Phase 2 (Needs assessment study, Tender, Delivery)	Jan. 1995 to March 1997		Jan. 1996 to July 1998			
Phase 3 (Needs assessment study, Tender, Delivery)	Aug. 1995 to Sept. 1997		Canceled			
(3) Project Cost						
IDB Loan Portion	7,616million yen (68million US\$)		7,847million yen (68million US\$)			
ODA Loan Portion	2,240million yen		2,221million yen			
The Government of Peru	1,120million yen (10million US\$)		1,154million yen (10million US\$)			
Total	10,976million yen		11,222 million yen			
Exchange Rate	US\$1 = 112 yen (1993)		US\$1 = 115.4 yen (weighted average rate during project implementation)			

Note:

<sup>1)</sup> Only project component with Japan's ODA loan portion

<sup>3)</sup> Supply of the equipment to other organizations such as DISA etc.

## **Independent Evaluator's Opinion on Health Service Strengthening Project**

**Alvaro F. Gaillour, Country Representative, IPAS\***

### **Relevance**

There is no doubt about the relevance of the Japan's ODA Loan equipment component implementation especially due to the country health situation at the end of the 1980s. Prior experience in the logistics of medical equipment field was incipient and the professional experience acquired in the process, particularly with the technical and administrative logistics of equipment procedures, was remarkable.

### **Efficiency**

**Implementing three main projects (Health Service Strengthening Project, Basic Health and Nutrition Project and Project 2000) simultaneously in practice demanded coordination big efforts within MINSA, with the Ministry of Economy and Finances (MEF) and with the regional level. Despite this challenging situation, the percentage of duplication among these three projects regarding the health establishments medical equipping component, only occurred in less than 5% of cases.**

A Project Coordination Unit (PCU) was organized in each main project within MINSA and this almost in all cases guaranteed efficiency and the fulfillment of project objectives. However, the organization of several PCUs in the projects structure and the design of their own operational plans to fulfill the objectives comprised in their loan agreements or memorandums of understanding, aside from the MINSA's organizational structure, led in parallelism, poor coordination effects and even competition among them.

UNOPS performance as the bidding and procurement agency for the equipment purchase should be evaluated.

### **Effectiveness**

**The improvement of the capacity of health centers and health posts can be inferred also as a result of the investment made by other projects such as the Basic Health and Nutrition Project, Project 2000 and the Basic Health for All Program ("Programa Salud Básica para Todos") that financed other aspects of the health provision such as human resources, changes in the organization of health care delivery and purchase of medicines.**

### **Impact**

Regarding the improvement in quality health care services, improvement of access and improvement of health indicators there is a need to focus on a two-direction approach: from the provision side and from demand side. To begin investing in the demand by health promotion, health rights promotion and reinforcing community participation in health, are still postponed objectives that must be in the public agenda today. However, it is fair to assume that the project contributed to the improvement of some health indicators.

### **Sustainability**

There is no "maintenance culture" in Peru maybe due to continuous external assistance and centralism. Pre investment studies must take the maintenance aspect into consideration prior as a condition of the loan negotiation.

### **Lessons Learned**

- **Two conditions must be evaluated in advance prior to the loan agreement decision:**

**pre-existing institutional financial and structural characteristics in order to minimize the risks of political changes and to protect the results and objectives achievements.**

**- It is necessary to invest in generating local capacity in order to design projects from this level and capacity. Decentralization is a felt need in the regions.**

**- A higher rotation rate of personnel in the health facilities do not contribute to sustainability of investments made in training for example.**

**- Beginning with institutionalized projects will contribute to make more sustainable project results and products. There must be no need of transference of the results and products obtained from the project execution to the institution (MINSA).**

**Note:\*An international NGO implementing women's reproductive health projects**