

INDIA
INTEGRATED DISEASE SURVEILLANCE PROJECT (Credit 3952-IN)
MID-TERM REVIEW
AIDE MEMOIRE
June 16-24, 2008

1. The Mid Term Review (MTR) of the Integrated Disease Surveillance Project (IDSP) was concluded with the implementation support mission undertaken by a World Bank team¹ with technical support from the World Health Organization and Centers for Disease Control (CDC), Atlanta during June 16-24, 2008. During the mission, visits were undertaken to Haryana, Punjab and West Bengal states to assess on the ground implementation progress. A consultation with surveillance officers from 16 states was held on June 21 at Chandigarh. The Bank team would like to place on record its appreciation for the sustained political commitment to improve disease surveillance and openness to address implementation challenges shown by the Ministry of Health & Family Welfare (MOHFW) team led by Mr. Deepak Gupta (Special Secretary), Dr. Shiv Lal (Special Director General, Public Health and Director, IDSP) and Mr. R.S. Shukla (Joint Secretary). The Bank team would like to specially thank Dr. R.L. Ichhpujani the outgoing National Project Officer (NPO) for IDSP for his commitment and sincere efforts which helped in enhancing the visibility to IDSP and welcomes Dr. A.C. Dhariwal the new NPO. Technical inputs and support provided by Dr. Jagvir Singh (Public Health), Dr. Shashi Khare (Avian Influenza), Dr Shah Hossein, Chief Medical Officer (Non Communicable Diseases and Information Technology) and Dr. Aakash Srivastava (Training) are thankfully acknowledged. The WHO team that participated in the mission included Dr. Ayana Inebata, Dr. Sampath Krishnan, and Dr. Samuel. Dr. Sanjeev Upadhyaya, from USAID also participated in technical discussions during the state review. Prior to this mission a CDC team consisting of Mr. Pawan Angra and Dr. Robert Martin visited India to review and support development of a revised plan for laboratory strengthening under IDSP.

2. The mission has successfully achieved its objective of completing the mid term review of the project, working closely with MOHFW, the project focus states, and technical experts from WHO and CDC. Considering the criticality of surveillance in prevention and control of diseases, it was agreed that the project scope will continue to be nation-wide. However, monitoring the achievement of development objectives will be limited to the 14 focus states giving priority attention to confirmation and quality of local response to outbreaks. Specific actions were agreed to accelerate project implementation pace in focus states. The Bank team reported its findings at a wrap-up meeting, chaired by the Special Secretary, Health and Family Welfare, on June 24, 2008. This Aide Memoire summarizes the mission findings along with component-wise implementation ratings and agreed key actions. The detailed implementation progress is annexed and has two parts: Part I for the IDSP and Part II for the human health sub component of Avian Influenza. A separate Aide Memoire has been prepared for the animal health subcomponent of Avian Influenza.

¹ Members of the mission were GNV Ramana (Task Team Leader, SASHD), Shanker Lal (Procurement), Arun Manuja (Financial Management), Satya N Mishra (Social Development), Robert Martin (Laboratory Services-CDC Atlanta); Claire Broome (Consultant); K. Suresh (Public Health); Vijay Kumar (Avian Influenza) and Nira Singh (Program Assistant)

3. Key Project Data

Project Data	Project Performance Ratings		
<i>Board Approval: July 8, 2004</i>	<i>Summary Ratings:</i>	<i>Last</i>	<i>Now</i>
<i>Effectiveness Date: October 28, 2004</i>	Achievement of PDO	MS	MS
<i>Original Closing Date: March 31, 2010</i>	Implementation Progress	MS	MS
<i>Revised Closing Date (if relevant):</i>	Financial Management:	MS	MU
<i>MTR Date (Actual if completed): June, 2008</i>			
<i>Original Ln./Cr. Amt: US\$ 68 Million</i>			
<i>Revised Ln./Cr. Amt:</i>			
<i>Amount Disbursed: US\$ 17.2 Million</i>			

Ratings: **HS**=Highly Satisfactory; **S**=Satisfactory; **MS**= Moderately Satisfactory; **MU**= Moderately Unsatisfactory; **U**=Unsatisfactory; **HU**=Highly Unsatisfactory; **NA**=Not Applicable; **NR**=Not Rated

Summary

4. The project supports India's initiative to strengthen and integrate disease surveillance to better inform policies and strategies for prevention and control of diseases. The implementation experiences during the first three years of the project highlight the challenges in setting-up a "high quality disease surveillance system" in a vast country with federal structure and varied state capacities. Due to these reasons the project had a slow start and has now picked-up the momentum. In January 2007 the project was restructured to provide nearly half of the total credit (SDR 21.53 million) for urgent financing requested by GOI for prevention and control of Avian Influenza Pandemic.

5. There have been some notable areas of progress in the IDSP component. A strong and technically sound Central Surveillance Unit (CSU) has been established at the National Institute for Communicable Diseases (NICD) a premier center mandated to provide national leadership for disease surveillance. The CSU now has much larger and technically stronger team than originally envisaged under the project including the recently recruited epidemiologists and microbiologists. Over three fourths (77%) of the 399 districts covered in first two phases of the project now generate weekly surveillance reports mostly from public sector primary facilities and 79 of these districts are reporting data from private sector also. Focused effort by the CSU helped in improved outbreak reporting and 180 outbreaks were reported during the past 6 months by 29 states. With GOI funding, IT hardware has been supplied to 769 locations and installed in 507 locations. Broadband and satellite connectivity have been established at 443 and 196 locations respectively and data managers are now in position in 440 districts. Beta testing of software has been completed and user acceptance testing of the software is now due to assure that the software meets the program needs for data management and analysis.

6. There has been significant progress in capacity building component. Over 2000 members of district/state surveillance teams have received IDSP training. In addition, over 22,000 medical officers, 130,000 health workers, 6,000 lab technicians were also trained in IDSP protocols. To enhance the operational skills of district surveillance offices (DSOs), a new 2 week field epidemiology program has been developed by the CSU with technical inputs from WHO and so far 58 DSOs have been trained and plans have been finalized to rollout this program throughout the country by networking with well recognized public health training institutions.

7. Despite these positive developments, IDSP faces four important challenges in implementation. First, the laboratory strengthening component of IDSP lagged behind and urgent actions are required to ensure access to quality laboratory services for disease confirmation making better use of existing laboratory services already performing these tests rather than focusing all energies in expanding the laboratory infrastructure. Second, the focus of surveillance and data analysis should now be on confirmed cases and this requires immediate switchover to the revised forms for presumptive diagnosis reported by clinicians and improve laboratory confirmation making best use of resources already available. Third, with improved reporting of outbreaks, the quality and effectiveness of outbreak investigation and response now require improvement. Fourth, the MOHFW has taken a very positive step in approving positions of epidemiologists at district and state levels to be filled through contractual appointments. It is important to accelerate their recruitment and complete induction training as early as possible to address the key concern of capacity to analyze and effectively use the surveillance data at district and state levels. At this critical phase of the project staff continuity is critical and MOFHW should ensure this both for the key program managers for the IDSP as well as consultants by paying them compensation as per the prevailing market rates.

8. During the past 6 months, Avian Flu outbreaks have been reported in the states of West Bengal and Tripura. These states and GOI needs to be commended for promptly declaring the outbreak and putting in place effective control operations in very demanding circumstances compared to previous outbreaks in Gujarat and Maharashtra where mostly commercial poultrys were involved. The experiences from West Bengal also point to the clear need for effective documentation of all persons with flu like symptoms in the outbreak areas to ensure adequate follow-up. The Empowered Procurement Wing with technical support from the NICD has done a commendable job in undertaking procurement of the lab equipment. However, due to delays in recruitment of agency for undertaking pre-dispatch inspection, supply of this equipment is still pending and this requires prompt attention. The envisaged seasonal influenza surveillance has been started at two sites and requires to be accelerated.

9. Finally concerted efforts are required to urgently meet the safeguard obligations. Agreed actions for promoting community surveillance and plan for development and implementation of Standard Operating Procedures and waste management plans are still pending. On the fiduciary front, the agreed action for sharing with the Bank a consolidated statement of audited expenditure along with summary of audit observations for the year 2006-07 and reconciliation of audited expenditures with financial reports and statements of expenditure is still pending. The CSU needs to play a more proactive role to ensure timely submission of financial monitoring reports by states. As agreed, the state visits to monitor compliance of procurement procedures have been started and two states were visited by the consultant. Now this process needs to be institutionalized and CSU should carefully review the information collected to identify indicators of possible collusion. Due to delays in appointment of inspection agency, the supply of equipment procured under the human health component could not be completed and this requires priority attention.

10. Taking a balanced view of overall achievements of the project, MOHFW's own initiatives to support IDSP beyond the scope of original project and the identified challenges, the project implementation at the MTR is rated "moderately satisfactory" while the financial management is rated moderately unsatisfactory.

Disbursements

11. The project has disbursed USD 17.2 million including Special Account Advance of USD 6.8 million as of July 31, 2008 and takes the total disbursement to 22.5% of the signed amount. With the exchange rate fluctuations, the total Credit available for the project has gone up to USD 75 million out of which USD 42.3 million equivalent has been earmarked for the IDSP and remaining USD 31.7 million for the Avian Influenza. Out of the available Credit, the IDSP has so far disbursed around 25% excluding the special account advance. Use of GOI agencies for IT hardware, software and networking, and delayed financial reporting by the states are main reasons for the low disbursement despite a moderately satisfactory implementation on the ground. While the disbursement is expected to pick-up after the recruitment of new staff at district and state levels, the IDSP component may not be able to fully disburse the available IDA during the remaining project period. The project team needs to make a careful re-assessment of Credit required and savings if any after the recruitment of all staff is completed in December 2008. The project has submitted financial report for the six months period extending from October 2007 to March 2008. However, this information is incomplete as only 11 states reported expenditure out of the 23 states covered under the first two phases of the project. The budget and funds flow for the project has been satisfactory with the budget for the year 2008-09 being Rs. 720 million.

Progress towards Development Objective

Table 1. Status of agreed outcomes indicators						
Indicators	Measurement					
	Baseline Value		Progress To Date		End-of-Project Target Value	
	Number or text	Date	Number or text	Date	Number or text	Date
1. Number and % of districts providing monthly surveillance reports on time	93 districts included in National Surveillance Program for Communicable Diseases	10/26/2004	78% of districts (308 out of 399) covered in Phase I and II states are generating weekly surveillance reports mainly from public sector primary health care facilities		>50% of the districts providing monthly surveillance reports on time	03/31/2010
2. Number and % of districts in which private providers are contributing to disease information	None	10/26/2004	129 districts (32%) have identified reporting units in private sector and 79 (20%) have reported data from private sector for the week ending June 8, 2008		at least 50% of reporting districts	03/31/2010
3. Number and % of laboratories providing adequate quality of information	None	04/04/2006	12.6% and 17.8% of the laboratories in Phase I and II states are reporting and quality is variable. The External Quality Assurance has begun in 12 public health labs.		>75%	03/31/2010
4. Number and % responses to disease-specific triggers assessed to be adequate	Not existing	10/26/2004	Weekly outbreak reporting started from September 2007 and 29 states have reported 180 outbreaks during the past 6 months. The quality of response is variable.		>75%	03/31/2010

12. The overall progress towards development objective is rated “*moderately satisfactory*”. Despite a slow start and low disbursement, the decision to focus on few states has resulted in improved reporting and private sector participation has begun on a modest scale (Table 1). Most states have also started listing outbreaks and documenting responses even though there is scope for improving the quality. More importantly, the GOI’s recent effort to create a dedicated cadre of epidemiologists at district and state levels under NRHM will have a significant impact on decentralized disease surveillance envisaged by the project. Results from the first round of household surveys for non communicable disease risk factors are expected by September 2008. The disconnect between DO rating and low disbursement is mainly due to MOHFW’s decision use services of NIC and ISRO on a single source basis due to which the USD 8 million expenditure incurred on these activities could not be reimbursed by the Bank.

Component-wise Implementation Rating

Table 2. Status of agreed Intermediate outcomes indicators						
Indicators	Measurement					
	Baseline Value		Progress To Date		End-of-Project Target Value	
	Number or text	Date	Number or text	Date	Number or text	Date
1. IT software developed and operating through the national network established for the project	No software and networking	10/26/2004	Beta version of the software piloted and updated. IT hardware supplied to 769 (98%) out of 786 locations and installation completed at 507 locations (65%). Connectivity established at 509 and 279 locations respectively through broadband and satellite.	12/27/2007	National IT network established for Integrated Disease Surveillance	03/31/2010
2. Number of state surveillance units established with adequate staff, IT hardware, linked to national network	Not applicable	10/26/2004	All 23 phase I and II states have established state surveillance units. 440 data managers have been appointed at state and district levels and 443 out of 786 locations (56%).had broad band connectivity while satellite connectivity is established at 196 out of 284 locations.	12/27/2006	All major states of India will have state surveillance units	03/31/2010
3. Number of staff trained in disease surveillance epidemiology and outbreak investigation	Not applicable	10/26/2004	2,071 members of district and state surveillance teams, 22,087 medical officers, 133,821 health workers and 6,176 lab technicians received training in disease surveillance. 59 district surveillance officers were trained in the new two week field epidemiology program.	12/27/2007	2500	03/31/2010

Agreed Key Actions

Component	Rating	Actions	By When
Component 1. Establish and Operate a Central –level Disease Surveillance Unit	MS	1. Put in place a mechanism wherein each division head in CSU will agree quarterly outputs and has adequate delegation of responsibilities to implement. Each officer will report progress at periodic intervals to NPO and PD which ensures accountability.	July, 2008
		2. Ensure each consultant epidemiologist visit the allotted state once in two months as well as have video conferencing once every fortnight and provide inputs for the functional area she/he is responsible.	Immediate
		3. Promote and monitor the quality of outbreak investigations by undertaking detailed review of at least one outbreak from each focus state every month covering description, confirmation, analysis, and actions taken.	Immediate
Component 2. Integrate and Strengthen Disease Surveillance at State and District Levels	MS	4. Start analyzing clinically and laboratory confirmed cases at district level focusing only on P and L forms	Oct, 2008
		5. Start implementing Urban Disease Surveillance and ID hospital pilots	August, 2008 December 31, 2008
		6. All states will ensure that at least one big private hospital is reporting under IDSP from every district	December 31, 2008
		7. States of Andhra Pradesh, Gujarat, Maharashtra and Haryana to start pilots on community surveillance giving priority to blocks predominated by tribal or underserved populations.	Immediate
		8. States to share pending audit reports for FY 2007-08 to avoid Audit Suspension.	
NCD risk factor surveys	US	9. ICMR to finalize the reports for Phase I states and disclose the data on the IDSP website	September 30,2008
		10. CSU to finalize protocol and TORs for the Phase II surveys and start bidding process	Sept., 2008
Strengthening data quality, analysis and links to action (Information Technology)	S	11. Include a module on data analysis at district level using excel and complete the training of data managers	October 31, 2008
		12. Ensure regular video conferencing of CSU with states (at least once a fortnight), and SSU with districts (at least once a week) and document the key discussions and agreements.	Continuous
Component 3. Improve laboratory support	US	13. Finalize and start implementing strategic plan for laboratory strengthening and networking under IDSP with measurable annual outcomes for the remaining two years of the project.	August 31, 2008
		14. Organize regional workshops for states to identify reference labs for PH outbreak investigation and map districts to these labs	Sept./Oct., 2008
		15. Complete assessment quality and use of equipment supplied to Phase I states	Dec. 2008
Component 4: Training for Disease Surveillance and Action	S	16. Start rolling out 2 week FETP training giving priority to induction training of new epidemiologists	Immediate
		17. Finalize E modules and roll out	March 31,2009
Avian Influenza :	MS	18. Start seasonal influenza monitoring as planned	April 30, 2009

Human Health		19. At least 5 out of 9 L4 labs supported achieve the agreed performance standards	April 30, 2009
Financial Management	MS	20. Share consolidated statement of audited expenditure for CSU and the SSUs, summary of audit observations for 2006-07 along with details of follow up taken so far; and reconciliation of cumulative audited expenditure with the expenditure reported in the FMR and in the SOE claims submitted to the Bank 21. Share a completed FMR covering expenditure incurred up to March 2008 by all states	August 14, 2008
Safe Guards		22. Share plan of action for piloting community surveillance in 6-8 districts predominated by tribal populations 23. Share action plan for finalizing and implementing standard operating procedures for laboratories including the waste management plans	September 30, 2008 September 30, 2008
MOHFW Actions		<ul style="list-style-type: none"> • Provide final approval for <ol style="list-style-type: none"> 1. recruitment of contractual epidemiologists, microbiologists and entomologists 2. revised reporting forms 3. annual increase in compensation for the data entry operators and other contractual staff 	October 2008
		<ul style="list-style-type: none"> • Ensure at least one officer from MOHFW is delegated to handle the follow-up required for IDSP which allows the CSU team to focus on implementation 	August 2008

Detailed Implementation Progress

Part I: Integrated Disease Surveillance Project

Component 1: Establish and Operate a Central-level Disease Surveillance Unit (CSU):

1. The project immensely benefited by MOHFW's decision to co-locate the CSU in the National Institute for Communicable Diseases (NICD). This ensured strong technical leadership for the project and helped in making additional technical expertise available for the CSU beyond the original plan. The IDSP is also now better integrated with the national nodal agency mandated with providing oversight for specialized outbreak investigations and the new international public health regulations. The CSU now has full time staff and 8 more consultants have been appointed to provide additional technical support and state facilitation.

2. As agreed at the starting of the MTR process, it is important for the CSU to evolve a broader vision on how a well functioning surveillance system can support national policies and strategies for prevention and control of communicable diseases and assess the impact of ongoing disease operations. Such vision should be embedded with the emerging role of the NICD as the National Center for Disease Control. It is important to initiate work on this vision document and the Bank will be happy to provide technical support to develop this vision at the earliest. Considering the coordination required, the Bank team suggests this responsibility be taken by the MOHFW.

3. Leadership provided by CSU is very critical for the success of IDSP and the mission is delighted to note keen interest being taken by the Project Director (PD) who is undertaking weekly reviews to provide oversight and mentor the project team. The recent elevation of the PD to the position of Special Director General of Health Services (Public Health) will improve coordination of IDSP with other disease control programs. Just before the mission a new National Project Officer (NPO) has been posted to the CSU. While welcoming the new NPO Dr. Dhariwal, the Bank team would like to place on record its sincere appreciation to Dr. Ichhpunjani the outgoing NPO for his leadership and effort which immensely helped in giving a better visibility to IDSP in the past one year. As agreed during the last mission the PD has delegated responsibilities among the staff of CSU to ensure prompt and adequate response to states and accountability relationship with the NPO and PD. It is now important to put in a place a mechanism wherein each division head in CSU will agree quarterly outputs which will be objectively assessed by the NPO and PD during their periodic reviews.

4. The mission is pleased to note that regular video conferencing is being now held with states and districts to discuss outbreaks and control measures and there has been some progress in development of training modules for data managers, but the implementation has not yet started. A call centre has been established at the NICD with a toll free telephone number (1075) to report any unusual event by health staff and reporting by health staff has started. As the Bank could not finance these activities being implemented by GOI agencies selected on single source basis, domestic resources are used and hence disbursements are low despite a good progress in implementation of these activities.

5. Based on the implementation experiences, the CSU has carried out a detailed review of the IDSP reporting forms during the past 6 months and proposed revisions to improve their operational use and reduce unnecessary overload on the staff. With these changes, the IDSP reporting will be better integrated with the integrated HMIS being developed under the NRHM and will minimize duplication. However, implementation of these forms is yet to start as MOHFW approvals are still pending. The IDSP also improved coordination with the National

Vector Borne Diseases to rationalize the reporting formats and proposed to pilot more intensive collaboration with the National Polio Surveillance Project (NPSP) in 10 districts. Specific objectives and implementation arrangements for such pilots, which could include strategies for broader collaboration between IDSP and vertical disease programs, are still to be agreed and a focal point from CSU is to be identified for facilitating this.

6. The progress in urban surveillance pilots and involvement of infectious disease hospitals in disease surveillance has been very slow and requires acceleration. So far only two cities (Mumbai and Kolkata) have signed MOUs for strengthening urban disease surveillance and funds have been released to only one city. Similarly despite identifying a limited number of ID hospitals for the pilot, the progress in finalizing the implementation arrangements has been tardy.

7. While notable progress in reporting has been achieved and state interactions with CSU have significantly improved with regional consultations in Gandhi Nagar and Chandigarh and more frequent state visits by the Special Secretary, PD and CSU staff, the agreed actions to supplement capacities available at state and district levels to analyze the data and use for local response are delayed. The Bank team acknowledges and appreciates MOHFW's effort to create a cadre of dedicated epidemiologists at state and district levels and entomologists and microbiologists at state level under the NRHM to facilitate such capacity building. These posts were approved for a period of 2 years and it is important for the IDSP to demonstrate the utility of such new staff for the program. The arrangement for recruitment of this staff is still to be agreed and approved by MOHFW.

8. Finally, the progress in the agreed rapid assessment of quality and use of equipment supplied to states so far under the project is slow and stuck at EOI stage. Priority attention is required to expedite this as the findings of this assessment will provide some guidance to the proposed strengthening of 50 model district public health laboratories.

Component 2: Integrate and Strengthen Disease Surveillance at State and District Levels

9 **Feedback from state review and visits:** As envisaged, all phase I and II states and most of the phase III states have also established State Surveillance Units (SSU) headed by a state technical officer and most of them are sharing weekly surveillance reports with the centre. With the introduction of weekly outbreak reporting by the CSU since September 2007, fourteen to 21 states reported 8-17 outbreaks every week in May 2008. Majority of these outbreaks have been epidemiologically investigated by either District or state Rapid Response Teams. District Surveillance Units (DSU) have been established in all 398 districts included in the project from the Phase I and II states. Among the focus states 228-236 out of 271 districts (84%) are reporting data regularly. Nearly one thirds of the districts in 12 phase III have also established DSUs. Please see Annex II which provides the state performance ranking.

10. The biggest challenge continues to be frequent turn-over of the state and district surveillance officers. Even where these officers are available, they tend to have multiple responsibilities and generally do not have public health or epidemiology training (except in states of Tamil Nadu, Maharashtra and Gujarat) which limits their effectiveness in analyzing the surveillance data and taking appropriate action, including quality assurance surveys. So far, the major portion of the data that is being generated is mainly from the public sector primary health care facilities, though since the last review in Gujarat in April 2008, many states have now started capturing data from in-patient and out-patient departments of some of the public hospitals, especially district, teaching and infectious disease hospitals which handle a large number of cases. However most of the data is gathered is reflected as suspected cases in contrary to the expectation of capturing probable and laboratory confirmed cases. This is the evidence of lack of

monitoring the quality of data and provision of regular feedback to districts and facilities. Only 185 out of 397 private facilities in about 80 districts are reporting some data from 9 focus states.

11. Surveys for Risk Factors for Non Communicable Diseases: The first round of these surveys are being implemented by the Indian Council of Medical Research (ICMR) and the IDSP has entered into a Memorandum of Understanding (MOU) with them on March 19, 2007. For 8 out of 9 Phase I states, a survey agency has been identified in consultation with each state and 5 regional agencies were selected to monitor quality. The National Institute for Medical Statistics (NIMS) has been providing overall technical oversight and support for data compilation, analysis and preparation of the report. A National Technical Advisory Committee (NTAC) established by the ICMR has approved the survey protocol and instruments prepared the national nodal agency in July 2007. This was followed by a trainer's workshop for state and regional survey agencies. The NTAC has recently reviewed the suggestion from the Bank to include Biochemical parameters in the survey and recommended their inclusion. However, this could not be implemented in the first phase states. NIMS has developed an analysis plan and software for data entry and analysis and data collection has been completed in 7 out of 8 states. The data is being cleaned and analyzed by NIMS and final results are expected by September 2008.

12. Following the recent, MOHFW policy decision to pilot the national program for NCDs in 6 districts in states of Assam, Kerala, Rajasthan, Punjab, Karnataka and Tamil Nadu, the mission strongly recommends the IDSP to support baseline assessment of risk factors in the pilot districts after discussions with the NCD cell. Based on the implementation experiences of Phase I, the mission recommends the IDSP to develop terms of reference and protocols for the NCD surveys in Phase II states and initiate bidding process following the Bank procedures for selection of appropriate agencies to undertake these surveys.

Agreed actions:

13. By September 30, 2008 ICMR to finalize the reports for Phase I states and disclose the data on the IDSP website and CSU to finalize protocol and TORs for the Phase II surveys and start bidding process

14. Community Involvement in Disease Surveillance: IDSP clearly aims to involve communities in disease surveillance in an effective manner, steps to achieve which have been well laid down in the Section-25 of the Project Implementation Plan (PIP). The pressure of having to pay immediate attention to strengthening institutional mechanisms, staff capacity building, and filling infrastructure gaps, IDSP has not been able to focus as much on the community involvement aspect. Some states have however started taking important preliminary steps towards setting in motion community surveillance processes. Chandigarh has started working with the 'Sector Welfare Committees'; Karnataka has involved NGOs and elected local representatives, whereas Andhra Pradesh has focused on the community health workers. These initiatives will have to be closely observed and replicated in other states on the basis of lessons learnt. For example, Mumbai could learn from Chandigarh and involve the cooperative housing societies and their federations in the disease surveillance process.

15. Community mobilization has been the focus of many government supported development and welfare schemes across the country over the last decade. IDSP therefore does not have to initiate a parallel social mobilization process for community surveillance. Instead, it should identify community organization already in place and accordingly work out the community involvement strategy. In states such as Karnataka, Kerala, and West Bengal, Panchayat Raj Institutions (PRIs) could play this role, given their strong presence; in Andhra Pradesh and Tamil

Nadu, women self-help groups and PRIs could be involved, whereas in other states NGOs/CBOs may be useful. Under NRHM, village health committees are intended to be set up, who could also play an effective role in the disease surveillance process.

16. Tribal Action Plan: IDSP is universally targeted at people cutting across states, geographical regions, linguistic and ethnic groups including tribal communities. The benefits of IDSP already reach the tribal communities even as no specific activity is exclusively targeted at them. It will be a good idea to segregate data and document how and where various activity components of IDSP have benefited tribal communities.

17. Keeping in view, their special needs and poor access to the public health care system due to their unique socio-economic conditions and physical locations, IDSP has laid down a special Strategy for Tribal Populations in Section-28 of the PIP, which will be implemented in order to enhance positive project impacts on the tribal people. So far, no significant progress has been made in this direction. The districts selected for undertaking the community surveillance activity will have significant tribal populations, and will therefore provide a platform for implementing the applicable components of the strategy for tribal people on a pilot basis.

Agreed Actions:

18. NICD will document how various completed/ ongoing IDSP activities have benefited tribal communities across states by segregating available data within six weeks; and pilot community surveillance in about 6-8 districts with considerable tribal population. The plan of action for undertaking this pilot will be prepared by the end of September 2008.

19. Strengthening data quality, analysis and links to action (IT): NIC has made real progress in broadband connections, including videoconferencing capacity between the State Surveillance Units and the Central Surveillance Unit. A regular schedule for CSU-SSU videoconferencing has been initiated recently for IDSP managers in the states and NICD to discuss program status and seek solutions to problems. In addition, broadband connectivity for district surveillance offices has substantially improved and 443 of 786 locations have operational broadband connections. In addition, the mission was pleased to participate in videoconferencing from SSU to their district surveillance units in Haryana and in Punjab; videoconferencing can be a powerful tool for IDSP management, training sessions, and coordination efforts with vertical disease control program colleagues. It will be important to have videoconferencing operational to all IDSP districts as soon as possible.

20. Progress in making analytic capacity available at the district level is unchanged from previous reviews and is still a critical need. The CSU proposal for Data Manager training should help on a near term basis, as the NIC software is still at early pilot stage. Within the next six months there should be capacity to generate district and sub-district level graphs of cases reported by week for the preceding months for specific diseases from the P and L form (eg typhoid, dengue, Japanese encephalitis, etc). There also should be a formal user acceptance process implemented to assure that the NIC software meets SSU and DSU needs.

21. The call center has been implemented with a campaign to “call 1075” noted during field visits at the SSU's of Haryana and Punjab; the mission received a listing of outbreaks reported to the center to date. Necessary actions include continued active marketing of the call center to health care providers and health personnel throughout the country, and monitoring of call center utility, including recording SSU (and DSU) follow-up actions and results.

Agreed Actions:

22. To update the data manager's training program by including a module on data analysis at district level using excel and complete the data managers training by October 31, 2008; To ensure regular video conferencing between CSU and states (at least once a fortnight), and State Surveillance Units and districts (at least once a week).

Component 3: Laboratory Strengthening:

23. Rapid and reliable confirmation of the disease agent causing an outbreak is critical for achieving the project's objective of enhancing appropriate on the ground response at local levels. The project envisaged upgrading of laboratory capacities at different levels to support such confirmation and also introduce a laboratory quality assurance system. Due to various reasons, progress in this component has been very slow. The main stumbling block is the finding of the baseline surveys that most districts do not have qualified microbiologists or a qualified technician to operate the laboratory. Even in places where staff is available, there are serious competency gaps and bio-medical waste management practices are not being followed. So far, the lab quality assurance activities are limited to state laboratories in 12 focus states and these labs started reporting on the panel prepared by the NICD consisting of 3 slides and bacterial isolate for external quality assurance.

24. Three actions were agreed at the beginning of the MTR to address the identified deficiencies by March 31, 2008. First, preparation of a revised laboratory plan building on findings of baseline surveys and implementation experiences covering the scope of laboratory strengthening, training, establishment of quality assurance system for test kits etc. Second, strengthening the IDSP team with two consultants for laboratory services and third, all Phase I states to have a laboratory coordinator in place and prepare state-specific action plans for improving laboratory services under the project. While the IDSP has now posted two microbiology consultants, the progress in other two agreed actions has been slow. The CSU has prepared a plan to strengthen 50 district public health labs with a detailed list of inputs required for each lab based on a self assessment questionnaire responded by the states. However, a cohesive plan for overall laboratory strengthening for disease surveillance in India is still lacking. The progress in recruitment of state laboratory coordinators also has been slow and so far no new laboratory coordinators have been posted.

25. Further, there are some major issues India has to grapple with for improving its public health laboratory services. Over the years, different vertical disease control programs have strengthened their own reference laboratory networks in public sector to meet their emerging program needs. While such efforts certainly helped in improving the overall capacity and quality of reference laboratories in India, the end result is a fragmented development of reference laboratories specializing in few diseases leading to unnecessary duplication and wastage of efforts. It is important for India to evolve a cohesive policy for networking of public health reference laboratories in the country which meet the quality standards required under the international health regulations.

26. With the availability of more dependable rapid diagnostic kits, early detection of diseases prone for outbreaks is now possible at local levels which will immensely help disease surveillance. However, due to variations in sero-types of the organisms and storage conditions, there are concerns about selecting rapid diagnostic kits appropriate for the country. Also, there are no robust quality assurance systems in place for commercial diagnostic kits available in the

market. Therefore, urgent efforts are needed to establish a system for selection of appropriate kits for diseases that are outbreak prone. Under the Bank supported India Vector Borne Diseases Control Project, it was agreed to establish such system for rapid diagnostic kits for malaria. The IDSP laboratory strengthening component will also require efforts in this direction.

27. After a detailed discussion, the following agreements were reached to recast the laboratory strengthening component taking the implementation experiences and operational realities.

- **Peripheral laboratories and microscopy centers (Level 1 labs):** The project will NOT support any further inputs for these laboratories as they are being strengthened by disease specific programs as per the Indian Public Health standards established under the NRHM.
- **District Public Health Laboratories (Level 2 labs):** Only 50 model district public health laboratories will be supported under the project. As per the agreed joint action plan between MOHFW and the Bank, the equipment inputs required will be funded from the domestic resources while the costs for training and salaries for incremental contractual staff would be supported by the project.
- **State Public Health Laboratories (Level 3 labs) and Regional Laboratories (Level 4 labs):** As the support for L2 labs will be limited to only 50, it is important to establish a network of reference laboratories supporting the districts in such a way that every district will have an identified reference lab which can be approached for providing laboratory services for public health services. Such network may include, laboratories attached to medical colleges, ICMR institutions and private sector in addition to state and regional public health labs. Ideally each lab should not have more than 3-4 districts for providing such back-up. The IDSP will allow flexibility either to provide additional equipment and consumables (through central procurement) or negotiate standard unit prices for tests performed.
- **National Reference Laboratories (L5 labs):** These labs will provide support for disease specific requirements like virus isolation, sero-typing etc. and will play active role in promoting quality assurance and test kit standards. The costs for providing these inputs will be provided by the project through the CSU.

28. For successful implementation of the above the following supporting actions will be required.

1. Positioning a full time laboratory coordinator at the CSU.
2. Listing national, regional and state laboratories for providing reference laboratory network for IDSP
3. Organizing a consultation with the heads of identified national, regional and state laboratories to agree on scope of support, inputs required and format for memorandum of understanding clearly spelling out roles and responsibilities for establishing a viable network of reference laboratories.
4. Preparing an action plan for establishment of reference laboratory network which includes a clear role of the reference labs in capacity building of district laboratories and annual workshop to share experiences.
5. Preparing an action plan for promoting standards of rapid test kit starting with Leptospirosis and Dengue including technical assistance requirements.

Environment

29. The implementation of agreed actions for laboratory safety continues to be slow and rated moderately satisfactory. The action plan for finalizing and implementing Standard Operating Procedures and laboratory waste management plans followed by a national work shop to disseminate these procedures and plans to state laboratory coordinators to facilitate decentralized training is still pending. The Bank team strongly recommends urgent follow-up on this.

Component 4: Training for Disease Surveillance and Action:

30. The Bank team commends the progress made in the IDSP training. The CSU has completed Training of Trainers (TOT) for all phase I and II states training institutes have been identified for the phase III states. TOT has been completed for the states of Punjab and Sikkim, partly done in the states of Assam, Arunachal Pradesh and Uttar Pradesh and for the remaining states it is yet to begin. Most of the phase I and II states have completed the originally planned training of medical doctors and health workers in primary health care, and the training of the doctors and staff at Medical colleges, District and sub-district hospitals is currently under progress. Approving and releasing funds for this additional training has been the cause of delay in completion the same. Over all 2,071 district and state surveillance officers/members of rapid response teams (1895 in phase I & II) 22,087 medical Officers (all from Phase I & II states), 133,821 Health workers (all from phase I & II states) and 6,176 laboratory technicians (all from phase I & II states) have been trained in basic IDSP protocols.

31. In-house development of a new two week field epidemiology training program (FETP) in November 2007 with technical support form WHO is one of the most notable achievements of IDSP training division. After a trial course in NICD, the Post Graduate Institute of medical education and Research Chandigarh have conducted two courses and the contents and training methodology has now been finalized. A total 58 district surveillance officers have been trained so far in this 2 weeks FETP course and a two day sensitization workshop has been held for faculty from 11 training institutions identified for providing this new training country-wide. Three of these institutes will start this training from August 2008. It was agreed that priority would be given to the newly recruited epidemiologists in this training during their induction. Also, the training division has initiated efforts to contract an agency for development of Electronic modules and technical support in this area is being offered by CDC. Considering the need for constant updating, this aspect also requires priority attention by the project management.

Agreed actions:

32. It was agreed that the CSU will start rolling out 2 week FETP training giving priority to induction training of new epidemiologists immediately and finalize and roll out the Electronic Training Modules from March 2009.

Procurement

33. *Status of important Action Points of previous missions:* As agreed, the CSU has started state visits to monitor the compliance of procurement procedures and two states (Uttarakhand and Himachal Pradesh) were visited since the last mission. Though the collection of the contract data from the states has improved, more efforts are needed to ensure timely sharing of such data by the states to CSU every quarter. The CSU should carefully review this information to identify indicators of possible collusion², as observed in Karnataka state visit during the last mission.

² Common address, telephone numbers, similar text etc.

During the wrap-up the Special Secretary has reiterated the decision to use domestic funds for decentralized procurement and lab strengthening and limit Bank financing for contractual staff, mobility support and operating costs as per the agreed joint action plan. However, a formal communication to this extent need not be sent to the states and this should be done immediately.

34. *Procurement under the IDSP Component:* The Bank team was informed that all the equipment procured by the procurement support agency (HSCC) for Phase-I (9 states) have been delivered and installed. It is now proposed to engage an agency to conduct a census of all the equipment delivered to the states. Due to the experience in phase-I states, the project has decided to cancel the bidding process for procurement of lab equipment for phase-II and phase-III states and has decided to focus strengthening of only 50 labs initially. After this is done, remaining labs will be strengthened in phases. It was agreed that the procurement of equipment and works for the strengthening of the 50 laboratories will be supported under the domestic funding under NRHM. However, it was agreed that support from the existing laboratories including those from private sector would be sought as an interim measure by paying a fixed fee for testing public health samples to meet the incremental operating costs.

35. As Bank has decided to not finance the contracts for computerized surveillance system issued to NIC and ISRO, the progress on these contracts was not discussed during the Mission. The project is proposing to set up two studios with the estimated cost of Rs.5 Million. It was agreed that the proposal for this activity will be shared immediately with the Bank. Based on the findings of the last post review, the CSU has taken action for monitoring of the decentralized procurement of simpler laboratory equipment as well as capacity building of the staff handling such procurement under domestic funding.

36. *Procurement under AI- Human Health Component:* Contracts for 8 items proposed under this component (totaling to about Rs.50 Million) have already been issued by Empowered Procurement Wing (EPW) of MOHFW, while the Bank has issued its no objection to the bid evaluation report for procurement of BSL-3 labs (estimated value – Rs.30 Million) recently. However, due to delay in issue of contract for inspection agency for undertaking the mandatory pre-dispatch inspection, their delivery has been delayed. The Bank team has expressed its concern about this delay and MOHFW has agreed to issue this contract immediately so that the delivery of the equipment could start. In addition, the shopping contracts for equipment worth Rs.5 Million are under process at CSU level and fresh bids are proposed to be invited by EPW for equipment worth Rs.25 Million.

37. *Procurement Post Review:* The consultants appointed by the Bank have already conducted the post review of the contracts issued during 2006-07 and their report is likely to be available by July 2008. The major findings of the post review will be shared with the project subsequently. MOHFW has agreed to initiate appropriate follow-up on the findings of post review within one month of receiving the report.

Financial Management:

38. *Financial Reporting:* The project has submitted Financial Monitoring Report (FMR) for the six-month period ending on March 31, 2008. However, only 11 out of 23 phase I and II states have reported expenditure up to March 2008. Consequently, the reimbursement claims submitted till March 31, 2008 do not fully reflect the expenditure incurred by states. The Bank team re-emphasizes the criticality of pro-active role to be played by the CSU to ensure timely and

complete reporting of expenditure by district and state surveillance units through setting up and rigidly enforcing internal control mechanisms with well defined timelines.

39. *Financial Management Staffing and Training.* The recruitment of financial officer at CSU which has fallen vacant recently requires urgent attention by the management. Availability of finance staff at SSUs continues to be a major cause of concern and 13 out of the 35 SSUs still need to recruit a finance officer. In the previous mission, it was agreed that the CSU will aggressively follow-up with the states to ensure prompt positioning of these staff or arrive at an agreement with NRHM to ensure availability of such staff for the project requirements. This requires urgent follow-up. During the previous mission, it was agreed that an orientation cum training for the SSOs and financial officers from all the SSUs will be conducted by CSU and similar trainings would be done annually. Except for a brief orientation to the SSOs on financial management, none of these trainings have been held for the state financial officers.

40. *External Audits.* The project needs to share the consolidated statement of audited expenditure and summary of audit observations for the year 2006-07 with the Bank. This should be shared along with details of follow-up actions taken so far on the audit observations and reconciliation of cumulative audit expenditure with the expenditure reported in the reimbursement claims to the Bank till FY 2006-07. The project should also communicate to the Controller and Auditor General the expanded scope of the project due to the inclusion of AI component to be implemented by the Department of Animal Husbandry, Dairying and Fisheries.

Agreed actions:

41. Share (a) consolidated statement of audited expenditure and a summary of audit observations for 2006-07 along with details of follow up taken so far; and reconciliation of cumulative audited expenditure with the expenditure reported in the FMR and in the SOE; and (b) completed FMR covering expenditure incurred up to March 2008 by all states by August 14, 2008.

Part II Avian Influenza

42. Since the first outbreak reported from 3 districts of Gujarat and Maharashtra in January-February 2006, India has reported Avian Influenza (AI) outbreaks among bird population in 22 districts from 6 states. So far, no human case of AI has been reported from India. However, with the reporting of human cases of AI with high mortality in Bangladesh, Pakistan, Myanmar, Thailand, Vietnam, Indonesia, the risk of AI and the possible occurrence of human cases continues to be high for India. Therefore, preparedness to identify and promptly respond to AI outbreaks should continue to be a priority for India.

43. The human health sub component of AI component under IDSP project supports: (a) strengthening and networking of reference laboratories for prompt case confirmation; and (b) re-establishing seasonal influenza surveillance system for India building on network established in the past by the Indian Council for Medical Research (ICMR). MOHFW supports active surveillance for human during the outbreaks, prophylaxis for the high risk groups with Temiflu and strengthening of hospital services with related training.

44. The mission was informed that the NICD has now entered in to memoranda of understanding with all nine regional laboratories and orders have been placed for supply of laboratory equipment except electron microscope and pre-fabricated BSL III laboratories. One round of sensitization training was held for the in-charges of these labs and formal training is

expected to start soon. However, supply of this equipment could not be completed due to delayed appointment of agency for pre-dispatch inspection. The facility based seasonal influenza surveillance has started in Delhi and Ahmadabad on a pilot basis. Under MOHFW supported activities, a one day joint training was organized for clinicians and microbiologists, an additional two day training program was organized for rapid response teams in West Bengal and regional table top exercises were started following the positive experience from such exercise held last year at national level with WHO support. It was agreed that by December 31, 2008 all regional laboratories will be made fully functional delivering the outputs planned under the project and seasonal influenza surveillance will start.

West Bengal Site Visit Summary

45. Both human and animal health teams that participated in the mid term review visited the state of West Bengal and undertook a field visit to Murshidabad district followed by a detailed discussion with district public health officers responsible for disease surveillance from 13 districts and two officers from the department of Animal Husbandry at Kolkata.

46. An outbreak of AI was suspected in villages of two community development blocks in Bir Bhum district during the first week of January 2008 and this was confirmed on 15th January. Since then 16 districts in West Bengal and 2 districts in Tripura have reported outbreaks of the disease. In West Bengal, back yard poultry was mainly affected in addition to two state farms at Malda and Ballurghat. Since the beginning of the epidemic in the state 4.26 million birds, 1.56 million eggs and 90,000 kg feed has been destroyed and the recommended measures in the contingency plan such as stoppage of import and export of birds, use of personal prophylaxis equipment and Tamiflu by the cullers, and quarantine were observed.

47. There have been no cases of human avian influenza in the state and all the 13 districts that participated in the review meeting reported activities in response to AI epidemic. Active surveillance for fever and respiratory infections was undertaken every day in the villages within 3 km radius of the village where AI had been reported and every 3 days in the villages 3-10 km as per the national guidelines. Altogether a total of 30 samples were sent to the national reference laboratories from different districts³ to check for H5 N1 virus and none of them was positive. The district and sub-district hospitals in Murshidabad reported the use of preventive measure such as administration of Tamiflu and the use of personal prophylaxis equipment by the cullers and isolation units comprising of 15 beds and 2- 3 beds were set-up at district and sub district hospitals respectively. These isolation facilities are equipped with respirators, oxygen, mucus suction equipment and emergency trays.

48. While the state has successfully put in place the required active surveillance mechanism quickly, the quality of reporting fever and respiratory symptoms was variable across the districts, especially the recording and follow-up of the persons identified with flu symptoms. It is important to enhance the skills of the block and district public health officers to analyze the data being generated by the field staff, provide prompt feedback and undertake more field visits to sustain the motivation of the health staff. Efforts are also required to determine whether the observed trend of flu symptoms is unusual by comparing with the data from corresponding periods in the past.

³ Birbhum: 8, Dinajpur :7, 24 Pargana (North): 7, 24 Parganas (South): 4, Murshidabad:2, Howrah:1, East Midnapur:1

49. The team is pleased to note that the doctors working at the hospitals with isolation wards have received formal training on AI case management, however only informal training was provided to the other team members. The national guidelines should ensure team training involving doctors, nurses and other support staff working in the isolation wards and also ensure that such teams could be effectively used for meeting any medical emergency including natural calamities. As per the action plan for preparedness and response, regular meetings at different levels in the state should be organized for exchange of information and for planning specific local actions required for the control of the epidemic.

Agreed Actions:

50. To start seasonal influenza surveillance and at least 5 out of the 9 L4 labs supported under the project achieve the agreed performance standards by April 30, 2009.

**STATE PERFORMANCE RANKING
MID TERM REVIEW JUNE 2008**

States	Outcome reporting		Weekly reporting				Critical Staffing					Total 50
	Number of outbreaks reported during the last quarter (March-May 08)	Number of outbreaks confirmed and documented	Primary health facilities	Hospitals	Private sector	Data analysis & feedback	SSO	State Lab coordinator	State & Dist. SO training	Medical Officer's training	Paramedical staff	
	> 10 =6; 5-10:4; 2-5=2 <2=0	91- 100% = 6; 51-90 =:4; 26-50%=2 <25=0	> 90% =5; 60-90%:3; <1-60%=1	> 75% =5; 50-75%:3; <1-50%=1	>50% = 5; 25-50%:3; < 25%=1	State & Districts giving feedback =4, Only state giving feedback to districts= 3 only some districts giving feedback =2	Full time SSO >1 year= 5; Full time SSO 6 months - 1 year= 3 yrs; Full time SSO < 6 months =1	Full time SLC >1 year= 5; Full time SLC 6 months - 1 year= 3 yrs; Full time SLC < 6 months= 1	> 75%=1, <75=0	> 80% of all=4, < 80% of all =3, >80% of PIP= 2; 60-80 Of PIPT=1 <60% PIP=0	> 80% of all=4, < 80% of all =3, >80% of PIP= 2; 60-80 Of PIPT=1 <60% PIP=0	
Major States												
Tamil Nadu	6	2	5	3	1	3	3	5	1	4	4	37
Gujarat	6	6	5	3	3	3	5	0	1	4	4	40
Karnataka	6	2	5	3	3	3	3	5	1	2	2	35
Maharashtra	6	2	1	2	2	3	5	5	1	2	2	31
Haryana	6	2	5	3	3	3	5	0	1	3	3	34
Orissa (NOU)	6	6	3	0	0	2	3	0	1	2	2	25
West Bengal	4	0	1	1	1	3	5	0	1	4	4	24
Rajasthan	6	0	3	1	1	3	1	0	1	2	2	20
Kerala (NOU)	NA	NA	3	3	3	3	1	0	0	2	2	17
Andhra Pradesh	6	6	3	3	1	2	1	0	1	3	3	29
Smaller States & UTs												
Goa	2	0	5	5	5	3	5	0	1	4	4	34
Uttarakhand	6	2	5	3	3	3	5	0	1	4	2	34

Himachal Pradesh	2	0	2	2	0	0	1	0	1	4	2	14
North Eastern States												
Mizoram (NOU)	3	6	5	3	5	3	5	NA	1	4	4	38
Nagaland	0	0	1	2	NA	3	6	NA	1	4	2	18