

**GCP/PAK/088/EC**

**Support for Emergency Prevention and Control of Main  
Transboundary Animal Diseases in Pakistan  
(Rinderpest, FMD, PPR)**

**Mid Term Review**

**by a**

**Joint Mission of the European Commission, FAO and  
Government of Pakistan**

**20 October 2003**

*Disclaimer:* The opinions expressed in this report are those of the members of the Review Team. They do not necessarily represent the views of the Government of Pakistan, the Donor or FAO.

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## **I. Executive Summary**

This is a mid-term Review of a three-year project, commenced in January 2002. The Review Team comprised representatives of the Government of Pakistan, the European Commission and FAO. The evaluation was conducted between 28 September and 20 October 2003.

The Overall Objective of the Project was to assist with transboundary animal disease control in Pakistan and in particular, to make progress in the eradication of rinderpest. The Expected Results were a system of disease surveillance, diagnosis and reporting, improved disease control policies and emergency preparedness for rinderpest. The Project Objectives and Design were assessed, as described in Section IV of this Report. An assessment of implementation to date is in Section V and of outcomes of the Project in Section VI.

Despite delays, some of which were outside the control of the Project, work is proceeding satisfactorily. There has been a substantial output in training of staff and subsequent participatory activity to enlist the assistance of farmers in determining the prevalence and impact of different diseases. The opportunity has been taken during this activity to find any residual evidence of rinderpest, which has not been seen clinically since September 2000.

Verification of rinderpest freedom is achieved by following the OIE Pathway. This requires, in addition to clinical disease search, structured serosurveillance and demonstration of a system of disease detection, diagnosis and reporting that is sufficiently robust to ensure that any occurrence of rinderpest would be quickly and reliably detected.

There is a need to improve the ability of provincial and district staff to undertake disease investigation and reporting. While some progress has been made with this, it is proving to be a more challenging task than active disease search. There is a need to instill better ownership in Project activities at the provincial and district level. However, there is a clear indication that more investigation work is being undertaken, including the accumulation of information on two other targeted diseases, foot and mouth disease and peste des petits ruminants.

It was never expected that the Project would progress to the end of the OIE Pathway, which cannot be reached before early 2007. However, it is critical that one way or another, the needs are identified and donor support is secured to achieve this goal.

The following recommendations were made and are elaborated in Section VII B of the Report.

1. Application should be made to extend the Project activities to the end of June 2005.
2. A detailed Work Plan and Budget should be prepared for the remainder of the Project, anticipating an extension to June 2005. Activities should be clearly linked to Outputs and Objectives and should be complementary to those supported by the 'Strengthening of Livestock Services' project.
3. A Work Plan and budget should be prepared for completion of the OIE Pathway, after termination of the Project.
4. Urgent consideration should be given to the most appropriate means of securing continuing donor support for all activities required to satisfy the OIE Pathway for

- rinderpest freedom. The most likely options are for a second phase of the current Project or support for all activities through the 'Strengthening of Livestock Services' project. The most appropriate option appears to be for support for all activities to come through the 'Strengthening of Livestock Services' project.
5. The National Consultant should be provided with an administrative support person to assist in the day-to-day management of the Project activities.
  6. Project management needs to further address the issue of reimbursement of expenses and make satisfactory arrangements that will avoid disruption of the fieldwork.
  7. Assistance should be provided to expedite establishment of FMD ELISA at the National Veterinary Laboratory.
  8. Project activities should include progressive documentation of all data required for submission to OIE, as evidence that requirements of the OIE Pathway have been met.

## II. Introduction

As part of the efforts made by the Government of Pakistan to strengthen livestock production, particularly animal health, FAO is implementing an EC-funded project 'Emergency Prevention and Control of Main Transboundary Animal Diseases in Pakistan (Rinderpest, FMD, PPR)'. The project commenced in January 2002 and its three-year implementation period is due to finish in December 2004. This Mid Term Review was commissioned as an in-depth evaluation of all Project activities, identifying any shortcomings and making recommendations on any re-orientation of project activities that may be necessary. The Terms of Reference are in Annex 1.

The team comprised Dr. Tony Forman (Team Leader – FAO nominee), Dr. Guy Freeland (EC nominee) and Dr. Javed Iqbal (Government of Pakistan, Ministry of Food, Agriculture and Livestock). The mission was undertaken between 29 September and 20 October. It comprised visits to Islamabad and five other administrative areas<sup>1</sup> accompanied by Dr. Manzoor Hussain (National Consultant) and involved discussions with national and provincial management personnel and staff engaged in Project activities. Facilities to be supported under the Project were visited and the results of Project activities in the field were evaluated. Details of these visits are in Annex 2.

At the conclusion of the Mission, the Team underwent debriefing with the Animal Husbandry Commissioner, the FAO Representative and the Head of EC Delegation's Development Section. One member (Guy Freeland) also debriefed at the European Commission in Brussels.

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<sup>1</sup> There are seven administrative areas in Pakistan: four Provinces (Punjab, Sindh, Balochistan and North-West Frontier Province), Islamabad Capital Territory, Northern Areas and the independent Azad Jammu Kashmir. For the sake of brevity, these areas are described collectively in this Report as provinces.

### **III. Background and Context**

Following an epidemic of rinderpest in Pakistan in 1994, efforts to control the disease, with assistance from FAO (TCP/PAK/8923), led to a marked reduction in prevalence and an opportunity to eradicate the disease. This came at an opportune time in the Global Rinderpest Eradication Campaign, as Pakistan became one of the few remaining foci of infection throughout the World. The European Commission indicated a willingness to provide support for improving animal health which ultimately would become a 6-year project entitled 'Strengthening of Livestock Services', targeting the main problems in animal health control, including the final eradication of rinderpest.

It was evident that there would be a gap between the termination of the FAO TCP and implementation of the 'Strengthening of Livestock Services' project. It was regarded as imperative that the momentum be maintained with rinderpest eradication, as there was too much at stake, nationally and globally, to risk the possibility of any residual infection resulting in another epidemic. To this end, the EC agreed to support the current Trust Fund Project, to bridge that gap.

Consequently, progress toward verification of rinderpest freedom is the main thrust of the Project and most of the activities are directed toward that end. However, for a variety of reasons to do with government disease control capability, the global trade environment and the known impact of the major infectious diseases of livestock on farming communities, it was appropriate to expand the objectives of the project to cover two of the other major transboundary diseases, foot and mouth disease (FMD) and peste des petits ruminants (PPR).

The needs for verification of rinderpest freedom comprise systems for reliable detection of disease occurrence, confirmation of a diagnosis and reporting from the field, through provincial to national government authorities and ultimately to the Office International des Epizooties (OIE). To meet the requirements of the OIE Pathway to Freedom from Rinderpest, these capabilities would need to be upgraded. This would also improve the national capability for detecting other diseases, determining their prevalence and impact and establishing improved disease control policies. These needs cannot all be satisfactorily addressed within the current time frame and resources of this Project. It was and still is therefore, vital that an intimate link be developed between this Project and the 'Strengthening of Livestock Services' project to ensure continuity and complementarity of activities.

## **IV. Assessment of Project Objectives and Design**

The Team was provided with a Project Document, which included a Logical Framework Matrix and a Summary Description of the Project.

### **A. Justification**

At the time of Project formulation, the Global Rinderpest Eradication Programme (GREP) was well advanced, with probably only four foci of infection remaining worldwide. There is little dispute that this has been the most devastating of livestock diseases and has had a disproportionate effect in developing countries, especially amongst pastoral communities. Thus there is an imperative to maintain the Programme, which has progressed to the point where there is now every prospect of global success in the next few years. The current need is to undertake intensive surveillance for remaining infection in those countries from which it has recently apparently been eradicated, of which Pakistan is one.

To achieve verification of rinderpest freedom, systems must be in place for disease surveillance and reporting. Such systems have been severely lacking in Pakistan and this deficiency has been exacerbated by the devolution of government responsibilities to provincial and district levels. The needs in this respect, of improving staff capability and enhancing their ability to undertake field and laboratory disease diagnosis and to report results through all levels of government, are largely generic needs that will serve to improve general livestock disease control. The concept of the project is to upgrade these systems to address not only the needs of rinderpest eradication but also those of control of two of the other most important transboundary livestock diseases. There is also a need, in the process of verification of rinderpest freedom, to undertake active clinical and serological surveillance and this need was also recognised in the Project Document.

There is little doubt that FMD causes significant economic loss in livestock in Pakistan although its impact cannot be quantified with available information. PPR is an apparently emerging disease and again there is a need to understand its prevalence and importance in Pakistan. It is therefore quite appropriate to propose that improved control of these two diseases should start with epidemiological and socio-economic impact studies that should lead to the development of appropriate disease control strategies.

At the time of Project implementation, the 'Strengthening of Livestock Services' project was being formulated, which although broader in thrust, would address those same issues. However, there was a very real risk that any relaxation in rinderpest eradication activities would allow re-emergence of the disease and government resources could not adequately address the needs without donor support. Thus there was a strong justification for this Project, to bridge the period until the 'Strengthening of Livestock Services' project could become fully operational.

The Project has a total duration of four years with a projected implementation period of three years (January 2002 to December 2004). This was appropriate in its context as a bridging project. However, in the context of current Project progress and expenditure and the expected implementation schedule of the 'Strengthening of Livestock Services' project, it would be appropriate to consider extension of the Project (see Recommendation 2).

## **B. Objectives**

### **1. Project Objective Statements**

The **Overall Objective** of the Project is summarised as:

- reduce poverty;
- improve food security;
- improve animal productivity and trade; and
- eradicate rinderpest in Pakistan.

Specific objectives were not stated. The **Project Purpose** was stated as:

- to help national control systems for rinderpest, FMD and PPR work efficiently.

**Expected Results** were:

- reliable and integrated system of rinderpest, FMD and PPR monitoring, surveillance, diagnosis and reporting;
- improved Federal disease control policies; and
- rinderpest emergency preparedness procedures implemented.

### **2. Reappraisal of Objectives**

It is suggested that the objectives could have been more clearly stated. The first three points of the Overall Objective are too far removed from the thrust of the Project to give a clear indication of its purpose. The fourth is appropriate but in the context of the expected results of the Project, is too specific. It is suggested that the Overall/Development Objective could have been more clearly stated as:

***'Development Objective - Increase food security by the improved control of transboundary animal diseases'***

The Expected Results are really the specific objectives of the Project and could be re-stated as such. However, the goal with respect to addressing the needs of the Global Rinderpest Eradication Programme needs to be more clearly reflected. This should be not only to develop a system of disease surveillance and reporting and prepare emergency preparedness procedures but also to ensure that progress is made along the defined OIE Pathway for Freedom from Rinderpest. Although a component of the original Overall Objective was to eradicate rinderpest, it was never going to be possible to complete this to the point of verification of freedom from rinderpest infection, within the time frame of the Project. Given that the last clinical outbreak of disease was in September 2000 and provisional freedom was declared in January 2003, verification of freedom could not be achieved before January 2007.

The national needs for FMD and PPR control in the first instance are broader than the need to consider policies. What is needed is a consideration of the epidemiology and impact of the diseases and how they may be best controlled, taking into account all technical capability and socio-economic aspects of the country. Rather than simply a policy, which might simply be a brief statement of intent, this would be better understood as a disease control strategy.

It is suggested that the Expected Results would have been better expressed as:

#### ***'Immediate Objectives***

- 1. Improve the monitoring, surveillance, diagnosis and reporting of rinderpest, FMD and PPR.***
  - 2. Develop improved strategies for the national control of FMD and PPR.***
  - 3. Progress along the OIE Pathway to achieve freedom from rinderpest infection.'***
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These are realistic objectives for the Project. It is important to note that none of the objectives state a specific end point in the process and this is realistic in the context of what can be achieved within the time frame and resources of the Project. The first objective reflects closely the first Expected Result in the Logical Framework. The second is narrower than that expressed in the Logical Framework, because it is unrealistic to expect to develop more than an initial consideration of the strategic options for FMD and PPR. With respect to rinderpest eradication, the Project objective should be to make progress along the OIE Pathway as rapidly as possible and the suggested wording is therefore broader than that documented for the third Expected Result. If that focus were not maintained on the OIE Pathway, it would risk relaxation of effort and, ultimately, a more costly process. At the time of Project formulation it would have been unrealistic to anticipate the times at which provision freedom and subsequent steps might be achieved, although this can now be projected more clearly and should be reflected in any revised Work Plans.

## **C. Project Design**

### ***1. Project Beneficiaries***

The beneficiaries were not identified in the Project Document.

The Immediate Beneficiaries could be identified as the Federal Ministry of Agriculture Livestock Wing (MINFAL) and provincial Livestock Departments. They are being assisted in developing their disease surveillance, diagnosis and reporting systems and facilitated in their efforts to eradicate rinderpest and develop appropriate strategies for the control of other transboundary animal diseases.

The Ultimate beneficiaries constitute a large range of people including:

- livestock owners in Pakistan who will benefit from improved disease control and the avoidance of losses from rinderpest and other transboundary diseases;
- stakeholders in the domestic marketing and processing of livestock and products, for whom there will be efficiency dividends;
- livestock farmers in neighboring countries for whom the threat of incursions of transboundary diseases will be reduced or in the case of rinderpest, eliminated; and
- participants in international trade who will enjoy expanded opportunities and fewer obstacles in the movement of livestock and products.

### ***2. Overall Project Logic***

The linkages in the Project Document between inputs, activities, outputs and objectives were not clearly indicated or adequately described. The Expected Results described in the Logical Framework were something of a combination of Immediate Objectives and Outputs. Activities were incompletely listed and inadequately described and Inputs were described only in terms of Budget headings.

Despite the inadequate description, the design was appropriate and represented a cost-effective means to reach the objectives. Some of the needs for verifying rinderpest freedom (clinical and serological surveillance) are addressed by the targeted activities of relatively small numbers of personnel who can operate effectively in spite of relatively weak institutional structures. This is a cost-effective approach.

Other activities related to disease investigation and reporting, being not specifically related to rinderpest only, require institutional strengthening. In the light of the implementation of the 'Strengthening of Livestock Services' project, with a mandate to address the same needs, it is appropriate within this Trust Fund Project to focus on meeting the level of capability required for satisfying the OIE Rinderpest Pathway. This is reflected in quantitative targets proposed for these activities.

Clinical surveillance and disease investigation activities, while focussed on rinderpest, will inevitably present the opportunity of obtaining data on other diseases for very little additional investment. It was appropriate to include a focus on FMD and PPR. These are diseases the control of which requires similar considerations. They join rinderpest in the 'stomatitis-enteritis' complex of diseases and so are likely to be encountered with the targeted clinical surveillance undertaken. Furthermore, with the poor definition of these diseases in Pakistan, it was appropriate to propose objectives of developing strategy options for their control.

### **3. Project Outputs**

These were not described as such in the Project Document. They are generally represented in the Logical Framework as Objectively Verifiable Indicators although to some extent these also represent Activities. It is suggested that, following the proposed revised immediate objectives described in Section B.2. above, appropriate outputs may have been as follows:

#### **Immediate Objective 1 - Improve the monitoring, surveillance, diagnosis and reporting of rinderpest, FMD and PPR.**

##### ***Outputs***

- 1.1 Staff have skills required for disease surveillance, diagnosis and reporting.***
- 1.2 Improved diagnostic facilities in 10 disease investigation laboratories***
- 1.3 Improved surveillance facilities in 5 research institutes***
- 1.4 Increased knowledge of transboundary disease prevalence and impact.***
- 1.5 Meaningful disease reports are produced promptly on a monthly basis.***

#### **Immediate Objective 2 - Develop improved strategies for the national control of FMD and PPR.**

##### ***Outputs***

- 2.1 National control strategy for FMD.***
- 2.2 National control strategy for PPR.***

#### **Immediate Objective 3 - Progress along the OIE Pathway to achieve freedom from rinderpest infection.**

##### ***Outputs***

- 3.1 Definition of the serological status with respect to rinderpest***
- 3.2 Clinical evidence of freedom from rinderpest***
- 3.3 Exclusion of rinderpest from cases of stomatitis-enteritis***
- 3.4 Contingency plans in place for a rinderpest outbreak***
- 3.5 Systems of disease surveillance and reporting satisfy the requirements of the OIE Pathway.***

#### **4. *Planned Project Activities***

A list of 12 activities was documented. This was inadequate for a complete project description. For example, only one training activity was described as 'Training in recognition of reporting significant epidemiological events.' In fact, at least eight training initiatives have been described in the first two annual Work Plans.

Inputs were even less adequately described. There was no equipment list. Many of the Consultancies were unspecified and no Terms of Reference were included. This has led to some difficulties. The fact that in the first two years there will be considerable underspending of the Budget, partly reflects some slippage in Project activities but is probably also an indication of the lack of certainty regarding input requirements. Inputs required under the general budget headings have been delivered. However, the Review Team identified additional requirements that are clearly necessary but have not been provided. In particular, this applies to administrative and logistic support for the National Consultant. In the absence of an International Expert, this person is overburdened.

The Work Plan in the Project Document was limited to a summary for Year 1. It was difficult to relate this to the Logical Framework Outputs and Activities and in any event it would have been more appropriate to have a summary for the full Project with a detailed Work Plan for Year 1.

Work Plans were subsequently elaborated for Year 1 and Year 2. The first generally followed the summary Year 1 Work Plan in the Project Document, while the Year 2 Work Plan was generally in the format of the Logical Framework, with an expansion of the Activities. The lack of uniformity in the Project Document and Work Plan format presented difficulties in evaluation that the Review Team addressed by adopting revised Objectives and Outputs.

#### **5. *Internal Management Structure***

Because the Project was assisting in developing institutional capabilities, its management needed to, and did, reflect that of the Departments involved. At the commencement of the Project, a Steering Committee and an Implementing Committee were respectively reconstituted as a National Animal Disease Emergency Committee (NADEC) and a NADEC Working Group. These have appropriate Federal and provincial Government, donor and FAO representation and oversee project policy and implementation. There is no apparent representation from ultimate beneficiaries, such as farming or trading organizations. It may be that this reflects an absence of representative organisations for these stakeholders.

At the Project operational level, the National Project Coordinator is the Animal Husbandry Commissioner, responsible for overall coordination of Project activities. In each Province, there is a Disease Reporting Officer, who is the Director of Livestock or equivalent and responsible for the activities in his Province. Under his direction, a Transboundary Animal Disease (TAD) Officer supervises staff engaged in activities in the field.

A Project National Consultant is the only full-time person engaged by the Project. He is responsible to the FAO Representation and technically guided by the Animal Husbandry Commissioner. This position was not identified in the Project Document but the need was soon identified. He is the main driving force behind project implementation

and is highly effective in negotiating Project needs with Government and maintaining the momentum of Project activity. Technical supervision is provided by FAO/EMPRES staff and, with the assistance of advice from the National Project Coordinator and short-term International Consultants, maintains the appropriate technical direction of the Project.

This structure is entirely appropriate for the management of the Project.

#### **6. Major Risks and Assumptions**

The major risks and assumptions noted in the Logical Framework were:

1. *Maintenance of peace.* This was appropriate in the context of ongoing unrest in the region.
2. *Continued monitoring for rinderpest.* This is really a Project Activity rather than an assumption. It would have been more appropriate to identify ‘*no further outbreaks of rinderpest*’ as an assumption, since a new epidemic could have resulted in a need for a completely revised Work Plan.
3. *Availability of Government funding.* This was appropriate.
4. *Adequacy of Government commitment to the Project.* This was also appropriate and vital to the success of the Project.

## V. Assessment of Project Implementation, Efficiency and Management

### A. Project Budget and Expenditure

The Project budget was €1,800,000, converting at the time of implementation to US\$ 1,654,200. Table 1 shows budget for Years 1 and 2 and expenditure for Year 1 and for Year 2 to date. The budget was underspent in the first year and will be again in Year 2.

In Year 1, much of the savings were in travel, reflecting the delay in training of PDS staff and the much reduced extent of subsequent field work, for which staff expenses were acquitted against the travel code. There were also large savings for expendable equipment. A large amount of non-expendable equipment was purchased to meet laboratory requirements and this was apparently not anticipated in the first Year. A decision was made to undertake blood sample collection by contracting provincial governments and this is the reason for unanticipated costs under that budget Code.

For Year 2, it is likely that budgeted costs for Consultants will be spent by the time additional training is undertaken. Similarly, with contracts to be let for blood sample collection, this item will probably also be spent. The budget for non-expendable equipment will be well overspent, with further expenditure of approximately \$33,000 anticipated. This is for equipment required at the National Veterinary Laboratory that was not originally planned. Additional expendable equipment is required for laboratory diagnostic activities and current requisitions of approximately \$80,000 will see that budget line also well overspent. The travel budget will probably be considerably underspent, reflecting a second year in which the amount of participatory disease surveillance activity is less than planned. The training budget will be overspent, with significant additional costs expected toward the end of the Year.

It is expected that by the end of Year 3, there will be savings of about \$500,000. This needs to be considered in the light of an expected need to continue activities after the planned termination of the project (see Recommendation 2).

**Table 1. Project Budget and Expenditure**

Expenditure code & description	Year 1 - 2002		Year 2 - 2003	
	budget	expenditure	budget	expenditure <sup>1</sup>
5013 consultants	\$ 40,081.00	\$ 69,182.00	\$ 83,612.00	\$ 31,089.00
5014 contracts	\$ -	\$ 21,536.00	\$ 30,000.00	\$ 5,810.00
5021 travel	\$ 404,324.00	\$ 24,840.00	\$ 308,664.00	\$ 45,751.00
5023 training	\$ 9,190.00	\$ 23,341.00	\$ 21,370.00	\$ 23,056.00
5024 expendable equipment	\$ 59,735.00	\$ 35,792.00	\$ 60,000.00	\$ 54,914.00
5025 non expendable equipment	\$ 1,367.00	\$ 121,933.00	\$ 40,500.00	\$ 47,427.00
5029 support costs	\$ 31,208.00	\$ 18,460.00	\$ 44,699.00	\$ 7,710.00
5027 technical support services	\$ -	\$ 4,256.00	\$ 9,932.00	\$ 5,472.00
5028 general operating expenses	\$ 5,417.00	\$ 6,793.00	\$ 190,900.00	\$ 11,984.00
<b>Total</b>	<b>\$ 551,322.00</b>	<b>\$ 326,133.00</b>	<b>\$ 789,677.00</b>	<b>\$ 233,213.00</b>

<sup>1</sup>Expenditure to 13 October, 2003 excluding current commitments

EC financial administrators require acquittal of the budget against project outputs and other budget lines, differing from the FAO format. In preparing a final Work Plan and Budget, the budget estimates should be made both against Project Outputs and FAO project codes to facilitate reporting to both FAO and the Donor (see Recommendation 1).

## **B. Activities and Outputs**

Because of the difficulties in reconciling components of the Logical Framework with the Objectives and Outputs as interpreted by the Review Team and with the annual Work Plans, it was decided to make the systematic evaluation of Project Activities against the Review Team's proposed revised Outputs. The evaluation is presented on the basis of activities undertaken so far and those indicated in the Project Document or the Annual Work Plans to be accomplished within the Project period.

### **Output 1.1 – Staff have skills required for disease surveillance, diagnosis and reporting.**

#### ***Activity 1.1.1 Training in laboratory diagnosis of main transboundary animal diseases***

A course was conducted at VRI Lahore in Year 1 Month 4. Twenty staff from 10 District Investigation Laboratories (DILs) participated. They were trained in procedures for rinderpest, FMD and PPR diagnosis and other virological, bacteriological and parasitological methods. The increase in activity at DILs since Project implementation would indicate that there has been a meaningful enhancement to the capability of staff. As a means of auditing capability for an important activity, staff were occasionally questioned by the Review Team about their procedures for collection of FMD specimens. Their understanding of the necessary procedures was inadequate and it would suggest that additional refresher training is required.

#### ***Activity 1.1.2 Additional training of DIL and VRI Staff***

In Year 2 Month 6 an International Consultant conducted on-the-job training for laboratory staff. He visited the five ELISA laboratories and worked at 9 of the 10 laboratories supported by the Project.

#### ***Activity 1.1.3 ELISA familiarisation course***

A course was conducted early in Year 2, with participants from the five research laboratories. The course was followed by one of the Training Consultants visiting each laboratory, where equipment was installed and commissioned. That participants had gained the necessary skills for rinderpest ELISA was demonstrated by their ability to perform the tests in their laboratories. There is an exception with one laboratory where minor equipment problems remain to be resolved. Course participants were also exposed to general ELISA methodology, which should enable them to quickly learn to undertake other tests, such as FMD ELISA.

#### ***Activity 1.1.4 Training in Participatory Disease Search (PDS)***

It was originally planned that PDS training would be undertaken in the first month of the Project and that village search activity would commence in the second month. In the event, one training course was held in Punjab in Month 4 of Year 1. It was planned to continue with a second training course in Sindh, but security problems resulted in this

being delayed until Month 11. At this stage, sufficient training had been completed to enable PDS work to be implemented throughout the country.

The syllabus for the courses covered principles and methods for conducting participatory epidemiology and for undertaking specific disease investigation. Discussion with participants indicated that they did not perceive a need during PDS activities to specifically examine animals for signs of rinderpest, in the absence of any concern expressed by farmers. The summary of PDS Team activities during a village visit, contained in the Consultant's report, also did not indicate the need for examination of village livestock, unless a report of sickness indicated the need. It was not clear to the Review Team whether this constitutes appropriate clinical surveillance to satisfy the requirements of the OIE Pathway. This may need to be considered for subsequent training courses.

#### ***Activity 1.1.5 Training of trainers for PDS***

It was intended that two PDS team members would undertake training of trainers in a workshop in Nairobi in Year 2 Month 3 and would then have the skills to undertake further training and to monitor PDS performance in the field. Unfortunately, due to administrative problems in arranging clearance for the staff to travel, the training did not take place. In the absence of a known course being planned for the future, the needs for a higher level of training for some staff may need to be addressed locally (see Activity 1.1.6 below).

#### ***Activity 1.1.6 Refresher training for PDS***

Two further PDS training courses were planned for Year 2. The International Consultant was not available and a replacement could not be sourced. The activity was re-scheduled for Year 3, Month 3. This is planned mainly as a refresher course in which previously trained personnel will be able to share their experiences and learn from those of others. There are also the needs of training additional staff in PDS, to increase the numbers of teams operating in some areas (see Activity 1.4.4 below) and to give some high performing staff the skills for monitoring PDS activity. It should be used as a forum for emphasising the need, in the latter stages of the OIE Pathway, of intensively seeking out possible cases of rinderpest.

#### ***Activity 1.1.7 Workshop for Senior Officers in charge of database analysis***

In conjunction with Activity 1.5.3, a workshop is planned for the end of Year 2. This will cover reporting obligations, database management and sampling methodology. This activity is regarded as one of the most important current needs, as it is critical to the thrust of improving the consciousness of disease reporting needs and engendering ownership of the process within senior staff at the provincial and National level.

#### ***Activity 1.1.8 Training for Data Managers and database management***

Following the workshop described in Activity 1.1.6 above, it is planned to undertake courses at each provincial centre and at MINFAL (national level), for staff responsible to managing the database. This will also occur at the end of Year 2 and is essential to the introduction of improved reporting.

**Output 1.2 – Improved diagnostic facilities in 10 disease investigation laboratories*****Activity 1.2.1 Provision of minor equipment, diagnostic reagents and training***

In Year 1, 10 of more 30 DILs were selected to be given Project support. These were provided with equipment and reagents for rinderpest antigen detection, sample collection for other TADs and minor equipment to enable them to undertake other disease diagnostic activities, particularly bacteriology and parasitology. Essentially all equipment was purchased and delivered as planned.

Additional equipment needs were identified in Year 2 and at the time of Review were on order.

***Activity 1.2.2 Preparation of Standard Laboratory Diagnostic Operating Procedures***

The National Consultant prepared a manual that has been distributed to DILs. It is a clearly written, well prepared manual which should provide staff with the information they need for testing a range of submitted specimens.

**Output 1.3 Improved surveillance facilities in 5 research institutes*****Activity 1.3.1 ELISA surveillance capability***

Equipment for undertaking ELISA procedures for serosurveillance was provided to Veterinary Research Institutes (VRIs) in Lahore, Peshawar and Quetta, the Central Veterinary Diagnostic Laboratory (CVDL) in Tando-Jam and at the National Veterinary Laboratory (NVL)<sup>2</sup>. It was planned to be procured in the first six months of the Project. However, this was delayed until the end of Year 1. At the time of this Review, there was a need for replacement/repair of minor equipment at one Laboratory. It will be important for this to be expedited, to ensure that the serosurveillance capability is in place for major survey activities in 2004.

***Activity 1.3.2 Strengthening the National Veterinary Laboratory***

With the delay in delivery of ELISA equipment, serological testing for rinderpest antibody in Year 1 was conducted at the laboratory established in Islamabad for FAO/UNDP project activities in Afghanistan. However, this capability was subsequently established in NVL and rinderpest and PPR serology can now be undertaken there, as well as antigen capture ELISA for confirmation of cases of disease.

However, it is a concern that this is apparently the only disease diagnostic activity currently being undertaken at the NVL. The decision was made that the NVL should become the reference laboratory for FMD. This was an appropriate decision, because the services previously being provided by VRI Lahore would in any event need to be upgraded and there is a need for independent quality control testing of FMD vaccines, that would be better undertaken independent of vaccine production facility at Lahore.

Currently, field and DIL staff are being encouraged to submit specimens for FMD testing at NVL and for onward transmission to the World Reference Laboratory. Because NVL cannot currently undertake testing, there are long delays and a serious risk of the process losing credibility. Samples should be tested locally and only carefully selected,

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<sup>2</sup> At the time of Project Formulation, it was foreshadowed that national laboratory capability would be enhanced by support to the National Animal Research Centre. Subsequently, the National Veterinary Laboratory was established and it was more appropriate to provide the support to that Laboratory.



known positive samples submitted to the World Reference Laboratory for confirmatory testing and strain differentiation studies.

In the long term, there is probably a need to construct dedicated facilities for a comprehensive FMD reference laboratory at NVL, with a capability for isolating viruses with appropriate containment. However, antigen detection and FMD serological diagnostic activities could be readily introduced, with allocation of available laboratory space and equipment, provision of ELISA kits and training of staff. This should be facilitated and expedited by the Project.

Additional equipment was identified in Year 2 that would assist the NVL in developing its capability and that was awaiting delivery at the time of this Review. There is an urgent need to expand the capability of this Laboratory.

#### **Output 1.4 Increased knowledge of transboundary disease prevalence and impact.**

##### ***Activity 1.4.1 – Field investigations of reported disease by DIL staff***

During Year 1, a total of 675 villages were visited and specimens collected for examination for rinderpest, FMD and PPR. Almost 1,000 laboratory tests were carried out. In the light of the very low activities of DILs prior to commencement of the Project, this was a very creditable result. Collated information was not available to the Review Team for Year 2 to date. However, it appears that activities are continuing at a similar rate.

##### ***Activity 1.4.2 Support to field staff for sample submission***

Materials for sample submission were provided to the 10 DILs and PDS teams in Year 1. They included specimen containers, sample buffer, cold boxes and sampling instruments. Replacement supplies are currently on order and planned again for Year 3. These are essential supplies and their provision is reflected in an enhanced rate of sample submission to district, provincial and national laboratories.

Project staff prepared a guide for collection and despatch of specimens, which is a valuable resource for field staff.

##### ***Activity 1.4.3 Sample submission and testing at the National Veterinary Laboratory***

Staff in DILs were encouraged to submit specimens to the NVL, for testing there or for onward transmission to international reference laboratories. In Year 1, two samples were submitted for PPR diagnosis and tested there. Twenty-seven samples were collected for FMD diagnosis and forwarded through NVL (and Lahore VRI) to the World Reference Laboratory, with types O, A and Asia 1 being isolated.

As indicated under Activity 1.3.2 above, there is a need to expand the capability of the NVL.

##### ***Activity 1.4.4 Participatory Disease Search***

In the latter part of Year 1, village searches and associated key informant interviews were conducted by six teams in the Punjab, NWFP, AJK and the Northern Areas. A total of 261 villages were visited and 3,160 farmers interviewed. Farmers rated haemorrhagic septicaemia, post-parturient haematuria (a manifestation of phosphorus deficiency) and FMD as the three most important diseases.

PDS has been conducted throughout Year 2. The target is for 3,013 villages to be visited. By early October, teams operating in the field for between four and six months had met less than half of the target. The indication is that most teams will not meet their targets for the year. The reasons include delays in commencing activities until the Annual Work Plan had been formulated and approved, an identified need to increase the number of PDS teams in some Provinces, problems with maintaining vehicles and delays in the payment of daily subsistence allowances (DSA) and the reimbursement of other expenses.

Most of these issues have been addressed and it appears that the PDS teams are currently working at a satisfactory rate. However, it is very possible that problems will recur. The main problem is the reimbursement of costs, which appear to have largely been the result of delayed submission of claims from the provincial headquarters. As part of a resolution to the problem, the Project agreed to pay a fixed rate of DSA, without the need to furnish hotel receipts for expenditure. The rate was fixed at Rs.1,400. The standard Government DSA rate is Rs.350 plus accommodation costs, with officers able to claim up to Rs.1,400 on providing receipts, usually for costs associated with staying overnight in the larger cities. Obviously, the PDS teams are obtaining a very generous benefit from the arrangement. It is causing some difficulties and is certain to cause more, with other staff, such as those in DILs, who are also being encouraged to undertake work associated with the Project objectives but are not receiving the same benefit. It would appear that the decision to pay such a high fixed DSA was an inappropriate way of resolving the issue and there is a need to consider the implications of this for the remainder of the Project and indeed for subsequent project activities. The decision has not necessarily solved the problem anyway. The issue appears to lie more with a lack of commitment at the level of provincial headquarters to getting the work done and is addressed further in Section C below.

However, the performance of the teams in the field appears to have been very satisfactory. There is generally a good adherence to the guidance given to participants in training courses. A picture is building up of the prevalence and importance of the major diseases. The farmer response is very favourable and at least to some extent, difficult problems are followed up by a subsequent visit by DIL staff. Reporting by the teams has improved over time, with TAD officers screening reports before sending them on.

#### ***Activity 1.4.5 National PDS back-stopping***

As indicated under activity 1.1.4 above, it was proposed that selected staff were to receive additional training and then review and back-stop PDS activities. Since the training was not received, the back-stopping did not take place. The impression of the Review Team is that there is a good argument for implementing such a process when training has been given in Year 3. Even though it will be late in the Project period, there will be a continuing need for clinical surveillance at least until 2006.

#### ***Activity 1.4.6 Assessment of rinderpest in the Landhi Dairy Colony***

This exercise was documented in the Year 1 Annual Report. It was however an activity that was separately funded by FAO/EMPRES and was not part of this Project.

**Output 1.5 Monthly disease reports are compiled*****Activity 1.5.1 Definition of a significant epidemiological event***

The intent of this activity was not entirely clear to the Review Team. With respect to OIE List A diseases, each individual occurrence of an endemic disease is not epidemiologically significant. It is suggested that Project activity should focus on identification and reporting of the three identified transboundary animal diseases. For the purposes of reporting to OIE, significant events might comprise:

- any serious suspicion of rinderpest;
- epidemic occurrences of FMD at greater incidence than that normally observed; and
- occurrences of PPR in areas in which it is not regularly identified.

Project staff need to decide before developing a definition, what the need for it is. It could be discussed at the reporting workshop planned for the end of Year 2.

***Activity 1.5.2 Reporting from field and laboratory staff to provincial directorates***

Activity reports are provided to provincial directorates from field staff, DIL staff and PDS teams. It appears that for many years there has been a significant deficiency in regular reporting. That which was performed was apparently mostly directed toward providing statistics of work performed, rather than providing meaningful data for disease control planning.

What is required is a very significant culture change at all levels. It is unrealistic to expect this to happen readily. To date, there has been some improvement in disease activity reporting but there is little evidence that the outcomes of Project activity are valued by provincial directorate staff for their use in planning. Senior staff are to be targeted in a reporting workshop planned for the end of Year 2 (see Activity 1.1.7) and this is the appropriate level at which to attempt to influence change.

***Activity 1.5.3 Reporting from Provinces to Ministry of Food and Agriculture, Livestock Wing (MINFAL)***

The target was for monthly contagious disease reports to be forwarded from each provincial directorate to MINFAL. During the first year of the Project there was a sporadic response, ranging from one authority providing reports almost every month, to one providing only one report for the year. There has been considerable improvement in this in the second year, although reports from some regions are still sporadic. For 20 months to date, from 6 Provinces and Areas, only 49 of the expected 120 reports have been provided. For one area, the monthly contagious disease reports were examined. They showed for each month the number of contagious disease occurrences in each district but did not identify the disease involved and did not incorporate information from PDS and DIL sources. Such reports are of little value to MINFAL, either for planning purposes or for compiling periodic reports to OIE.

There is considerable improvement needed to make these reports of value for provincial directorates and MINFAL.

***Activity 1.5.4 Upgrading Provincial disease reporting***

Recognising the need to strengthen provincial reporting capabilities, the decision was made by Project management during formulation of the Year 2 Work Plan, to upgrade disease database management. A necessary line management system was

identified, comprising Disease Reporting Officer, responsible to the Provincial directorate and in turn supervising a Data Manager. A senior officer was also designated as the Disease Reporting Officer at the national level, reporting to the Animal Husbandry Commissioner. The specialised FAO/EMPRES transboundary animal disease database (TADinfo) would be introduced and staff instructed in its use.

At the time of the Review, staff had been identified and installation of software was planned for November/December, 2003. This initiative should not only facilitate the transmission of information but introduce a greater discipline in the data gathered and entered, such that individual outbreaks of disease are separately recorded and geo-referenced.

#### ***Activity 1.5.5 Provision of computers to reporting nodes***

In conjunction with Activity 1.5.3 above, it was intended to undertake any required upgrading of existing computers at provincial units and MINFAL. It was however recognised that to install and operate the new software, it was more appropriate to supply new computers. These were about to be installed at the time of the Review.

#### ***Activity 1.5.6 Reporting to OIE***

The Logical Framework identified a need to submit monthly reports to OIE. Reports have been consistently forwarded to OIE on a quarterly basis. It is recognised that at present, information on the incidence of FMD, PPR and Newcastle disease are inaccurate and, as these diseases are all endemic, there would be no value added in sending reports on a monthly basis. Similarly, rinderpest can be regularly reported as absent. It would only be appropriate to increase the reporting to OIE if there was a significant change in status of a List A or List B disease.

### **Output 2.1 – National control strategy for FMD**

#### ***Activity 2.1.1 National consultant to prepare options for a national strategy***

A consultant has been identified (Dr. Muhammad Zulfiqar, Additional Director, FMD Research Centre, Lahore). His report is expected for the next meeting of the NADEC Working Group. It must be recognised that there is a deficiency of meaningful information regarding the prevalence and impact of FMD in Pakistan. For this reason the Review Team has suggested that his task should be viewed as developing options for a disease strategy, rather than proposing a long-term policy.

### **Output 2.2 – National control strategy for PPR**

#### ***Activity 2.2.1 National consultant to prepare options for a national strategy***

A consultant has been identified (Dr. Qurban Ali, Principal Scientific Officer, NVL). The same observations apply as to Activity 2.1.1 above.

### **Output 3.1 – Definition of the serological status with respect to rinderpest**

Rinderpest serology needs to be undertaken, in the first years of the Project to monitor for the presence of infection and the gradual loss of vaccination antibody in the national herd. Subsequently, two years of structured serosurveillance are required to meet OIE requirements for freedom from rinderpest infection.

***Activity 3.1.1 Seromonitoring to confirm provisional freedom from disease***

During 2002, a survey was conducted in Punjab and Sindh, being the two provinces in which rinderpest was last seen and therefore considered to be those most highly at risk of having residual foci of infection. A total of 12,130 samples were collected from cattle and buffalo. Back-tracing of the 74 positive samples indicated that they probably came from vaccinated animals. The survey was conducted by contracting Provincial departments to undertake sampling. It was well conducted and the results were very encouraging, giving a preliminary indication that there is no evidence for residual rinderpest activity.

Further sampling is planned for Year 2. Collection of a small number of samples in each Province will be mainly directed toward identifying any problems with sample collection and testing that need to be resolved prior to the structured surveys in 2004 and 2005. It is expected that the sample collection will be completed before the end of the year, although testing may continue into Year 3.

***Activity 3.1.2 National serosurveillance to confirm freedom from rinderpest infection***

To meet OIE Pathway requirements, structured serological surveillance will need to be conducted for two consecutive years. This is being planned for 2004 and 2005 although at present only the 2004 activity will be undertaken with Project support. It was not clear to the Review Team whether an appropriate sampling frame had been designed that will satisfy OIE Pathway requirements, nor whether an estimate of sample numbers has been made, that would enable budget estimations to be made.

**Output 3.2 – Clinical evidence of freedom from rinderpest*****Activity 1.4.4 Participatory Disease Search***

In the course of PDS undertaken as described under Output 1.4, there was a specific need to search for any possible cases of rinderpest and to elicit from owners and key informants, any suspicion of rinderpest since the last known clinical case. The target was to search 10% of villages. These were apparently to be selected randomly from a list of all villages, excluding those that had a population of large ruminants of less than 50, were close to a main road or were inaccessible. The acceptability of excluding certain villages, especially those which were regarded as inaccessible, might be questioned, since they could potentially represent foci of rinderpest that might go undetected.

Sampling frames were developed which did not necessarily represent 10% of villages. For example, there are 25,873 villages in Punjab but it was planned to visit only 1,200 this year; of 6,584 in Balochistan, only 300 would be surveyed this year; in NWFP it was planned to survey 10% of villages over the course of two years. There was a lack of documentation to indicate why the sampling frames differed from the target, whether they were selected on a truly random basis and whether they would satisfy OIE requirements<sup>3</sup>. At the time of preparation of the dossier for submission to OIE for declaration of rinderpest freedom, it will be necessary not only to indicate that sufficient surveillance was done but that the sampling frame was appropriate. If this is not

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<sup>3</sup> Advice from the International Consultant was that the PDS activity was not designed to necessarily meet the OIE Pathway criteria for rinderpest clinical surveillance and that there is a need in any event to clarify these criteria. It is expected that this will be done later this year and that early in 2004, the requirements for clinical surveillance for rinderpest within the Project will be reviewed.

documented now, there is a serious risk that the information will be lost by the time the dossier is in preparation.

The targets will not be met for Year 2 in all of the Provinces. This may not be critical. The OIE guidelines do not specify a length of time for which clinical surveillance should be conducted. In any event, there should be a clear documentation in future of exactly what is required and how sampling frames will satisfy the needs.

No evidence for rinderpest has been found. Questioning of farmers has elicited past memory of rinderpest, sometimes being less than might be expected. It appears that PDS teams were not specifically instructed to examine all animals in a village. Rather, they were guided to examine any animals, which might, on the information obtained from farmers, be potential cases of rinderpest. The acceptability of this in terms of the requirements of the OIE Pathway needs to be confirmed.

### **Output 3.3 – Exclusion of rinderpest from cases of stomatitis-enteritis**

#### ***Activity 3.3.1 Investigation of reported cases of stomatitis-enteritis***

The OIE Code requires that all suggestive cases of rinderpest are investigated by field and laboratory methods. The Project Document sets a target of suspicious cases of rinderpest investigated increasing to 0.5 per 100,000 head (about 600 cases annually throughout the country). During Year 1, Penside and laboratory tests were conducted on samples from approximately 500 animals. It appears therefore that an appropriate level of investigation is being developed. There have been no confirmed cases of rinderpest since September 2000.

#### ***Activity 3.3.2 Exclusion of rinderpest from samples collected during active disease search***

During Year 1, a total of 963 tests were conducted by Penside modules, AGID and ELISA, to exclude rinderpest from cases that presented with suspicious signs. All results were negative. It is likely that virtually all of these had very little resemblance to classical rinderpest and that the large number of samples tested is in response to encouragement to test any animal that has any presenting signs at all. This is satisfactory, although it would be useful to have clinical summaries from the cases tested.

### **Output 3.4 – Contingency plans in place for a rinderpest outbreak**

#### ***Activity 3.4.1 National Animal Disease Emergency Committee (NADEC) established***

The Committee was gazetted on 19 February 2002. The Terms of Reference indicate that it has a responsibility to oversee emergency preparedness measures. It is understood that NADEC or its Working Group would also facilitate a national reaction to an animal disease emergency. However, this needs to be clarified and very clearly documented.

#### ***Activity 3.4.2 Quality control checks on rinderpest vaccine bank***

A rinderpest vaccine bank had been established, with vaccine stored in three locations. Testing at the World Reference Laboratory indicated that the vaccine was of appropriate potency and it is planned that bi-annual checks should continue. This is appropriate. Consideration could be given to installing temperature-recording equipment in the banks to provide further assurance of quality.

***Activity 3.4.3 Establishment of a PPR vaccine bank***

A small PPR vaccine bank was established, with 200,000 doses stored. The significance of this is that in the event of an outbreak of PPR, it will not be necessary to use rinderpest vaccine, which protects against PPR but would then confuse serosurveillance for rinderpest.

***Activity 3.4.4 Rinderpest contingency fund***

A contingency fund has been established by the Project, with funds being held by FAO in trust and available in the event of a rinderpest occurrence. It will be necessary for MINFAL to consider its own long-term position when developing contingency plans for the main transboundary diseases.

***Activity 3.4.5 Maintaining border control***

The Logical Framework identified the need to improve awareness of the Quarantine Service to the status of Pakistan with respect to OIE List A diseases. Presumably the intention was at least partly that the Service needs to more stringently control the ingress of livestock to protect the progress with rinderpest eradication. There is no evidence that any particular attention has been directed toward this to date. It has now been agreed that Quarantine staff will receive copies of contagious disease reports to keep them informed.

***Activity 3.4.6 Preparation of a rinderpest contingency plan***

The Project National Consultant is planning to draft this plan in time for consideration by the next meeting of the NADEC Working Group, early in Year 3. It can be expected that many issues will arise that cannot be immediately resolved. For example, any confirmed outbreak of rinderpest would now be of such consequence that it might require the assistance of police or armed forces to contain it by restricting animal movement, something that is normally not considered practical in this country. Preparation of the plan should therefore be regarded as an iterative process that will continue for some months. It was agreed that a realistic target date could be end of June 2004.

**Output 3.5 – Systems of disease surveillance and reporting satisfy the requirements of the OIE Pathway.**

Progress to verification of rinderpest freedom is the main criterion against which the success of the Project will be judged. There is a need to constantly monitor Project progress against the OIE Pathway requirements. These are, in summary:

1. Clinical surveillance for evidence of rinderpest, with appropriate reporting mechanisms.
2. Investigation of any cases of stomatitis-enteritis from which rinderpest needs to be excluded.
3. Serosurveillance to confirm the absence of any sub-clinical rinderpest activity.
4. Effective measures to prevent the re-introduction of disease and to rapidly respond to a possible incursion.

To achieve recognition of freedom from rinderpest infection, a dossier will need to be prepared, documenting the means by which these requirements have been addressed. Even if the Project does not extend to this point (expected to be early 2007), this goal needs to be constantly borne in mind.

***Activity 3.5.1 STS backstopping and international consultancies***

The Project is fortunate to have the resources of a highly competent National Consultant, International Consultants and FAO/EMPRES technical staff to assist in planning and supervising the work, undertake training and monitor progress. More than the Project document in which significant deficiencies have been identified, it is the efforts of these personnel who have kept the appropriate focus on Project activities.

One International Consultant who has assisted with this process, undertook a mission in the middle of Year 2, to analyse Project performance. Some of his more important observations, all of which are endorsed by the Review Team, are:

1. Disease reporting needs to be strengthened. The introduction of TADinfo at Provincial data nodes should improve the transmission of information and also encourage the recording of more meaningful disease outbreak data.
2. There is a need for additional training of staff, especially those in DILs, in disease recognition and reporting.
3. Progress in establishing activities at NVL, essential for a satisfactory national diagnostic capability, needs to be accelerated.
4. It is unclear by what means the National Quarantine Service is kept up to date with the national status with respect to OIE List A diseases.

The personnel involved in these consultancy and STS visits have the confidence of national staff and a clear vision of the work needed in the future. It will be important to maintain continuity of this involvement.

***Activity 3.5.2 Preparation of a draft dossier for submission to OIE***

At the present time, with the Project due for termination at the end of 2004, it is outside of its scope to undertake final preparation of the dossier. However, it should have a responsibility for ensuring that the Project activities are directed toward this objective and that the necessary documentation is maintained. At the time of the Review, the Team was unable to establish the exact basis for structuring of the village search programme and this kind of information should be available and clearly understood by all.

While there is an obvious need for a Work Plan to be elaborated for Year 3 of the Project, it should in fact be incumbent on the Project to develop a Work Plan for the period required to achieve freedom from rinderpest infection.

**C. Government Support**

Government support was expected in the form of the standard obligations embodied in the Project Document. Essentially, it was expected to provide the personnel, laboratory facilities and logistic support required for the Project to function. There is no indication that these obligations have not been met.

However, for the satisfactory progress of the Project, a serious level of commitment on the part of Government is necessary. There was a level of concern amongst the Review Team that senior staff at the provincial headquarters level have not



demonstrated appropriate commitment in such areas as expediting the reimbursement of staff expenses and lending their support to efforts to improve disease reporting. Continuation of satisfactory progress with the field work and development of improved disease reporting are unlikely to occur without the wholehearted commitment of senior provincial staff. This can be partly addressed in the proposed workshop for senior staff late in Year 2. However, this issue probably needs to also be raised at the level of NADEC.

#### **D. Project Management**

The Project has been well supported on an administrative basis by the FAO Pakistan Representation. Purchasing of equipment and reimbursement of staff expenditure appear to have been efficient and timely. The FAO Representative has played an active role in the NADEC Working Group and done everything possible to maintain Project progress. The FAO/EMPRES group has provided expert technical assistance and assisted in developing annual Work Plans. The National Consultant has played a pivotal role both in maintaining the technical direction of the work and in resolving the problems that have occurred in implementation.

Effective Project management is however also dependent on the commitment of senior provincial staff and, as indicated in C above, there are concerns that there is a disparity between the expressions of intent and the operational realities of management at the provincial level.

#### **E. Technical and Operational Backstopping**

To date, two STS visits have been made by the GREP Secretariat in Year 1, for project implementation and to assist with developing the Year 2 Work Plan and one in Year 2, to ensure implementation of the Year 2 Work Plan.

Subsequent planned backstopping visits have not been documented but will definitely be required. As well as backstopping visits, the GREP Secretariat acts as a technical resource and is in frequent communication with Project staff. It is important that this link is continued, if necessary outside of the Project, to the point where eventual freedom from rinderpest infection is achieved.

## **VI. Assessment of Results and Effectiveness**

### **A. Effects and Impact**

It is clear that together with the preceding FAO Technical Cooperation Programme, there has been very significant progress in turning around a struggling veterinary service that was under-performing and demoralised and developing, at least amongst personnel involved in the Project activities, a sense of purpose and enthusiasm for achieving results. Results coming from the work are limited at this mid-term point of the Project. Much of the initial Project activity has been directed toward training and capacitation, including the provision of laboratory equipment. With systems coming into place for the collection of information, laboratory testing of samples and upgrading of reporting channels, there is an expectation that the final stage of the Project should be more productive.

The PDS work has progressed well and the fact that it has not reached targets for 2003 should not be regarded as critical. It is important that it is well supported for the remainder of the Project so that it can achieve targets from now on. There is valuable information being gathered by the PDS Teams. There is little indication at this stage that this is being used by Provincial or Federal management for planning. There is a need for the benefits of the PDS process to be more strongly promoted to them. There is however, a clear indication that the PDS visits are very much appreciated by the livestock owners. It is apparently a new experience for most of them to be consulted for their opinions on livestock disease and indeed, for some of them it has been their first exposure to government veterinary services. Provided the goodwill generated can be sustained, it should have a very positive impact on livestock disease control and increase the likelihood of disease outbreaks coming to the attention of veterinary authorities.

There is information being collected about the prevalence, impact and distribution of FMD and PPR. At present there is insufficient to be of real value. The indication is that FMD is widespread and of importance to livestock owners but little can be said about disease incidence, virus type/strain distribution or vaccine efficacy. Similarly, information regarding PPR indicates that it is present and apparently increasing in prevalence but little else can be concluded from the data. Thus, there will be little information of real value when the two national consultants come to develop options for control strategies for these two diseases.

The focus on rinderpest has resulted in more rapid and meaningful outcomes. The Project has been implemented at an opportune time. At the time of commencement there was every possibility that further occurrences of rinderpest would be seen but there is now a strong likelihood that it will not recur and provisional freedom has been declared. Thus the project now has the clear goal of making as much progress as possible to confirming freedom from rinderpest infection.

The PDS activity has produced good evidence for the absence of clinical rinderpest, both presently and in the recent past. With a weak routine reporting network, it was appropriate to use such active search methods and it will be necessary to sustain it, in some form, at least to the point of declaration of freedom from rinderpest disease and possibly to final declaration of freedom from rinderpest infection. The investigation of suspected stomatitis-enteritis cases by field and DIL staff appears at present to not be

very robust and it will require a sustained effort to ensure that such activity satisfies the requirements of the OIE Pathway. Similarly, there is a clear need to make progress with systems for reporting of disease. Monthly reports not only need to be more consistently provided to Federal authorities but they need to be much more meaningful. The provision of computer equipment and database software will facilitate this but it also needs a stronger appreciation of the need and commitment of provincial and Federal staff, to make the system work satisfactorily.

## **B. Sustainability and Environmental Impact of Results**

It is difficult to assess the likely environmental impact of the Project. This could potentially be negative if disease control resulted in an increase in national livestock numbers and consequent expansion in grazing areas or increased grazing intensity. However, it is more likely that with improved disease control, livestock numbers would remain the same and production simply become more efficient, having a neutral environment effect.

The potential for sustainability of the Project Outputs is of greater consequence. There are two factors that increase the likelihood substantially. The first is the fact that if rinderpest is eradicated, this in itself is a sustainable outcome of major significance. It will depend on preventing re-infection from outside of the country or at least responding rapidly to any incursion. Project activities directed toward increasing awareness of the Quarantine Service and of contingency planning are directed toward this. Success in achieving demonstrated freedom from rinderpest infection would be enhanced if the Project could be extended and in any event, support will be required for a further two years.

The other factor increasing the likelihood of sustainability is the implementation of the 'Strengthening of Livestock Services' project. Without this, much of the activity would be unsustainable, as there is a need not only for donor funding but also for cultural change that will only occur over a longer period of time. The PDS work in its current form would almost certainly not be supported from Provincial government budgets. The necessary serosurveillance in 2005 would probably not occur without donor funding. It is unlikely that the enhancement to reporting systems would be sustained and supported without the inputs that should be forthcoming from the 'Strengthening of Livestock Services' project.

In principle, training initiatives should produce a sustainable effect for the time that participants continue to be employed in their activities. However, such activities require funding. It is uncertain that Provincial government support is even enough to allow DIL staff, for example, to undertake field investigations and laboratory diagnostic procedures. Similarly, the preparatory support given to the National Veterinary Laboratory will probably require the technical support of the 'Strengthening of Livestock Services' for progress in its development to a fully working institute to be realized in a timely manner.

## **C. Gender Equity in Project Implementation and Results**

Community cultural standards limit the extent of gender equity that can be practised in Pakistan. The numbers of female veterinary staff in government service are relatively low. Generally they are in positions that do not require involvement in field

work. The Project has gone to some lengths to do whatever it can to involve women, particularly in PDS activities. Participants in this activity tend to benefit from the professional development resulting from the training and the activity itself, in which they enjoy an exposure to relatively novel techniques. Apart from the principle of promoting gender equity, there are good reasons for having women in the PDS teams, as they are in a much better position to carry out interviews with village women, who have a particular involvement in animal husbandry. Although it has proved difficult to source candidate women, several have been trained. One team in Sindh has two female members, who provide support to each other and another team includes a husband and wife. In AJK, where no women were available for training, PDS teams occasionally obtain assistance from local NGOs for interviewing women.

Indications from female participants in PDS teams were that they are very well received by village women and are often consulted about women's problems well beyond the scope of the Project. Efforts to involve them in the teams should obviously be continued.

#### **D. Cost-effectiveness**

Considerable effort has gone in to making the Project cost-effective and to some extent these efforts have had to compete with sustainability principles. There was a need to establish a system of clinical surveillance for rinderpest that would satisfy OIE requirements. This could have been addressed by training all staff to undertake surveillance within their districts and to report their findings to a central point. This would have required training of a very large number of staff, probably with a major preliminary exercise in training of trainers. It would have been much more expensive and would have taken much longer to implement, than the selected strategy of training a small number of people to a high level of capability. It would also have required an improvement to reporting processes to a level that is not yet in place. While the outcome may have been a more sustainable system for improved clinical surveillance, it would not have been achievable with the Project resources and within the time required.

The decision to expand the primary objective of rinderpest eradication, to include the control of other transboundary animal diseases, was also a wise and cost-effective approach. The search for FMD and PPR while searching for rinderpest and the extra laboratory capability required for diagnosis requires a relatively small additional input.

However, for the Project to be really cost-effective, it is essential that support be continued beyond the planned termination date. If efforts toward completing the OIE Pathway are allowed to slow down or lapse, the Project implementation will have a minor lasting impact and its cost will have been largely wasted.

#### **E. Major Factors Affecting the Project Results**

The Federal and Provincial veterinary services appear to have been severely under-resourced for many years and staff have had little technical ability, budgetary or logistic support to undertake disease investigation, in the field or in the laboratory. Furthermore, senior Federal and provincial staff, with little to benefit from inadequate and generally poor quality information, have had little incentive to demand meaningful reports from their staff. The Project was starting from a very low base and it would have been unreasonable to expect rapid progress. On the positive side, there had been great

success in rinderpest control in the preceding FAO TCP and this was encouraging both for veterinary authorities and livestock owners. There was therefore considerable goodwill within the community to cooperate with efforts to finally eradicate the disease.

Problems of internal security delayed Project activities. In the first year, the second of two PDS training courses was delayed for six months and this resulted in only modest progress with this activity in the field. Just as disruptive were delays in paying expenses to staff. It appears that much of the delay was at the level of provincial headquarters and one source of contention was the difficulty staff had in obtaining the receipts required to enable them to claim amounts over the basic DSA rates. The decision to allow the payment of the maximum DSA rate without receipts, normally only payable to staff on travel to large cities and on provision of receipts, appears to have solved the problem for the time being. However, it is likely to have detrimental future effects. The Project is trying to encourage DIL staff to go out into the field more but they are now seeking equivalent payments, which is not allowable in the event of them not staying overnight away from their base.

A lack of disease reporting capability is one of the most significant deficiencies that has limited the ability of the Project to capture information from the field. It became clear early in the Project that there was a need to enhance the reporting channels and improve the quality of information in the reports. The decision was wisely made to provide new computers and specialised software to Provincial nodes. The TADinfo system, when installed, should introduce a discipline into the reporting by requiring the entry of individual case reports for contagious disease occurrences, rather than consolidated monthly figures.

Technical supervision and coordination in the Project have been excellent. This is due to competent and dedicated National and International Consultants and backstopping from the GREP Secretariat.

## **VII. Conclusions and Recommendations**

### **A. Conclusions**

The Project Document was prepared inadequately. However, the design was appropriate and Project activities have been kept on track by the technical and organisational skills of National and International Consultants and the GREP Secretariat.

Training programs have been successfully undertaken and further training requirements clearly identified. Participatory Disease Search activities in the field are proceeding satisfactorily, despite initial delays. It is providing general information on disease prevalence and impact that should be of use to Provincial and Federal authorities for planning disease control. It is also providing a means of search for evidence of rinderpest, in recent years or at present, by means of interview. It is possible that such interviews need to be combined with more extensive examination of animals to more directly address the needs of the OIE Pathway for clinical surveillance.

The prospects for serosurveillance being undertaken effectively are good, since preliminary activity has given an indication of the targets that can be achieved and the laboratory capability is essentially in place. The major sample collection activities should be planned for 2004 and 2005.

Routine disease investigation by field and DIL staff and reporting of results to provincial and Federal headquarters is deficient and it will be a continuing challenge for the Project to bring this to a satisfactory level. It will then be necessary, for completion of the OIE Pathway, to demonstrate over a period of time, that the system is effective and robust. The 'Strengthening of Livestock Services' project will also be involved in this process and better resourced to make significant progress. The two projects should be carefully coordinated to achieve the best outcomes. Above all, there is a need to achieve a greater sense of ownership of the process at the District, Provincial and Federal levels, so that it is driven by these authorities, rather than being seen as a Project activity that they are obliged to support.

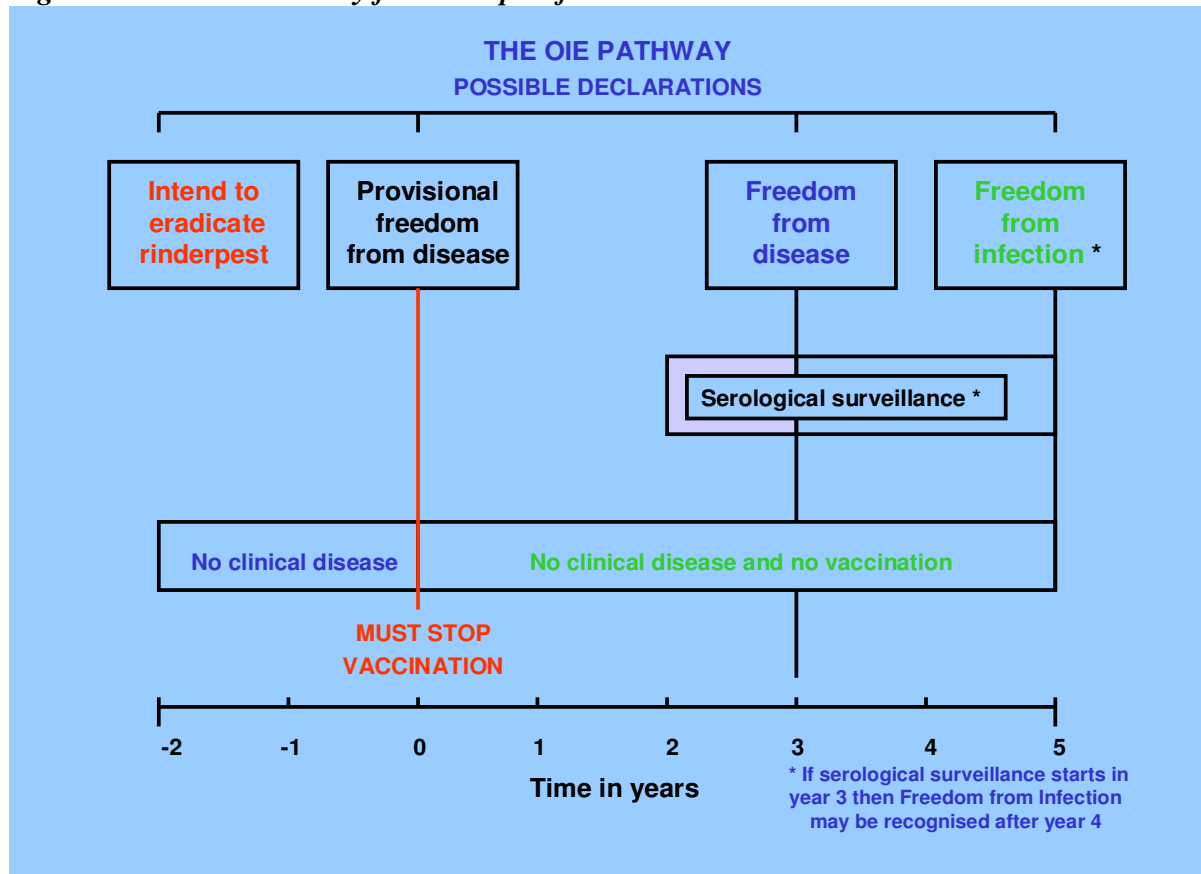
An expectation of achieving appropriate disease control policies for FMD and PPR may be over-optimistic. The data is not available, nor is sufficient likely to become available as a result of Project activities, for control strategies to incorporate an adequate knowledge of disease prevalence and distribution, nor the efficacy of current control procedures. However, if the Project activities can set in motion a process for better understanding these disease and planning more appropriate control strategies for the future, it will have made a valuable start. The 'Strengthening of Veterinary Services' project has the mandate to continue this process.

There is now a need to properly document plans for the final stages of the Project. However, the process needs to be extended beyond that. It is vital that support be extended beyond the current termination date and that the current technical input be maintained, to the point of completion of the OIE Pathway. The Pathway is shown diagrammatically in Figure 1 below. As indicated in this Figure, since vaccination ceased two years before declaration of provisional freedom from disease, the possibility exists for serological surveillance to be undertaken in 2004 and 2005 and for declaration of freedom from infection to be made after January 2007. All available data needs to be collated up to that point into a dossier for submission to OIE for declaration of freedom

from disease and from infection. Thus, there is a need for continued support at least to the end of 2006<sup>4</sup>. There is a risk that meeting other Pathway requirements, such as effective disease investigation and reporting, may dictate that the end-point cannot be achieved in the minimum time, so that the process would need support for a longer period.

Plans for achieving declaration of freedom from rinderpest infection will require preparation of a dossier for submission to OIE and there is a need to consider this now, as appropriate documentation will be a progressive activity.

**Figure 1. The OIE Pathway for rinderpest freedom**



The Project is expected to show savings in the Budget of about \$500,000, to the end of Year 3. It is estimated that the order of an additional \$500,000 would be required to support the required activities through 2005 and 2006.

Satisfactory progress in the Project is highly dependent on the ability of the National Consultant to maintain momentum, coordinate activities and provide technical guidance. At present he is overburdened with administrative duties which are not part of his Terms of Reference but which are time-consuming and demand immediate attention. This situation needs to be urgently redressed.

<sup>4</sup> It is assumed that the dossier could be prepared in the latter part of 2006, for submission to OIE after January 2007.

The National Veterinary Laboratory currently has a capability to undertake rinderpest and PPR diagnosis. There is an urgent need to establish some capability for FMD diagnosis. In the long term, this will probably require some additional laboratory construction so that virus isolation work can be undertaken with appropriate security. However, in the short term, antigen detection ELISA could be undertaken in existing accommodation.

## **B. Recommendations**

### ***1. Project extension***

The Project is planned for completion in December 2004. Implementation is proceeding well, although somewhat delayed. There is a clear need to continue Project activities and the indications are that there will be surplus funds remaining. It is understood that activities could be extended for six months (but no longer) and still allow another six months, to the end of 2005, for winding up Project administration and finances.

***Recommendation 1. Application should be made to extend the Project activities to the end of June 2005.***

### ***2. Work Plan for the remainder of the Project***

Activities for the remainder of the Project need to be planned, taking into account the possibility of extension to mid-2005. Since the 'Strengthening of Livestock Services' project is currently commencing implementation, consideration should be given to what can most appropriately be addressed under that project within the necessary time frame. To enable better planning and subsequent evaluation, it is suggested that the Work Plan should be categorised under clearer objectives and outputs, possibly using those proposed in this Report. To avoid delays in commencement of field work each year, the final Work Plan should be at least drafted as soon as possible, so that the needs can be anticipated in advance of its formal approval. Budget estimates should be prepared for 2004 and 2005, with the detail required to meet FAO and EC requirements.

***Recommendation 2. A detailed Work Plan and Budget should be prepared for the remainder of the Project, anticipating an extension to June 2005. Activities should be clearly linked to Outputs and Objectives and should be complementary to those supported by the 'Strengthening of Livestock Services' project.***

### ***3. Planning for completion of the OIE Pathway***

The resources of the Project should be used to plan activities for completion of the OIE Pathway to declaration of freedom from rinderpest infection. This could take the form of a separate Work Plan, extending beyond the Project period. A cost estimate for operating expenses could also be made. This will assist Government veterinary authorities to plan their work and consider the needs for additional donor support. If the necessary support can be provided by the 'Strengthening of Livestock Services' project, it would again be highly advantageous to have a Work Plan and budget elaborated in advance. Consideration needs to be given to whether PDS activity will constitute a continuing means of satisfying OIE Pathway requirements for clinical surveillance and, if so, whether it requires any modification and for how long it should continue.



Project staff could consider whether it might be of value to submit a plan to OIE, to establish that the proposed work, if satisfactorily conducted, would meet requirements.

***Recommendation 3. A Work Plan and budget should be prepared for completion of the OIE Pathway, after termination of the Project.***

#### ***4. Options for continued donor support***

To maintain progress along the OIE Pathway, it is very likely that Government veterinary services will require continuing donor support. The 'Strengthening of Livestock Services' project is supported by the same donor and has within its mandate to eradicate rinderpest. This project is planning to provide support to disease investigation and reporting and is therefore well placed to address some of the main perceived deficiencies in meeting the OIE standards. However, it does not appear to identify the specific needs of active clinical surveillance and serosurveillance for rinderpest freedom within the contracted agent's tender documentation and it is not clear whether there is the flexibility within the project to redirect resources as required to specifically focus on the final stages of rinderpest eradication.

An alternative would be to seek support for a second phase of the current FAO/EC Trust Fund Project. This would have the benefit of focusing on one objective and would assure continuity of FAO technical support, operational management and financial arrangements to undertake the work. If this course were to be pursued, it should be expedited to ensure that there is no break in the concerted effort to maintain progress along the OIE Pathway. However, given the fact that this Project was designed as a means of bridging support until the 'Strengthening of Veterinary Services' project could be implemented, it would seem that this would be the most appropriate means for continuing support.

***Recommendation 4. Urgent consideration should be given to the best means of securing continuing donor support for all activities required to satisfy the OIE Pathway for rinderpest freedom. The most appropriate option appears to be for support for all activities to come through the 'Strengthening of Livestock Services' project.***

#### ***5. Administrative support for the National Consultant***

The National Consultant is the only person with full-time commitment to the Project and his technical and coordination skills are essential on a day-to-day basis. He is currently overburdened with administrative and financial tasks that prevent him from giving his other responsibilities the attention they need. It would be greatly advantageous to the progress of the Project for him to be provided with administrative support.

***Recommendation 5. The National Consultant should be provided with an administrative support person to assist in the day-to-day management of the Project activities.***

#### ***6. Resolution of problems with reimbursement of expenses***

Long delays in the reimbursement of subsistence and other operational costs to field staff, apparently due to lack of adherence to agreed procedures, have caused interruptions to the field activities. It appears that these problems have not been fully resolved and threaten to cause further delays that the Project cannot afford if the objectives are to be met.

***Recommendation 6. Project management needs to further address the issue of reimbursement of expenses and make satisfactory arrangements that will avoid disruption of the field work.***

***7. Activities at the National Veterinary Laboratory***

With field staff being encouraged to submit specimens for diagnosis of transboundary animal diseases and the results being required to meet Project outputs, there is an urgent need to establish FMD ELISA capability at the National Veterinary Laboratory. There are modest equipment requirements, the need for specific reagents that are available as kits, assistance with setting up a laboratory and the need to train staff.

***Recommendation 7. Assistance should be provided to expedite establishment of FMD ELISA at the National Veterinary Laboratory.***

***8. Planning for preparation of the OIE dossier***

Final acceptance of freedom from rinderpest infection will depend on the submission of a dossier to OIE. Although this will be after termination of the Project, it is imperative to ensure that the necessary documentation is progressively collated. It will need to include details of evidence for clinical and serological freedom from rinderpest, as well as evidence of an effective means of detecting and reporting a case of the disease and of preventing re-introduction of the disease.

***Recommendation 8. Project activities should include progressive documentation of all data required for submission to OIE, as evidence that requirements of the OIE Pathway have been met.***

## **VIII. Lessons Learned**

Attempts at transboundary control of rinderpest date back several decades. Early success of mass vaccination, which eliminates most but not all infectious foci, have consistently been confounded by an inability to follow up with final eradication. With the devastation that rinderpest can cause, unfortunately not well appreciated in developed countries who do not experience the problem, and the enormous investment that has been made to date, the spectacular current success of the Global Rinderpest Eradication Programme must be pursued to its end point. Mass vaccination is the easy part. The cultural change in developing countries to put in place the effective veterinary services required to finally eliminate the disease is much more difficult. Many of the problems encountered in the implementation of this Project reflect that.

The lesson is that expectations should not be too high. With the delays in Project implementation due to security problems and the difficulties encountered in a complex management system involving government staff accustomed to reactive rather than proactive planning, it is not surprising that the Project has fallen behind some of its targets. Considering the challenges, it is highly commendable that the demonstrated progress has been achieved and that there is still the prospect of achieving freedom from rinderpest infection in 2007.

## Annexes

### Annex 1. Terms of Reference

#### 1. Background

The Government of Pakistan with the support of FAO and of the European Commission is strengthening various aspects of the livestock in the country, and Animal Health in particular. At present, FAO is implementing an EU funded project, "Emergency Prevention and Control of Main Transboundary Animal Diseases in Pakistan (Rinderpest, FMD, PPR)". Commencement date of this Project was January 2002 and it is expected to be completed by December 2004. As a Mid Term Review, FAO intends to engage in an in-depth Evaluation Mission for obtaining comprehensive feedback on different activities being carried out throughout Pakistan.

The overall objective of the Project is **to relieve poverty, to improve food security** of those involved in the livestock-farming sector (producers, service providers and consumers) in Pakistan and the Region, **to improve animal productivity and trade** and **to eradicate Rinderpest** from the country.

Planned major outputs will be **to help national systems for Rinderpest, FMD and PPR work efficiently**. Although Rinderpest is the driving force, the essence of the Project is to start to create an institutional framework to provide a sustainable impact designed to extend well beyond the immediate issue of reaching a stage of verified freedom from Rinderpest.

Major activities carried out under the Project are about Participatory Disease Surveillance, Rinderpest Serosurveillance, training of staff working in 10 Disease Investigation Laboratories. Outputs are given in Annual and six-monthly progress reports.

#### 2. Purpose of the Evaluation

At the mid-point of the Project, the primary objective of the Mission will be to undertake a comprehensive Review of all Project activities, assess the validity of their approach, management and technical issues, their effectiveness towards achieving the objectives as listed in the Project document, identify strengths and weaknesses and to come up with specific recommendations for possible modification or re-orientation of the work plan, should these be necessary.

#### 3. Scope of the Evaluation

Through an accurate review of project documents and consultations with project staff and key informants, the mission should critically assess the following:

- a) Relevance of the project to development priorities and needs, including a review of the current situation of Main Transboundary Animal Diseases (Rinderpest, FMD, PPR) in Pakistan.
- b) Clarity, and realism of the project's development and immediate objectives, including specification of targets and identification of beneficiaries and prospects for sustainability.
- c) Quality, clarity and adequacy of project design including:

- clarity and logical consistency between, inputs, activities, outputs and progress towards achievement of objectives (quality, quantity and time-frame);
  - realism and clarity in the specification of prior obligations and prerequisites (assumptions and risks);
  - realism and clarity of external institutional relationships, and in the managerial and institutional framework for implementation and the work plan;
  - likely cost-effectiveness of the project design.
- d) Efficiency and adequacy of project implementation including: availability of funds as compared with budget for both the donor and national component; the quality and timeliness of input delivery by both FAO and the Government; managerial and work efficiency; implementation difficulties; adequacy of monitoring and reporting; the extent of national support and commitment and the quality and quantity of administrative and technical support by FAO. Also, the Mission should identify any significant deviations in the objectives/strategy that may have occurred during implementation and its justification and pertinence to the attainment of project objectives.
- e) Project results, including a full and systematic assessment of outputs produced to date (quantity and quality as compared with Work Plan and progress towards achieving the immediate objectives). The mission will especially review, the status and quality of work on:
- the level of beneficiaries' participation (Livestock departments, livestock farmers etc) in planning, implementing and monitoring project activities;
  - the extent of adoption of technologies by the beneficiaries transferred under the Project.
  - inclusion of gender analysis and issues in project implementation;
- f) The prospects for sustaining the project's results by the beneficiaries and the host institutions after the termination of the project. The mission should examine in particular (to be specified):
- Rinderpest Serosurveillance
  - Participatory Disease Surveillance
  - Strengthening of the Disease Investigation Laboratories Facilities for Data Management and Analysis at Federal and Provincial
- g) The cost-effectiveness of the project.

Based on the above analysis the Mission will draw specific conclusions and make proposals for any necessary further action by Government and/or FAO/donor to ensure sustainable development. In particular, it will identify measures required for consolidation of existing Project activities and recommend interventions and processes required to overcome the implementation constraints.

In its report, the Mission will also record significant lessons that can be drawn from experience of the Project and its results, in particular anything that worked well and that can be potentially applied to other projects and anything that has worked badly and should be avoided in future.

The Mission will prepare a Draft Mission Report to be circulated among stakeholders (FAO, GoP) for comments to be included, wherever suitable and acceptable to the Mission, in its Final Evaluation report.

The Mission Team Leader will also be responsible for compiling the FAO Evaluation Questionnaire.

#### **4. Composition of the Mission**

The Mission will comprise:

Team Leader (FAO) with experience of 10 years; Specialist in Livestock Disease Control/Project Evaluation (Tony Forman)

Specialist in Veterinary Medicines and Project Management/evaluation (EC) (Guy Freeland)

Specialist in Epidemiology (Government Representative – Javed Iqbal)

Mission members should be independent and thus have no previous direct involvement with the Project either with regard to its formulation, implementation or backstopping. They should preferably have experience of evaluation.

#### **5. Timetable and Itinerary of the Mission**

The Mission should assemble in Islamabad and be briefed by the responsible FAO operations and technical officers. A tentative itinerary of the Mission is as below:

Arrival in Islamabad:	September 28, 2003
Visit to FAO Office for briefing:	September 29, 2003
Meeting with the project coordinator and Concerned Government officials	September 29, 2003
Meeting with National Consultant and visit to National Veterinary Laboratory	September 30, 2003
Visit to VRI Lahore (ELISA Lab) and meetings with Veterinary officials Livestock Department Punjab and PDS team members (travel to Karachi)	October 1-2, 2003
Visit to DIL Landhi dairy Colony, Karachi And meetings with veterinary officials and PDS team members (travel to Quetta)	October 3-4, 2003
Visit to DIL Quetta, ELISA Lab and meetings with veterinary officials (travel to and halt at Islamabad)	October 6-7, 2003
Visit to DIL Muzaffarabad and meetings with Veterinary officials and PDS team members	October 10-11, 2003
Debriefing & Discussions of the findings	October 12-18, 2003
Report writing & completion of FAO Project Evaluation Questionnaire	

#### **6. Consultations**

The Mission will maintain close liaison with the Representatives of the donor and FAO and the concerned national agencies, as well as with national and international project staff. Although the Mission should feel free to discuss with the authorities concerned anything relevant to its assignment, it is not authorized to make any commitments on behalf of the Government, the donor or FAO.

#### **7. Reporting**

The Mission is fully responsible for its independent report, which may not necessarily reflect the views of the Government, the donor or FAO. The report will be written in conformity with the headings shown in Annex 3.

## Annex 2. Places visited and key persons met by the mission

### 1. Itinerary

Date	Activity
28 September	Team assembles in Islamabad
29 September	Briefing with FAO Representation, EU Delegation Briefing with Animal Husbandry Commissioner
30 September	Visit National Veterinary Laboratory. Travel to Lahore
1 October	Office of Director-General Veterinary Research Institute Foot and Mouth Disease Research Centre
2 October	Office of Secretary District Investigation Laboratory and PDS Team Travel to Karachi
3 October	Office of Director-General Field visit to Landhi Dairy Colony District Investigation Laboratory and PDS Team Field visit to Barosur Colony
4 October	Travel to Hyderabad. Office of Director and PDS Team CVDL Tando Jam and Tando Jam Vaccine production facility Return to Karachi.
5 October	Travel to Quetta.
6 October	Office of Director-General District Investigation Laboratory and PDS Team
7 October	Veterinary Research Institute Field visit to Hanna village
8 October	Travel to Islamabad
9 October	Briefing with Acting FAOR Visit National Veterinary Laboratory
10 October	Travel to Muzaffarabad PDS Team
11 October	Offices of Secretary and Director-General District Investigation Laboratory Return to Islamabad
14 October	Travel to Peshawar
15 October	Veterinary Research Institute and District Investigation Laboratory PDS Team Return to Islamabad
16 October	Debriefing with Animal Husbandry Commissioner, Acting FAOR and EC Delegation
20 October	Finalisation of Report Debriefing with EC Brussels (GF)

## **2. People met**

### *Islamabad*

**Dr Rafaqat Hussain Raja**, Animal Husbandry Commissioner, Ministry of Food, Agriculture and Livestock (MINFAL), Livestock Wing - National Project Coordinator

**Dr Omar Salah Ahmed**, FAO Representative

**Syed Mohammad Ali**, Assistant FAO Representative

**Zabeeh Ahmad**, FAO Administrative Officer

**Dr Manzoor Hussain**, National Project Consultant

**Dr Javed Iqbal Khan**, Assistant Animal Husbandry Commissioner (Epidemiologist), Project Reporting Officer

**Dr Syed Mohammad Jamal**, ELISA Laboratory, National Veterinary Laboratory

**E.U. Delegation,**

**Mr Michael Dale**, Head of Development Section, EU Delegation

**Mohammed Imran Ashraf**, Agronomist/Development Adviser, EU Delegation

**Dr H.A. Williams**, Co-Director, EC-funded 'Strengthening of Livestock Services' Project

**Dr Paolo Viviani**, Co-Manager (Quetta) 'Strengthening of Livestock Services' Project

### *Lahore*

**Mr Akhlaq Ahmad Tarar**, Secretary, Department of Livestock & Dairy Development

**Dr Bashir Mahmood Bhatti**, Director General (Research), Veterinary Research Institute

**Dr Zafar Jamil Gill**, Director, Veterinary Research Institute

**Dr Muhammad Zulfiqar Chaudhry**, Additional Director (FMD) - National Consultant (FMD)

**Dr Azhar Hussain Chaudhry**, Biologicals Production Officer

**Dr Rashid Manzoor**, V.O. (Research), ELISA Laboratory

**Dr Shahida Afzaal**, V.O. (Research), ELISA Laboratory

**Dr Muhammad Asim Janjua**, V.O. (Research)

**Department of Livestock and Dairy Development,**

**Dr Muhammad Iqbal Siddique**, Director of Animal Health, Dept. Livestock & Dairy Development - Disease Reporting Officer

**Major (rtd) Muhammad Yusuf**, Diagnostic Laboratory Project Director, and TAD Officer

**Dr Arshad Mahmood**, Data Analyst

**Dr Ehtsham-ul Haq**, PDS Team A

**Dr Aneeta Hussain**, PDS Team A

**Dr Intizar Ali**, PDS Team A

**Dr M. Rasheed**, PDS Team B

**Dr M. Ashraf**, PDS Team B

**Dr Ghulam Mustafa**, PDS Team B

**Dr Munir Shami**, PDS Team C

**Dr Khalid Bashir**, PDS Team C

**Dr Lubna Jabbar**, PDS Team C



*Karachi*

**Dr Baz Muhammed Junejo**, Director General, Dept. of Livestock and Fisheries  
**Dr Ghulam Sarwar**, Director of Animal Health  
**Dr Liaquat Ali Jat**, TAD Officer  
**Dr Ghulam Hussain Dawach**, District Livestock Officer  
**Dr Tanweer Hassan**, Research Officer, i/c Landhi DIL  
**Dr Syed Noman Ali**, PDS Team A  
**Dr Manzoor Asif**, PDS Team A  
**Dr Zahid**, PDS Team A  
**Dr Abid Uddin Thaeem**, District Livestock Officer, Thatta  
**Dr Niaz**, Veterinary Officer, Gharoo  
**Dr Khadim Hussain**, PDS Team B  
**Dr Rukhsana Vighio**, PDS Team B  
**Dr Noor un Nisa Mari**, PDS Team B  
**Dr Shahid Ali**, PDS Team B

*Hyderabad*

**Dr Siraj Uddin Khund**, Livestock Development Officer, Sindh  
**Dr Mohammed Issa Memon**, Director of Veterinary Research, CVDL Tando Jam  
**Dr Parkash Dewani**, Research Officer, i/c ELISA Laboratory, CVDL Tando Jam  
**Dr Masood Ahmed**, Research Officer, CVDL Tando Jam  
**Dr Abdul Ghani Shaikh**, i/c DIL, Sukkur  
**Dr Rasheed Ahmed Rajput**, Research Officer, Parasitology  
**Dr Rasheed Dar**, Research Officer, Epidemiology  
**Dr Noor Ahmed Soomro**, Research Officer, Epidemiology  
**Dr Aftab Ahmed Pathan**, PDS Team C  
**Dr Abdullah Sethar**, PDS Team C  
**Dr Rasheeda Mughal**, PDS Team C  
**Dr Sikandar Ali Fazlani**, Project Director, Vaccine Production Unit Tando Jam  
**Dr Abdul Sattar**, Estate Officer, Vaccine Production Unit Tando Jam  
**Dr Mohd Ikram Awan**, Research Officer, Vaccine Production Unit Tando Jam  
**Dr Talib Hussain Chandio**, Research Officer, Vaccine Production Unit Tando Jam  
**Dr Talat Nizamani**, Research Officer, Vaccine Production Unit Tando Jam  
**Dr Khaliq Bhutto**, Research Officer, Vaccine Production Unit Tando Jam

*Quetta*

**Dr Syed Nisar Hussain Shah**, Director-General, Dept. Livestock & Dairy Development  
**Dr Azam Kasi**, Director (Planning)  
**Dr Ashfaq Hussain Bhatti**, Deputy Director H.Q.  
**Dr Abdul Bari**, Assistant Director, H.Q.  
**Dr Abdul Rauf Taureen**, Director of Animal Health – Disease Project Reporting Officer  
**Dr Mohd Aslam**, Deputy District Officer – Planning  
**Dr Asadullah**, Assistant Disease Investigation Officer  
**Dr Abdul Wadood**, PDS Team  
**Dr Issa Kakar**, PDS Team  
**Dr Abdul Malik**, PDS Team

**Dr Shaikh Masood Ahmed**, Disease Investigation Officer, and TAD Officer, DIL  
**Dr Abdul Samad**, Data Manager, DIL  
**Dr Syed Abdur Rahman**, Veterinary Officer, ELISA Laboratory  
**Dr Saadullah Jan**, Veterinary Officer, Parasitology, DIL  
**Dr Masood Ahmed**, Bacteriologist, i/c Veterinary Research Institute  
**Dr Shakeel Babar**, Research Officer  
**Dr Farhat Abbas**, Research Officer  
**Dr Arif Awan**, Veterinary Officer  
**Dr Shahzad**, Veterinary Officer

*Muzaffarabad*

**Department of Food, Agriculture, and Livestock**

**Mr Sardar Abdul Latif Khan**, Secretary, Dept. of Food, Agriculture & Livestock  
**Dr Ghulam Shakoor Kiani**, Director of Animal Husbandry  
**Dr Adnan Rashid Malik**, Assistant Director (H.Q.-R) - Disease Reporting Officer  
**Dr Mir Zaman**, TAD Officer  
**Dr Dilpazir**, Data Manager  
**Dr Eshan Ullah Mir**, PDS Team  
**Dr Mohammad Amir Khan**, PDS Team  
**Dr Khuwaja Saghir Ahmed**, V.O.(R), DIL

*Peshawar*

**Dr Muqarrab Ali Khan**, Director of Livestock and Dairy Development  
**Dr Sher Muhammad Khan**, Disease Investigation Officer – Disease Reporting Officer and TAD Officer  
**R Asad Ali Shah**, Data Manager  
**Dr Muhammad Shuaib**, PDS Team  
**Dr Aftab Khan**, PDS Team  
**Mrs Fazala**, PDS Team  
**Veterinary Research Institute**  
**Dr Saadullah Jan**, Director, Veterinary Research Institute  
**Dr Mirza Ali**, Research Officer, ELISA Laboratory  
**Dr Muhammad Ijaz Ali**, Research Officer, ELISA Laboratory

### **Annex 3. Documents and reference materials**

- Project Document – GCP/PAK/088/EC Support for Emergency Prevention and Control of Main Transboundary Animal Diseases in Pakistan (Rinderpest, FMD, PPR).
- GCP/PAK/088/EC – Work Plan Year 1: January to December 2002
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- Participatory Disease Surveillance Work in Sindh
- Diagnostic Activities at Disease Investigation Laboratory, Tando Jam, Sindh
- GCP/PAK/088/EC – Reports on PDS in Gulshan-e-Iqbal & Gadap Town – PDS Team A
- GCP/PAK/088/EC – Punjab presentation on data analysis
- GCP/PAK/088/EC - Sheikh Masood Ahmed. Activities Report, Balochistan
- GCP/PAK/088/EC – AJK briefing paper for mid-term review
- GCP/PAK/088/EC – AJK PDS Team progress reports for 2002 and 2003.
- GCP/PAK/088/EC – NWFP progress report on DIL to Sept. 2003.
- GCP/PAK/088/EC – NWFP summary of PDS activities.