Annex 1

The Vision of Management Information System in the Health Sector in Pakistan

Concept paper for Consensus Building

1. Background

The following are main issues with regard to existing health information system pointed out by the situation analysis conducted in the initial period of the study, i.e., during 2004.

1) Care providers over-burdened with health care services and paperwork;
2) Heavy workload for the data collecting and processing at frontline;
3) Data are often delayed and are not analyzed;
4) Lack of culture of evidence-based decision making;
5) Delay and low quality of data coupled with the decision-making style leads to the underutilization of information; and
6) Under LGO 2001 districts are responsible for resource management and advocacy for funds. Therefore, there is a need for *a district-based health information system*.

Based on the findings, a framework for improving the MIS in health sector was conceived. Later, through a consultative process involving provincial Technical Advisory Groups (TAG), federal counterparts and donors, an overall vision for MIS (2) and the principles of implementation (4) were agreed upon which was then approved by the Steering Committee.

The purpose of the next Steering Committee meeting in December 2004 is, therefore, to have consensus on the Strategic Approaches (3), the Stages of Implementation (4), and the Implementation Responsibility (5).

2. The vision

The vision for the MIS in health sector aims "to improve the health care services through evidence-based management of service delivery." Improved service delivery contributes to the improvement of health status of the population.

3. Strategic Approaches (Fig. 1)

1) A "**Comprehensive District Health Information System** (HIS)" that is based and managed at the district and facility level, and meets the district health information needs
2) Roles, authority and capacity enabling district health managers and staff to use data to improve health services performance (**evidence-based management**)
3) **Stewardship and technical assistance** from District and Provincial Health Departments (DHDs/PHDs) and federal MOH supporting the vision

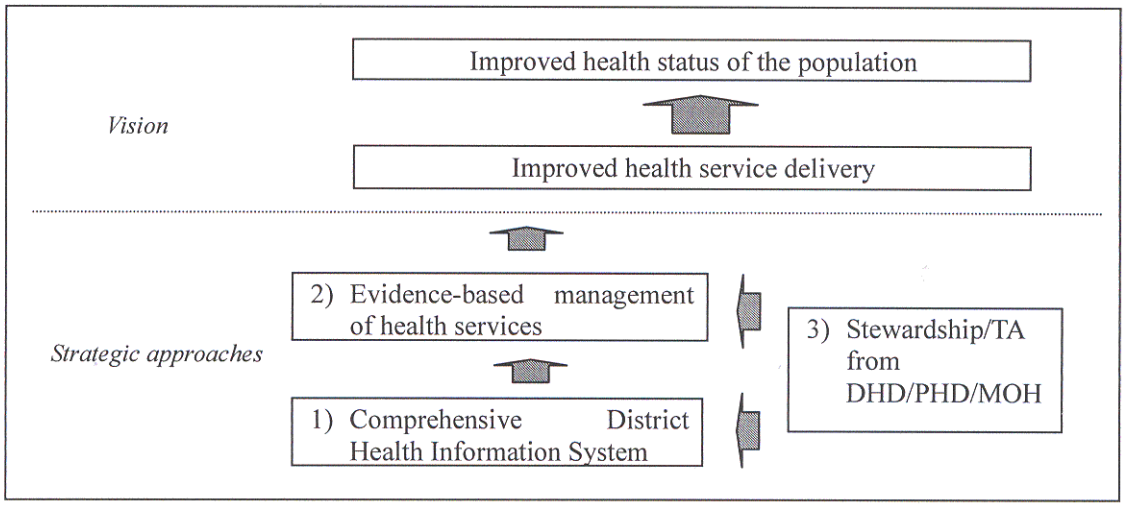

Fig. 1: The MIS Vision and its strategic approaches

1) Comprehensive District Health Information System

Basic characteristics of the comprehensive district health information system (Fig.2)

a. It is based and managed at district and the district / facility has the required capacity and resources of data processing, analysis and use for health service delivery management.

b. The system caters to the district's health information needs making all the necessary data available for the district health managers and facility staff. At the same time, the system provides the minimum routine data for the provincial and federal levels

c. In order to ensure that the data produced by the system are reliable, quality assurance procedure should be in place. There should be prompt feedback loops from district to facility and from province to district – both in terms of quality and completeness of data as well as analysis of district/facility performance and early detection of epidemics.

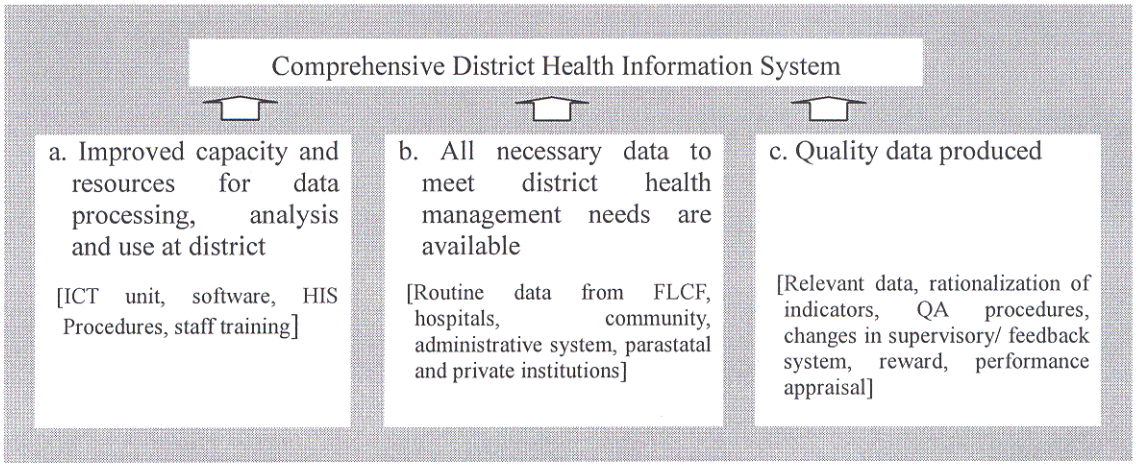

Fig. 2: Attributes of Comprehensive District HIS

2) Evidence-based management of health services

Use of information is an essential feature of the district HIS ingrained in the MIS vision. Thus, in order to achieve the vision, evidence-based management of health services would be institutionalized at district as well as facility levels. This would require capacity-building and redefining roles and authority of district health managers, the facility in-charge and the staff to enable them to use data for improving health services performance.

3) Stewardship[1]/TA from DHD/PHD/MOH supporting the vision

In this design of district-based HIS, the DHDs, PHDs and federal MOH/NHIRC would play a vital role in supporting the district HIS and promoting evidence-based services delivery management.

4. Stages of Implementation

Toward achieving the vision, the strategic approaches will be implemented according to the two principles approved by the Steering Committee meeting in November 2004:

i. start with improving what is already there, building from simpler to more complex design
ii. the interventions are staged over time and implemented in feasible step

Since the ground situations in the four provinces are different, the intervention designs, though broadly geared towards achieving similar end, would be customized to fit each province's status and needs.

The implementation of interventions is broadly divided into three stages; short-term (2005-2006), mid-term (2006-2009) and long-term (from 2010) (Fig. 3).

1) In the short-term, the principal focus is on pilot testing or operations research and formulation of a national action plan for replication and expansion.
2) In the mid-term, mostly replication and expansion of the pilot tested MIS designs to other district would be initiated and accomplished. At the same time, work on solving the critical assumptions or prerequisites would continue during this stage, for example, allocation of resources (tools/financing/human resources, etc.), establishing the legislative bases, or building consensus among government-private, MOH/PHD-parastatals, etc.
3) In the long-term, the more complex MIS designs would be done depending on the solution of critical assumptions or preconditions affecting their implementation.

Adequate organizational and managerial capacity is a prerequisite for the success of comprehensive

[1] *Stewardship encompasses the tasks of defining the vision and direction of health policy, exerting influence through regulation and advocacy, and collecting and using information.....providing an evidence base to guide (districts') efforts to improve the performance of their health systems. (World Health Report 2000)*

District HIS. Therefore, for the pilot districts, we may select such ones that other donors or PHDs give supports to improve the management capacity.

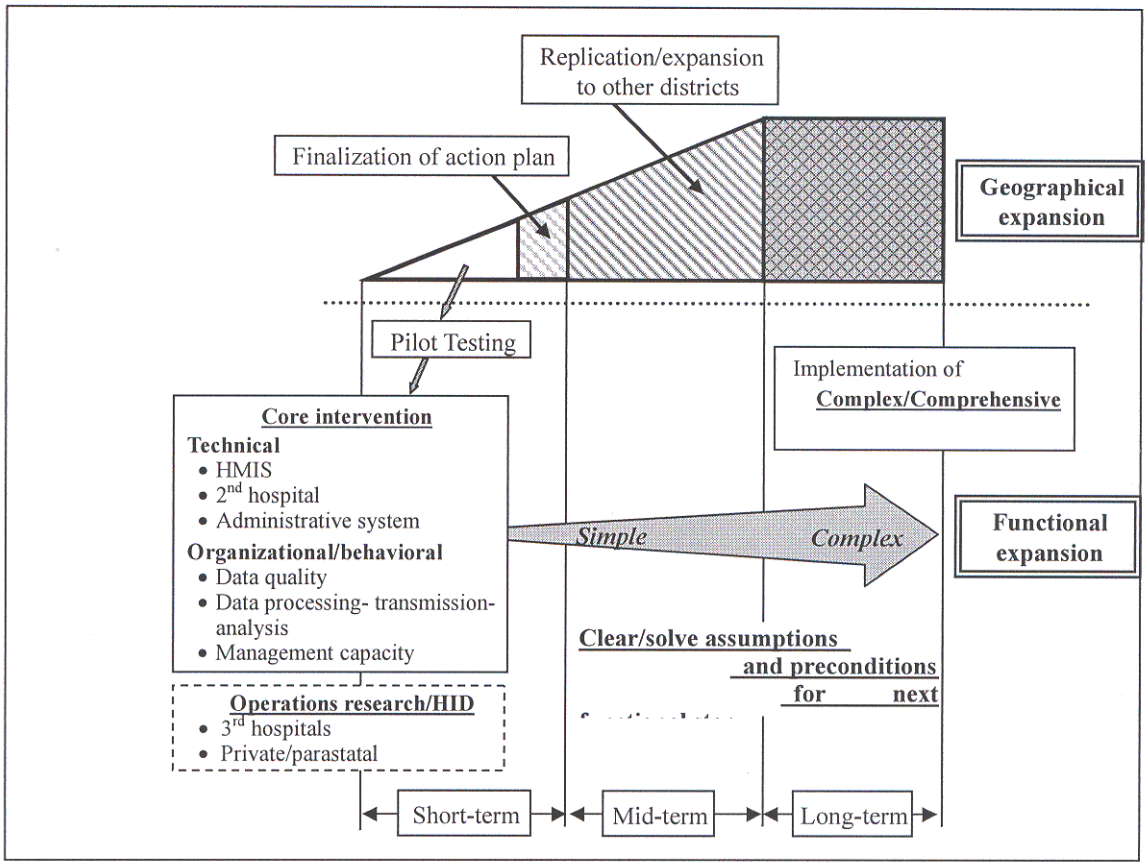

Fig. 3 Staged implementation of MIS interventions

5. Implementation responsibility

1) In the short-term, the pilot study would be accomplished and the action plan would be formulated through the JICA Study in close collaboration and consultation with JICA, MOH/NHIRC, PHDs and concerned EDOH/District Government.
2) In the mid-term, replication and expansion of the tested MIS design would be primarily the responsibility of the provincial/federal government through their own resources or with technical and/or financial assistance of international agencies and donors.
3) Similarly, in the long-term, the provincial/federal government would be responsible for implementation of more complex MIS designs.

Even during pilot-testing, the PHDs and federal MOH/NHIRC have important responsibility in supporting the district HIS. They will be responsible for:

- providing technical assistance for districts' capacity building in managing the information system, including ICT, and in analysis and use of information

- supporting the district governments to institutionalize evidence-based management practices at district and facility levels and to redefine the role of FLCF in-charge as a team leader responsible for management of all health activities in the catchment area
- policy, planning, monitoring and evaluation
- use of information from existing non-routine sources and integration of health and other sector databases
- establishing the regulatory mechanisms for private/parastatal information systems and incorporating tertiary care hospitals in provincial/federal information system

6. Consensus building on the vision of MIS in Health Sector in Pakistan

1) Stakeholders to build consensus with

In December 2004, the study team will approach the federal and provincial high officials to make agreement of the broad aspect of the MIS vision presented in this paper. These include the Health Secretary, Director General Health, ED-NHIRC (and vertical program managers) at federal level, and provincial Health Secretaries and DGs.

2) Concepts to be agreed upon

The focus would be on the following aspects:

a. The strategic approaches for achieving the MIS vision
b. The characteristics of the Comprehensive District HIS
c. Support of the PHDs and federal MOH/NHIRC to institutionalize evidence-based management of health services in pilot districts
d. Stewardship role of PHDs and federal MOH/NHIRC for realizing the MIS vision
e. The implementation phases and interventions in each stage of implementation

3) Consensus on collaboration with other donors

This will be done to ensure that appropriate or improved organizational environment and managerial practices are in place to undertake and utilize the district HIS. Major donors who are focusing on management capacity-building would be approached for seeking consensus on technical and organizational collaboration.

Table 1 Stage-wise interventions for achieving the MIS vision

Items	Short-term	Mid-term	Long-term
Technical aspect			
1. HMIS/FLCF	• Rationalization of HMIS/FLCF data reporting • Integrated vertical program information in district level software	• Integrated vertical program information systems at district level (one reporting channel)	• Implement integrated management and information system
2. Secondary hospital	• Develop standard register/ form, and OPD/ IPD reporting system • HID in pilot districts • Specific CD/NCD reporting	• Implementation in all THQ/DHQ hospital MIS	• Internal software system
3. Tertiary hospital	• HID in pilot districts • Facilitate and create knowledge/interested for tertiary MIS	• Initiate reporting on selected data through the experience of HMIS/FLCF & secondary hospital MISs	• Scaling-up of internal information system
4. Private & parastatal	• Operations research into shared information needs and develop coordination committee • HID in pilot districts • Support to establish legislative bases	• Disease surveillance network • Initiate to collect and report selected data through the experience of HMIS/FLCF and secondary hospital MIS	• Regular reporting from private institutions to health regulatory authority
5. Community based routine reporting	• Collaboration with LHW program to improve and institutionalize reporting on selected indicators in pilot districts	• Implementation in all districts	
6. Administrative system	• Collect selected data from existing paper-based system in pilot districts • Software for administrative support systems in pilot districts	• Replicate the administrative system to all districts	• Develop comprehensive database for supporting administrative activities
Organizational/ behavioral aspects			
1. Quality of data • Quality assurance (QA) procedure • Support of higher authority • Feed-back system	• Instituting QA tools/ procedures for monitoring data quality and performance • Change supervisory system • Stewardship by PHD and MOH for QA procedures	• Implement QA in all districts	
		• Stewardship by PHD and MOH for QA procedures • Implement prompt feedback reporting	
2. Data processing, transmission, analysis capacity • ICT unit • HIS procedures	• Provide software, hardware and other resources for ICT units in pilot districts • Capacity building of managers and staff on HIS procedures	• Establish ICT units in all districts • Provide resources	
		• Capacity building of staffs in all districts	
3. Management capacity			
1) Evidence-based management • at EDOH/DOH offices/support units • at district hospitals	• Change feedback and performance appraisal system in pilot districts • Support improving evidence-based management in pilot districts • Implement Hospital QA procedure in pilot districts	• Implement the changed management practices in all districts • Provide stewardship and technical guidance for improvement of management	
2) Role of FLCF in-charge • MOH/PHD/VP/ district government support • Capacity building of facility in-charge	• Build consensus among stakeholders regarding changed role of facility in-charge at pilot districts • Capacity building of facility in-charges on QA tools and management skills in pilot districts	• Notify changed role of facility in-charge at all districts • Capacity building of facility in-charges on QA tools and management skills in all districts	

Annex 2

List of Participants of
The Steering Committee Meeting

Held on 17th Dec 2004.

Pakistan side

Ministry of Health

1. Mr. Matiullah Khan	Senior Joint Secretary (Health)
2. Dr. Abdul Majid Rajput	Director General Health
3. Dr. Syed Fazli Hadi	ED-PIMS, Islamabad
4. Dr. Fahim A. Malik	Deputy Director General (P&D) Health.
5. Dr. Qazi Abdus Saboor	Executive Director, NHIRC
6. Jehanzeb K. Aurakzai	Director NIH
7. Dr. Haroon Khan	Head of HMIS, PIMS
8. Dr. Sher Baz Khan	DNC (National Program for FP&PHC)
9. Dr. S.M.Mursalin	NHMIS Coordinator
10. Mr. Muhammad Jamil Arshad	Research Officer.

Ministry of Planning

1. Dr. M. Shafiquddin	Chief Health, P&D Division

Provincial Health Department

1. Dr. Shafi Muhammad Zehri	Secretary Health, Balochistan
2. Dr. Ahmad Kamal Khan	Additional Secretary (Dev), Punjab
3. Mr. Manzoor Hussain Memon	Additional Secretary (Dev), Sindh
4. Dr. M. Rafiq	Chief S.H.R.U, NWFP
5. Dr. Shareef Ahmad Lodhi	Director Health Services, Balochistan
6. Dr. M. Aftab Khan	Director Legal/HMIS Coordinator, Punjab
7. Dr. Muhammad Zaheen	Deputy Director, PHC, DGHS, NWFP
8. Dr. Sameer Mahmood	Provincial HMIS Coordinator, NWFP
9. Mr. Ali Ahsan	Regional HMIS Coordinator, Rawalpindi

CRPRID

1. Mr. Nisar Ahmad	M&E Specialist, CRPRID/ UNDP.
2. Mr. Iftikhar Ahmad	Senior Poverty Specialist, CRPRID/ UNDP.

Japan side

JICA Pakistan Office

1.	Ms. Sachiko Misumi	Sr. Deputy Resident Representative
2.	Mr. Mitsunobu Inaba	Deputy Resident Representative
1.	Dr. Akihiro Yama	Project Formulation Advisor (Health)
3.	Dr. Mir Ajmal Hamid	Advisor on Health
4.	Mr. Sohail Ahmad	Senior Program Officer

JICA Study Team

1.	Mr. Hiroshi Abo	JICA Study Team Leader.
2.	Dr. Tariq Azim	Deputy Team Leader
3.	Dr. Anwar Aqil	Epidemiological Survey
4.	Ms. Marry Church	HMIS Specialist
5.	Mr. Masashi Akiho	Information System (Program Dev).
6.	Dr.Ghayur Ahmad	Extension Planner
7.	Mr. Sadatoshi Matsuoka	Team Coordinator
8.	Dr.Sohail Amjad	Epidemiologist

MINUTES OF STEERING COMMITTEE MEETING
ON
THE STUDY
ON
IMPROVEMENT
OF
MANAGEMENT INFORMATION SYSTEMS
IN
HEALTH SECTOR
IN
THE ISLAMIC REPUBLIC OF PAKISTAN

AGREED UPON BETWEEEN

THE GOVERNMENT OF PAKISTAN

AND

THE JAPAN INTERNATIONAL COOPERATION AGENCY STUDY TEAM

Islamabad, August 30th, 2005

Dr. M. Shafiquddin
Chief Health
Planning and Development Division
Government of Pakistan

Mr. Hiroshi Abo
Team Leader
JICA Study Team

Dr. Fahim Arshad Malik
Deputy Director General (P&D)
Ministry of Health

Dr. Qazi Abdus Saboor
Executive Director, NHIRC
Ministry of Health

Ms. Sachiko Misumi
Sr. Deputy Resident Representative
JICA Pakistan

Background of the Study

The health management information system for first level care facilities (HMIS/FLCF) in Pakistan was established in 1992 and its implementation was completed in 2000. However, several issues and needs for the improvement of health information systems (HISs) in Pakistan were pointed out after the devolution of powers to the districts in 2001 as most of the responsibilities of health delivery system were shifted from provinces to districts. Therefore the whole scenario of information needs changed with the focus on district.

On the basis of the findings of situation analysis conducted by the Study, a draft National Action Plan (NAP) for the period of 2006-2015 has been developed for the improvement for the HISs in Pakistan. The District Health Information System (DHIS) is the focus in NAP. Summary on NAP with explanation of DHIS is attached herewith.

National Action Plan (NAP)

Objective of NAP

The objective of NAP is to "Reform and create an enabling environment for the HISs in Pakistan to continuously evolve and improve to respond to the information needs of the health sector in Pakistan".

Basic approach to NAP formulation

The activities to address the direct and root causes of low quality and use of HIS information are arranged under three broad outcomes. These outcomes of the NAP are:

Outcome 1: Improved policy framework for management of health system and HIS
Outcome 2: Improved quality data/information generated by HISs
Outcome 3: Improved use of information for performance improvement

Implementation of the NAP will result in a number of outputs which will further contribute to the achievement of above three broad outcomes.

District Health Information system (DHIS) design

After devolution, decision-making and resource management authority has been transferred to the districts. Districts are now responsible for improving health services from first and secondary level facilities and outreach. Strengthening the districts for managing their health systems is a priority for the government. Thereby, improving HIS to respond to the information needs of the district has emerged as a priority. In this context, establishing DHIS is a core approach for achieving the objectives of the NAP.

The overall objective of DHIS is "to provide information for management and performance improvement of primary and secondary healthcare services provided by the public health sector at district level". More specifically, DHIS will:

- Provide necessary information for monitoring the performance of district health system by incorporating selected key information from HMIS/FLCF, vertical programs, secondary hospitals and support-systems at district level.

- Cater to the important routine health information needs of the federal and provincial levels for monitoring policy implementation

Proceedings of the Meeting

As a part of wider consensus building process, Steering Committee Meeting was held in Islamabad on 29th August, 2005 under the chairmanship of Dr. M. Shafiquddin, Chief (Health), Planning and Development Division (as the Director General Health, Ministry of Health (MOH), Chairman of the Steering Committee, had to leave for an urgent official meeting in Kualalumpur). Key functionaries of federal and provincial governments participated in the meeting. The purpose of the meeting was to have consensus on the summary paper attached in regarding the draft NAP covering DHIS as the main intervention.

The participants appreciated the support of Japan International Cooperation Agency (JICA) and efforts of JICA Study Team (JST) for the improvement of HISs which will help strengthen the devolution. They expressed expectations for the success of the Pilot Test. It was felt not to make any transfers of staff from pilot test districts except in unavoidable circumstances. The suspension of the current HMIS/FLCF activities in the Pilot districts was endorsed by each province. The provincial representatives reiterated that at least two pilot districts be selected for Pilot Test in each province. All the participants fully supported the draft NAP and DHIS design, and appreciated the efforts of the JST.

During the meeting the provinces expressed their expectations for implementing the Pilot Test in 3-4 districts in each province. However, it was pointed out by the JST that for better control on the Pilot Test activities, and monitoring and evaluation, manageable number of districts should be selected.

Consensus Reached

1. The summary paper comprising draft NAP and DHIS design as a part thereof (attached) was, in principle, approved by the Steering Committee. The details of the Study design will be shared with federal and provincial governments by the JST.
2. No transfers of the staff will be made from the Pilot districts during Pilot Test except in unavoidable circumstances.
3. Existing HMIS/FLCF activities will be suspended and replaced with the DHIS design in the Pilot districts during the Pilot Test.
4. Financial implications on the government's side for the Pilot Test will be worked out by the JST and shared with the respective provincial governments for their necessary actions.
5. Improving the HIS in public sector was emphasized as priority. However, further work will be carried out by the JST to examine the possibility of involvement of parastatal institutions and private sector in NAP.

Recommendations

1. It was recommended to implement the Pilot Test of the DHIS design in at least two districts of each province
2. Capacity of the staff related with HIS be built up at all levels including provincial and federal levels.

3. The Steering Committee agreed to the formation of the Executive Committee under the Steering Committee to take the decision of urgent nature. The members and terms of reference of the Executive Committee will be drafted by NHIRC and circulated among the Steering Committee members for consensus.
4. In order to achieve greater harmony and proper coordination between donors and NHIRC five working days a week on the line of Health Services Academy, Pakistan Medical Research Center was recommended.
5. A departmental recruitment/promotion Committee exclusively within NHIRC is recommended on the lines of other departments of MOH.
6. It was further recommended that since NHIRC is to function for all times to come as a permanent set up, ED, NHIRC may be delegated administrative and financial powers at least equivalent to other heads of departments/Project Directors.

JICA's Comments

On behalf of JICA, Ms. Sachiko Misumi, Senior Deputy Resident Representative of JICA Pakistan thanked the Steering Committee for reaching some concrete agreements on the suggestions for the future of the HIS in Pakistan and for the basic design of the Pilot Test, and appreciated the active participation and support provided to the JST. She reiterated JICA's sincere request for further collaboration from the members of the Steering Committee to conduct the Pilot Test smoothly and eventually to formulate the NAP for expanding the tested HIS model nationwide.

Ms. Misumi also thanked all four provinces for already endorsing the proposed Pilot Test of DHIS. She expressed JICA's understanding that the framework set by Planning Commission form Number II (PC-II) for the Study could be modified if the Steering Committee gives the approval. She underscored the importance of providing necessary guidance to the JST for carrying out the Pilot Test in scientific manner.

Closing Remarks by Dr. M Shafiquddin, Chief Health, Planning & Development Division (In Chair)

While closing the meeting, the Chief Health, Planning and Development Division, Government of Pakistan thanked the support of JICA and work done by the JST. He emphasized the ownership of provinces for taking policy decisions at their level for DHIS implementation. He also hoped for JICA support for the implementation of NAP. He added that if any changes are required in PC-II, with the approval of Steering Committee such revision of PC-II could be accommodated and placed before competent forum for approval. The meeting ended with the vote of thanks from each partner.

List of Participants

Pakistan Side

Ministry of Health Islamabad

1. Dr. Qazi Abdus Saboor, Executive Director, NHIRC
2. Dr Fazle Hadi, Executive Director, Pakistan Institute of Medical Sciences (PIMS)
3. Dr. Fahim Arshad Malik, Deputy Director General (P&D).
4. Mr. Matiullah Khan, Technical Advisor, Ministry of Health
5. M. Rashid Anjum, Acting Secretary, Pakistan Medical and Dental Council, Islamabad
6. S. Mursalin, HMIS Officer
7. Dr. Haroon Khan, Pathologist, PIMS.
8. Dr. Qudsia Uzma, Programme Officer, AIDS Control Programme, Islamabad.
9. Dr. Thamas J Chiang, TB Control Programme.

Planning & Development Division, Islamabad

1. Dr. M Shafiquddin, Chief (Health)

Ministry of Population Welfare

1. Mr. Hamid Khalil, Director, (SS&DP)

Federal Bureau of Statistics

1. Mr. Munir Ahmad Aslam, Director

Health Department, NWFP

1. Mr. Abdus Samad Khan, Secretary (Health)
2. Dr. Jalil Ur Rehman, Director General Health Services
3. Dr. Zaheen., Deputy Director (Public Health)

Health Department, Sindh

1. Mr. Manzoor Memon, Additional Secretary (Development)

Health Department, Balochistan

1. Dr. Munir Ahmad Khawaja Khail, Director General Health Services
2. Dr. Manzoor Hussain, Additional Secretary
3. Dr. Amjad Ansari, Senior Planning Officer
4. Dr. Farooq Azam Jan, Provincial HMIS Coordinator

Health Department, Punjab

1. Mr. Naseem Ahmad Khan, Senior Planning Officer
2. Dr. Muhammad Amjad, Provincial HMIS Coordinator

Japanese Side