INDIA

INTEGRATED DISEASE SURVEILLANCE PROJECT (Credit 3952-IN)

FOURTH REVIEW MISSION

AIDE MEMOIRE

November 13-24, 2006

1. A World Bank team[1] reviewed the implementation progress of the Integrated Disease Surveillance Project (IDSP) during November 13 to 24, 2006. The Bank team worked closely with the Government of India (GOI) team led by Mr. Deepak Gupta (Additional Secretary, Health and Family Welfare, Government of India (GOI)) and Dr. Shiv Lal (Director for the IDSP and National Institute for Communicable Diseases); and included Dr. R. Ichhpujani (National Project Officer for the IDSP), Dr. Jagvir Singh (Public Health), Dr. Shashi Khare (Avian Influenza) and project staff from the center and the Phase I and II states. Dr. Sampath Krishnan, WHO India and Dr. Sanjeev Upadhyaya from USAID participated in technical discussions and state reviews.

2. The review team and senior officers from the Central Surveillance Unit (CSU) undertook detailed state reviews visiting states of Andhra Pradesh, Madhya Pradesh, Karnataka prior to the mission and the state of Haryana during the mission. Consultations with project states were held in Delhi and Pune to review implementation progress. During the mission final agreements were reached on scope of Bank's support for the human health component of India's Avian Influenza (AI) containment program. Similar agreement for Animal Health component was reached prior to the mission. The implementation schedule for Non Communicable Diseases (NCD) surveys proposed under the project was also finalized. The Bank team reported its findings at a wrap-up meeting, chaired by the Secretary, Health and Family Welfare, on November 23, 2006.

3. The review successfully achieved its main objective of identifying the critical bottlenecks in the implementation of IDSP based on experiences during the first two years and agreed with GOI on activities and time schedule for developing an "action plan" to address identified bottlenecks. This action plan will enable the IDSP to improve its ground effectiveness providing more flexibility to a priority set of states based on local needs and capacities for undertaking quality surveillance. The scope of Bank's support for Human Health component of India's country program for preparedness, control and containment of AI was also agreed. The review findings are presented in two sections. Section-A details the findings on IDSP, while Section-B describes Bank team's assessment on AI.

[1] Members of the mission were GNV Ramana (Task Team Leader, SASHD), Martien van Nieuwkoop (Co-TTL, SASAR), Shanker Lal (Procurement), Mohan Gopalakrishnan (Financial Management), Ruma Tavorath, (Environment), S. Ojha and M. Gupta (Information Technology);), Stephen Ostroff (Communicable Diseases),Vijay Kumar (Avian Influenza), K. Suresh (Public Health), Gowrinath Sastry (NCD surveys), and Nira Singh (Program Assistant)

Section A: Review of Integrated Disease Surveillance Project

4. **Key Project Data**

Project Data	**Project Performance Ratings**		
Board Approval: July 8, 2004	*Summary Ratings*:	*Last*	*Now*
Effectiveness Date: October 28, 2004	Achievement of PDO	MS	MU
Original Closing Date: March 31, 2010	Implementation Progress	MS	MU
Revised Closing Date (if relevant):	Financial Management:	S	MS
MTR Date (Actual if completed), October 31, 2007			
Original Ln./Cr. Amt: US$ 68 Million			
Revised Ln./Cr. Amt:			
Amount Disbursed: US$ 6.53 Million			

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

Disbursements

5. The disbursement under the project is USD 7.676 million and excluding Special Account Advance of USD 6.556 million the actual disbursement under the project is only USD 1.12 million. The expenditure incurred, claims made and reimbursed and amounts advanced to the States and procurement agent as of September 30, 2006 is as follows:

	Rs million	**USD Million**
Expenditure till September 30, 2006 (Gross)	184.10	4.09
Eligible expenditure till Sept 30, 2006 (net)	143.71	3.19
Reimbursement claims made & reimbursed by Bank	50.10	1.12
SOE's in the pipeline (with CAAA & Project)	93.61	2.07
Advances with States/Procurement Agents/ISRO/Training Institutes	674.10	14.98

Key Issues in Implementation and Agreed Actions to Address these Issues

6. The IDSP envisaged improving information from government and private health services on a set of high priority diseases and risk factors to enhance on the ground response to prevent and control such conditions. All 35 States and Union Territories of India are to be covered under the project in a phased manner. The implementation experiences of first two years suggest that for a country of India's size with varied needs and capacities at state and district levels rapid scaling-up of disease surveillance is not easy. Developing countries of much smaller size took over a decade and significant resources to establish decent surveillance systems. Further, some events such as recent outbreaks of Avian Flu, Chikungunya and Dengue and broader discussion on procurement in Bank supported India health projects that distracted the staff attention from IDSP could not be anticipated during the project development.

7. Now nearly 50% of the districts from Phase I and II states are able to generate weekly surveillance reports. However, this data is essentially limited to public sector primary care facilities. Due to limited capacities at block and district levels, assessment of the quality and completeness of these reports and use of the data for local response are very limited. Lack of dedicated staff at critical operational levels, frequent staff turnovers and continued duplication of surveillance activities significantly slowed down the project implementation and most states are still in start-up phase as evidenced by State Report Cards attempted during this mission.

Consequently the project is unable to demonstrate any significant impact on disease detection at this stage. MOHFW has constituted a task force to comprehensively assess Information Technology (IT) needs for all centrally sponsored programs. The IT inputs envisaged under the project for rapid flow of information to generate alerts based on disease triggers was put on hold pending the final decision of MOHFW. Despite strong proactive role played by the project, the non-communicable disease risk factor surveys are yet to start. Delayed procurement actions have slowed down the disbursement. Taking the above in to consideration, the overall project implementation and progress towards DO are now rated moderately unsatisfactory.

8. Experiences during the past 6 months highlight the benefits of enhanced central oversight to lagging states. Visits made by senior officers of MOHFW and NICD helped in improving IDSP implementation in the states of Andhra Pradesh and Tamil Nadu. With only three years left in the project, it is important to demonstrate the impact in a few well performing states during the next 12 months while continuing the limited scale-up of IDSP in the remaining states. Additional financing and enhanced technical support from NICD will be required to demonstrate effective implementation of IDSP in these priority states. WHO has agreed to support such initiative by providing additional consultant support to NICD. In addition, special efforts will be required in these states to enhance the quality of surveillance through a range of activities such as supporting dedicated staff, periodic refresher training and establishment of sentinel sites. A final decision on IT support needs to be taken urgently for establishing a computerized disease surveillance system as early as possible. Situation rooms displaying surveillance data and outbreaks in graphs and pictures in MOHFW and state directorates of health will enhance the program image. Similarly, simple charts for plotting weekly trends in communicable diseases at PHC level will help health staff in identifying and investigating unusual increase or decrease in reporting. Completion and dissemination of non communicable disease surveys in Phase I states during the next 6 months will provide prominence to IDSP as an important source of information for NCD prevention and control policies. Considering the rapidly increasing share of NCDs, it is highly desirable to establish an NCD epidemiology unit at NICD.

9. **Key performance Indicators**

Indicator	Baseline	Progress to date	End–of-Project Target Value
1. Number and % of districts providing monthly surveillance reports on time	93 districts included under National Surveillance program for Communicable Diseases	About 50% (203) out of the 396 districts covered in Phase I and II are sharing weekly surveillance reports to CSU. However, the data is mainly limited to primary health care institutions and quality is variable.	>50% of districts
2. Number and % of districts in which private providers are contributing to disease information	None	15 out 49 districts from 3 Phase I states (Karnataka, Mizoram and Uttaranchal) reporting data from Private Sector	At least 50% of the reporting districts
3. Number and % of laboratories providing adequate quality information	Survey in progress. Results expected by end December 2006	Data not available	
4. Number and % of responses to diseases specific triggers assessed to be adequate	Not existing	While all Phase-I and II states reported responses to disease outbreaks, disease specific triggers are yet to be established.	>75%

REPORT CARDS FOR PHASE I & II STATES[2]

[2] [2] Assumptions used for the first report card

State	Reporting	Dist. PH Lab Assessment	State & Dist. SO training	Medical Officer's training	Para Medical Worker Training	Staffing of SSU & DSU	TOTAL	RANK
Major States								
Haryana	3	1	1	1	1	1	8	B
Tamil Nadu	3	1	1	1	1	0	7	B
Gujarat	4	1	1	0	0	0	6	C
Karnataka	2	1	1	1	0	1	6	C
Kerala	3	0	1	1	0	1	6	C
Andhra Pradesh	1	0	1	1	1	1	5	C
Rajasthan	3	0	1	0	0	1	5	C
Chattisgarh	2	0	1	1	0	1	5	C
Madhya Pradesh	2	0	1	0	0	1	4	D
Orissa	3	0	1	0	0	0	4	D
Maharashtra	1	1	1	0	0	0	3	D
Chattisgarh	0		1	0	0	1	2	D
West Bengal	0	1	1	0	0		2	D
Smaller States & Union Territories								
Goa	4	1	1	1	1	1	9	A
Pondicherry	4	0	1	1	1	1	8	B
Uttaranchal	3	1	1	1	0	1	7	B
Himachal Pradesh	4	0	1	1	0	1	7	B
Chandigarh	3	0	1	1	1	1	7	B
Delhi	0		0	0	0		0	D
North Eastern States								
Mizoram	3	0	1	0	1	1	6	C
Nagaland	3		1	0	0	1	5	C
Meghalaya	1	NA	0	1	0		2	D
Manipur	0		1	0	0	0	1	D
Tripura	1		0	0	0		1	D
Maximum Score	**5**	**1**	**1**	**1**	**1**	**1**	**10**	

Agreed Key Actions (Detailed actions given in Annex II)

10. The attention being given to IDSP at highest policy level, and commitment and motivation shown by new leadership at MOHFW and NICD provide a unique window of opportunity to improve disease surveillance in India and the hope of a quick turn around for IDSP. For achieving this, completion of the following actions is critical:

I. Reporting: 5= Full reporting incl. Public Hospitals and Private sector; 4= Full reporting from all public sector units incl. hospitals; 3= >75%districts reporting; 2=50-75% districts reporting; 1=1-50% districts reporting; 0= Nil reporting

II. District PH lab assessment: 1=completed; 0=Not completed

III. State & District Surveillance Officers Training: 1=>75%; 0=<75%

IV. Medical Officers Training: 1=>75%; 0=<75%

V. Para Medical Worker Training: 1=>50%; 0=<50%

VI. Staffing of State and District Surveillance Units: 1=> 80%; 0=<80%

VII. Rank: A= 9-10; B=7-8; C=5-6; D=<5

During December 2006 MOHFW will:

- Communicate its final decision on procurement of Information Technology services for the IDSP to the Bank;
- Take a policy decision on creating dedicated positions under National Rural Health Mission to support disease surveillance activities at central, state and district levels is taken;
- Create a financing mechanism that ensures flexible funds to selected states to rapidly scale up disease surveillance is in place; and
- Sign an MOU with Indian Council of Medical Research for supporting Non Communicable Disease (NCD) risk factor survey.

During December 2006 NICD will:

- Prepare an action plan for improving the ground effectiveness of IDSP in at least 10 states representing three clusters of states based on their report cards; and
- Assign one NICD officer as a focal point for each of the selected states who will be complemented by regional coordinators and WHO in providing supportive supervision.

During January 2007 NICD will:

- Organize an expert consultation to further rationalize diseases included under IDSP, periodicity of their reporting, methods of surveillance, standard definitions for common outbreaks and triggers for action at different levels; and
- Finalize a concept note on urban surveillance and provide technical assistance to 4 metropolitan cities to develop city specific implementation plans.

With the proposed reallocation of about USD 33 million equivalent for Avian Influenza, supplemental financing will be required for IDSP. The pace of implementation of this action plan will determine the extent and timing of supplemental financing.

Implementation Progress

Component I: Establishment and Operation of Central Surveillance Unit (CSU)

11. Since April 2006, several actions have been taken to enhance the effectiveness of CSU. A new National Program Officer (NPO) has been positioned; IDSP is now better integrated with NICD divisions. The Additional Secretary and Project Director are reviewing the project implementation every week and personally visited the 3 lagging states. However, some bottlenecks still continue. These include inadequacies in current IDSP arrangements for trouble shooting and technical support to states and duplication of surveillance efforts, especially between vector borne and water borne diseases.

Agreed Actions:

- *The Project Director will assign one senior officer of NICD accountable for trouble shooting and technical support for each of the identified priority states by undertaking monthly visits during the next 6 months*
- *The recently selected 6 regional coordinators will work closely with state focal points of NICD, and WHO will provide additional consultant support for state facilitation*
- *The CSU will develop a standardized checklist for reporting state performance by the focal points, WHO consultants and regional coordinators*
- *NICD will organize an expert consultation to further rationalize diseases included under IDSP, periodicity of their reporting, methods of surveillance, standard definitions for common outbreaks and triggers for action at different levels*

Component II: State and District Surveillance Units

12. The mission tried to objectively assess the state performance using report cards. While the performance is mixed, generally Phase II states tended to perform better than Phase I states. The efforts to obtain surveillance data from private sector are still limited and most states are not collecting data from major and infectious disease hospitals, which are important sources of

information. The most critical bottlenecks are (a) use of standard template for preparing state implementation plans that limited innovation and state ownership; (b) lack of dedicated staff for the project resulting in adding IDSP implementation as an additional burden to one of the existing program officers; (c) frequent staff turnover at district and state levels and lack of arrangements to quickly reorient the new staff; (d) very low capacity especially at district and block levels to analyze and use surveillance data for local decisions and outbreak responses; and (e) poor coordination between IDSP and VBDCP teams resulting in unnecessary duplication of surveillance efforts.

Agreed Actions:

- ③ *MOHFW will create an innovation fund that ensures flexible financing to selected states to rapidly scale up disease surveillance. A technical committee consisting of independent experts and WHO will prepare clear criteria for appraising state proposals for these innovative funds. The scope may include establishment of sentinel sites for quality data on selected diseases, situation rooms to enhance visibility of the program etc.*
- ③ *MOHFW will take a policy decision on supporting key posts (epidemiologist and microbiologist) at state and district levels for providing dedicated support to disease surveillance over medium term*
- ③ *All states will designate a mid-level officer with public health or field epidemiology background as officer on special duty to ensure continuity in project management.*
- ③ *States with high burden of Vector Borne Diseases will explore the options and prepare models for integrating IDSP with VBDCP.*

Component III: Improving Laboratory Support

13. The Director NICD has designated a senior staff member as laboratory coordinator for the IDSP and a full time consultant has been recently appointed to support her. The National Project Officer (NPO) and other project staff visited several states and prepared detailed guidelines for assessment of district public health laboratory and these guidelines are now being used by the states to assess additional inputs required under the project. The baseline survey is under progress and as per the agreed protocol the consultants using a standardized checklist are assessing 20 randomly selected district laboratories. Panels for external quality assurance have been prepared and training manual for peripheral lab technicians has been printed. The main bottlenecks are: (a) lack of clarity on outputs envisaged from the district public health laboratory; and (b) need for a dedicated laboratory coordinator at state and district levels.

Agreed Actions:

- ③ *CSU will update the note on district public health laboratories clarifying the outputs envisaged from such laboratories under the IDSP*
- ③ *MOHFW will take a policy decision on supporting a full time non-medical laboratory coordinator with a clearly defined job chart under IDSP*
- ③ *CSU will organize one orientation program for state Microbiologists of selected priority states*

Component IV. Training for Disease Surveillance and Action

14. Training for state and district surveillance officers is mostly completed in all Phase I and II states. The CSU has prepared a concept note on capacity building for IDSP through three tiered training in consultation with states and 6 candidates from the states of Madhya Pradesh, Gujarat and Uttaranchal have attended 3 months field epidemiology training at NICD. Many Phase I and II states also made progress in medical officer's training. However, a lot of ground still needs to be covered with respect to training of paramedical workers and lab technicians.

15. The external training evaluation in 8 Phase I states has brought out several important issues. These include: developing state based training institutions and state specific case studies; more focused training on basic skills for epidemiologists and microbiologists after initial joint training; inclusion of field/laboratory visits; more participatory practical sessions focusing on data analysis, preparation and interpretation of simple graphs and charts using surveillance data and

outbreak investigation and; emphasis on approaches and examples to elicit participation of private sector etc.

Agreed Actions:

- ③ *All Phase I and II states will complete first round of trainings for Medical officers by December 2006 and for health workers by March 31, 2007*
- ③ *MOHFW will organize annual orientation training for all state level surveillance officers and microbiologists who in turn will organize similar training for district surveillance officers.*
- ③ *NICD will organize special Field Epidemiology Training Programs for IDSP staff during the next 12 months.*

Surveys for Non Communicable Disease (NCD) Risk Factors

16. Under the IDSP, periodic surveys covering representative adult populations are planned to estimate the magnitude of risk factors associated with non-communicable diseases. All states were planned to be covered during a 3-year period in a phased manner. A technical advisory group has been set-up under the chair of Indian Council for Medical Research (ICMR) with technical inputs from WHO to provide oversight for these surveys. NICD has identified a focal point for coordinating this survey and he has actively followed up with states, ICMR and the Bank. Based on justification provided by MOHFW, the Bank has approved single source selection of identified institutions for acting as nodal agency for coordinating the survey, five regional agencies for monitoring data quality, and state level institutions for data collection following the standard protocol developed by the nodal agency.

17. Despite proactive actions taken by the IDSP team, the progress in moving forward with the NCD risk factor surveys has been slow due to time taken for obtaining Bank clearances and reaching agreements on implementation arrangements with ICMR. It is important for IDSP and ICMR to agree on appropriate arrangements and sign the MOU before end November 2006. This will provide adequate scope for completing data collection before next summer. Considering the high priority of addressing NCDs in India, the MOHFW will need to consider establishing an NCD epidemiology unit at the NICD to oversee these massive survey operations, disseminate study findings and support in the formulation and implementation of NCD prevention and control programs in the country. Such unit may have at least one senior epidemiologist, one statistician and anthropologist/nutritionist. The Bank will be happy to support such unit under the IDSP.

Agreed Actions:

- ③ *MOHFW will ensure signing of MOU by IDSP and ICMR by end November 2006*
- ③ *Technical Advisory group will have a meeting to review the schedule and data analysis plan*
- ③ *Training of trainers to start by December 2006 and data collection by January 2007.*

Financial Management

18. Financial management is rated moderately satisfactory. Large advance has been given to the Phase I and Phase II states and to the procurement agents, but the use of these advances remained very low resulting in funds lying idle. The recruitment of State Accountants has been completed in all the Phase I and II states and training on financial management aspects was provided in July 2006. The recruitment of accountants at the district units is still in process in a few States (under Phase I and II), The audit reports for the year 2005-06 for the CSU and all States except for Sikkim were shared with the Bank. The mission was informed that the audit report for Sikkim was incomplete In order to strengthen the audit assurance, it was agreed that from the year 2006-07, the auditors would be asked to submit the completed internal control checklist along with the audit report. Funds were released to a few Phase III States in March 2006, which have not incurred any expenditure.

Agreed Actions for the CSU:

- ③ *Provide an update to the Bank on the status of finance staff at state and district levels in Phase I and II states by December 31, 2006.*

- *Communicate to the Bank the list of the States that did not incur any expenditure till March 31, 2006 against the funds released.*
- *Share 2005-06 audit report for Sikkim and FMR for the period ended September 30, 2006 by November 30, 2006.*

Procurement

19. *Goods:* The Project became effective in October 2004 and actual procurement commenced in year 2005-06. The details of bids invited and contracts awarded for goods and equipments during 2005-06 (based on data shared by MOHFW) are provided in *Annexure II.* Out of these, so far contracts totalling to Rs. 26.41 million have been awarded/are being awarded. Procurement for remaining items has been cancelled after initiating bidding process or no action was initiated because of various reasons. Thus, the progress in procurement of goods falls substantially short of the projections made in the Procurement Plan for 2005-06.

20. *Services*: In the first year of the project, four services were to be contracted at the central level. These are for (a) Development of software (Quality and Cost Based Selection (QCBS)); (b) Survey of risk factors for non-communicable diseases (QCBS); (c) Development and dissemination of IEC messages (QCBS); (d) Baseline survey of laboratories (QCBS); and (e) Leasing of Wide Area Networking (least cost selection subject to qualification criteria). While the contract for NCD Surveys, which was recently cleared by the Bank, is being issued; the bidding process for software development and hardware procurement have been cancelled as MoHFW is re-examining its IT strategy. Contract to Indian Space Research Organization (ISRO) for providing satellite based networking solution has been issued by MoHFW and a formal communication is being sent to the Bank requesting to finance this option in districts where broad band access is limited. Similarly, MOHFW is considering engaging National Informatics Centre (NIC), a Government of India organization, for developing computerized surveillance system and the details of this arrangement are yet to be shared with the Bank. The EOI for IEC consultancy are to be re-invited as the earlier advertisement was not released in UNDB and Dgmarket. Baseline survey for laboratories has been awarded and the data collection is currently in progress. Under the IDSP, procurement of laboratory equipment, reagents/kits and renovation/repair of laboratories is proposed for 2007-8 and 2008-9. Total value of procurement will be approximately US$ 8.50 Million.

Agreed Actions:

- *Position procurement consultants for handling the procurement for IDSP (one position) at NICD and Bird Flu Cell, Department of Animal Husbandry (one position)to be completed by December 31, 2006*
- *The MOHFW/NICD to analyze the time taken for various procurement actions to pinpoint factors contributing to the delay and include steps to minimize such delays in the action plan to enhance project implementation*
- *NICD and Bird Flu Cell, Department of Animal Husbandry to maintain data for contracts in the format shared by the Bank for post-review.*

Environmental Plan

21. According to the Environment Management Plan, a baseline assessment of health and safety environmental practices at public health laboratories was to be carried out and a bio-safety manual detailing standard operating procedures was to be prepared and disseminated. Using these inputs the CSU was to prepare a plan of action for capacity building at state and district levels to implement the environmental plan and establish reporting systems to effectively monitor implementation. Consultancy contract has been awarded for baseline assessment and the data collection is currently in progress. Draft bio-safety manual has been prepared by the CSU and the Bank has shared its comments. It is critical to integrate bio-safety aspects in regular project activities. The mission strongly recommends inclusion of bio-safety issues into the training manual and modules and operations manual for Laboratory Technicians and State and District Surveillance Officers. With regard to the civil works related to waste management, the mission

was informed that the CSU does not have information on the current status and agreed to provide this feedback before the next mission.

22. Given the minimal progress made in these actions since the last mission, this component is rated as Unsatisfactory. The ratings will be revised at the next mission, depending on the progress made on the agreed benchmarks.

Agreed Actions:

- ③ *Update the Bio-Safety Manual and disseminate to states by December 15, 2006.*
- ③ *Complete baseline assessment of laboratories on health safety and environmental practices and share the report by December 22, 2006.*
- ③ *Provide a guidance note for states to plan and implement awareness and training activities for laboratory staff by January 31, 2007.*

Section B: Avian influenza – Human Health Component

23. The proposed avian influenza human health activities to be funded under IDSP are in the area of surveillance. They consist of establishment of a sentinel network of surveillance sites to monitor the patterns of influenza in India and regional laboratories to process specimens from the sentinel site network and perform rapid diagnostics when necessary. A total of 15 laboratories will be included in the network, including five already established by the Indian Medical Research Council. The project will support establishment of the other ten, and will also support the National Institute of Virology (NIV), Pune and NICD, Delhi to be reference facilities. Laboratories in the network will perform real time polymerase chain reaction assays (RT-PCR) while more advanced diagnostics, including virus isolation, will be done at NIV and NICD. Funds for equipment, training, and operational costs are included.

24. For the sentinel site network, initially one site per district was proposed. However, this number of sites is excessive to determine the regional patterns of influenza in the country, and will generate a huge number of samples. Instead, it was suggested that only one site per state and union territory be established, and these sites feed specimens into the nearest regional laboratory. In this way, surveillance can be more intensive and higher quality data can be collected from each site. Each site will be expected to collect information on the occurrence of influenza-like illness (ILI) in their patient population on a weekly basis. This will include numerator (number of ILI cases seen) and denominator (total number of patients seen) so that a running graph of ILI as a percentage of patients seen can be determined. In addition, each site will take specimens from a systematic sample of ILI patients (number per site per month to be determined by the program) along with specific information (demographics, illness, etc) on that patient. In order to accomplish these goals, the selected sites will need to be provided with resources for any necessary equipment and supplies, for staff incentives, for information transmission, for sample storage and shipping. It is suggested that a lump sum annual payment be given to each site once an MOU has been signed.

25. The suggested activities, including the sentinel site network and laboratory upgrades, seem reasonable and appropriate. The mission also suggests resources be included to assure prompt analysis and dissemination of data derived from the sentinel network. This is especially important as decisions regarding use of seasonal vaccine in India rest on data derived from this network.

26. Project costs will need to be recalculated based on the revised plan of action. These revised costs should include resources for the sentinel sites. Laboratory costs should be based on an anticipated number of samples that will be tested per network laboratory. This can be calculated based on specimens to be processed by each lab from feeder sentinel sites, along with a certain number submitted from suspected cases of avian influenza and from investigations of potential human disease linked to poultry outbreaks.

27. The mission also recommends that before the avian influenza component is finalized, the project coordinator reconfirms that no additional funds are needed for other critical activities called for in the overall GOI avian influenza plan, including pandemic planning, equipment, and necessary medications and supplies.

Procurement Arrangements

28. After the restructuring, the project would consist of 2 components, an Avian Influenza component with Human Health, Animal Health and sub components, and residual IDSP component. While the procurement under AI-Animal sub-component will be handled by the Bird Flu cell being set-up under the Department of Animal Husbandry & Dairying, Ministry of

Agriculture; the procurement under the AI-Human and residual IDSP components will be handled by NICD (up to Rs.50 Lakhs per contract) and Empowered Procurement Wing (EPW), MoHFW (above Rs.50 Lakhs per contract). The Hospital Services Consultancy Corporation (HSCC), which was engaged as procurement support agency for taking up the procurement under Phase I, will no longer be used.

29. The items (such as office equipment, UPS, Generators, Inverters, stabilizers, autoclave, hot air ovens, etc.), which are covered by existing DGS&D rate contracts, would be purchased by states. The items which are covered by other vertical program, (eg. rapid diagnostic kits for JE, Dengue and Malaria are covered under VBDCP) will not be procured under IDSP.

30. In case of Avian Influenza, the procurement procedures and thresholds originally agreed for IDSP will be applicable. Procurement for these components shall be initiated using the procedures agreed in the procurement plan. However in case of any emergency situation, faster procurement methods such as Direct Contracting and Limited International Bidding (LIB) will be considered provided such request is received from GOI with justification.

31. In a meeting to assess the procurement capacity of laboratories proposed to be strengthened under the Human health sub component of Avian Influenza, the Labs indicated their preference for NICD procuring laboratory equipment and reagents/kits. This will help in keeping uniformity in specifications and terms and conditions of the contract. They however wanted the after-sales maintenance of purchased equipment be adequately addressed in these procurements.

Procurement Plans

32. Procurement plans for Avian Influenza (Human Component), Avian Influenza (Animal Component) and residual IDSP components were shared during the mission.

33. Avian Influenza (Human Component) will require the procurement of laboratory equipment, reagents/kits and consumables and renovation of labs. Total value of the procurement will be about US$ 4 Million over 2 years period (2007-08 and 2008-09).

34. Avian Influenza (Animal) Component will require the procurement of laboratory and office equipment, reagents/kits, consumables, pre-fabricated labs and renovation/up gradation of labs. Among services, training, IEC campaigns, hiring of contract staff, conducting surveys, development of GIS for surveillance, etc. are proposed. Total value of the procurement will be US$ 25.75 Million over 2 years period (2007-08 and 2008-09). In addition, procurement of mobile incinerators is proposed if there is saving in other procurements.

Annex I

Integrated Disease Surveillance Project (IDPSP) - Credit 3952-IN)

Agreed Actions for IDSP during the Next Six Months

Agency Responsible	Action	By When
MOHFW	1. Communicate its final decision on procurement of IT services for IDSP that enable distance learning and video conferencing in addition to data transfer and generation of disease specific triggers; 2. Take a policy decision on supporting dedicated positions under National Rural Health Mission to support disease surveillance activities at central, state and district levels 3. Create a mechanism that ensures flexible financing to selected states to rapidly scale up disease surveillance 4. Ensure signing MOU with Indian Council of Medical Research for providing oversight for NCD risk factor surveys	Dec. 15, 2006 Dec. 31, 2006 Dec. 31, 2006 Dec. 31, 2006
Central Surveillance Unit	1. Prepare an action plan for improving the ground effectiveness of IDSP in at least 10 states representing three clusters of states based on their report cards 2. Assign one NICD officer as focal point for trouble shooting for each of the selected states complemented by regional consultants WHO staff 3. Develop standardized check-lists for objectively assessing state performance by focal points 4. Organize an expert consultation to further rationalize diseases included under IDSP, periodicity of their reporting, methods of surveillance, standard definitions for common outbreaks and triggers for action at different levels 5. Finalize the concept note on urban surveillance based on interactions with states and provide technical assistance to 4 metropolitan cities to develop implementation plans	Dec.15, 2006 Dec. 15, 2006 Dec. 15, 2006 Jan. 31, 2007 Jan. 31, 2007
	Improving Laboratory Support: 1. Update the guidance note on district public health laboratories clarifying outputs envisaged under IDSP 2. Support states in prioritization of district and state public health lab upgrading program	 Dec. 31, 2006 Dec. 31, 2006
	Training for Disease Surveillance and Action: 1. Provide feedback to training institutions on findings of external review 2. Organize one more round of training to cover new/left over state/district surveillance officers after incorporating the recommendations from training evaluation 3. Organize one special 1 month training in field epidemiology for IDSP staff during for enhancing local responses for epidemic outbreaks in consultation with states	 Dec. 31, 2007 March 31, 2007 June 30,2007
	Surveys for Non-communicable Diseases 1. Obtain approval of Technical Advisory Group for the study protocols updated on the basis of pilot testing undertaken by the nodal agency 2. Nodal agency to complete Training of trainers 3. Surveys to start	 Dec. 31, 2006 Jan. 15, 2007 Jan. 31, 2007
	Financial Management: 1. Communicate the list of states that did not incur any expenditure in FY 2005-06	 Nov.30, 2006

	2. Share the FMR for the period ended September 30, 2006 and audit report for Sikkim 3. Provide an update on status of finance staff at state and district levels	Dec. 31, 2006 Dec. 31, 2006
	Procurement: 1. Recruit procurement consultant for the project 2. NICD will maintain contract data in the format agreed with the Bank for post reviews	 Dec. 31, 2006 Immediate
	Environment Plan 1. Update and disseminate Bio-safety manual to state Lab coordinators starting with priority states 2. Complete the baseline assessment of health safety and environment practices of public health laboratories 3. Provide guidance note for states to plan and implement awareness and training of laboratory staff	 Feb. 28, 2006 Dec. 31, 2006 January 31, 2007
State Surveillance Units	1. Complete state and district PH laboratory assessment and prepare time bound action plan for laboratory development 2. All Phase I and Phase II states will complete training of medical officers 3. All Phase I and Phase II states will complete training of paramedical workers 4. All priority states will post one mid level officer with public health or field epidemiology training as officer on special duty to ensure continuity in project management 5. Malaria endemic states to review the option of integration of IDSP with VBDCP.	Dec. 31, 2006 Dec. 31, 2006 March 31, 2007 March 31, 2007 March 31, 2007

Annex II

Integrated Disease Surveillance Project (Cr. 3952-IN)

Status of Procurement of Goods at the Central Level during 2005-06 and 2006-07

Sl. No	Item & Quantity	Type of Procurement	Date of contract award	Current Status	Costs (Rs.million)
1	Supply of 250 Binocular Microscopes	ICB	November 4, 2005	247 out of 250 supplied	2.97
2	Supply of 108 each Autoclaves, Hot Air Oven	ICB	August 8, 2006	Under inspection by HSCC	5.05
3	Supply of 10 Elisa Reader and Washer	NCB	August 9, 2006	Supply under process	3.26
4	Supply of 10 Minus 70 degree centigrade Deep Freezers 108 minus 20 degree centigrade Deep Freezers	NCB		Contract yet to be signed	6.18 (bid value)
5	Supply of 215 Photocopiers and 2 large copiers	NCB	May 8, 2006	All supplied and installed	8.80
6	Supply of H2S Test Kits	NS	November 10, 2006	Under delivery	0.15
	Total Cost				**26.41**

Total cost of Goods & Equipment for 2005-06 and 2006-07 as per the Procurement Plan – Rs.69.44 Million

Percentage achievement (including the value of contract to be signed for Freezers) – 42.35%

Annex III

Technical Note on India Integrated Disease Surveillance Project (IDSP)

S. Ostroff, M.D., World Bank Consultant

I. India has long experienced one of the highest burdens of infectious diseases in the world, fueled by factors including a large population, high poverty levels, poor sanitation, and problems with access to health care and preventive services. Virtually every disease of public health significance is present in India, including some that have largely been eliminated elsewhere in the world. It has traditionally been difficult to monitor disease burden and trends in India because of the high disease burden and poor surveillance infrastructure. It has been even more difficult to detect, diagnose, and control outbreaks until they had become quite large.

II. India has a long history of surveillance in disease control programs. An effort to integrate ongoing surveillance and response infrastructure in the country in India was first piloted under National surveillance program for communicable diseases in 93 districts. Building on lessons from this project, in 2004 the Integrated Disease Surveillance Project (IDSP) was initiated with funding from the World Bank. This project, modeled on similar projects in other countries, seeks to improve (1) reporting of a series of reportable diseases and syndromes, (2) laboratory capacity to diagnose these priority diseases, (3) recording and transmission of the information, and (4) the ability to spot outbreaks, and promptly investigate and control them. This national program is to accomplish these goals by improving the completeness, reliability, and timeliness of information collected at the peripheral levels of the health care system, engage the large private health care sector in disease reporting, conduct training of surveillance personnel, equip and staff public health laboratories, build information technology infrastructure for data transmission, and improve capacity of rapid response teams.

III. Given the surveillance challenges in India, the project seeks to accomplish its goals through relatively easy to implement activities. These include having a small list of priority conditions, many of which are syndrome-based and easily recognizable at the lowest levels of the health care system, a simplified battery of laboratory tests, and reporting of largely aggregate data rather than individual case reporting. In contrast, some project activities are relatively high technology, such as computerization, electronic data transmission, and distance-based learning.

IV. Disease surveillance has many purposes. These include ascertaining disease burden and monitoring trends, determining risk factors for illness so prevention and control activities can be properly targeted, evaluating the impact and effectiveness of control programs, and outbreak recognition. Given that in IDSP the data collected is principally aggregate in form, several of these surveillance objectives cannot be achieved. Without individual data including gender, age, etiology, and risk factors, targeted prevention activities cannot be undertaken. In addition, there is no disease control component to IDSP. The major purposes of IDSP are outbreak detection and control, and to a lesser extend, determination of disease burden and disease trends. To accomplish these, information and the way it is collected must be standardized, must be reliable, and must be longitudinal. The data must not simply be collected; data must also be analyzed and a response must be initiated when problems are seen.

V. Since it began, IDSP has experienced a number of problems. Foremost among these are slow implementation, personnel turnovers, and low levels of expenditures. As a result, it has been difficult to measure its impact or whether progress has been made in improving disease surveillance in India. These problems were highlighted by recent large outbreaks of

vector-borne disease that have occurred in India. The system was slow to detect these outbreaks and slow to respond. The project has now been downgraded to moderately unsatisfactory by the World Bank.

VI. The current mission was constituted to evaluate the status of the project and make recommendations for modifications or corrective measures. One component of the mission was to develop a proposal to reprogram some of the IDSP funds into an avian influenza prevention and control program. The avian influenza component is not addressed in this report. During the mission, progress updates were received from a number of the states included in the first and second phases of the project (the IDSP framework called for 3-phased implementation, with an approximately equal number of states in each phase) and discussions were held with some of the Phase 3 states and territories. In addition, a field visit was made to a nearby Phase 2 state (Haryana). Field visits to other locations had been made by mission members and Bank staff before the actual mission began.

VII. From these activities and presentations, a number of observations and recommendations can be made. These include:

1. Due to the slow implementation of project activities (many only recently begun), *it is not surprising that the project is unable to demonstrate any significant impact on disease or outbreak detection at this stage*. Some of the delays could not be anticipated during project development. These include recent high profile events like avian flu, Chikungunya virus, and dengue fever, which distracted personnel at the national, state, and local levels who were involved in IDSP implementation. Other reasons for delay were more predictable, including financial and bureaucratic obstacles. However, it now appears the project is gaining momentum. To sustain this momentum, it is vital that any future obstacles be anticipated and minimized. If project activities are further derailed, it is unlikely that IDSP will be able to achieve its core objectives over the remaining period of the project.

2. The leadership at MOHFW and new team at NICD seems to be talented, enthusiastic, and committed to seeing IDSP implemented and successful. It remains to be seen if this actually occurs. It is important at this critical stage that the project has leadership stability and ongoing commitment. Personnel turnover will inevitably result in loss of momentum. As mentioned above, this could prove fatal to the success of the project at this point. It will be important to get commitments from NICD and the MOH that personnel stability will be prioritized. *Continuity is essential*.

3. The same applies to personnel at the state and district level. Interactions with state-level personnel indicate that many have only recently been assigned to IDSP activities, or have only recently taken their current positions. While some personnel turnover might benefit the program by removing non-performers, a revolving door in critical positions at the state level is likely to result in non-performance or sub-optimal performance at these sites. *Continuity is essential.*

4. Another critical issue hindering program performance is that many of the personnel appointed or hired under IDSP have other responsibilities. The project is unlikely to be successful if many of the critical personnel are working on the project as an extra assignment. To the degree possible, the project should demand that additional assignments for critical state implementers be minimized, so that these personnel can concentrate on IDSP.

5. *Most of what has been accomplished in IDSP to this point is related to process –* hiring personnel, obtaining equipment, conducting training workshops, developing and printing forms, installing communications equipment, etc. These are important foundation steps, but after two years of the project these process activities need to be completed as soon as possible. This will allow IDSP to rapidly transition from these process activities to actual systematic data collection, transmission, analysis, and action. One issue identified by state level coordinators is the difficulty in hiring qualified personnel at the salaries stipulated in the

project. This is especially problematic in high-cost locations like Mumbai. The project should reconsider the salary structure so that it is not a hindrance to attracting qualified talent.

6. Recent outbreaks enhanced political attention from highest levels for disease surveillance The Health Minister and Prime Minister's office are taking keen interest in the IDSP. The project implementation team should take advantage of the high-level attention (before it shifts elsewhere) to assure availability of resources and to remove bureaucratic obstacles to successful implementation.

7. Presentations by state coordinators demonstrated little evidence that IDSP efforts to date have demonstrably improved India's outbreak detection posture. As mentioned above, this could be due to slow project implementation. However, it also could be due to flaws in project design. It is difficult to tell at this time whether the latter is the case. *Project coordinators at the national level should actively look for evidence that project activities have resulted in early outbreak recognition and appropriate response.* This is important both for project benchmarking, but also such success stories need to be highlighted for policymakers, for project personnel, and to use as models for other sites.

8. The project design is heavily weighted to case counting (also known as "bean-counting"). Given the high disease burden and large population in India, there is likely to generate very large case numbers for syndromes under surveillance. This can overwhelm the ability to find relatively small, but important, outbreaks. Thus, to a certain degree, the system is stacked against meeting its principal objective. Review of currently available data from lower levels of the system suggests high week-to-week variability. *If there is any hope of finding outbreaks, it will be critical to stabilize data collection and reporting as quickly as possible,* as high variance and unstable baselines (1) reduces the likelihood of outbreak detection, and (2) produces large numbers of false alarms which require investigation.

9. Since the project is focused on use of surveillance data for early warning and outbreak detection, the list of conditions under surveillance should be geared to epidemic-prone conditions. In India, outbreaks are most likely to be waterborne, foodborne, vectorborne, or zoonotic in nature. A major exception to this is bacterial meningitis, which has a high disease burden, does produce outbreaks, and is underreported in India. Review of the current list of conditions shows that most of the syndromes and diseases under surveillance meet this principal criterion, but some do not. Tuberculosis (including cough greater than three weeks duration) is one obvious example on the list that rarely occurs in epidemic fashion. Tuberculosis also has a strong vertical program. One suggestion would be to remove TB from IDSP core data collection and to migrate TB vertical program data over to the IDSP infrastructure. This would allow case numbers to be collected without data duplication. Having non-communicable conditions in IDSP (such as road traffic accidents and hypertension) is a distraction. The likelihood of ever deriving meaningful data on these events that translates to public health actions through IDSP is very low. Consideration should be given to dropping these, as they divert energy and focus away from the core data collection needs. Unless there are good reasons to do so, it is not recommended to make further changes to the list of conditions, as this would necessitate revision of forms and retraining, and could produce a crucial loss of momentum.

10. As mentioned above, project activities to date are overwhelmingly geared towards case counting, to the detriment of data review, analysis, or response. At virtually all sights, data are simply being compiled and presented in tabular form only. This severely limits ability to look at trends or spot aberrations. There seems to be very little application (or understanding) of rates, graphing, or mapping any of the data for visual inspection. There is also little attempt to merge or compare epidemiologic data with laboratory data. Surveillance is not only data collection, but is also its analysis and dissemination. IDSP is not meaningfully producing the latter two activities. The mission understands that once the IT system is fully operational, it will automatically generate tables, report trends, and produce

graphs. This will be a helpful step, but does not ensure that system personnel will understand or utilize the information, ask critical questions, or take appropriate actions. *The mission strongly suggests that this deficiency be addressed, through training activities or distance-based learning modules, and that project evaluation includes demonstrated evidence of data analysis and utilization for action. Analytic formats should be quickly developed and disseminated.* Otherwise the future potential and benefits of IDSP will be limited.

11. Information presented during the mission suggests that when outbreaks are recognized, the quality of investigations is limited. In some instances, causes and sources of outbreaks appeared to be predetermined before the field investigation was even conducted. There is little evidence of any analytical or thorough laboratory investigations. Often etiology is not even established. Investigation is a core competency to be developed as part of IDSP, as rapid response teams and their training is an integral component of IDSP. India is not lacking in well-trained investigators as a result of the field epidemiology training programs at NICD and in Chennai. These assets should be engaged to assist in upgrading investigative competence at the state and district level. *Determining the quality of outbreak investigations should be an essential evaluation component of the project, and the project should be able to demonstrate improvements in this area.*

12. The mission was asked to evaluate whether the vertical vector-borne diseases surveillance and control program should be integrated with IDSP. In recent years, vector-borne disease outbreaks have been among those most commonly detected, and have resulted in significant morbidity and mortality. Etiologies include plague, Japanese encephalitis, dengue fever, and Chikungunya. *It is logical that the vector-borne disease surveillance and response infrastructure should be merged with IDSP at the earliest possible date to increase the efficiency and effectiveness of both activities, and to avoid duplication.*

13. Improvements in disease reporting, analysis, and response are necessary throughout India. Therefore, IDSP needs to be national in scope and to be implemented in all states and union territories. But due to differing capacity, interest, and circumstances, not all locations are likely to equally benefit from the program. Some sites have been much more enthusiastic about IDSP, and some have started from a higher baseline due to past infusions of resources and external support. Attempts to equally upgrade all locations will dilute the overall impact of IDSP and not make optimal use of existing resources. It is important to demonstrate that high quality surveillance, outbreak detection, and effective response is achievable through IDSP. This will require some incentives to be built into the program. *Given the slow pace of implementation, the mission believes that some of the available funding should be reprogrammed into a competitive innovation pool available to those states meeting core IDSP objectives to allow them to implement creative solutions to remaining surveillance and response challenges.* This fund could be made available for state-generated proposals to (1) fully integrate the private-sector into disease reporting (2) creatively use available data (3) develop sentinel sites for higher quality data collection (4) integrate alternative data sources into disease monitoring (5) creatively disseminate information to end users (6) perform quality analytical investigations (7) tie IDSP data to effective control programs. This competitive innovation fund pool should be available only to the top 10 or so performing states, and any proposals should be objectively peer reviewed and scored for quality and achievability before being funded by the project. Such a bottom-up effort can produce creative solutions to meeting project objectives, and can be used as models for other states to follow.

14. With a few exceptions, integration of the large private sector into IDSP reporting has been meager. Most states have undertaken sensitization workshops, have interacted with the Indian Medical Association, and have engaged a few private sector physicians and nursing homes. But many of these private sector locations are reporting inconsistently, limiting the value of their data. This deficiency hampers the likelihood of early outbreak detection, given how large a role the private sector plays in health care. *IDSP management needs to work*

with state counterparts to redouble efforts to integrate the private sector into disease surveillance and needs to set clear benchmarks to achieve this goal. One option may be to place project-funded data collectors in major private-sector facilities (large hospitals) or in medical college hospitals to collect the data and pass it on to district and state surveillance units. The competitive innovation fund mentioned above may be a mechanism to showcase creative solutions to this problem.

15. Development and implementation of the IT system needs to move much more quickly. Needed equipment should be purchased and distributed, and equipment already sent to states needs to be installed and made operational. The IT component will facilitate data entry, and more importantly, can significantly improve data analysis and use by automatic tabular generation and graphic presentation. It can also improve information feedback to the districts. Data elements, alert triggers, etc have already been largely determined. The mission feels that additional rounds of discussion will not result in significant improvements to concepts already in formulation. Continued slow implementation of the IT component has the potential to reduce interest and enthusiasm for IDSP at the state and local level.

16. The video conferencing part of the IT system (known as Edusat) has been largely viewed by IDSP as an educational tool for distance based learning. This is an important use of this technology, but videoconferencing should also be viewed as an essential public health tool for outbreak management. It allows public health officials in different locations to share information, display data, and develop plans of action in the midst of an outbreak. It reduces travel and allows managers to spend more time at their offices and in the field. It also should be a routine form of communication for IDSP managers in the states and NICD to discuss program status and seek solutions to problems. All of the face-to-face meetings during the mission could have been done by videoconference if the system was already operative.

17. Use of alternative data sources for disease reporting and outbreak recognition was discussed. Potential sources of information are almost infinite. They include lay reporters, tracking pharmacy purchases, tracking worker and school absenteeism, etc. All these sources at one time or another may actually be helpful. The question is whether IDSP should invest time and effort to include these sources into routine surveillance (surveillance by definition means data collection from these sources must be systematic and ongoing). There is little scientific evidence that these sources meaningfully enhance core surveillance and can serve as a distraction or excuse for not fully implemented core efforts. The exception to this perspective is media reporting. There is good evidence that routine scanning of media reports allows public health officials to identify more possible outbreaks than would otherwise be evident from surveillance data. Media reports are notoriously unreliable and generate a large number of false signals. The project should anticipate a greater need to respond once information is systematically gleaned from the media. But investigating and dispelling rumors is actually an important role for public health and is an expected activity. *IDSP should undertake a concerted effort to build electronic scanning of media sources for possible outbreaks into the IT component of the project as soon as feasible.* The value of adding systematic monitoring of other sources of information should be closely evaluated before any attempt at inclusion.

18. Presentations from the states during the mission strongly suggests that there is state-to-state variation in how outbreaks are defined and counted. This problem affects the ability to compare state-to-state efforts for outbreak detection and response, determine project effectiveness, and detect differences in disease burden between states. *NICD needs to develop standard definitions of an outbreak for each condition being monitored and require the states to uniformly apply these definitions*. This will help in comparing disease burden by state and assist in project evaluation and monitoring.

19. Training is an essential component of IDSP, and training activities have been initiated at the state and local level. However, training is not a one-shot deal. Periodic refreshers are necessary to reinforce information, to update participants on new developments or changes,

and to account for staff turnover. Yearly refresher courses should be conducted in all project implementation sites.

20. A field visit during the mission found project activities were largely being implemented at the local level. Local officials in Haryana are to be complemented on their efforts. Two areas of deficiency were noted. (1) There appears to be no mechanism for adjacent locations to share information or to be informed when an outbreak is detected elsewhere. Local officials indicated they meet monthly to discuss IDSP and other matters, but this is not sufficient for timely information sharing. When information is shared, especially about outbreaks, unaffected locations can enhance surveillance and implement measures to potentially prevent outbreak spread. (2) All data were presented in tabular fashion, making it near impossible to spot trends or recognize aberrations. The lowest levels of the system would really be aided by providing blank charts that would allow them to manually plot their data for visual information depiction. This would increase the likelihood that problems will be spotted and immediate actions can be taken. Such charts have been employed in other countries and have been deemed valuable by workers at the peripheral data collection sites.

21. The IDSP project coordinator and essential technical staff would benefit by visiting countries that have had World Bank-funded surveillance improvement projects to learn from their experience and minimize future problems. Potential locations include Brazil and Argentina.

22. As part of the avian influenza sub-project of IDSP, a network of 30 sentinel sites will be established for monitoring of seasonal patterns of influenza and sample collection for virus isolation. Sentinel surveillance is an important adjunct to routine surveillance efforts, as it allows higher quality information to be collected (including demographics and risk factor data), and specimens to be collected to define etiology and enhance data specificity. *Once these sentinel sites are up and running, IDSP should consider expanding the range of activities in these sentinel sites to include other syndromes under surveillance* (e.g. diarrheal disease, febrile illness).

23. An activity that has worked well elsewhere is establishment of “situation rooms” at the state level where surveillance data and information on outbreaks are displayed. These rooms can be located adjacent to the state medical officer or health director. They allow visibility of IDSP to policymakers, increase the likelihood data will be visually displayed in graphic form, and increase the likelihood the data will be used for decision making. A similar room may be established for the Minister and Secretary of Health and Family Welfare, even when IT systems may permit these officials to view and manipulate data electronically.

Annex IV

Technical Note on Non Communicable Disease Surveys under India Integrated Disease Surveillance Project (IDSP)
J G Sastry, Consultant, World Bank

1. Since the last mission, proforma for undertaking NCD risk factor surveys were prepared and pilot tested. Based on this experience, appropriate modifications need to be incorporated in the proforma and Manual for Field Investigators. The National Technical Committee has to give its clearance for these documents. Some operational difficulties noted in the piloting also need to be addressed and endorsed by this committee. For example, following guidance of WHO Step 3 procedure to show figures/ photographs to collect data on consumption of fruits and alcohol will pose problems to the field investigators, especially in case of rural populations. Suitable modifications need be made taking the help of dieticians conversant in collection of such data.

2. Detailed data tabulation plans for the State Reports has to be prepared and software development need be made. The present competence of State level survey units in IT being of varying degrees, standard formats and estimation procedures along with ready to use software needs to be supplied and the data entry operators / analysts need be trained centrally.

3 The data quality can be ensured only with regular field checks by the Regional agencies & the central Nodal Agency with adequate number of teams with them. As the data collection will be completed within each state in a period of 4 months by 5 teams simultaneously working in each State, the need for adequate supervisory manpower becomes significant.

4. It is envisaged that the TOT for the State level agencies would be completed by 12th December; training of the Field investigators by the end of December '06; and data collection would be completed by the end of April '07; data analysis and submission of Draft report by end of May '07. These reports will be reviewed and the Final Reports will be submitted by the end of June '07. The IDSP will be proving all the survey instruments to the State level institutions who will be undertaking the survey work. The supply of appropriate software and training in its use is the joint responsibility of the IDSP and the National Nodal Agency.

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Annex V

Technical Note on IDSP Implementation by States
Dr. K. Suresh, Consultant, World Bank

1. The review mission has attempted to rank the states performances against a total score of 10 points. This is an evolving method for ranking and given the need for ensuring timely reporting of events (disease occurrence) this aspect was assigned highest score (5) and the remaining 5 points were distributed for other project activities such as completion of laboratory assessment, positioning of incremental staff and completion of training for staff working at different levels of the helath system. At this point of time, these scores are more based on quantitative achievements rather than quality of each parameter. As the implementation progresses, this aspect will receive more attention while preparing the state report cards.

2. The mission's overall assessment was that most of the phase I and II states started reporting probable cases from primary health centers and suspect cases from few sub centers. State visits and regular reviews being undertaken by the Additional Secretary (DG) and Director NICDs had some positive influence on implementation pace in states of Tamil Nadu and Andhra Pradesh. However, data from public hospitals and private sector which provide a significant part of out patient care is still not being captured and the need for regularity and quality is not being stressed. Most importantly the use of data for program decisions, especially for local response, is very limited. There have been inordinate delays in recruiting additional staff and training of key functionaries like medical officers and health functionaries, and upgrading the district laboratories for public health investigation purposes. Frequent turn over of key staff and host of disease out breaks during last year that took priority attention of the state administration mainly contributed to the slow implementation progress.

States with satisfactory implementation:

3. Based on the above criteria, performance by states of Goa, Haryana and Pondicherry can be rated satisfactory followed closely by Tamil Nadu, Uttaranchal, Himachal Pradesh and Chandigarh. As mentioned above, even these states are still to improve the reporting from major hospitals and private sector. Except for Goa and Haryana, the remaining states in this group are sill to complete the training for medical officers and health workers.

States with moderately satisfactory implementation:

4. The states of Gujarat, Karnataka, Kerala, Mizoram, Andhra Pradesh, Rajasthan and Nagaland fall under this category. The main factors that contributed for slower implementation include delay in training of MOs and health staff. Recruitment and Continuity of state and district level surveillance staff has been also a problem in these states.

States with moderately unsatisfactory implementation:

5. In this group of states none of the components used for ranking states are showing improvement. It is disheartening that the states like Maharashtra being included in this group. Competing demands on the health staff by outbreaks of Avian Flu among bird population, human outbreaks of Chikungunya, leptospirosis and dengue resulted adversely affected the implementation of IDSP. The state of Orissa which very successfully implemented disease surveillance during super cyclone is also lagging behind and so are Mahdya Pradesh, Manipur, Meghalaya and Tripura in the north east. The lack of understanding of the value-add of the project activities and urgency in implementing the agreed activities in the respective states are also contributory factors apart from other competing priorities.

Phase 3 States:

6. Eight states/UTs scheduled for inclusion under the project also participated in the review These include UP, Punjab, J &K, Assam, Meghalaya, Bihar, A&N Islands and Daman and Diu. These states were briefed about the IDSP strategy and what is expected of them for

implementation of IDSP. Considering the implementation experiences so far, it would be highly desirable to provide TA support to these states to help them to evolve state implementation plans (SIPs) relevant to their respective needs and capacities rather than providing standardized inputs as has been done so far.

Program management

7. Experiences so far highlight that without full time dedicated staff , the implementation of surveillance activities do not get adequate attention as a majority of the IDSP project managers in the state and districts have other key responsibilities. Multiple responsibilities limit their time and attention for the IDSP. Further, quick rotation/turn over of the persons holding IDSP charge also adversely affected the implementation. Some of the Phase I and II stats are yet to complete recruitment of incremental staff

Recommended actions

- *All priority States will post a dedicated officer for the IDSP at the state level and if possible at district level.*
- *To ensure continuity, one mid level officer with public health or field epidemiology training program would be designated as officer on special duty for IDSP at state level.*
- *States with high burden of Vector Borne Diseases, would explore the possibility of integrating IDSP with Vector Borne Diseases Control Program.*
- *From next mission continuity of the IDSP managers at state and district levels will be used as an indicator for ranking the state performance*

Training of Staff

8. The training of state/district surveillance unit staff and Rapid Response Team (RRT & District TOT) members entrusted to the regional training centers have been progressing fairly well. However the training of medical officers and health staff is unsatisfactory in majority of states. Except Goa no other state has completed the training. Due to inordinate delay in training of field staff, data reporting is getting delayed. Generally they wait for the completion of training of all doctors / staff in the district.

Recommended actions

- *All the medical officers training in phase 1 & 2 districts will be completed by December 2006, followed by the health staff by end March 2007.*
- *The training of health staff will immediately follow the training of medical officers of any PHC in the district.*
- *All PHCs will maintain a surveillance register and facilities where doctors are trained will start reporting data without waiting for completion of training of all doctors and paramedical staff.*

Reporting of Surveillance Data

9. The central core of the IDSP is to start act on surveillance data that has been generated. Therefore the mission gives highest importance to it in grading the progress of districts/states. In most states the data that is being gathered is mainly from primary health centers and health staff and data from district hospitals and other major facilities like infectious diseases hospitals in the public health sector is rarely included. Data collection from a private nursing homes or practitioners as envisaged under the IDSP is yet start.

Recommended Actions

- *All out effort will be made to gather data from major general and infectious disease hospitals. For such facilities, the option of the data entry operator visiting the district hospital/Medical college hospitals and facilitates collation of data from different departments should be considered.*

- *Similarly 5-10 sentinel private hospitals/practitioners in each district (1-2 per Tehsil and 3-4 in District Hq) with large clientele should be identified and data should be regularly collected from them using services of the data entry operators.*
- *Sub-district hospital and the PHC out patient data will start flowing to district surveillance unit every week immediately after the training of the MOs.*
- *Health workers can bring their data to the weekly PHC meeting or on the days they go to collect vaccine for immunization activity.*
- *Lay reporting may be encouraged with specific responsibility for investigating the same for confirmation and inclusion in the surveillance data there after.*

Laboratory Surveillance

10. The public health laboratories are few and far in the current system. Their utility is far reaching in the control of communicable diseases. The routine Malaria parasite and AFB for Tuberculosis is being done fairly well and does not have to be interfered. However there is a need to develop one public health laboratory in each of the major district (with a million or more population). The states have to make active efforts in getting assessed the district / medical college laboratories to identify the ones with potential to serve as Public Health Laboratory and develop the same. Very few states have completed this exercise so far.

Recommended Actions

- *Every state in phase 1 &2 will complete the assessment of district laboratories by end of December 2006.*
- *NICD will arrange teams to visit the identified state/medical college laboratories and sentinel laboratories in the private sector to be assessed for the public health investigations and their standardization as soon a possible.*
- *NICD will also arrange for the standardization of some the existing rapid diagnostic kits and recommend tier use fully equipping the laboratories.*

State and District Surveillance Committees

11. While all state and district committees are formed in phase 1 &2 states, their periodical meeting and solving the implementation problems is not visible. The state committees are yet to formalize the induction of the representatives of Animal Husbandry Department in the committee which is very important in the light of avian flu threat. The Major Hospitals and infectious diseases hospitals are very often not under the administrative control of Director of Health and Family Welfare Services and hence the data from these institutes is not shared. Since these institutions attract large number of infectious disease patients it is of great value to look at the out patient & inpatient data of these facilities to know the trends of diseases in the district as a whole.

Recommended Actions

- *The state Principal Secretary Health & FW will initiate action to induct the Secretary Animal Husbandry department in the sate coordination committee.*

- *The state Principal Secretary Health & FW will initiate coordination with the departments of Medical Education and Indian System of Medicine for reporting of identified conditions by all institutions in the state.*
- *The State and District Surveillance committees will meet at least once every quarter to review the outbreaks and response mechanisms and help in resolving implementation problems such as recruitment of incremental staff, or flow of data, and outbreak containment measures.*
- *The district Surveillance committee to review surveillance data disaggregated by blocks/Tehsils against pre-set triggers to identify impending outbreaks and assess preparedness to respond to such events.*

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