The use of monitoring and evaluation in agriculture and rural development projects

FAO INVESTMENT CENTRE

BEST PRACTICES IN INVESTMENT DESIGN

FAO INVESTMENT CENTRE

The use of monitoring and evaluation in agriculture and rural development projects

Findings from a review of implementation completion reports

Dieter Muller–Praefcke
Senior Economist

With Contributions by:

K.C. Lai
Senior Economist / Monitoring and Evaluation Specialist

William Sorrenson
Senior Agricultural Economist

BEST PRACTICES IN INVESTMENT DESIGN
Prepared under the FAO/World Bank Cooperative Programme

THE WORLD BANK

Food and Agriculture Organization
of the United Nations

Director
Investment Centre Division
FAO
Viale delle Terme di Caracalla, 00153 Rome, Italy
or by e-mail to: Investment-Centre@fao.org

CONTENTS

ABBREVIATIONS

ARD	Agriculture and Rural Development
CDD	Community Driven Development
DAC	Development Action Committee (OECD)
EC	European Commission
GEF	Global Environment Facility
GIS	Geographic Information Sysem
HLF	High Level Forum on Aid Effectiveness (OECD)
ICR	Implementation Completion and Results report (World Bank)
ICT	Information Communication Technology
IEG	Independent Evaluation Group (World Bank)
IFAD	International Fund for Agricultural Development
IMF	International Monetary Fund
ISR	Implementation Status and Results Report (World Bank)
MAF	Ministry of Agriculture and Forestry
MDG	Millennium Development Goal (UN)
M&E	Monitoring and Evaluation
MIS	Management Information System
MTR	Mid-Term Review
ODA	Official Development Assistance
OECD	Organization for Economic Cooperation and Development
OED	Operations Evaluation Department (World Bank)
O&M	Operation and Maintenance
OMS	Operations Manual Statement (World Bank)
OPCS	Operations Policy and Country Services (World Bank)
PAD	Project Appraisal Document (World Bank)
PCU	Project Coordination Unit
PDO	Project Development Objective
PDS	Project Design Summary (World Bank)
PIM	Project Implementation Manual
PIP	Project Implementation Plan
PIU	Project Implementation Unit
PMU	Project Management Unit
PPAR	Project Performance Assessment Report (World Bank)
PRSC	Poverty Reduction Support Credit
RBM	Results Based Management
SAR	Staff Appraisal Report (World Bank)
TA	Technical Assistance
TCI	Investment Centre Division (FAO)

EXECUTIVE SUMMARY

(i) *Over the past decade, development organizations have faced external pressure to become more effective, and many of them have launched agendas for results-orientation. The international endorsement of the Millennium Development Goals (MDGs) in 2000 has given additional impetus to the quest for results and for demonstrating their achievements. While monitoring and evaluation (M&E) is recognised to be a key element in understanding and effectively tracking and documenting the results of development interventions, it is also admitted that there is a general need to improve M&E in development work. M&E methods and guidelines have received much international attention, but the problems of putting M&E into practice and drawing lessons from field experience, have been less studied.*

(ii) *The Paper is based (i) on a review of the M&E systems across the 74 World Bank-supported agricultural and rural development (ARD) projects, that were implemented over the last 15 years in the South and East Asia regions and for which TCI has assisted in the preparation of the Implementation Completion and the more recent Implementation Completion and Results Reports (ICRs/ICRRs), and (ii) on a review of the M&E systems designed for new project operations within the Bank's recently introduced results-based framework.*

(iii) *As far as completed projects are concerned, with very few exceptions, the M&E systems have been poorly developed and implemented at the field level. Weaknesses in M&E are traced back to the design of the M&E system, particularly the absence of clearly identifiable monitorable indicators and a lack of ownership and participation by the stakeholders. M&E systems often reflect shortcomings in the description of project objectives, components and implementation arrangements. Delays in conducting complicated baseline surveys and impact assessment, and in operationalising the M&E system, are weaknesses often encountered during project implementation.*

(iv) *Under the new results-based framework, M&E should take a more dominant role. Initial observation of FAO/TCI staff and consultants involved in recent project appraisal work, would suggest that in its present form, it raises a number of conceptual and practical issues requiring further refinement. Such issues include insufficient integration of M&E with management information and action systems of the project, over-simplification of the logframe approach and underestimating complexities of data collection.*

(v) *General lessons to be drawn from the ICRs/ICRRs reviewed are the need for (i) greater simplicity in M&E, and for it to be better integrated into project management processes, (ii) sustained support and commitment by project staff of the Borrower and the Lender, and other stakeholders at field and community levels,(iii) participatory and results-oriented survey methods, (iv) M&E to be seen as a tool for project management, not as an obligation imposed from the outside, with project staff mechanically completing forms and project managers seeing their task merely as the collection of data for writing progress reports for the Bank and (v) capacity building in M&E system design and implementation is critical.*

(vi) Specific lessons to be learned include (i) Institutional analysis and assessment of capacity development needs of implementing agencies and other local development partners within the Borrower country, are essential ingredients for M&E system design; (ii) It is important that a detailed M&E plan is drawn up at project start-up, that all stakeholders participate in this, and that it is clearly documented; (iii) Priority must be given to undertaking baseline data collection and analysis early in project life, focused on variables that permit counterfactual analysis of project outcomes; (iv) At baseline establishment, the identification of target groups, gaining an understanding of the socio-economic parameters and monitoring what actually happened with these over the project life should not be neglected; (v) M&E data collection analysis and reporting demands need to be manageable and compatible with the technical and institutional capacities over the project cycle; (vi) Much information on project results can be accessed through well-targeted participatory assessments by experienced personnel on small (randomised) samples of the project population repeated over short intervals; and (vii) M&E systems work best when they evolve over the project implementation period.

(vii) The major thrust of proposals made to enhance project M&E is on (i) integrating M&E with project management systems, that is striking an appropriate balance between procurement and fiduciary procedures and operational and strategic management support functions; (ii) clarity about what is to be monitored, documented and analysed and who should be involved, (iii) participation and stakeholder orientation; (iv) developing links between planning, feedback on what is happening on the ground, and preplanning; and (v) keeping report arrangements simple but flexible enough to meet the specific needs of the different users.

(viii) Guiding principles for result-oriented project M&E systems that emerge from the review of ICRs/ ICRRs and proposals for enhancing project M&E, can be summarised as follows:

- *From identification/concept note through project preparation, appraisal, implementation and beyond, focus attention on all relevant stakeholders.*
- *During project preparation, invest adequate time and resources in M&E system design, with provision for refinement and evolution over the course of implementation.*
- *Ensure that the performance indicators are appropriate to their respective hierarchical level along the results chain.*
- *Undertake updating of baseline data early in project life, i.e. during start-up.*
- *Start implementation of the M&E system only when competent staff is in place.*
- *Ensure that clear institutional linkages are established between those responsible for operating the M&E system and others charged with implementing specific project components or sub-components.*
- *Keep in mind that M&E is first and foremost a tool for project management.*

The authors believe that for M&E to play a useful role in project work, a more pragmatic approach is needed. The need for and affordability of including statistically robust, often relative expensive, surveys must be carefully judged on a case by case basis. All through project implementation, M&E functions must be followed under project management, to track indicators of change specified in the results framework/logframe. In the case of World Bank-assisted projects, M&E needs to be more formalised in investment appraisal procedures and in implementation support (i.e. supervision) in the same way as procurement and fiduciary procedures, and environmental and social safeguards. It would help if projects demonstrate effectiveness in achieving anticipated results as well as credibility for those results.

1. Introduction

Effective monitoring and evaluation (M&E), vital for tracking and measuring results and throwing light on the impact of development interventions, remain challenging. Although much literature exists on M&E as a tool in project work, and there is no shortage of guidelines on the subject, weaknesses of M&E in investment lending persist, and have been a recurrent subject of the World Bank's Independent Evaluation Group[1].

This Paper provides a critical review of the use of M&E in agricultural and rural development (ARD) projects. It assesses how M&E systems have been designed and implemented in 74 World Bank-assisted ARD projects over the last 15 years in the South and East Asia regions. This is based primarily on findings from a review of the Implementation Completion Reports and the more recent Implementation Completion and Results Reports (ICRs/ICRRs)[2] prepared with the assistance of the FAO Investment Centre during the last 15 years (see Tables 1 and 2), along with an examination of corresponding Staff Appraisal Reports/Project Appraisal Documents (SARs/PADs). The paper is intended to draw attention to the problems related to the putting of M&E systems into practice, and to draw lessons and learning from the Investment Centre's substantial pool of experience in providing assistance to the preparation of ICRs/ICRRs. Proposals are made for an enhanced use of M&E in ARD projects both during their design and implementation.

To provide a contextual setting, the following chapter first briefly outlines: (i) the emerging trends in the international development agenda and the move towards results-orientation and results-based management in development work; (ii) the project concept and its specific agricultural and rural sector context, (iii) M&E system roles, methodologies and approaches, including the current use of the results framework by the World Bank. Attention is then drawn in Chapter 3 to commonly occurring weaknesses and lessons of experience from the completed projects reviewed, as well as to possible limitations of the recently introduced results-based framework.

Chapter 4 sets out practical ways that could help enhance the role of M&E, as a management tool and for impact assessment of agricultural and rural development projects. Key areas of activity and priority actions for results-oriented M&E, focusing on essential elements to be included in field operations, are also outlined. The final chapter presents a summary of the major findings of the reviews undertaken and of proposals made for enhancing project M&E. It also presents emerging guiding principles for the use of M&E.

Annex 1 provides supporting material on managing for development results. Annex 2 contains relevant excerpts from the ICRs/ICRRs reviewed. A glossary of key terms used in M&E is presented in Annex 3.

1 As highlighted in Improving the World Bank's Development Effectiveness. World Bank/Operations Evaluation Department (2005).

2 Implementation Completion and Results reports (ICRRs) are an integral part of the World Bank's drive to increase development effectiveness, through a continuous process of self evaluation, lessons learning and application, sharing of knowledge and being accountable for results. World Bank/OPCS, ICR Guidelines, (2006).

2. Context

2.1 Emerging trends in the international development agenda

Over the past decade, aid organizations have faced increasing pressure to become more effective and results-oriented. Many have launched agendas of results-orientation and results based management (RBM), more recently referred to as 'managing for development results'.

Participants of the UN Conference 'Financing for Development', Monterrey 2002, stressed the need to improve the policy coherence and consistency of donor countries as a means to improve official development assistance (ODA). The Washington and Marrakech Roundtables on Results, 2002 and 2004 respectively, focused specifically on managing for results as a prerequisite for improved aid effectiveness. Adoption of the UN Millennium Declaration and its 'road map' which sets out eight Millennium Development Goals - the MDGs, has fostered the quest for development results (Annex 1).

At the High Level Forum on Harmonization of Aid Effectiveness (HLF), convened by the Organization for Economic Co-operation and Development (OECD), Paris 2003, donor agencies committed to work with the developing countries to better coordinate and streamline their activities at country level. Subsequently, in 2005, the international donor community came together at the Paris High Level Forum on Aid Effectiveness (HLF-2).The "Paris Declaration" which emerged from the Forum, is focused on five mutually reinforcing principles, one of them dealing with managing for results: "All parties in the aid relationship must place more emphasis on the end result of aid, the tangible difference it makes in people's lives. They must develop better tools and systems to measure this impact."

The Third High Level Forum on Aid Effectiveness (HLF-3), held in Accra, September 2008, was to build on the work of the two previous meetings to take stock of the progress so far, and to accelerate the momentum of change. The Accra Agenda for Action asks OECD's Working Party on Aid Effectiveness to continue monitoring progress on implementing the Paris Declaration and Accra Agenda for Action and to report back to HLF-4 scheduled for December 2011.

The renewed focus on results reflects an interest within the donor community to better demonstrate the effectiveness of development interventions. In this context, M&E is recognised to be a key element. At the same time, weakness in M&E has emerged as a general problem in development work, with the need to improve M&E systems widely acknowledged. A comparative review of several major development agencies' strategies and approaches to project-level M&E systems concluded that there was a need to improve.[3]

As far back as 1992, the "Wapenhans Report" of the World Bank had concluded that "the Bank's success is determined by benefits on the ground – sustainable development impact – not by approvals, good reports, or disbursement"[4]. Since then, a number of initiatives have been taken by the Bank, to better demonstrate project benefits and impact. In 1996, the logical framework was introduced to enhance the development of appropriate monitoring indicators of inputs, outputs, outcomes and impact. The World Bank Working Group on Monitoring and Evaluation, established in 1999, made further recommendations, including developing evaluation capacity in client countries on a pilot basis. Despite these efforts, the Bank's Operations Evaluation Department (OED) found that monitoring systems for implementation had been lacking in a significant proportion (some

3 IFAD (2002a).
4 Report of the Task Force on Portfolio Performance Management, World Bank, (1992).

40%) of projects completed at the turn of the millennium[5].

In 2002, the World Bank started a 'Managing for Results' initiative to enhance the effectiveness of its operations. For investment lending, the format of the Project Appraisal Document (PAD) was revised in 2004, to increase the focus on results-oriented design and monitoring, and the logframe, was replaced by a results framework, with an annex on the M&E of project results, consisting of an overall project development objective and a set of intermediate component outcomes, with indicators to measure progress towards meeting them. The indicators are accompanied by baseline and target values. The current PAD format also requires that arrangements for monitoring and data collection be noted along with how local capacity for data collection will be supported where needed. The Project Supervision Report was replaced by the Implementation Status and Results Report (ISR) which gives more prominence to results. The former Implementation Completion Report was replaced by the Implementation Completion and Results report (ICRR)[6] which contains a section on M&E. As spelled out in the Guidelines, that section should include separate assessment of M&E design, implementation and utilisation.

2.2 Agricultural and rural development projects

The Articles of Agreement of the World Bank stipulate that "loans made or guaranteed by the Bank shall, except in special circumstances, be for the purpose of specific projects of reconstruction and development". The concept of the project is seen as providing a disciplined and systematic approach to analysing and managing a set of investment activities. The project concept also encourages examination of alternatives. Moreover, the anticipated outputs and outcomes can be compared with alternative proposals in the same sector (Baum and Tolbert, 1985). Project lending continues to be the primary lending instrument of the Bank.[7]

Investments in agriculture and rural development tend to be complex, due in part to the unique characteristics of the sector: (i) farming is highly location-specific and has close links with the life of rural people; (ii) crop and livestock production are complex biological processes frequently in the hands of large numbers of family units; (iii) output is influenced greatly by climatic conditions and (iv) the private sector is essentially responsible for all investment, production and marketing in the sector. These characteristics have also led to a variety of approaches to packaging investments in agricultural and rural development into discrete projects. The approaches can be clustered, inter alia, into area-based; natural resource-based, sector/sub-sector-based; integrated rural development, community driven development, and lately also into sustainable livelihood projects. Traditionally, up to two thirds of World Bank supported investment in agriculture and rural development are generated by irrigation and drainage projects.

Community Driven Development (CDD) projects have evolved in an effort to increase the participation of communities in a demand-led set of interventions. Within the World Bank, such projects had in the past focused on improving village-level infrastructure. However, CDD is now applied in a much broader sense, aimed at establishing linkages between rural communities, local governments and the private sector, and empowering communities to plan and implement development activities consistent with their priority social and economic needs. In more recent CDD projects, local communities are accorded an active role in monitoring and evaluation of the implementation and outcome of these activities. Rural Livelihood Projects apply the CDD approach to mobilise the rural poor into participatory institutions through which they can accumulate assets, access finance, linking to market, and build skills to link to employment.

5 OED, World Bank (2002).

6 To facilitate a distinction between the former Implementation Completion Reports (ICRs) and the more recent Implementation Completion and Results reports (ICRs), the Paper refers to the Implementation Completion and Results reports as ICRRs. For convenience, reference is made to the World Bank also as "the Bank".

7 Investment or project lending (IL) accounts for about two-thirds of combined IBRD and IDA annual commitments and about 70% of their active portfolio. IL is used in all sectors where the Bank is active, with concentration in the infrastructure, human development, agriculture, and public administration sectors. Investment Lending Reforms: Concept Note, World Bank/OPCS (2009).

2.3 Monitoring and Evaluation

M&E System Roles. While perceptions as to the role and function of M&E may vary, their place as key elements of the project cycle among development agencies is incontrovertible. The EC's Project Cycle Management Guidelines, for example, emphasise the use of M&E results for programming and project identification, as part of a structured process of feedback and institutional learning. IFAD places M&E at the heart of 'managing for impact', by which is meant the need to respond to changing circumstances and increased understanding, and managing adaptively so that the project is more likely to achieve its intended impacts[8]. For the World Bank, monitoring and evaluation systems are designed "to inform project management of whether implementation is going as planned or corrective action is needed. A well-designed M&E system provides data on the progress of a project and whether it is meeting objectives. These data may indicate that adjustments are required in the project to take into account different circumstances in the local environment"[9].

Although monitoring and evaluation are usually discussed in tandem, they serve distinct yet complementary functions[10]. The role of monitoring is seen as one of regular and continuous tracking of inputs, outputs, outcomes, and impacts of development activities against targets. It determines whether adequate implementation progress has been made to achieve outcomes, and provides management with information to enhance implementation. Unlike monitoring, evaluation is seen as attempting to establish attribution and causality, and serve as a basis for accountability and learning by staff, management and clients. Information from evaluation is to be used to develop new directions, policies and procedures.

Despite their distinct roles, M&E processes in practice overlap and need to function as an integrated system. To properly serve project management, evaluation must be an ongoing activity. This then goes hand in hand with project monitoring, drawing on the information supplied through monitoring as well as special studies to review results and reconsider project objectives. In this context, it is particularly relevant to innovative or pilot projects, and in trouble-shooting roles. But this needs to be done on a timely basis for it to serve its purpose. Evaluation is also necessary at time of project completion to assess emerging, medium-term effects of the project, and an essential ingredient of any ICR undertaken within the ambit of the World Bank's self evaluation process.

The World Bank has over the last three decades increasingly emphasised the use of M&E within its operations. Operations Manual Statement of 1977 (OMS 3.55) recommended all projects to include some form of M&E. By 1989, it became mandatory for M&E systems to be included in all Bank assisted projects. Following the Bank's move towards focusing on results as indicator of operational performance, its operational policy on M&E was updated. The Operational Policy Directive of November 2006 (OP 13.60) reads as follows (Box 1):

Methodologies and Approaches. M&E methods have been evolving in response to the emergence of the new developmental approaches. These increasingly emphasise participatory processes in M&E and variants of this, focusing on community

Box 1. **World Bank operational policy on monitoring and evaluation**

"Monitoring and evaluation (M&E) requires formulating the expected results of Bank support; selecting indicators of outputs and outcomes; gathering baseline data on outputs and outcomes; setting milestones and a timeline for progress; establishing a system for collecting, analysing, and reporting data; monitoring progress; evaluating the activity to determine its relevance, efficacy, and efficiency; and establishing a framework for using M&E findings. These elements are tailored to the scale and scope of the operational activity. The designs of Bank operational activities incorporate a framework for M&E. The Bank monitors and evaluates its own contribution to results using this framework, relying on the borrower's M&E systems to the extent possible and, if these systems are not strong, assisting the borrower's efforts to strengthen them".
World Bank (2006d).

8 European Commission (2004); IFAD (2002a).
9 Agricultural Investment Sourcebook: Module 12 - Monitoring and Evaluation: Measuring and Assessing Agricultural Development Programs, World Bank (2006a).
10 World Bank/OED (2003).

empowerment, sustainable livelihoods and/or food security issues[11]. Such approaches rely more on informal non-quantitative methods than formal quantitative methods.

Various bi- and multi-lateral agencies, including the World Bank, IFAD and the European Commission, and major NGOs such as OXFAM, have over several decades undertaken or supported the development of M&E methodologies and approaches, and preparation of operational guidelines[12]. By and large, M&E systems of agriculture and rural development projects had generally incorporated combinations of the following elements and/or approaches, which are by no means mutually exclusive: Logical framework (logframe) approach; results-based framework (simplified logframe); formal surveys; rapid appraisal methods; participatory methods; impact evaluation; cost-benefit and cost-effectiveness analysis (OED/World Bank 2004c); (see also Annex 1).

The 'managing for results' initiative of the World Bank, has led to a resurgence of interest to incorporate more rigorous quantitative impact evaluation methods based on a counterfactual analysis of outcomes i.e. how indicators behaved with the project compared to how they would have been without it. These include a range of experimental and quasi-experimental techniques[13], statistical modelling (e.g. using propensity score matching techniques to ensure comparability), or regression methods. At the same time, however, the role of qualitative participatory methods (such as community scorecards) and theory-based approaches (analysis involving tracing the logframe from inputs to outcomes, and establishing causal linkages), and the advantages of applying a combination of different approaches is also acknowledged.[14]

Results orientation means that M&E should be part of the project design process. It implies that outcomes are the starting point in conceptualising the project (and its M&E system). It requires that outcomes, or variables that are good proxies for outcomes, are regularly monitored. A project designer should start, therefore, by determining the intended results, establishing the most efficient way to get them, and determining how project management would know if they were, or were not, materialising and why. This process makes it obvious what needs to be monitored, and the M&E system design becomes integral to project/programme design (OED/World Bank 2005).

Given the increasing demand for development accountability and impact, the limitations of quantitative indicators in addressing 'why' questions and the value of understanding the underlying knowledge and learning processes, there is now a call for learning-oriented M&E paradigm[15]. At the core of this is the quest for information for learning and management, covering *why, so what*, and *then what* questions (Box 2). The challenge is to design effective learning systems that can underpin management behaviour and strategies to optimise impact, rather than simply delivering predetermined outputs.

Box 2. **Types and Sources of Information for Learning and Management**

M&E can only be useful if it answers the question why has there been success or failure. Many donors recognise this and are rejecting activity reporting, instead asking for results and impact reporting. Taking this one step further into the arena of improved next steps, requires addressing the questions of so what are the implications for the initiative; and now what will be done about the situation.
Woodhill (2007).

12 Hilhorst and Guijt (2006) on participatory M&E; Turton (2001) on livelihood monitoring; and Carletto and Morris (1999) on M&E of household food security.
13 See for example, World Bank (2004b); European Commission (2004); IFAD (2002b); OXFAM (1995); Casley and Kumar (1987); Baum and Tolbert (1985); and Casley and Lury (1982).
14 These may involve the use of before versus after comparisons, with and without project comparison using a control group, double difference methods (combination of the previous two to compare change of the treatment and control groups), or adopting a pipeline approach (using different phases of project participants as comparison groups). See for instance White (2003), and World Bank (2006a).
14 As pointed out by the World Bank's Independent Evaluation Group at a recent DAC Network on Evaluation Development; see World Bank (2006b) and World Bank (2006c).
15 Woodhill (2007).

3. Findings from a review of M&E systems

In contrast to M&E methods and approaches which have received much international attention, relatively little work has been done on analysing why the M&E approaches have neither been widely nor successfully applied[16]. Drawing on the ICRs/ICRRs of 74 World Bank-assisted ARD projects that were implemented over the last 15 years in the South and East Asia regions, this chapter provides an insight as to some of the reasons why in the completed projects reviewed the application of M&E has met with considerable difficulties and lagged behind. Most of these projects were in irrigation and watershed management (35), followed by projects in agricultural services and agricultural development (22). The balance was made up by projects in forestry (7), rural and community infrastructure (5), fisheries (2), poverty alleviation, economic restructuring and Avian Influenza (3). The projects ranged in size from USD7 million (*Nepal-Agricultural Extension,* 1985)[17] to USD830 million (*India-Andhra Pradesh Economic Restructuring,* 1998). The approval dates ranged from March 1985 to September 1999.

3.1 Completed Projects

The review covered 59 ICRs for projects that had been implemented in South Asia (37 projects, mostly Bangladesh and India), and in East Asia (22 projects, mostly Philippines, China and Indonesia) and with ICRs conducted over the period 1994 to 2006 (Table 1). The review also covered 15 Implementation Completion and Results Reports (ICRRs) undertaken with FAO/TCI assistance during the years 2007 to 2009 (Table 2).

Almost half of the 59 ICRs reviewed (a total of 28), show weaknesses in M&E at some stage of the project cycle. Seven of the projects reported poor M&E provisions at project design stage. Eighteen mentioned shortcomings in the implementation of M&E systems. Seven projects came up against difficulties in the utilisation of the M&E system. In 18 of the ICRs reviewed, almost one third of the total, there was no mention of any M&E activities.

The review of the 15 ICRRs shows that the current World Bank guidelines for ICRR preparation, which now require separate assessment of M&E design, implementation and utilisation, have already resulted in a significant improvement of addressing M&E issues. There are also a number of best practice examples where the M&E system was established as designed and extensively used by project management and supervision missions (Box 3). In the *China-Anning Valley Agricultural Development Project* (1999), for example, ongoing analyses helped project management to sharpen focus on women and landless. The *India-Karnataka Watershed Development Project* (2001), helped to improve equity among farmers and achieve greater cost efficiency in soil and water conservation works. Under the *Nepal-Poverty Alleviation Fund Project* (2004), monitoring was started at individual or beneficiary level and focused on the community itself for regular monitoring and feedback for immediate improvement.

Notwithstanding the improvements brought about by the development of ICRR guidelines, weaknesses in M&E persist, concerning issues similar to those observed in the ICRs of the earlier years; both as far as design and implementation stages are concerned. This would suggest that continued efforts are required to improve the use of M&E as a management tool in project work. Conceptual and methodological advances in M&E in recent years must be complemented by commensurate attention on operational issues if their role in improving

16 One notable exception has been the work of the Independent Evaluation Group (IEG) of the World Bank in analysis of experience with institutionalising M&E systems in five Latin American countries (World Bank, 2006e).

17 The figure in brackets refers to the year of project approval.

Table 1
South and East-Asia - list of ICRs reviewed, 1994 to 2006

COUNTRY/PROJECT NAME	PROJECT DATA				WEAKNESSES IN M&E				LESSONS LEARNED	
	Approval Date	Closing Date	Proj. Cost at Appr. (US$ Mln)	ICR/PCR Date	System Design	System Implementation	System Utilisation	No Mention of M&E	M&E System Design	M&E System Implementation
BANGLADESH										
Silk Development Pilot	Nov. 97	Jun. 03	15	Dec. 03	-	X	-	-	-	-
Agric. Services Innovation and Reform	Sep. 99	Mar. 03	14	Sep. 03	-	-	-	X	-	-
Coastal Embankment Rehabilitation	Nov. 95	Dec. 02	88	Mar. 03	-	-	X	-	-	-
Agricultural Research Management	Feb. 96	Dec. 01	50	Jun. 02	-	-	-	X	-	-
Forest Resources Management	Jun. 92	Dec. 00	59	Mar. 02	-	-	-	X	-	-
River Bank Protection	Apr. 99	Dec.01	45	Jan. 02	-	-	-	X	-	-
National Minor Irrigation Development	May-91	Dec. 97	54	Mar. 98	-	-	-	X	-	-
BWDB Systems Rehabilitation	Mar. 90	Dec. 97	54	Jan. 98	-	-	-	-	-	X
Third Flood Control and Drainage	Nov. 85	Jun. 94	48	Jun. 95	X	-	-	-	-	-
Shallow Tubewell and Low Lift Pump Irrigation Development	May-91	May-95	75	Apr. 96	-	-	-	-	X	-
Shrimp Culture	Jan. 86	Jan. 93	22	Jan. 94	-	X	-	-	-	-
CAMBODIA										
Forest Concession Management and Control	Jun. 00	Dec. 05	5	May-06	-	X	-	-	-	-
Agriculture Productivity Improvement	Feb. 97	Dec. 05	35	Dec. 06	-	X	-	-	X	-
CHINA					-	-	-	-	-	-
Second Loess Plateau Watershed Rehabilitation	May-99	Jun. 05	252	Dec. 05	-	-	-	-	X	-
Seed Sector Commercialisation	Jun. 96	Jun. 03	186	Dec. 03	-	-	–	X	-	-
Yangtze Basin Water Resources Development	Apr. 95	Dec. 05	552	Jun. 03	-	-	X	-	-	-
Loess Plateau Watershed Rehabilitation	May-94	Dec. 05	150	Apr. 03	-	-	-	-	-	X
Animal Feed	Apr. 96	Dec. 01	310	May-02	-	-	-	X	-	-
INDIA										
Integrated Watershed Development (Hills II)	Jun. 99	Sep.05	193	Dec. 05	-	-	-	-	-	X
National Agricultural Technology	Mar. 98	Jun. 05	249	Dec. 05	-	-	X	-	-	-
Third Andhra Pradesh Irrigation	May-97	Jul. 04	477	Jan. 05	-	-	-	X	-	-
Assam Rural Infrastructure and Agric. Services	May-95	Jun. 04	147	Dec. 04	-	X	-	-	-	-
Uttar Pradesh Diversified Agriculture Support	Jun. 98	Mar. 04	161	Oct. 04	-	-	-	-	-	X
Kerala Forestry	Mar. 98	Dec. 03	45	Jun. 04	-	-	-	X	-	-
Uttar Pradesh and Uttaranchal Forestry	Oct. 97	Jul. 03	65	Jan. 04	-	X	-	-	-	-
Andhra Pradesh Economic Restructuring	Jun. 98	Mar. 06	830	Mar.07	X	X	X	-	X	X
Haryana Water Resources Consolidation	Mar. 94	Dec. 01	483	Mar. 02	-	-	-	-	X	-
Uttar Pradesh Sodic Lands Reclamation	Jun-93	Mar. 01	80	Jun. 01	-	-	-	-	-	X
Shrimp and Fish Culture	Jan. 92	Dec. 00	85	Mar. 01	-	X	-	-	-	-
Rajasthan - Agricultural Development	Nov. 92	Sep. 00	130	Feb. 01	-	-	-	-	X	-
Rubber Development	Jul. 92	Sep. 00	141	Dec. 00	-	-	-	X	-	-
Dam Safety	May-91	Sep. 99	197	Dec. 99	-	-	-	X	-	-
Integrated Watershed Development (Hills)	May-91	Mar. 99	126	Nov. 99	-	-	-	-	-	X
Tamil Nadu - Agricultural Development	Mar. 91	Dec. 98	133	Apr. 99	X	X	-	-	-	-
Third National Seeds	Aug. 88	Jun. 96	150	Jan. 97	-	X	-	-	-	-
Second National Dairy	Apr. 88	Apr.96	678	Jul. 96	X	-	-	-	-	-

Table 1 (Continued)
South and East-Asia -list of ICRs reviewed, 1994 to 2006

COUNTRY/PROJECT NAME	PROJECT DATA				WEAKNESSES IN M&E				LESSONS LEARNED	
	Approval Date	Closing Date	Proj. Cost at Appr. (US$ Mln)	ICR/PCR Date	System Design	System Implementation	System Utilisation	No Mention of M&E	M&E System Design	M&E System Implementation
Gujarat Rural Roads	Feb. 87	Dec. 95	171	May-96	-	-	X	-	-	-
INDONESIA										
Decentralised Agriculture and Forestry Extension	Aug. 99	Mar. 05	24	Nov. 05	-	X	-	-	-	X
Java Irrigation Improvement & Water Resources Mgmt.	Jun. 94	Dec. 02	304	Jun. 03	X	X	-	-	X	-
Integrated Swamps Development	Jun. 94	Sep. 00	106	Dec. 00	-	-	-	X	-	-
Nusa Tenggara Agricultural Support	Apr. 86	Oct. 94	33	Dec. 94	-	-	X	-	-	-
LAO PDR										
Land Titling	Mar. 96	Sep. 05	28	Feb. 06	-	-	-	X	-	-
Forest Management and Conservation	Oct. 95	Sep. 00	20	Feb. 01	X	-	-	-	-	-
MONGOLIA										
Poverty Alleviation for Vulnerable Groups	Jul. 95	Dec. 00	11	May-01	-	-	X	-	-	-
NEPAL										
Irrigation Sector	Nov. 97	Jun. 04	103	Feb. 05	-	-	-	X	-	-
Agricultural Research and Extension	Aug. 97	Sep. 02	31	Mar. 03	X	-	-	-	-	-
Hill Community Forestry	May-89	Jun. 99	45	Sep. 99	-	X	-	-	-	X
Agricultural Extension II	Mar. 85	Dec. 94	7	Jun. 95	-	-	-	X	-	-
PAKISTAN										
Balochistan Community Irrigation and Agriculture	Sep. 95	Jun. 02	39	Dec. 02	-	-	-	-	-	X
PHILIPPINES										
Mindanao Rural Development	Dec. 99	Dec. 04	40	Jun. 05	-	X	-	-	-	-
Land Administration and Management	Sep. 00	Dec. 04	10	Jun. 05	-	X	-	-	-	-
Agrarian Reform Communities Development	Apr. 97	Dec. 03	106	Jun. 04	-	X	-	-	-	-
Conservation of Priority Protected Areas	May-94	Jun. 02	23	May-04	-	-	-	X	-	-
Second Irrigation Operations Support	May-93	Dec. 00	70	May-01	-	X	-	-	-	-
Small Coconut Farms Development	May-90	Dec. 99	177	May-00	-	-	-	X	-	-
SRI LANKA										
North-East Irrigated Agriculture	Dec. 99	Jan. 05	32	Nov. 05	-	X	-	-	-	-
Mahaveli Restructuring and Rehabilitation	Apr. 98	Dec. 05	74	May-04	-	-	-	-	X	X
THAILAND										
Third Land Titling	Dec. 94	Sep. 02	207	Mar-03	-	-	-	-	-	X
VIET NAM										
Third Poverty Reduction Support Credit	Jun. 04	Dec. 04	100	Jun. 05	-	-	-	X	-	-

Table 2

South and East-Asia – List of ICRRs Reviewed, 2007 to 2009

COUNTRY/PROJECT NAME	PROJECT DATA				FINDINGS ON M&E SYSTEM			LESSONS LEARNED	
	Approval Date	Closing Date	Project Cost at Appraisal (US$ Mln)	ICRR Date	Design	Implement.	Utilisation	M&E System Design	M&E System Implement.
CAMBODIA									
Forest Concession Management and Control Pilot	Jun. 00	Dec. 05	4.8	Jun. 07	X	X	-	X	-
CHINA									
Yangtze Dike Strengthening	Jun. 00	Dec. 08	519.6	Jun. 09	X	X	X	-	X
Wanjiazhai Water Transfer	Jun. 97	Jun. 07	1,351.6	Dec. 07	X	-	X	X	-
Anning Valley Agricultural Development	Jan. 99	Dec. 06	239.8	Jun. 07	X	X	X	-	-
INDIA									
Karnataka Watershed Development	Jun. 01	Mar. 09	127.4	Sep. 09	X	X	X	X	-
Uttar Pradesh Sodic Lands Reclamation	Dec. 98	Sep. 05	286.6	Mar. 08	X	X	X	-	X
LAO PDR									
Agricultural Development	May 01	Jun. 08	18.2	Feb. 09	X	X	X	X	-
NEPAL									
Poverty Alleviation Fund	Jun. 04	Feb. 09	44.7	Oct. 09	X	X	X	X	-
PAKISTAN									
Second Poverty Alleviation Fund	Apr. 03	Jul. 09	368.0	Mar. 09	X	X	-	-	-
AJK Community Infrastructure and Services	Jul. 02	Nov. 10	27.17	Apr. 09*	X	X	X	X	-
TIMOR LESTE									
Third Agriculture Rehabilitation	Dec. 03	Dec. 08	11.4	Jun. 09	X	X	X	X	X
VIET NAM									
Community-based Infrastructure	Jun. 01	Jun. 09	123.4	Sep. 09*	X	X	X	X	X
Coastal Wetlands Protection and Development	Nov. 99	Sep. 06	65.6	Jun. 08	X	X	X	-	X
Avian Influenza Emergency Recovery	Mar. 04	Jun. 07	6.2	Dec. 07	X	X	X	-	X
Agricultural Diversification	Jun. 98	Dec. 06	84.3	Jun. 07	X	X	X	X	-

Box 3. **ICRRs - Examples of best practice in M&E systems**

"The M&E system as designed was established and extensively used by project management and supervision missions to gauge progress and to identify problems and follow-up actions. The methodology and procedures used in M&E in the project were, in fact, widely adopted by other agricultural development programmes in Sichuan Province, especially in the State Office for Comprehensive Agricultural Development (SOCAD) projects" (*China – The Anning Valley Agricultural Development Project,* 1999*).*

"Use of the M&E information was excellent overall and implementation feedback mechanisms were responsive. For example, the two third-party M&E service providers reported directly to the managing director of the project. Timely information and implementation progress of the project was reported quarterly, and reports were sent directly to district project managers for compliance. Monitoring data formed the basis for a project MIS/Geographic Information System (GIS), proved particularly practical for tracking reclamation activities and indicators. Monitoring of community mobilization and organization processes, land reclamation and infrastructure works provided objective information on project progress, and was effectively used for making decisions to achieve project objectives" (*India – Uttar Pradesh Sodic Lands Reclamation Project,* 1998*).*

the effectiveness of agricultural and rural development projects is to be fulfilled. In the case of World Bank-assisted projects, M&E design must find more recognition in investment appraisal procedures and in implementation support in the same way as procurement and fiduciary procedures, and environmental and social safeguards.

Overall, weaknesses in M&E observed in the ICRs/ICRRs ranged from poor operationalisation of planned M&E systems, lack of monitorable performance indicators, inadequate focus on project beneficiaries, and over-ambitious or unworkable methodologies, to not undertaking any M&E at all. Such weaknesses occurred irrespective of the country, type or size of the project, whether it was implemented during the 1990s or more recently. Weaknesses were seen to occur at project design stage as well as during project implementation, and in relation to

impact assessment processes and methods. Evidence suggests that weaknesses in M&E have their origin not only in the design of the M&E system as such, but often reflect shortcomings in the description of the project objectives, components and implementation arrangements (see also Annex 2).

System Design Inadequacies. The ICR/ICRR review brought out important weaknesses in addressing M&E issues at the project design stage. Of the 74 ICRs/ICRRs reviewed, 21 (28%) reported on weaknesses in system design. In many instances, an M&E framework was either lacking or, where it existed procedures were often too complex to be useful to management. In extreme cases (such as the *Lao PDR-Agricultural Development Project,* 2001*)* the M&E systems put into place could neither meet operational needs nor assist in impact assessment of the project. Specifically, M&E system designs had suffered from one or more of the following:

- M&E system and institutional arrangements catered primarily for production of physical progress reports, focusing on inputs/finance and operations, and falling short of informing on results - this is exacerbated by implementation weaknesses referred to below *(Viet Nam-Agricultural Diversification Project,* 1998);
- Unduly large number of indicators, that were not sufficiently specific in relation to project objectives, were non-measurable in practice, and did not provide milestones by which performance could be judged (*Nepal-Agricultural Research and Extension Project,* 1998);
- Reliance on a 'blueprint' approach in monitoring, based on a single rather than multiple sources of information, with inadequate provision for modification and adaptation over the project life. This was evident from the *India-Andhra Pradesh Economic Restructuring Project* (1998);
- Little or no linkage of performance indicators to the project's logical hierarchy of objectives. Some projects (such as the *Lao PDR-Forest Management and Conservation Project,*1995) pre-dated the introduction of the logframe approach - known as the Project Design Summary (PDS), as Annex 1 of each PAD. Some later projects which used the PDS also failed to properly articulate the objectives hierarchy, including the incorporation of appropriate performance indicators and identifying critical assumptions within the M&E framework.

The guidelines and PDS template for World Bank staff at the time were also problematic. Besides the development objective, the PDS included only component 'outputs' and inputs, from the donor's perspective. Project budgets of each component were to be used as key performance indicators. One difficulty was confusion in the PDS between component outputs (deliverables for which component implementers were normally accountable)[18] and the higher level project outcomes (which would include individual/community and system responses and behavioural changes, not directly within management control). Another was possibly conveying undue significance to the role of financial inputs as performance indicators, to the neglect of component output deliverables. Both would have been unhelpful to project managers as well as supervision missions.

A general lack of provision to address the issue of limited local capacity for M&E as part of the project design was much in evidence[19]. It is also clear that a common feature of M&E systems across many projects was lack of stakeholder orientation and participation, one result of which was poor ownership of the system.

Shortcomings during Project Implementation. Main shortcomings of M&E encountered during project implementation, and identified in 31 (42%) of the ICRs/ICRRs reviewed, included:

- Planned M&E systems and procedures delayed or not operationalised;

18 See: World Bank's Performance Monitoring Indicators Handbook for Task Managers (1996), which consider outputs as what the project can be held ***directly*** accountable for producing i.e. the project's deliverables - the goods and services it will produce, which typically are independent, synergistic, and integrated. Output indicators then measure specifically the quantity, and sometimes quality, of goods or services created or provided through the use of inputs.

19 A notable exception was the *Mongolia-Poverty Alleviation for Vulnerable Groups Project* (1995), which gave particular emphasis to developing a participatory M&E system. Unfortunately, institutional arrangements did not effectively provide for integrating information generated from the system with project management processes, hence its potential utility never fully exploited.

– Attention primarily on physical achievements, to the neglect of project outcomes;
– Monitoring undertaken largely to meet donor reporting requirements rather than as an internal management tool;
– Apparent schism between M&E and management decision support systems, with information generated by the former not effectively utilised for management decision making.

The factors contributing to poor operationalisation and use of M&E identified in the ICRs/ICRRs included: the lack of institutional capacity, paucity of competent staff, misunderstanding on the role and utility of M&E; and inadequate mandate of those charged with M&E responsibilities. The need to address M&E weaknesses and operational constraints were a recurrent theme voiced by World Bank supervision missions. This had in instances led to remedial action, though often late in the day, as seen in the *Philippines-Agrarian Reform Community Development Project* (1997), in which lapses in M&E were rectified after the mid-term review (MTR). Difficulties stemmed, in part, from problematic M&E design in the first place. But they were also attributable to inadequacies in implementation support roles.

Examples of the difficulties mentioned above from amongst the ICRs/ICRRs reviewed, include:
– Philippines-*Mindanao Rural Development Project* (1999). Full operationalisation of the M&E system envisaged at appraisal never occurred. This was mainly due to resource constraints, both in terms of financial resources and the quality of staff, especially at the Local Government Unit levels. Similarly, in the *Bangladesh-Shrimp Culture Project* (1986), a PIU was to perform the role of monitoring of engineering work progress and quality, this had neither experienced staff nor the necessary authority to undertake monitoring of the engineering works effectively.
– *Timor Leste-Third Agricultural Rehabilitation Project* (2003). Reflecting weak design and lack of resources both in terms of MAF staffing, process monitoring and impact evaluation were poorly implemented. M&E performance was also constrained by reporting difficulties between the different directorates, field staff and the M&E Service within the Planning Directorate, caused mostly by lack of clarity on roles and responsibilities.
– *India-Assam Rural Infrastructure and Agricultural Services Project* (1995). This project was meant to target the poorest of the rural population in the State. A project-wide survey was carried out at the start of the project, but planned M&E procedures came up against severe delays, besides failing to help maintain the poverty focus of the project; subsequent impact assessments could not satisfactorily quantify benefits flowing to targeted poor families.
– *Viet Nam-Agricultural Diversification Project* (1998). The M&E system mainly focused on the monitoring of physical progress and inputs rather than on evaluation of impact assessment. There was no management information system (MIS) to look at monthly activities of the work plan and to flag activities taken place in order for management to take corrective action.
– *China-Yangtze Basin Water Resources Project* (1995): This project operated a monitoring system which was mainly used for producing progress reports for World Bank supervision missions, rather than as a tool for project management. Similarly, the *India-Tamil Nadu Agricultural Development Project* (1991) focused on such items as procurement, civil works completed, and timeliness of loan disbursements, rather than on the impacts of components like watershed management and rural roads development on affected communities.
– *Mongolia-Poverty Alleviation for Vulnerable Groups Project* (1995). Considerable resources were spent on developing a system of participatory monitoring and evaluation, which would generate useful information, for instance on numbers of households lifted out of poverty. Such information was however not used by management, due to the absence of linkages between M&E processes and the project's management information and action systems.

Further examples of shortcomings identified in the ICRs/ICRRs reviewed include the following:

- Lack of pro-activity in technical support to implementing agencies (*India-Uttar Pradesh and Uttaranchal Forestry Project*,1997 and the *Nepal-Hill Community Forestry Project,*1989). In the former, the need for facilitation support to implementing agencies in setting out priorities for monitoring and learning was not recognised by successive supervision missions; for the latter, important risks identified at project preparation should have triggered early support to M&E system establishment, but had been glossed over.
- Preoccupation with, and narrow focus on, accountability for physical achievements, and lack of perspective on their significance for targeted communities (as seen in the China and India projects above). In the *Indonesia-Decentralised Agriculture and Forestry Extension Project* (1999), weaknesses in relation to monitoring of project results, according to the ICR mission, could also have been better addressed through timely provision of additional technical assistance.
- Poor choice of M&E techniques and methodologies (*India-Andhra Pradesh Economic Restructuring Project*, 1998). Here, key performance indicators were continuously monitored, but these did not fully capture the project's contribution to improving irrigation efficiency. The World Bank, with agreement of the Borrower, focused on a complicated satellite impact assessment study which failed to deliver. Supervision missions, the ICR mission argued, should have insisted on inclusion of practical field surveys of representative schemes, to document what was actually happening on the ground.

Weaknesses and constraints outlined above have important implications for the role of the World Bank and its partners in relation to project implementation support and project completion processes. With the recent shift to ICRRs, the onus is on both the Bank and Borrowers to ensure results-related information is provided for during project implementation, rather than be left as an exercise to be picked up by ICR missions at project completion.

Assessing Project Impact/System Utilisation. In 19 of the ICRs/ICRRs reviewed (26%), it was found that impact assessment activities were rarely carried out even where specifically provided for at appraisal. Where these were undertaken, their utility for impact assessment was often limited by methodological inadequacies and consequent interpretational difficulties. Baseline studies/ surveys were generally late and lacked focus on the intended use of the data. ICR/ICRR missions invariably undertook additional information gathering to gain insights into project outcomes and impacts. This was typically done through further analysis of secondary data and conducting rapid appraisals and focus group discussions with project stakeholders.

Besides poor functionality as an investment accountability tool, inability of the project M&E system to inform on progress towards desired outcomes also meant missed opportunities in generation of development benefits during the project life. The following project cases are very instructive:

- *Indonesia-Decentralised Agriculture and Forestry Extension Project* (1999). Although the initial basis for assessing impact was made through conducting a benchmark survey, this was conducted very late into the project, was too complicated, and had little linkage with the M&E framework adopted by the central PMU. Disconnect between impact assessment design and management information imperatives, along with delays in implementing the former meant that the data collected had little utility for project decision making or for completion reporting. Rapid appraisal conducted during the ICR mission indicated that the project seemed likely to be having a substantial impact on improving incomes of targeted households, which was not detected by the project M&E systems.
- *India-Gujarat Rural Roads Project* (1987). While the project M&E system undertook effective physical and financial monitoring, it provided little information on the utilisation and impact of the roads constructed. Rapid assessment by the ICR mission found that one original justification for the project, based on incremental

economic returns from dairy products, proved invalid. On the other hand, benefits had been generated, for example through stimulation of horticultural production and marketing, that had not been foreseen at appraisal. Inclusion of well-designed baseline and follow-up studies, focusing on communities being served, could have helped in more accurate documentation of economic benefits, while providing important inputs to development planning processes.

– *India-Andhra Pradesh Economic Restructuring Project* (1998). The performance indicators used by the project not only proved inappropriate, but official records on which monitoring was based were found to under-report the actual areas irrigated. Subsequent reliance on a single approach at estimating irrigation uptake, using satellite imagery, proved inadequate, partly from problems with cloud cover but also from failure to follow through ground truthing, data analysis and interpretation. Also lacking at project completion was reliable information on incremental areas irrigated, extent of area receiving improved irrigation services, and number of farmers, especially the tail-enders, benefiting from the rehabilitated schemes. A combination of data collection approaches within the M&E framework, including community and farmer level surveys would have been more desirable.

3.2 Recent operations

The results framework for M&E, incorporated into the preparation of World Bank-assisted projects from end of 2004, is an important step towards an enhanced results orientation in project work. A major aim is ensuring adequate focus on expected intermediate outcomes and the development objectives to be achieved by the targeted project beneficiaries. Most projects prepared using this framework are now under implementation, and practical experience with M&E implementation has yet to be systematically documented. Nonetheless, examination of a number of recent PADs (Table 3) indicates some continuing problems in its application by project design teams (see Box 4).

Table 3
Projects Prepared using Results Framework, 2005 - 2007: Basic Data

	Project Data	
Project and Country	Appraisal Year	Proj. Cost (US$Mln)
National Program-Support to Environment and Natural Resources Management, Philippines	April 2007	57.0
Andhra Pradesh Community-Based Tank Management Project , India	Jan 2007	212.4
National Agricultural Technology Project, Bangladesh	During 2007	NA
Huai Basin Flood Protection and Drainage Improvement Project, China (Pre-appraisal)	During 2007	NA
National Agricultural Innovation Project, India	March 2006	59.5
Farmer Empowerment through Agricultural Technology and Information Project (FEATI), Indonesia	Nov 2006	131.1
Himachal Pradesh Mid-Himalayan Watershed Development Project, India	Nov 2005	60.0
Livestock Waste Management in East Asia Project, East Asia	Feb 2006	24.0
Assam Agricultural Competitiveness Project, India	Nov 2004	214.3
Karnataka Panchayats Strengthening Project, India	May 2006	120.0

Box 4. **Mixing Outcomes and outputs: examples from recent operations**

The results framework in the PAD of the *India-Karnataka Panchayats Strengthening Project (2006)* did not have a clear narrative statement of desired component outcomes. Instead, physical outputs (such as training centres supported, or number of members trained), were erroneously used as outcome indicators (in this case for the project component on 'building capacity of the panchayats - local/district councils - and the State'). This would be of limited value in informing management and supervision missions as what aspect of the targeted panchayats provided with training had changed in terms of system or behavioral performance.

In the *Bangladesh-National Agricultural Technology Project* (2007), the draft results framework rightly included the number of non-national agricultural research system partners participating in and having share of the competitive grants programme funds as one indicator of the intermediate component outcome (increased efficiency and effectiveness of the research system). However, deliverables, such as number of scientists trained in identified skill gaps were also listed as intermediate outcome indicators. Monitoring key outputs is an essential part of the M&E system, but there being no obvious place for it to be reflected in the Results Framework and Monitoring annex of the PAD, there appears to be a compulsion by the project design team to squeeze these under at the higher outcomes level.

Initial observations of FAO/TCI staff and consultants involved in recent project appraisal work in South Asia also suggest that, in its present form, there are some limitations of the new World Bank results framework, with a number of conceptual and practical issues requiring further refinement. These include:

Not enough Integration between M&E and MIS. Focusing on higher level project results cannot be to the neglect of information needed for monitoring resource availability and use and the quantity, quality and timeliness of outputs generated. By relegating such information to other 'descriptive' sections of the PAD[20], the project results framework may convey the false impression that not only is such information of limited importance, but that these are not an integral part of the overall M&E system. This would at best mean not meeting the basic information needs of project management, and at worst render a project's M&E system irrelevant to implementing agencies and managers in the field. This could mean repeating problems of the divide between the management information system (MIS) and the M&E system evident in some completed projects (e.g. the Mongolia project referred to earlier).

Over-simplification of the Logframe Approach. Over-simplification of the logframe approach, with inadequate provision for accommodating and articulating the various hierarchical levels of objectives along the results chain, may have led project design teams to resort to mixing physical output indicators with those of intermediate outcomes, and in some cases erroneously using outputs as indicators of outcomes, posing tautological issues[21]. Project M&E systems must cater for monitoring of physical outputs (deliverables for which project management, in particular component managers/implementing agencies, are directly accountable for) as well as intermediate outcomes (which the project entity as a whole, including the government and the donor, can reasonably be held accountable for, given the project's duration, resources, and approach; refer to Box 1 of Annex 1). However, a clear distinction at project design stage between outputs, outcomes and other higher level development objectives and their visualisation within a unified analytical structure, are essential to ensure these indicators are appropriate to their respective hierarchical level along the results chain as well as help determine institutional responsibilities and timelines for M&E (see also Annex 3).

Inadequate Emphasis on Validity of the Means-ends Linkages. Inadequate emphasis on validity of the means-ends linkages, in particular on the key assumptions upon which the project logic is predicated. Although project risks are mentioned elsewhere in the PAD, assumptions concerning their significance and validity, and that concerning other external conditions, in order for the project intervention model to work, are not obvious. A project M&E system based solely on data collection for, and reporting on, intermediate and project development objective (PDO) outcome indicators (as might be interpreted from the PAD template) could well miss critical information necessary to help analyse why intermediate outcomes were not achieved even when outputs were delivered, and also why planned outputs were not generated, even when inputs were available. A more complete M&E framework must provide for data collection and analysis necessary for periodic review of key processes as well as critical assumptions and conditions at various points along the results chain.

Under-estimating Complexities of Data Collection. The 'results monitoring arrangements' section of the current PAD template requires the project's plans for frequency of reporting, data collection instrument and responsibility to be indicated. However, the complexities of data collection relating to the various performance indicators are not adequately captured in the template. There is limited provision at project appraisal

20 The PAD template and guidelines urge that "the project results framework does not repeat project activities or outputs which are captured in the project description". See World Bank (2004a).

21 In a large scale irrigation project in Eastern Africa (appraised in 2007), the project appraisal team inserted statements of social and environmental safeguards objectives as indicators of the intermediate outcome to develop 100,000 ha for surface and groundwater irrigation, alongside indicators such as acreage covered by completed irrigation infrastructure and irrigated land as percentage of crop land. To assist monitoring, a more appropriate approach would be to articulate intermediate outcomes of these social and environmental safeguards, along with specific indicators of their realisation (e.g. productive assets of resettled families), at a higher level of the results chain.

for considering in depth the specific data requirements, actual source of data, as well as frequency and cost of data collection (which is not synonymous with frequency of reporting)[22]. Reporting on the percentage increase in value added per worker by project year five may, for instance, require (time series) data for several years, besides at baseline stage, on a range of farm household variables, and from samples of households in several project agro-ecological zones. While details might be fleshed out in subsequent project implementation and/or M&E plans and manuals, failure to take early account of these issues at appraisal has led to unrealistic indicators and/or under-estimation of M&E technical support and capacity building requirements in the project budget.

Social and Environmental Safeguards. Social and environmental safeguards and/or improvement objectives are not well catered for within the existing results framework and monitoring . Projects which require environmental management or resettlement action plans, such as in environmental category 'A' and/or involve involuntary resettlement, and others with natural resource/environmental enhancement objectives as primary goals (including Global Environment Facility (GEF)- supported projects focused on the MDGs) all have social and/or environmental outcomes and impacts, explicit or implicit, should have the same importance as the main PDO (the latter being generally of productivity enhancement or economic nature). There is need to incorporate at least the intermediate environmental and social outcome indicators into the M&E system. The traditional logframe structure would have difficulty accommodating multiple higher level objectives. However, the use of interlocking or nested logframes approach could get round this problem, adding enormous value to the M&E design process[23]. Explicit statement of the social and environmental development outcomes, in parallel with the main PDO, would greatly help in indicator framework development, and ensure performance indicators reflect the appropriate level of the project logic. Rather than abandoning the logframe, its further development and adaptation for results-based M&E would be a more appropriate path to follow.

Overall, there is a need to take stock of the practical utility of the results framework as used in recent operations. Further fine-tuning, along with more detailed technical guidance, would be necessary to bring out its full potential as an aid to project design and implementation. Guidance should explain how the framework helps overcome the type of weaknesses and difficulties encountered in earlier completed projects. The practicality and affordability of methodologies for assessing impacts and outcomes, and their implications in terms of timeliness of feedback to management should also receive special attention. A critical revisit of the logframe approach, including recognising the inherent weaknesses of the 'project design summary' format used in earlier PAD templates, and a reconsideration of the value added of a more robust logframe approach would be merited.

3.3 Lessons learned

For the completed projects, completion reviews found that weaknesses in M&E system design and implementation, made the tasks of tracking project outcomes and attributing impact difficult. Moreover, lack of integration of M&E roles and functions within the project management system, along with the demands of data collection, noted in many of the project ICRs, had limited the usefulness of M&E as a decision support tool. The evidence from more recent operations under the new World Bank results framework for M&E would suggest that there are some limitations with a number of conceptual and practical issues, such as the integration between M&E and MIS, use of the logframe approach and complexities of data collection, requiring further refinement. As such both the completed projects and the more recent operations reviewed provide important lessons for M&E design as well as implementation.

There is a need for M&E to be better integrated into project management

22 For instance, extent of water quality changes in a water system may need to be reported on annually, while measurements on a range of variables may need to be made monthly and at multiple locations.

23 Examples of its use include the 2007 Strategic Plan of the West and Central African Council for Agricultural Research (CORAD); DFID's Renewable Natural Resources Research Strategy; and GEF's Biodiversity Programmes. A brief note on nested logframes may be found in European Commission (2004) p. 98.

processes. Eliciting sustained support and commitment by project staff of the Borrower and the Lender and other stakeholders at field and community levels is also crucial. For the recent project lending operations, there are signs that the format of the results framework could, if used mechanically and uncritically, contribute to or aggravate the divide between project M&E processes and its overall management information and action systems. This can bring problems of its own, and have the opposite effect of what it purports to achieve - that of not ensuring M&E is "useful for both project management and supervision". More specifically, lessons to be learned from this review include:

- Over simplification of the intervention logic can obscure the linkages between higher level objectives and key outputs and deliverables, hampering identification of appropriate performance indicators at the various levels of the results chain.
- M&E data collection, analysis and reporting demands need to be integrated with the MIS in so far as possible, manageable and compatible with technical and institutional capacities over the project cycle, with effort tailored to facilitate periodic stakeholder-oriented reviews, as well as reflection and stock-taking at mid-term and terminal stages.
- Institutional analysis and assessment of capacity development needs of implementation agencies and other development partners within the country are essential ingredients of M&E system design which could contribute to the workability of the system.
- M&E systems work best when there is scope to evolve over the project implementation period. In some of the more successful cases, significant changes were made to the initial proposals, as the project adapted to practical needs which arose during implementation.
- Priority needs to be given to baseline data collection and analysis early in project life, focused on variables that permit analysis of project outcomes. That said, implementation planning requirements especially situation analyses, detailed information of target groups and their priorities, and documenting of important bio-physical and socio-economic parameters of the project area, may also be necessary at project start-up, especially where project preparation had not been sufficiently thorough. This should not however be confused with baseline surveys undertaken for impact assessment purposes.
- Useful information on project outcomes and impacts on the principal target groups may not be captured in a timely fashion by a large, one-shot survey and opportunities for scaling-up and replication of successful interventions and approaches during project life may be missed. A considerable amount of information on project results can be assessed through well-targeted participatory assessments by experienced personnel on small samples of project population repeated over short intervals.
- Even in self-evaluation, involvement of an independent agency, such as a competent academic institution, can help improve quality and timeliness of data collection and reporting, providing important dynamics towards beneficiary/user feedback as well as management responsiveness.

4. Enhancing project M&E

The foregoing demonstrates that conceptual and methodological advances in M&E in recent years must be complemented by commensurate attention to practical issues if the role of M&E in improving the effectiveness of agricultural and rural development projects is to be fulfilled. This chapter outlines pragmatic approaches and practices that should be considered and proposes a number of major steps, key activities and priority actions to be kept in mind, both for M&E system design and its application during project implementation.

4.1 Major Thrusts

The following are a number of broad approaches which could enhance the utility of project M&E systems:

Integrating M&E with the Project Management System. First and foremost is striking an appropriate balance between M&E's role of fostering accountability, empowerment, and knowledge generation, on the one hand, and of providing more immediate operational and strategic management support, on the other. M&E expenditure should be distinct from other management costs and should provide detailed budget items for staffing, training, TA, studies, workshops and equipment, including computer hardware and software related to the MIS.

Being results-based means particular attention is given to providing timely information to management and other project stakeholders on whether and why the project is succeeding or failing. But this does not mean that monitoring of project implementation is dispensed with, only that M&E's scope extends to examining the significance and relevance of activities completed and outputs produced i.e. also addressing questions of 'so what' and 'then what'. Hence, focusing solely on either ends of the results chain is inappropriate. In adopting the results-based M&E framework, care must thus be taken to ensure M&E processes, findings and results form an integral part of the overall project management system.

Clarity about what to monitor and evaluate. Crucially important for an effective M&E system is the choice of what to track, document and analyse, and who should be involved in this. Concepts for deciding what to monitor and evaluate are: relevance, cost-effectiveness, efficiency, results-orientation, and sustainability of the system. A common mistake in M&E is to gather too much information. This complicates analysis and creates delays, resulting in confusion and non-timely action or no corrective action at all being taken. Keywords here are simplicity and manageability. Results orientation means drawing attention to and highlighting successes as well as failures, rather than merely reporting on progress in meeting targets.

Participation and Stakeholder-orientation at the Core of M&E. The project M&E should be participatory in that its operation is intended not only to meet accountability requirements of the government or financing institution, but is a shared responsibility, providing a common resource for information gathering, exchange, communication, and mutual learning for all stakeholders. Important here is building consensus and ownership of the system, and empowerment of project stakeholders, including any disadvantaged groups, in tracking progress, articulating their own understanding of project results, and drawing conclusions on needed actions.

A strong stakeholder orientation in M&E processes is particularly essential for large-scale projects, where environmental and/or social safeguards are built into the project scope, such as those which fall under the World Bank's Environmental Category 'A' projects. M&E should not stop at monitoring

implementers' and Borrower's compliance with procedures stipulated in environmental/social management frameworks and plans (i.e. process monitoring), but should also inform whether the latter in themselves are effective in minimising or mitigating any adverse economic or social impacts e.g. livelihoods of downstream residents or households involuntarily resettled. The M&E system should support and if possible integrate with operationalising of such frameworks and plans.

Multiple Information Gathering Techniques and Sources. Both qualitative and quantitative approaches have their place in the project M&E system and it would be unwise to rely solely on one or the other. The former tend to be more informal and participatory, but ought to be used in conjunction with the latter. For quantitative impact evaluation, a high degree of statistical rigor is generally essential, failing which the attribution of impact could be compromised. Regardless of the approaches adopted, technical assistance covering design of baseline and follow-up surveys by competent institutions and/or consultancies is often necessary and would need to be provided for at project design stage.

The need for and affordability of including statistically robust, often relatively expensive, surveys must be carefully judged on a case by case basis (see Box 5). They may not be necessary for each and every project; for some countries and regions/sub-regions, doing so for a small number of projects may suffice insofar as intensive learning on a given project typology or intervention approach is concerned. It bears remembering that data is not the same as information; the former needs to be converted into information in a timely and digestible manner to be of use to management at strategic points of the project cycle.

Linking Project Design, Annual Work Plans and Budgets, and M&E. Project design and re-design are an ongoing process, the more so for projects of a pilot or innovative nature. Both must go hand in hand with determining realistically the project's M&E requirements. An invaluable aid for this is the logframe matrix. Establishing the means-ends linkages along the entire results chain, especially assessing the adequacy of interventions and the reasonableness of assumptions in relation to project objectives, are key aspects of project design that ought not to be glossed over. Availability of the logframe at the start of the project also helps link successive annual work planning and budgeting processes to the overall project plan and information gathering and reporting requirements.

A results framework with indicators based on the logframe matrix has greater credibility than one which by-passes its use. It is thus good practice to construct a logframe early in the project preparation process, even when not officially required procedurally. A suitable place for setting this out, along

Box 5. **Statistical rigor versus practicality and utility in impact evaluation**

An evaluation may attempt to establish causality and attribute impacts to specific interventions or techniques. Caution on methodological approaches is needed. The use of experimental or quasi-experimental techniques, present conceptual as well as practical issues which should not be under-estimated. Identification of 'with project' and control groups and attribution of causation to specific factors is often not easy, especially where spillover effects are likely and the project intervention model is itself open-ended or contains innovative elements that are subject to modification over the project life.

An important consideration is the practicality and affordability of the data collection effort, and whether statistically less rigorous but more timely and less expensive alternative approaches may be used. This applies particularly in the choice of indicators: instead of income measures, increased ownership of productive assets may in some instances be a good proxy for livelihood improvements, permitting a vast reduction in data collection effort.

Assessing whether a given package of project investments had the desired outcomes and impacts on the target population can also be done through the use of more qualitative but well targeted surveys, such as farmer satisfaction surveys, or participatory methods like community scorecards, providing timely feedback to project decision makers. More ambitious quantitative impact evaluation approaches run the risk of poor data quality (especially from non-sampling errors) and delays in analysis and interpretation of the results. These should be attempted only selectively, or as part of a development research exercise, where project or other external resources (financial and human) permit data quality assurance and timely turn-around of survey results.
Source: Adapted from a Project Implementation Manual (draft, 2007) in Eastern Africa

with the M&E arrangements, is in the project implementation plan or manual (PIP/PIM), prepared in tandem with the PAD. Retro-fitting a logframe after the project has started is sometimes done to assist in project reviews, but is a less desirable approach. It is important however to use the logframe flexibly, with provision for revision and updating, in light of changing project circumstances and as new insights emerge on development opportunities and constraints of the principal target groups.

Proactive Communication and Dissemination. An information system has little relevance if it does not form part of the wider action and decision making system. Critical to the utility of M&E is good communication and feedback of findings to the intended users. This requires: (i) clear institutional linkages between those responsible for operating the M&E system and others charged with implementing specific project components/subcomponents (which may be different implementing agencies or departments within the same agency); and (ii) unequivocal mandate of the project unit/personnel responsible for coordinating the various M&E activities, including data collection and reporting. The use of Information and Communication Technology (ICT) provides an increasingly cost effective option to improve accessibility of M&E findings, which would help promote transparency and accountability. Besides the reporting arrangements, a well thought out communication and dissemination strategy should be part and parcel of M&E system design.

4.2 System Design

Key to effective project M&E is investing adequate time and resources in system design at the outset, with provision for refinement and evolution over the course of implementation. The following are some main steps to be kept in mind during system design/re-design:

Setting out the basic M&E Framework. In line with the recommended approaches above, a results-based, participatory, and stakeholder-oriented M&E framework should be defined, no later than by project appraisal stage, and reflected in the PAD. This generally requires inclusion of an experienced individual to undertake this task as a core member of the project preparation/appraisal team. Essential features of the M&E framework to be elaborated include:

- A comprehensive M&E strategy, including an impact evaluation strategy, clearly indicating roles and responsibilities of implementing and coordinating agencies (and, where applicable, community based organizations), information requirements, specific tools and methodologies for data collection, analysis and reporting; and the necessary institutional arrangements, including functional linkages with management/ coordination units and steering committees.
- A set of component-specific performance indicators for the entire results chain - distinguishing between input, output and outcome indicators, to measure success or failure towards achieving each component's results. As part of the participatory approach, several iterations, involving a series of stakeholder consultations may be necessary to agree on the indicators. Precise targets, especially quantitative ones, and timelines may have to be decided only at time of project inception or during implementation, in conjunction with annual work planning.

Specifying System Objectives. The operational objectives of the M&E system are an integral part of the M&E framework. These will need to be specified and agreement sought amongst project stakeholders. They should ideally be accompanied by a set of M&E system outcomes - which are subject to monitoring as for any other project component. For instance, systematic provision of information for control and coordination of implementation may be one operational objective, whereas timely identification of implementation bottlenecks and development opportunities could be a desired outcome.

. Defining M&E Programme Structure. The overall structure of the M&E programme over the entire project implementation period will need to be defined, covering specific tasks,

timelines, responsibilities, focus and scope of the processes. It may be appropriate in some situations to treat the activities spelled out below under separate sub-systems:

- Routine monitoring reports, providing the main basis for regular internal reviews as well as work plans and budgets and their approval, by implementing agencies, project coordinators, supervisors, steering committees, and beneficiaries themselves. These need to be supported by a systematic database geared towards archival, consolidation and speedy retrieval of information for decision making, the establishment and management of which would require specialized staff with a background in ICT/MIS operations.
- Ongoing, periodic evaluations and ad hoc/ special studies, including baseline and follow-up surveys, and other diagnostic and in-depth studies (some triggered by monitoring report findings), to support both internal and external reviews, including mid-term and implementation completion reviews. A combination of 'hard' skills, such as in statistical survey design, as well as 'soft' skills in participatory methods and stakeholder facilitation e.g. conducting focus group meetings should ideally be provided for.

Drafting M&E Programme Plan and Cost Estimation. In line with the programme structure, a time-bound plan, detailing activities for specific elements of the M&E system/sub-systems to be carried out (broken down into annual, half-yearly, quarterly or monthly activities) could now be prepared, initially in draft form. It is advisable to make specific provision for specialised technical support to assist in detailed design, pre-testing/piloting of data collection approaches, procedures and report formats, and for their review, refinement and/or substantive re-design over the course of the project. In most instances, M&E capacity strengthening (such as in-service or external training) at various levels would also need to be included. On the basis of the draft programme plan, the cost of the M&E programme for the entire project duration should then be realistically estimated and included under the cost tables in the PAD (see Table 4).

4.3 System Implementation

Ensuring effective implementation of the project M&E system requires attention to practical issues in its conceptualisation. The approaches and steps outlined above need to be translated into time-bound actions. These should be subject to close monitoring by the government and the donor, through agreed project coordination and supervision mechanisms. The M&E Programme Plan would need to be elaborated and reflected in the Project Implementation Plan or Manual (PIP/PIM), with provision for updating annually (or more frequently if necessary) in line

Table 4
Example of Detailed Inputs for M&E and Results Assessment

Cost Items	Units/ Quantities	Unit Cost (Tk'000)	Costs (TK'000)	Costs (US$)*
Investment:				
Baseline survey	Sum, year 1	Lump sum	1,050	15,000
PCU M&E Specialist	60 person months	250	15,000	214,286
PCU M&E Officer	60 person months	133	7,980	114,000
International TA in M&E and Impact Assessment	6 person months	1155	6,930	99,000
National TA in M&E and Impact Assessment	12 person months	252	3,024	43,200
Annual Stakeholder M&E Workshops	1 per year, years 1-5	350	1,750	25,000
Household monitoring survey	Yearly survey		3,500	50,000
Annual Impact Assessments	1 per year, years 1-5	252	1,260	18,000
Expert Impact Assessment Team (EIAT)	1 per year, year 2-5	210	840	12,000
International study visits in M&E	2 person months	210	420	6,000
Training in M&E	Project years 1 to 3	350	1,050	15,000
MTR	Year 3	lump sum	2,450	35,000
ICR	Year 5	lump sum	2,450	35,000
Sub-total			47,704	681,486
Recurrent:				
PCU M&E support staff	sum per year	700	3,500	50,000
PCU M&E operational expenses	sum per year	210	1,050	15,000
Incremental operational costs of M&E partner agencies	sum per year/agency	210	6,300	90,000
Sub-total			10,850	155,000
Overall Total**			58,554	836,486

* Exchange rate of 1US$=Tk70 ** Corresponds to about 1 percent of total project cost estimated at US$75 million

with the project's annual work plans and budgets. Chart 1 provides an example of the M&E implementation schedule, based on a recent PIM; a sample checklist of key areas of activity and priority actions during M&E system design and its implementation is shown in Table 5.

Among the important aspects to be considered is the need to convert field data into information for project management. Key points are:

– Deciding on how best to tailor the data collection to realistic standards of accuracy, timeliness and cost standardization.
– Various methods may be used to collect and manage data relating to the project key indicators. Before making a final choice, options should be listed and their advantages and disadvantages assessed. Clear responsibilities for data collection, interpretation and reporting must be established at the different levels, including community level.

Table 5

Sample Checklist of Key Areas of Activity and Priority Actions for Effective M&E

Key Areas	Priority Actions during System Design	Priority Actions during System Implementation
M&E system design	• Identification of main elements of the system to be integrated within the project management system: - key actors, - institutional arrangements, - resource requirements	• Continuous review and modification, where necessary, to ensure effectiveness in assessing project results and achievement of development objectives • Recruitment of the M&E manager/specialist • Contracting of TA as required
Definition of the key performance indicators	• During project design overall project key performance indicators are to be defined for assessing project outcomes and outputs • Setting of targets for each indicator to establish the expected time-bound results and reporting arrangements, including reporting frequency and responsibilities • Specification of source of field data and means of collection;	• Refine as necessary taking into consideration specific stakeholder needs, including direct beneficiaries and implementation agencies
Baseline survey	• Simple baseline survey conducted preferably before project start-up or immediately after project start-up with emphasis on participatory rural appraisal methods; definition of the 'project universe' and identification of target groups • Statistical survey to cover representative project and non-project locations to establish 'with and without project' and 'before and after project' bases for counterfactual analysis of project impacts	• Additional baseline surveys may be required as new areas, new beneficiaries, or new activities, are introduced • Follow-up surveys on selected outcome indicators to be undertaken where specified in the programme plan
Detailed specification of M&E system and operationalisation	• Prepare the detailed M&E system as part of the preparation of the Project Implementation Plan (PIP); some refinement of the M&E system may be required during project implementation • Elaboration of data collection methodologies, covering primary or secondary sources of each dataset, and responsibilities for as well as frequency of data capture (which may differ from frequency of reporting)	• Refined and adapted based on implementation experience, stakeholder assessments and external evaluations. Responsibility at overall project level would be with the Project M&E Unit, and Implementation Agency M&E unit at implementation agency level • Ensure sustained Borrower and Lender support throughout implementation
Capacity building in M&E	• Assess training needs of potential M&E staff and identify TA requirements • May require institutional analysis	• Conduct relevant training and capacity building workshops • May require facilitation of participatory processes
Budgeting for M&E	• Establish detailed cost elements of proposed M&E system and link with project budgeting • Provide detailed budget items for staffing, training, TA, surveys, studies, workshops and equipment	• Monitor expenditure by budget items
Gathering, managing and using M&E information	• Establish responsibilities by activity	• Monitor collection, analysis and use of data • Track indicators specified in the results framework • Convert field data in to information for project management
Stakeholder participatory assessment	• Identify key stakeholders including the project beneficiaries • Identify the necessary incentives for effective M&E	• Ensure ongoing active participation of stakeholders including the project beneficiaries through start-up, MTR and ICR reviews • Ensure the necessary incentives for effective results based M&E are provided
Periodic beneficiary impact assessment	• Based on simple baseline survey and official statistics estimate number and location of target population	• Conduct periodic stakeholder group discussions and workshops to involve beneficiaries in impact assessment
Independent evaluations	• During identification select institution(s) to be responsible and determine methodology to be followed	• Project management to facilitate evaluation work and take action as required
Reporting and dissemination of information	• Establish reporting requirements (type and frequency of reports) and make proposals for their distribution	• Ensure M&E reports are publicly accessible through ICT • Keep the reporting arrangements simple but flexible enough to be tailored to the specific needs of the different users (all project stakeholders - the beneficiaries, implementation agencies, project management, Borrower and Lender)
Using M&E to manage for development results	• Identify key factors responsible at different levels of project hierarchy and at administrative levels	• Continuously ensure that maximum results are being achieved in terms of the projects objectives

– Experience suggests that adopting a more informal participatory approach to data collection, rather than sole reliance on formal surveys, avoids the primary stakeholders being only superficially involved and can dramatically increase the ownership in the project and the M&E system.

Implementation of the M&E programme can commence only when competent key staff are in place, suitable office premises are requisitioned, and the necessary equipment (especially for field transportation and ICT) are procured. All these would need to be catered for as a matter of priority during project start-up. In some countries, it may not be easy to find high calibre staff with enough seniority from within the public administration system to head up the project M&E unit/section. In such event, recruitment from outside of government agencies would need to be considered. Operating the M&E system without the full complement of trained personnel or using seconded temporary staff with unclear tenure is a common pitfall to be avoided. The issuance of government directives setting out clearly the institutional linkages and mandate for the M&E unit and staff would be crucial to ensuring it could properly discharge its responsibilities across all sections of the project.

Each implementing agency participating in the project should be required to develop its own M&E capacity, in keeping with overall project management requirements. Day-to-day duties should be carried out by an M&E Specialist supported by an M&E Officer and administrative/secretarial assistance. Depending on the complexity of the project, the PCU and implementing agencies may require technical support of national and/or international institutions at various stages of system implementation.

4.4 System utilisation

M&E processes should provide an important link between planning, feedback on the factual i.e. what is happening on the ground, mutual learning and re-planning. These are interactive processes which would need to be developed between project M&E staff and other actors, especially partner agencies and departments. Building cooperation with those responsible for implementing specific project components/sub-components must extend beyond routine reporting obligations. Equally important are joint identification of ongoing evaluation needs, including diagnostic and trouble-shooting studies, and collaborating in information gathering and beneficiary assessments.

Coherent series of thematic studies should permit ongoing assessment of the adequacy, efficacy and relevance of interventions (e.g. rehabilitation/upgrading and maintenance of drainage structures, farm to market roads, and technology dissemination through system of farmer field schools). Evaluation methods might include: (i) formal/informal surveys of stakeholders on project results (e.g. changes in cropping intensity and yields over successive years by cropping season) and communities' perceptions of impacts (e.g. from improved road and drainage infrastructure) associated with specific project services/outputs; (ii) direct observations (e.g. direct traffic volume/composition; changes in flora/fauna and soil on reclaimed areas, and (iii) use of remotely sensed/satellite imagery data to indicate changes in ecology/quality of areas affected by project. The studies should draw on expertise across various disciplines of different specialised institutions and should provide important inputs for preparation of ICRRs (Borrower and World Bank).

There should be close working relationship between M&E and capacity building activities of the project. All newly recruited staff should undergo a formal introduction programme during which special attention is given to (i) the logframe and results framework; (ii) the different components of the project and associated M&E requirements; (iii) complementary roles of the MIS and M&E; (iv) linkages between progress monitoring and routine and MIS; and (v) data collection methods.

M&E functions should be mainstreamed at various levels of project management. The project MIS is an important tool for tracking the performance of specific project components and should be used to identify shortfalls and issues requiring corrective

action. This should ideally help to integrate information on financial and physical progress and achievements. A pitfall to be avoided is operating the project M&E system as a stand-alone independent entity, erroneously conceived by others as playing the role of policeman of the project.

4.5 Reporting

Key points related to reporting arrangements and dissemination under enhanced project M&E include the following:

- Reporting arrangements need to be kept simple but flexible enough to be tailored to the specific needs of each user. Important here is that reports may need to focus on each component/sub-component or implementing agency separately, while others need to cover the entire project in a less detailed overview of all project components.
- Stakeholders must be aware of the existence of the information and must be able to easily access it.
- Communication between the M&E units of each implementing agency, and between these units and each agency's management and the overall project management, are vitally important.
- In order that M&E systems serve as a public accountability and transparency instrument, the information that the systems produces should be easily accessible. ICT can be used cost-effectively for this purpose through the use of the internet.
- An easily accessible information system serves as a powerful incentive for the different stakeholders to pay attention to and make use of M&E information. Performance can be easily measured and tracked and the resulting assessments can be widely circulated within government and publicly.

5. Summary of findings and proposals

5.1 M&E Findings from Completed Projects and Recent Operations

Both the completed projects and the more recent operations reviewed provide important lessons for M&E system design and implementation. Overall, there is a clear need for greater simplicity in M&E, and for it to be better integrated into project management processes. M&E design needs to be more formalised in appraisal procedures and implementation support. Conceptual and methodological advances in M&E in recent years must be complemented by commensurate attention on practical issues. M&E must be recognised as playing a key role in improving the effectiveness of investment operations in agriculture and rural development.

At design stage, systems had typically suffered from one or more of the following: (i) Primary focus on production and physical progress reports, falling short of informing on results; (ii) Unduly large number of indicators that are not sufficiently specified in relation to project objectives; (iii) Little or no linkage of performance indicators to the project's logical hierarchy of objectives; (iv) Poor use of results framework and/or logframe; and (v) A general lack of provision to address the issues of limited local capacity for M&E as part of project design and inadequate stakeholder orientation.

Main weaknesses encountered during project implementation included: (i) Planned M&E systems and procedures delayed or not operationalised; (ii) Attention primarily on physical achievement, to the neglect of project outcomes; (iii) Monitoring largely undertaken to meet donor requirements, rather than as an internal management tool; (iv) Information generated by the M&E system not effectively used by project management. In many of the ICRs reviewed, impact assessment activities were rarely carried out. Baseline studies/surveys were generally late and lacked focus to the use to which the data was to be put. The factors contributing to poor operationalisation and use of M&E identified included lack of institutional capacity, paucity of competent staff, misunderstanding on the role and utility of M&E and at times inadequate mandate of those charged with M&E.

The review of the more recent ICRRs provided a number of examples of improved design and use of M&E systems, which included: (i) Adoption of participatory approaches for monitoring, evaluation and learning; (ii) Emphasis on greater inclusiveness of weaker sections in M&E processes; and (iii) Effective and innovative use of the MIS/GIS and remote sensing technology to support planning as well integration of M&E functions.

Practical experience in use of the results framework in World Bank assisted projects has yet to be systematically documented. Nonetheless, some practical limitations of the framework are already apparent, which include: (i) Insufficient integration between the M&E and the management information or other systems of the project; (ii) Inadequate emphasis on validity of the means-ends linkages, in particular on the key assumptions upon which the project logic is predicated; (iii) Underestimating challenges in data collection; and (iv) No provision for monitoring of actions relating to social and environmental safeguards and action plans.

5.2 Proposals for Enhancing Project M&E

To enhance the use of M&E in project work, the following approaches are proposed: (i) Integrating M&E with the project management system, in order to strike a proper balance between the system's role of fostering accountability, empowerment and knowledge generation and more immediate operations and strategic management functions; (ii) Clarity about what to monitor and evaluate

and who should be involved; (iii) Participation and stakeholder orientation at the core of M&E. A strong stakeholder orientation in M&E is particularly essential for larger projects where environmental and/or social safeguards are built into the project scope; (iv) Multiple information gathering techniques and sources. Both qualitative and quantitative approaches have their place in the M&E system; (v) Linking project design, annual work plans and budgets, and M&E. Project design and redesign must go hand in hand with determining realistically the project's M&E requirements; and (vi) Proactive communication and dissemination. An information system has little relevance if it does not form part of the wider decision making and action system.

Essential features at system design stage include (i) a comprehensive M&E strategy which clearly defines the roles and responsibilities of the implementing agencies involved, with respect to information requirements, tools and methodologies for data collection, analysis and reporting; (ii) a set of component-specific indicators distinguishing between output and outcome indicators to measure success or failure in achieving each component's results; and (iii) provision for internal and external periodic assessments and evaluations which would include participatory workshops, beneficiary impact assessments(including baseline assessment), mid-term review and implementation completion review.

M&E is not to be considered an obligation imposed from outside, but must be seen as a tool for project management, hence building project management understanding and capacity of the role of M&E at the earliest in project life is highly recommended. Given that human resource capacity, in particular at field level, are often inadequate to implement complex M&E systems, proposals for enhancing project M&E should follow the concepts of simplicity, adequacy and cost effectiveness.

5.3 Guiding Principles

A number of guiding principles in the use of M&E in agricultural and rural development projects emerging from the review of ICRs/ ICRRs, are:

- *From identification/concept note through project preparation, appraisal, implementation and beyond, focus attention on all relevant stakeholders*. For M&E systems to be effective, they need stakeholder ownership and must be an integral part of management systems. To be useful throughout project implementation, M&E requires sustained government support and commitment of project staff. Usefulness of M&E is indirectly linked to the level of priority accorded by the national implementation authorities.
- *During project preparation, invest adequate time and resources in M&E system design, with provision for refinement and evolution over the course of implementation*. As M&E systems must cater for monitoring of physical outputs as well as intermediate outcomes that are attributable to the project, distinguish clearly between outputs, outcomes and the other higher objectives and their place within a unified analytical structure. The M&E system should be outlined in the PAD and detailed in the Project Implementation Plan.
- *Ensure that the performance indicators are appropriate to their respective hierarchical level along the results chain*. They must be sufficiently specific in relation to objectives, measurable in practice and provide milestones by which performance can be judged. M&E data collection, analysis and reporting demands need to be manageable and compatible with the technical and institutional capacities over the project cycle.
- *Undertake updating of baseline data early in project life, i.e. during start-up*. Limit baseline studies to those quantitative and non-quantitative variables that will be influenced by the project. Do not underestimate the complexity of data collection issues. Studies should be kept as simple as possible and rely more on informal rapid appraisal techniques rather than on formal statistical methods. Experience shows that a more informal participatory approach to data collection dramatically increases ownership in the project and its M&E system.
- *Start implementation of the M&E system only when competent staff is in place*.

Establish a clear responsibility for data collection and management. Ensure that there is no misunderstanding on the role and utility of M&E and on the mandate of those charged with M&E responsibilities. Consider the necessity to convert field data into information for project management.

– *Ensure that clear institutional linkages are established between those responsible for operating the M&E system and others charged with implementing specific project components or sub-components.* Specification of information needs involves a trade-off between the amount of information to make decisions, and the amount of information a decision maker can practically read and analyse. The use of ICT provides a cost-effective option to improve accessibility of M&E findings which would help transparency and accountability.
– *Keep in mind that M&E is first and foremost a tool for project management.* An information system therefore is of little relevance if it does not form part of the wider action and decision making system. Information needs to be related to the levels of management. More detail is required at the day-to-day operational level, while aggregate and summarised data is used higher up.

Chart 1

M&E Programme Plan: Key Steps and Activities

ACTIVITY	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
1) Design & planning of results based & participatory M&E system:								
• Development of detailed M&E system design & programme plan covering sub-systems I & II.								
• Piloting and refinement of the M&E system								
• Substantive review, refinement/redesign of the M&E system								
2) M&E sub-system I: Routine Reporting, MIS, Database Management, Monitoring and Regular Reviews: *(intra-year details below)*								
3) Sub-system II: Ongoing and Periodic Evaluations and Special Studies:								
• Baseline household survey								
• Remote sensing/GIS study on land cover/ agricultural/irrigated land use								
• Mid-term review/evaluation (special studies)								
• Ongoing evaluation: follow-up surveys to baseline; special studies on pilot activities)								
• End of project evaluation (special studies)								
4) Capacity strengthening in M&E (national/ regional/ district) and related Institutions:								
• In-service staff training (region/ districts)								
• Specialised M&E training (overseas) for selected MoWR, regional, district staff								

(*Typical project year*)

Activity	Q1				Q2				Q3				Q4			
Monthly: Data compilation & management: district activity records and reports, SOEs (consolidated from village/ work units)																
Quarterly Project Progress Reports (physical & financial): District, Bureau, Regional & National PCOs																
Annual Participatory Assessments: involving farmer groups, WUGs/WUAs, sub-district teams, district development committees at each of four districts.																
Annual Project Progress & Achievement Reports: District, Bureau, Regional & National PCOs.																
Annual Project Review Workshop: PCOs, with participation of President's Office, PSC, Bureaus/ implementing agencies: Progress, Achievements, Plans.																

ANNEX 1
Managing for development results

A. ADDRESSING FINANCIAL AND DEVELOPMENT ISSUES

The Monterrey Conference

Among the most recent UN conferences, "Financing for Development", Monterrey, March 2002, was the first conference to address financial and development issues. It also marked the first exchange of views between governments, civil society, the business community, and the institutional stakeholders on global economic issues. Participants stressed the need to improve the policy coherence and consistency of donor countries as a means to improve official development assistance (ODA) efficiency. ODA was universally recognised as indispensible to meeting the Millennium Development Goals (MDGs)[1], particularly in the poorer countries. In calling for developing countries to strengthen their commitment to policies and institutions that stimulate growth and reduce poverty, and for developed countries both to provide more and more effective aid and to improve their trade and debt policies, the Monterrey Consensus underscored a shared responsibility for achieving development results such as those embodied in the MDGs.

A joint statement of the Heads of Multilateral Development Banks (MDBs) at Monterrey underscored the commitment to a greater focus on results. The statement highlighted the centrality of the country context; the alignment of agencies' programmes with country priorities within a country-led partnership; scaling up of efforts to improve measuring, monitoring, and managing for results; and strengthening country capacity for public sector management to enhance transparency and mutual accountability for development results.

1 In a key effort to promote more effective development, in 2000, 189 UN member countries agreed to work toward reduction of global poverty and improved sustainable development. These global aims are reflected in the eight Millennium Development Goals (MDGs) with their 18 targets and 48 performance indicators. The MDGs provide specific measurable targets that are gradually being adapted at the country level as the basis for country outcomes and then monitored over time to gauge progress.

The Washington and Marrakech Roundtables on Results

The Washington and Marrakech Roundtables on Results, held in 2002 and 2004 respectively, focused specifically on managing for results as a key aspect of and a prerequisite for improved aid effectiveness. At both roundtables, participants from partner countries and development agencies discussed the challenges of managing for development results at the country level, as well as within specific programmes and projects, and compared the tools and strategies used to address issues on the ground. A significant result of these conferences was the formulation of principles of managing for development results, which reflect a broad consensus about what constitutes sound managing for development results.

In the Joint Marrakech Memorandum, the Heads of the African Development Bank, Asian Development Bank, Inter-American Development Bank, European Bank for Reconstruction and Development, and World Bank, and the chairman of the Development Assistance Committee of the Organization for Economic Co-operation and Development affirm their commitment to fostering a global partnership on managing for development results."...we need to align cooperation programmes with desired country results, define the expected contribution of our support to country outcomes, and rely on – and strengthen – countries' monitoring and evaluation systems to track progress and assess outcomes."[2]

Managing for Development Results: Core Principles

In line with the spirit and commitments of the Monterrey Conference, managing for development results (MfDR) aims at improving the performance of countries and development agencies to achieve sustainable developments in country outcomes for long-term impact on

2 Managing for Development Results. Joint Marrakech Memorandum. Second International Roundtable sponsored by the Multilateral Development Banks. Marrakech, Morocco, 5 February 2004.

poverty reduction and increased standards of living. MfDR combines a coherent framework for development effectiveness – at country level as well as within specific programmes and projects - with practical tools for strategic planning, risk management, progress monitoring, and outcome evaluation. The document "Promoting a Harmonised Approach to Managing for Results: Core Principles for Development Agencies"[3] spells out a set of core principles for MfDR that emerge from these understandings:

(i) *At all phases – from strategic planning through implementation and beyond – focus the dialogue on results for partner countries, development agencies, and other stakeholders.* In MfDR it is important to follow a coherent approach: (a) ex ante, at the strategy and planning phase; (b) during programme/project implementation, when monitoring is needed to assess progress and identify necessary midcourse corrections; (c) ex post, upon completion, when the results are assessed against objectives and other factors, and (d) when sufficient time has passed to be able to assess sustainability.

(ii) *Align actual programming, monitoring, and evaluation activities with the agreed expected results.* When partner countries, development agencies and other stakeholders focus on expected results and associated results indicators, they can better align actual programming (including financial support), monitoring and evaluation activities with agreed results objectives.

(iii) *Keep the results reporting system as simple, cost effective, and user-friendly as possible.* The indicator framework for MfDR should, to the extent possible be simple, rely on country systems, be geared to learning as well as accountability functions, and be harmonised to minimise transaction costs and facilitate comparative analysis. Managing for results aims at improved efficiency; therefore it is essential to be selective (and not to try to measure everything) and realistic (in terms of feasibility and cost) in choosing indicators. The results reporting system should remain pragmatic; start with whatever baseline data is available, including proxies; use meaningful qualitative indicators to complement quantitative indicators, or to compensate if quantitative indicators are not available. The end goal should be a sound results-based management system that includes specific, quantifiable indicators connected to a timeline with baseline data and periodic assessments of project and programme performance against defined targets.

(iv) *Manage for, not by, results.* Managing for results involves a change in mindset – from starting with the planned inputs and actions and then analysing their likely outcomes and impacts, to focusing on the desired outcomes and impacts and then identifying what inputs and actions are needed to get there. It also involves establishing baselines and identifying upfront performance targets and indicators for assessing progress during implementation and on programme completion.

(v) *Use results information for management learning and decision making, as well as for reporting and accountability.* Information on results should be publicly available. While one of the goals of managing for results is to use results monitoring information for reporting on accountability – for both partner countries and development agencies – this may potentially prompt behaviours that are overly risk-averse. This can be mitigated by (a) using reports on results in a positive way for management learning and decision making, taking into account lessons for better future action; and (b) when using reports for accountability, setting performance measures that reflect the level of responsibility of the actor (whether a country, development agency, NGO or other stakeholders) and results that the actor can reasonably achieve. This approach recognises that even with good performance in managing for results, external factors may hinder the achievement of expected outcomes.

Using a Results Framework for Project Implementation[4]

A results framework, a simplified version of the traditional logical framework, depicts cause and effect relationships in development projects. A set of inputs and activities lead logically to higher

3 World Bank/IDA. Implementation of the Agenda on Managing for Results: Progress Report and Annexes. Washington, May 2004.

4 This draws from "Template and Guidelines for the Project Appraisal Document (PAD)", Washington D.C.: World Bank, 2004 and Building a Results Framework, Performance and Evaluation TIPS # 13, Washington D.C.: USAID, 2000

orders of results – outputs, outcome, results. The same set of indicators is used consistently throughout the project intervention to provide evidence of ongoing results performance. Ongoing M&E activities analyse the degree to what extent planned outcomes are actually attained so that implementation can be adjusted as needed.

The results framework as used by the World Bank focuses on the project development objective (PDO) to be achieved and the intermediate results expected from implementing each individual component. This information is to help track progress towards the PDO and to make changes in the project if necessary during implementation. The PDO should focus on the outcome for which the project reasonably can be held accountable, given the project's duration, resources and approach (see also the Box 1 below).

The results framework presents one or more indicators to measure success in achieving each component's results. The outcome and results indicators are to be presented with baseline values and target values. A column of the framework shows how the indicators will be used (i) during implementation to assess the performance of the project and redirect it, if necessary, to achieve the PDO, and (ii) if applicable, to inform ex-post decisions. The framework also presents a statement of the key results to be expected from each individual component ("intermediate results"), clearly specifying the target group to receive the benefits from component implementation.

The results framework does not repeat project activities or outputs which are captured in the project description and tracked by financial management reporting on outputs. It also does not capture sector outcomes or other higher

Box 1. **Results Framework and Monitoring, World Bank Projects**

Key aspects of the framework and arrangements for results monitoring, as set out in the Guidelines for the Project Appraisal Document (Annex 3) include:

Results Framework:

- Project design is to be guided by a result framework intended to be useful for both project management and Bank supervision. This focuses on the project development objective (PDO) to be achieved and the intermediate outcomes expected. Information should be used to track progress towards the PDO and to make changes in the project if necessary during implementation.
- The project results framework does not repeat project activities or outputs which are captured in the project description, nor does it capture sector outcomes or other higher level outcomes with which the project is aligned.
- Higher level outcomes are beyond the responsibility of the project and do not require M&E arrangements within the project. It is important, however, that there be clear alignment between the project and the higher order strategic, programme, or sector outcomes to which the project contributes.
- The project development objective (PDO) answers the question: If the project is successful, what will be its principal outcome for the primary target group? The following questions help frame the PDO:
  1. What group is targeted directly by the project as the key recipient of project benefits?
  2. Immediately after the close of the project, what problem has been solved for this target group?
  3. What will the target group be doing differently after the project that should make it better off?
- The PDO should focus on the outcome for which the project reasonably can be held accountable, given the project's duration, resources, and approach. It should not encompass higher level objectives that depend on other efforts outside the scope of the project, nor should it merely restate the project's components or outputs.
- Intermediate outcomes focus on the performance of key actors and the value they add (e.g., using new skills, efficiently managing services, providing up-to-date information to farmers) during implementation toward achieving the PDO.
- Intermediate outcomes are a strategic part of the results chain. An analysis of why intermediate outcomes were or were not achieved, even when project outputs were delivered, should reveal opportunities for improvements in project design.

Arrangements for Results Monitoring:

This section should discuss the institutional and data collection arrangements for integrating monitoring and evaluation at the outcome/results level (intermediate and end of project) into project management. This includes:

- *Institutional issues*: How will monitoring and evaluation complement project management? How will participatory M&E be integrated into management and capacity building for the communities involved (if applicable)?
- *Data collection*: If the project is drawing on data collected by Government statistical offices or line agencies, which statistics would be used and what is the reliability of this information? Where information is to be derived specifically for measurement of project results and outcomes, what are the associated costs and institutional responsibilities?
- *Capacity:* Where there is limited capacity in the country to derive the necessary information, how will local capacity be supplemented through the project, and what will be the costs of doing this?

Source: PAD Template and Guidelines, Technical Annex 3 (World Bank, 2004).

level outcomes with which the project is aligned. Higher level outcomes are beyond the responsibility of the project and do not require M&E arrangements within the project.

However there must be a clear alignment between the project and the higher order strategic, programme or sector outcomes to which the project contributes.

B. MEASURING EXPECTED PROJECT RESULTS – PERFORMANCE INDICATORS[5]

Definitions

Performance indicators help to determine the extent to which a project is achieving the expected results. They are means of measuring what actually happened against what was planned in terms of quantity, quality and cost. They are either quantitative or qualitative measures of resource use, output production and results achievement. Quantitative indicators are numerical, i.e. statistical measures such as numbers, frequency, percentile, ratios, variance. They require only one measurement of a straightforward unit. Qualitative indicators are descriptive observations, for example the perception of stakeholders about the institutional strength or a description of behaviour.

In project work, indicators are classified by their level in the logframe (World Bank, 2003). Thus:

Impact indicators	Assess primarily project development impact after completion. They are measures that describe the accomplishment of the project development impact after completion.
Outcome indicators	Measure progress and achieving project development objectives and particularly after completion. They capture, for example, access to, use of and satisfaction with public services, access to credit. These are not dimensions of well-being themselves, but are key elements that contribute towards wellbeing.
Output indicators	Measure the results of using project inputs. They measure the value added of implementation of project inputs.
Input indicators	Measure physical and financial cost estimates needed to produce outputs.

5 This Chapter draws on Caseley and Lury (1982). Monitoring and Evaluation of Agriculture and Rural Development Projects; USAID (1996). Performance Monitoring and Evaluation TIPS # 6 "Selecting Performance Indicators"; USAID (1998) Performance Monitoring and Evaluation TIPS # 8 "Establishing Performance Targets"; and World Bank (2003). Monitoring and Evaluation: Monitoring and Assessing Agricultural Development Programmes. Agricultural Investment Sourcebook, Module 11.

Developing Indicators

The development of indicators should follow a thorough assessment of informational needs for project implementation and precedes the identification of data collection instruments. Indicators should be developed for management decisions at all levels (outcome/result indicators, outcome indicators, output and input indicators).

When indicators are formulated, the source of information and means of collection should be specified. This will help to test whether or not the indicator can be realistically measured at the expense of a reasonable amount of time, money and effort. The format in which the information should be made available, the source of information and how regularly it should be provided, will have to be specified. Sources outside the project should be assessed for accessibility, reliability and relevance.

Selecting Indicators

In selecting indicators for a monitoring and evaluation system, the objective is to put together a set wherein each indicator, individually and separately, explains a part of the overall variation in the condition being studied. The general questions to be asked include (i) Can it be unambiguously defined in the conditions prevailing? (ii) Can it be accurately measured in the conditions prevailing and at acceptable cost? (iii) When measured, does it indicate the state of a condition in a specific and precise manner? (iv) Is it an unbiased measure of the value of interest?

Overarching factors that determine the extent to which project indicators function as useful tools for managers and decision makers are: (i) The degree to which project indicators and their related data accurately reflect the process of phenomena they are being used to measure; and (ii) The level of compatibility of project indicators and data over various measurement contexts. The directness of an indicator is one of the most important criteria for identifying a quality indicator. More direct indicators are by their nature more valid and more intuitively understandable. Common problems encountered in the selection of indicators include:

– *Selection of too many indicators.* People have a tendency to overestimate the amount of information they need to make decisions. Specification of information needs involves a

trade-off between the amount of information required to make decisions, and the amount of information a decision-maker can practicably read and analyse. Information needs must be related to levels of management, and selection of indicators should reflect this through the specification of a minimum set of information. More detail is required at the day-to-day operational level, while aggregated and summarised data is used at higher level.

– *Selection of overly complex indicators*. This presents major problems for data collection, either in terms of skills or the resources required. Qualitative indicators are also a means of conveying complex information in summarised form.

Setting Targets

Using targets allows project performance to be measured in relation to the starting and end point. Performance targets are the basis from which measurement takes place and improvement begins. Without them, one does not know whether performance is improving or falling behind. In other words, targets provide benchmarks against which performance can be judged.

Targets vary according to the indicator for which they are set, and to the level of certainty and predictability of the dimension measured. Targets for each indicator are established in relation to baseline data and thereby set the expectations for performance over a fixed period of time. End-of-year performance targets are generally established as part of the annual work planning exercise.

Good targets are (i) Simple, measurable and reliable; (ii) Relevant for decision making; (iii) Consistent with the overall priorities and with each other; (iv) Technically realistic and achievable; (v) Fiscally realistic and sustainable; and (vi) In line with implementing capacity.

C. GENERATING PROJECT RELEVANT INFORMATION – RAPID RURAL APPRAISAL[6]

Main Features

There is no generally accepted definition of Rapid Rural Appraisal (RRA). More commonly, it is described as a systematic, but semi-structured activity carried out in the field by a multidisciplinary team, and is designed to obtain new information about rural life. RRA is a set of techniques that can be applied, for example, when embarking on surveys of village communities. The technique essentially involves an informal, rapid, exploratory study of a specified geographic area, designed to establish an "understanding" of local agricultural conditions.

It is important to recognise the difference between RRA and Participatory Rural Appraisal (PRA). The key difference lies in who leads the exercise. If it is undertaken in the context of project work and is mostly managed by outsiders, it is called RRA. If it is a continuous research and action process managed by the local community, it is referred to as PRA. In practice however there is a middle ground between RRA and PRA in which outsiders may initiate the process, but then through training and practice, local community members take more control of the process.

RRA was developed in response to the disadvantages of more traditional research methods, including: the time taken to produce results, the relatively high cost of formal surveys and the low level of data reliability due to non-sampling errors. RRA can be seen as a bridge between formal surveys and unstructured research methods such as in depth interviews, focus groups and observation studies. In project work, rapid appraisal methods are quick, low-cost ways to gather data, for example for the purpose of establishing baselines. During implementation they can be used to respond to questions about performance.

Informal methods are cheap, "quick and dirty" and susceptible to bias. They do not follow established procedures, but rely more on common sense and experience. They do not generate systematic, verifiable information. By contrast, formal methods are highly structured, following precise, established procedures that limit errors and biases. They generate quantitative data that are relatively accurate, enabling conclusions to be made with confidence. Between these two lay rapid appraisal methods which are neither very informal nor fully formal, and which share some of the properties of both.

Strengths and Limitations

Rapid appraisal methods can generate, analyse and report relevant information to project management within days or weeks. This is not possible with sample surveys. Rapid appraisal methods typically require less technical and statistical expertise than formal methods and they are relatively low-cost. They are a useful tool for understanding complex socio-economic processes. Formal methods, which focus on quantifiable information, lose much in "operationalising" social and economic phenomena. Rapid appraisal methods allow evaluators to explore relevant new ideas and issues that may not have been anticipated during project preparation.

While a rapid appraisal can give a picture of the prevalence of a situation, behaviour or attitude, it cannot tell the extent or pervasiveness. It may show, for example, that only few farmers are using improved seeds, but not the percentage of such farmers. Because of informal sampling techniques, individual biases of the evaluators or interviewers, and difficulties in analysing qualitative information, the data generated have limited reliability and validity and cannot be generalised with precision. This limitation can be reduced to some extent by using more than one method to cross-check results, referred to as triangulation (information is collected from different sources and different groups of people, and several different tools are used to gather information on the same issue).

Choosing between Formal and Informal Methods

The choice of method should depend on the nature of potentially conflicting factors which would have to balanced:

- purpose of the study (importance and nature of the decision hinging on it);
- level of confidence in results needed (accuracy, reliability, validity);
- time frame within which it is needed (when decision must be made);

6 This Chapter draws on "Rapid Rural Appraisal", Chapter 8 of Marketing Research and Information Systems, Rome, FAO 1997: and "Rural Households and Resources", A Pocket Guide for Extension Workers, Rome, FAO 2004.

– resource constraints (budget, expertise); and
– nature of information required.

Regarding the nature of information required, rapid appraisal methods are especially useful and appropriate: (i) when qualitative, descriptive information is sufficient for decision-making and there is no great need for precise or representative data; (ii) when assessing organizations and institutions, socio-economic conditions of an area, or the cultural patterns, behaviours and beliefs of people. Key informant interviews, for example, or focus group discussions, are more likely than sample surveys to provide insight answers to such questions as "Why are farmers not adopting the recommended variety of seeds?" or "How are agricultural policies being implemented?" In other words, rapid appraisal methods are useful for answering "why" and "how" questions; (iii) when routinely generated quantitative data from activity records and performance monitoring data must be interpreted, such as data about financial outlays, input and output volumes, results targets accomplished or missed may require explanation.

Most Common Rapid Appraisal Methods

The most commonly used rapid appraisal methods include:

(i) Key informant interviews. Interviews with individuals selected for their knowledge and to reflect diverse views. Interviews are qualitative, in-depth and semi-structured; they can be held with key informants or different groups (mixed or focus groups), depending on the type of information to be gathered or shared.

(ii) Focus group discussions. Such discussions are intended to be informal, and create an opportunity for a group to discuss a topic with the help of an outside facilitator. Focus groups are considered more likely to produce reliable information from farmers than one-to-one interviews. To an outside interviewer, many people tend to say what they think the interviewer wants to hear.

(iii) Community interviews. These take place at public meetings open to all community members. During meetings with farmers, it is important to ensure that every group has a chance to present its own views. Some groups and individuals will be more vocal than others, and it is often necessary to split the meeting into smaller groups in order to involve all the relevant points of view.

(iv) Direct observation. Teams of observers record what they see and hear at a project site. Observation may be of physical surroundings, of ongoing activities, processes or discussions.

Data Generation

In project work, fact finding normally consists of gathering existing or secondary data which often lack sufficient detail about socio-economic variables and may not be very reliable. New data should therefore be generated through rapid appraisal techniques to supplement existing data. It is advisable to prioritise within the information and data that are needed, as it is often better to have reliable and detailed data on a small range of issues than to be overwhelmed by too much information that may be superficial and unreliable.

For the development of new irrigation schemes for example, the following information may be required in addition to technical and financial data: (i) details of existing land use, farm size, land tenure and water rights; (ii) demographic data disaggregated by gender; (iii) local agricultural and livestock production systems data – including crop yields for both rainfed and irrigated crops and technologies used; and (iv) assessment of market prospects and market access.

In the case of an existing irrigation scheme that is under consideration for rehabilitation and/or upgrading, the following information may be collected in addition to the above:

– the social history of the scheme and its impact on different socio-economic groups;
– the organization and management structure of the scheme; level of water fees;
– allocation of land and irrigation water within the scheme;
– existing cropping patterns, yields and production;
– any technical or organizational constraints that may influence scheme performance.

Some insight into the expected impact of scheme rehabilitation and/or upgrading could be gained by asking the following questions:

– If the water supply were to increase, would this change their cropping patterns? What other changes could be expected?
– What is their interest in participating in water user associations and increased participation in water acquisition, water allocation, and become increasingly responsible for operation and maintenance of the scheme?
– Would they be prepared to pay more for more reliable water delivery?

ANNEX 2

M&E in agricultural and rural development projects - Excerpts from ICRS/ICRRS reviewed

A. IMPLEMENTATION COMPLETION REPORTS 1994 TO 2006

Shortcomings in M&E System Design

"The SAR claimed that a study was being conducted to measure the impact of the project polders on the adjacent areas, and that sufficient flexibility had been built into the project design to allow the undertaking of corrective action in light of new information. However, no evidence of such studies could be found by the ICR mission. No funds had been allocated for these types of action". *(Bangladesh - Third Flood Control and Drainage Project – 1985/1995*[7]*).*

"It was difficult for the ICR mission to quantify benefits attributable to the project due to the absence of monitorable indicators" *(India - Tamil Nadu Agricultural Development Project -1991/1999).*

"The information system under the project was largely designed to provide data on milk procurement, marketing and inputs, and the information generated did not lend itself to provide a solid basis for monitoring results or evaluating impacts" (*India - Second National Dairy Project – 1988/1996).*

"The project did not have a clear strategy for maintaining the cohesiveness of various project interventions and keeping focus on the underlying development objective. It lacked a project-focus M&E system capable of yielding monitoring information of operational interest as well as assessing the specific impacts of project interventions and lessons to be learned" (*Indonesia - Java Irrigation Improvement and Water Resources Management Project -1994/2003).*

"As originally designed, the project was to address key problems of the sector with respect to sustainable management of production forests and conservation forests. Project design, however, was found to be inadequate. The development objective was too broad, and the components were not supported with clearly defined and implementable programmes. The Project lacked a clear logical framework and monitorable indicators" (Lao PDR - Forest Management and Conservation Project -1995/2001).

"Component activities were broad ranging, but were not well defined and did not specify clear implementation milestones by which performance could be judged" (Nepal - Agricultural Research and Extension Project -1997/2003).

Weaknesses in M&E System Implementation

<u>System Establishment</u>

"Designed to ascertain the country's competitiveness in sericulture, the project funded the establishment of an M&E system in the Bangladesh Silk Foundation (BSF) to monitor production and price parameters in relation to data recorded by an initial baseline survey. However, it was not until the third year of the project that the benchmark survey could be commissioned. Moreover, the methodology of the survey was complex, covering too many indicators of little or no relevance" (*Bangladesh - Silk Development Pilot Project -1997/2003).*

"The overall objective was to demonstrate and improve the effectiveness of a comprehensive set of forest management and operational guidelines and control procedures in forest concession areas, and to establish an effective forest crime monitoring and prevention capability. A Project Management Unit (PMU) in the Department of Forestry and Wildlife, apart from providing overall coordination and managing procurement and contracting, was to be responsible for project

7 Indicates year of project approval/year of ICR

M&E. This latter function, however, was not performed in any formal sense" (*Cambodia - Forest Concession Management and Control Pilot Project – 2000/2006)*.

"The SAR describes a wide range of input and output indicators, but only the impact indicators were quantified at the time of appraisal. The intention was, that the output indicators would be defined in the first three months following effectiveness of the credit; however, the first version of the output monitoring scheme which took two years to produce, was considered to be too complex and was revised. By the time of the mid-term review (MTR), a project logframe had been prepared together with a system for field monitoring and field observations. The fully functioning M&E system was not in place until mid-2003, barely 18 months before project closure" (*Cambodia – Agricultural Productivity Improvement Project – 1997/2006)*.

"The project was designed to target its benefits to the poorest of the rural population. The intended beneficiaries would be identified through baseline surveys. A project-wide survey was carried out at the on-set of the project, however no follow-up detailed surveys were done to specifically identify the target groups in rural districts. As specified in the SAR, the Project Implementation Unit (PIU) would regularly monitor project implementation progress and correct any deficiencies" (*India - Assam Rural Infrastructure and Agricultural Services Project -1995/2004)*.

"This project was considered to be the first phase of a long term support effort to improve public sector management through innovation and learning. Monitoring was seen as a key feature of the project but an effective M&E system was never put in place. Bank supervision could have been more pro-active in the initial stages, and particularly at mid-term, to work with the implementation agency to set out the priorities more clearly to facilitate monitoring and learning" (*India - Uttar Pradesh and Uttaranchal Forestry Project – 1997/2004)*.

"The Project Monitoring Committee (PMC) met regularly to review project progress of each participating agency and recommendations for any action that might be needed to speed up implementation. While the meetings, chaired by the Secretary, Agriculture and Cooperatives, contributed to a general awareness about NSP III, and helped focus the attention of the Project Management Unit (PMU) on priorities for follow-up action, the PMC appears to have been essentially advisory, relying on peer pressure to induce follow-up action" (*India - Third National Seeds Project NSP III - 1988/1997)*.

"The Ministry of Agriculture did not establish an effective M&E system, neither at the central PMU/Sub-PMU, nor at the district PIUs, to guide project management and to capture project impacts in terms of improvements in the cost effectiveness of extension services. The capacity and skills of M&E staff were not upgraded to perform the expected role. There was also a disconnect between the benchmark survey, which was late and far too complicated, and the M&E framework adopted by the central PMU. Rapid rural appraisal conducted during the ICR mission confirmed that the project was having a substantial impact on improving the incomes of directly benefiting households" (*Indonesia - Decentralised Agriculture and Forestry Extension Project – 1999/2005)*.

"Despite the considerable attention given to the design of an M&E system, the full operationalisation of the system never occurred. This was mainly due to resource constraints – both in terms of financial resources and the quality of M&E staff, especially at the Local Government Unit levels. The baseline data, although extensive, was not fully coded until the last year of implementation, and the project Management Information System (MIS), in most cases, was not able to provide immediate and critical inputs for management decision making. According to the PAD, the project would aim at building a strong system for M&E to enhance the capacities of involved local and national institutions, as well as rural communities" (*Philippines - Mindanao Rural Development Project -1999/2005)*.

"Apart from supporting the Project Management Office and two Project Implementation Offices, and providing technical assistance, training and overseas study tours, the component Institutional Development was to include monitoring and evaluation, including two rounds of social assessment and one development impact study. The ICR mission estimates that after the initial

start-up period, a quarter of the project's activities were directed towards some form of M&E" (Philippines - Land Administration and Land Management – 2000/2005).

"The area where according to the ICR mission the Bank provided less guidance than would have been ideal, was in the establishment of a clear and dependable M&E system during the early stage, including strengthening of baseline data. This was identified as a concern during the MTR and consequently resulted in efforts to improve monitoring and evaluation in the latter phases of the project" (Philippines - Agrarian Reform Community Development Project – 1997/2004).

Inadequacies in Project Monitoring

"The PIU had to perform the role of monitoring of engineering work progress and quality, but it had neither the experienced and qualified staff nor the necessary authority to perform the monitoring effectively. Some responsibility for monitoring of engineering works was given to the Director General, Planning of the Bangladesh Water Development Board (BWDB), but with no additional staff to carry out the work of an effective monitoring unit. As a result, no useful purpose was served by this arrangement" (*Bangladesh - Shrimp Culture Project – 1986/1994).*

"The development of oxbow lakes could have benefited from comprehensive monitoring and environmental impact assessment by the Central Capture Fisheries Research Institute (CCFRI). However, routine, physical monitoring of fishing practices and lake/reservoir management by CCFRI were not done, and consequently valuable information on actual yields was not monitored which could have helped improve planning and extension advice" *(India – Shrimp and Fish Culture Project – 1992/2001).*

"Monitoring of project implementation focused on physical achievements (construction of buildings, length of roads, procurement) and timeliness of loan disbursement, rather than on indicators of impact on the various sub-sectors and communities affected. It was not possible to assess the benefits of the watershed management and rural roads component due to lack of adequate data" (*India - Tamil Nadu Agricultural Development Project – 1991/1999).*
"Many of the lessons learned mentioned in the SAR remained as outstanding problems, even after implementation of the component Transfer of Operation and Maintenance of Small Irrigation Schemes to Water Users Associations ("Turnover"), because the governance principles had not been adequately monitored and actively enforced by the national authorities or the Bank in the early years of the project" (*Indonesia – Java Irrigation and Water Resources Management Project – 1994/2003).*

"Responsibility for monitoring was assigned to a unit within the Ministry of Forests and Soil Conservation which was not involved in the implementation of the Community Forestry Programme" (*Nepal - Hill Community Forestry Project – 1989/1999).*

"Monitoring work conducted by the Project Management Office through a consulting firm, assessed only the perception of the farmers and concerned government officials on the relevance of improvements implemented under the project" (*Philippines - Second Irrigation Operations Support Project – 1993/2001).*

"Overall M&E was satisfactory in input-output monitoring, procurement administration and financial management monitoring, and quarterly progress reporting to the Bank. More attention though should have been given to monitoring the community mobilisation process, as well as to sustainability assessments and to assessing project sustainability and impacts" (*Sri Lanka - North East Irrigated Agriculture Project – 1999/2005).*

Weaknesses in System Utilisation

Inadequate Use of M&E Data

"Benefits and risks were not systematically monitored during implementation. Risk factors affecting sustainability included the likelihood of coastal erosion threatening embankments. Due to the weakness in M&E, the periodically collected information on project activities and their impact – such as income from farm and embankment activities, employment for different categories of people etc. – was not available for economic assessment. According to the PAD, engineering, agricultural, socio-economic and environmental aspects would be investigated with a view to assessing the project's impact, identifying any issues and introducing any change. An M&E consultant was to maintain, *inter alia*, a

detailed diary of relevant events for each polder" (*Bangladesh - Coastal Embankment Rehabilitation Project – 1995/2003)*.

"Management of the Hubei Component was complicated and not as effective as it could have been owing to a multiplicity of agencies coordinated by the Central Project Management Office (CPMO) and lack of management control. The CPMO did operate a monitoring system which however was mainly used for producing progress reports for Bank supervision missions rather than as a tool for project management" (*China - Yangtze Basin Water Resources* Project -1995/2003).

"A large amount of research was conducted across many fields. While most of the research was concluded successfully, the bigger picture of what was achieved was not so clear. More reflection on project progress and expected impacts could have contributed to corrective action in some of the weaker elements, and in combination with a strengthened communications strategy, would have enhanced the impact of the research part of the project" (*India – National Agricultural Technology Project – 1998/2005)*.

"The project benefited from extensive supervision and monitoring. The project distinguished itself by the large number of studies undertaken in various disciplines, although it appears, that more effective follow-up action was needed on the part of Government to translate the recommendations into policy and to fully benefit from the studies" (*Indonesia – Nusa Tenggara Agricultural Support Project -1986/1994)*.
"Considerable resources were spent on developing a system of participatory monitoring and evaluation, which would generate useful information – for instance on numbers of households lifted out of poverty. However, due to the absence of linkage between participatory M&E and the MIS, this important information was not used by management" (*Mongolia – Poverty Alleviation for Vulnerable Groups Project – 1995/2001)*.

Unsatisfactory Arrangements for Project Impact Assessment

"Bank supervision missions should have insisted on practical field surveys of a sample of representative schemes pre-MTR and pre-ICR, as well as impact assessment studies in the head-, middle- and tail-reaches of sample schemes, to clearly document what was actually happening on the ground. The Bank, with the agreement of the Borrower, instead focused on a complicated satellite impact assessment study, completed 6 months before project closing, but the analysis undertaken and the presentation of the results did not provide a clear picture of the impact" (*India - Andhra Pradesh Economic Restructuring Project – 1998/2007)*.

"Under the irrigation component, key performance indicators were continuously monitored, but these did not fully capture the impact of the project on improved irrigation efficiency. Official records on areas irrigated under-recorded actual areas irrigated, and there were no records on the impact of the project on (i) incremental areas irrigated; (ii) areas that received improved irrigation service, and (iii) the number of farmers benefiting especially in the tail ends of rehabilitated schemes. The impact assessment of areas irrigated using satellite imagery could not be used by the ICR mission although considerable resources had been allocated during project implementation for this. Data had not been interpreted and in fact cloud cover during most of the project implementation period severely limited its usefulness" (*India- Andhra Pradesh Economic Restructuring Project – 1998/2007)*.

"The system of monitoring physical and financial progress was established by consultants. No impact assessments were carried out and the M&E data were not sufficient to establish what the project impacts had been. However, rapid rural appraisal during the ICR mission provided valuable insights into the project impact, which could be analysed together with the M&E data, and other secondary data available in the project area which were obtained by the ICR mission. Considerable benefits had been generated from incremental agricultural production attributable to the improved roads; producers' incomes had also risen through increased mobility, and improved access to health and education facilities. Overall, it was concluded that the project exceeded its main objectives, and achieved substantial development results without major shortcomings" (*India - Gujarat Rural Roads Project -1987/1996)*.

Lessons Learned

M&E system design. "Proposals for monitoring and evaluation in projects are frequently inadequately detailed and focused, and Borrowers are often reluctant to establish permanent M&E units" *(Bangladesh – Shallow Tubewells and Low Lift Pump Irrigation Project – 1991/1995).*

"It is essential that system design be clarified during project preparation, that a baseline survey be conducted early into implementation, and that the monitoring system should function from the beginning of a project. Otherwise, output and impact indicators are of little use, serving as the historical record but being of little value in the day-to-day management of the project. The M&E system indicators should be compatible with the finance and accounting systems in terms of data and time periods" *(Cambodia – Agriculture Productivity Improvement Project – 1997/2006).*

"Projects that replicate successful models in a flexible manner can be highly successful at relatively low risk. The focus of project design on development objectives facilitates outcome-oriented project implementation" *(China – Second Loess Plateau Watershed Rehabilitation Project – 1999/2005).*

"When more than one implementation agency is involved, the M&E system must be an integrated compatible system which recognises the specific requirements for monitoring each agency's activities, but also the overall project M&E needs. For example, a project designed to improve irrigation facilities to raise agricultural productivity and farmers' incomes, should be complemented from the outset, by a comprehensive agricultural support service mechanism, and an effective M&E system, in order to forge effective partnerships between the departments of irrigation and agriculture" *(India – Haryana Water Resources Consolidation Project -1994/2002).*

"Monitoring and evaluation of outcomes should be integral to project design. Realistic targets and indicators need to be linked to objectives" *(India – Rajasthan Agricultural Development Project -1992/2001).*

"In projects which involve physical investments as well as policy, process and institutional reforms, the nature of outcome/output should be defined carefully and a structured set of quantitative indicators, tied to the objectives, should be specified. In operation and maintenance (O&M)- related investments, it is important to use O&M specific indicators (e.g. water quantity, reliability, area served, distributional equity, cost effectiveness) rather than proxies such as agricultural output or farm income" *(Indonesia – Java Irrigation and Water Resources Management Project – 1994/2003).*

"In more complex programmatic approaches, involving strategic partnerships among various participating donors and the government, the time frames required to accomplish difficult policy, legal and institutional reforms are usually more than the normal life period of conventional lending operations. Also, it is necessary for all donors participating in reform processes to collaborate together, and with the government, to adopt a programmatic approach that includes a jointly agreed strategy, time-bound milestones, outcome and impact M&E indicators" *(Sri Lanka – Mahaweli Restructuring and Rehabilitation Project – 1998/2004).*

M&E System Implementation. "Specifying in the PAD that benchmark and evaluation studies will be undertaken during implementation, does not guarantee that this will be done. Failure to conduct these, or failure to ensure they are conducted timely and competently so that the results can be interpreted and used, indicates a lack of interest by concerned" *(Bangladesh – BWDB Systems Rehabilitation Project – 1990/1998).*

"Effective project management with rigorous M&E contributes to successful project implementation even in large-scale and scattered-nature projects. Key elements included in large geographically widely scattered projects were: (i) making use and developing local capacity and institutions for implementation, (ii) applying simple but strict and transparent procurement and disbursement mechanisms with a high degree of beneficiary control, and (iii) imposing a strong and transparent monitoring system, which allowed efficient cost-effective internal and external control, like a simple system of "maps and tables" for tracking progress and listing all completed areas with their sizes and dates of development" *(China – Loess Plateau Watershed Rehabilitation Project – 1994/2003).*

"Use of an independent agency for M&E can improve quality and timeliness of reporting, contributing significantly to user feedback and effective project monitoring and management. Such agencies should be technically competent and have the confidence of both the Borrower and the Lender" *(India – Uttar Pradesh Diversified Agriculture Support Project – 1998/2004).*

"Well structured and good quality external M&E of project activities, combined with willingness by project management to adjust weaknesses and adopt remedies quickly, can be instrumental to project success. However, it does not replace the need for an effective internal project M&E system" *(India – Uttar Pradesh Sodic Lands Reclamation Project – 1993/2001).*

"An explicit focus - including regular measurement during implementation – on well defined and relevant outcome and output indicators is essential for projects which (i) involve a composite development objective which can be attained through interventions not necessarily connected with the project goal, and (ii) have a demand-driven planning and implementation strategy which can cause short-term needs to dominate long-term development goals" *(India – Integrated Watershed Development Project [Hills] Project – 1991/1999).*

"M&E systems need to be established and given due importance by the government during project design and closely followed during implementation. Continuous M&E of project processes and inputs, with the active participation of beneficiaries and key stakeholders, will assist management to ensure that limited resources are being used to the best effect in terms of project objectives and that poor households also benefit from the project. Close supervision of M&E by the Lender is desirable" *(Indonesia – Decentralised Agriculture and Forestry Extension Project – 1999/2005).*

"The weakness in M&E underlines the need for monitoring to be used to inform planning at all levels rather than to be seen as a form of financial or other performances. Real motivation to undertake monitoring is promoted when monitoring and decision making are linked" (*Nepal – Hill Community Forestry Project – 1989/1999).*

"Greater attention should be given to the collection of hydraulic data in all schemes, which would significantly assist design of future schemes" (*Pakistan – Balochistan Community Irrigation and Agriculture Project – 1995/2002).*

"A social mobilisation process needs to be closely monitored to ascertain if community-driven approaches are appropriately adopted. The communities need to be allowed adequate time to come into agreements with the implementers. This is very vital in order to ensure a high degree of participation of beneficiaries during all phases of the project cycle" *(Sri Lanka – Mahaweli Restructuring and Rehabilitation Project – 1998/2004).*

"Introduction of new technologies, e.g. an information system (IS), should be phased at a smaller scale before expansion. The overambitious design of IS strategy, the lack of in-house expertise to supervise the consultants, and the lack of adequate skills of the government acceptance committee, all contributed to the unsatisfactory outcome of the sub-component" *(Thailand – Land Titling III Project – 1994/2003).*

B. IMPLEMENTATION COMPLETION AND RESULTS REPORTS 2007 TO 2009

M&E System Design

"The inclusion of provision for independent monitoring of the legality of forest operations was innovative and was one of the strengths of the project concept. However, there appears to have been a lack of clarity throughout the project concerning the exact role of the independent monitors. In the PAD they are described as having the primary role of assisting the government and helping to strengthen law enforcement capacity. It is also implicit in the PAD that they would focus on concession operations." (*Cambodia - Forest Concession Management and Control Pilot Project -2000/2007).*

"Although the M&E design was comprehensive, the PDO indicators were not consistent between those in the main text and the ones in PAD Annex 1" (*China – Yangtze Dike Strengthening Project -2000/2009).*

"The M&E design was weak. The M&E design cannot be effectively used in assessing project impact and outcome. No physical targets/year for the volume of water transferred from the Yellow River was outlined in the SAR" (*China – Wanjiazhai Water Transfer Project – 1997/2007).*

"The outcome indicators listed in the PAD log-frame, were in fact output indicators and could not be used effectively to measure project outcomes. Output monitoring, indicators and targets were well specified (though not in the PAD but in the PIP) and were extensively used in project management" (*China – The Anning Valley Agricultural Development Project – 1999/2007).*

"In hindsight, the PDO and associated key performance indicators in the PAD had several issues. First, there were definitional contradictions of household income in the PAD main text and Annex 1 of the PAD. Second, there was no clear specification of quantitative targets for many of the outcome indicators. Third, there was inadequate attention given to indicators for hydrological or soil monitoring" (*India – Karnataka Watershed Development Project – 2001/2009).*

"In addition to basic input monitoring to be supported by a Management Information System (MIS), a large portion of M&E was designed to be conducted by external independent agencies for the main field components. Special studies and evaluations were also planned for the end of the project for all the main components" (*India – Uttar Pradesh Sodic Lands Reclamation Project – 1998/2008).*

"The initial M&E system, developed by the project in late 2003, appears to have been overly complex and did not facilitate consistent reporting of project activities. Some of the key performance indicators (KPIs) and the means of data collection were poorly defined at appraisal. Moreover, the baseline survey mainly consisted of a compilation of secondary data collected after project closing, with unnecessarily detailed statistics on social and demographic indicators at district (not village) level while baseline data on relevant KPIs were missing" (*Lao PDR – Agricultural Development Project – 2001/2008).*

"The Poverty Alleviation Fund is adopting a participatory system to monitor, provide feedback for implementation improvement to achieve project objectives. Monitoring starts at individual or beneficiary level and focuses on the community itself for regular monitoring, feedback for improvement immediately for optimum delivery. Different agencies and individuals are involved at different levels of the system. The MIS is set up with automatic markers to catch when project rules are not conformed with" (*Nepal – Poverty Alleviation Fund Project – 2004/2009).*

"Given the inconsistency of KPIs and inadequate design of the means of data collection throughout the PAD, the design of the baseline survey was also insufficient as it focused mainly on the infrastructure condition and did not cover socio-economic aspects of the communities" (*Pakistan – AJK Community Infrastructure and Services Project – 2003/2009).*

"Aide Memoires as well as the Bank MTR report explicitly express concern with respect to the weakness of M&E, especially the lack of standard format for monitoring. It should also be noted that PPAF monitoring has focused almost exclusively on outputs rather than outcomes" (*Pakistan – Second Poverty Alleviation Fund Project – 2003/2009).*

"The M&E foundation of the project was weak, both as a basis for the M&E functioning during

implementation and for the assessment of the report. The PAD did not provide much guidance on technical specifications of the M&E system, it also included only very limited support for such activities through three person-months of evaluation experts and some NGO surveys. This was insufficient to provide for informed decision-making during project implementation" (*Timor Leste – Third Agricultural Rehabilitation Project – 2003/2009)*.

"Project monitoring comprised of a MIS-based monitoring and process monitoring system was envisaged in the PAD. With support from the Bank, the project developed the first version of the MIS at the outset. The framework was designed to capture data related to communes' and communes members' participation and functioned well until the revision of the MIS. However, there was neither a link between the commune data with financial management and other input/output data nor a system to integrate the MIS-based M&E system with process monitoring. As per design, Louis Berger Group Inc. was hired to carry out process monitoring" (*Viet Nam – Community-based Infrastructure Project -2001/2009)*.

"The monitoring indicators were presented in the PAD. A separate component was dedicated to M&E, which was largely TA dependent to cover a base-line survey, environmental and socio-economic monitoring and evaluation studies. During the project restructuring, the indicators were reviewed and revised to be more practical and measurable during the remaining period, though these were rather too simple to capture all project impacts" (*Viet Nam – Coastal Wetlands Protection and Development Project -1999/2008)*.

"During project preparation, an M&E system was defined with clearly-defined monitoring indicators being presented in the log-frame of the Technical Annex. Adequate indicators were identified to measure progress towards the achievement of the PDOs using effective collection methods. The project allocated adequate funds for the M&E system, to be managed by the PCU. The design was adequate for the M&E of an emergency project, although implementation of it was more challenging" (*Viet Nam – The Avian Influenza Emergency Recovery Project – 2004/2007)*.

"The monitoring indicators were clearly presented in the log-frame of the PAD. The project allocated adequate funds at the start of implementation for an international expert to make operational an M&E system. However, the KPIs mostly focused on the outputs (e.g. the areas of rubber planted and rehabilitated, and the numbers of cattle and pigs) rather than on the outcomes (e.g. agricultural productivity and farmers' incomes)" (*Viet Nam – Agricultural Diversification Project – 1998/2007)*.

M&E System Implementation

"Grant funding from DANIDA and DFID supported the independent monitor operating during the first three years of the project. Services were provided by Global Witness, a United Kingdom-based group that specialises in detecting, investigating and publicising natural resources crime in developing countries. There was an immediate tension built into the independent monitoring role. Global Witness is not an accredited certification body and did not have a comparative advantage in building capacity of government counterparts to address the specific needs of concession regulation. As a result, the project's requirements for strengthening the capacity of the Forestry Administration to apply forestry regulations began slowly and were only partially met" *(Cambodia – Forest Concession Management and Control Pilot Project – 2000/2007).*

"As regular inspection and maintenance of the entire system of flood control dikes are of utmost importance for the success of the project, M&E for regular O&M has been detailed in the O&M manuals. Furthermore, in Hubei Province, the project established a computerised data acquisition system of piezometers to monitor the seepage through the dike body and foundation and monument gauges for the formation and settlement for critical sections of the dike body and foundation*" (China - Yangtze Dike Strengthening Project – 2000/2009*).

"The PMOs at all levels monitored project progress with participation from a task force including ethnic minorities and women. Project handbooks on project fund management, project implementation management and the establishment of WUAs were prepared by the PPMO and distributed to the lower-level PMOs. Project staff members involved in M&E was given

training on M&E procedures and methodologies" (*China – The Anning Valley Agricultural Development Project -1999/2007)*.

"While the PAD provided little guidance on technical specifications of the M&E system, the eventual design produced by the project's third party agency Antrix Corporation (the commercial arm of the Indian Space Research Organization) was highly innovative and played a key role in improving project implementation. The M&E system made use of remote sensing and GIS, combined with a more conventional MIS and GIS. The system was unique for watershed development projects and has attracted significant international attention" (*India – Karnataka Watershed Development Project – 2001/2009)*.

"Internal and external M&E was generally very well implemented. However, during the initial years, one of the external agencies provided below standard reports, had sub-standard management, and a low presence at the field level. Supervision missions early in the project picked-up on this and it was satisfactorily addressed. Initially monitoring of environmental change was under-resourced. This was also identified at MTR and suitable remedial actions were quickly taken" (*India – Uttar Pradesh Sodic Lands Reclamation Project – 1998/2008)*.

"There does not appear to have been a systematic process of M&E put in place during most of the project's implementation period, and data generated by the project has largely been the result of irregular and infrequent studies or surveys responding often to external demands. At project closure, it has proven difficult to assemble a detailed, thorough, and reliable data set of project achievements at both central and decentralized levels, as well as confirmatory data concerning the key performance outcome and output indicators" (*Lao PDR – Agricultural Development Project – 2001/2009)*.

"The Bank team supported the Poverty Alleviation Fund Secretariat with design of the evaluation, including sampling, drafting of questionnaires, piloting them and supervision of the actual surveys. The data collection task was contracted to the Central Department of Population Studies at Tribhuvan University through competitive selection, to undertake both the baseline survey (2006) and the follow-up survey (2008/9) on a sample of about 1500 households in 115 villages from six districts located across different geographical regions of the country" (*Nepal – Poverty Alleviation Fund Project – 2004/2009).*

"A participatory and flexible M&E system designed in the PAD was not used during the project period. Instead, the project hired services of a consultant to develop an M&E framework. The slow progress in developing the M&E section, including assigning personnel at both central and district/municipal levels, affected its quality of M&E operations" (*Pakistan – AJK Community Infrastructure and Services Project – 2002/2009)*.

"The relatively slow rate of progress in establishing standardised monitoring and evaluation systems which can be shared between PPAF and the POs has affected the quality of M&E operations, as noted in several ISRs. However, an ambitious web-based reporting system has recently been introduced which should improve the ability of the ERD section of PPAF to process data and generate reports. It should also be noted that PPAF monitoring has focused almost exclusively on outputs rather than outcomes" *(Pakistan – Second Poverty Alleviation Fund Project – 2003/2009).*

"Process monitoring and impact evaluation were poorly implemented. This was the result of both the weak design and lack of resources both in terms of MAF staffing and project funds. M&E performance was also constrained by reporting difficulties between the different directorates, field staff and the M&E Service within the Planning Directorate, caused mostly by lack of clarity on roles and responsibilities" (*Timor Leste – Third Agricultural Rehabilitation Project – 2003/2009).*

"There were training sessions organised by the Central Project Management Unit (CPMU) on the first version of MIS and M&E guidelines for Provincial Project Management Units (PPMUs). The process monitoring by LB Group and the project through Community Based Participatory Procedure (CBPP) was in general carried out as planned. Nevertheless, changes of staff, both at CPMU and PPMUs and the failure to develop a second version of the MIS caused inconsistencies of data. As a result, efficiency

of project implementation was reduced, and work to clarify data inconsistencies increased the workload of the staff throughout the project life" (*Viet Nam – Community-based Infrastructure Project – 2001/2009).*

"A practical and effective MIS was established to provide timely data for project M&E. It was based principally on the output indicators reflected in the project log-frame, supplemented by others that provided progress and feedback information to assist in managing the project. Based partly on the information in the MIS, monthly, quarterly and annual reports from the Central Project Office (CPO) and PPMUs were prepared using a standard format" (*Viet Nam – Coastal Wetlands Protection and Development Project – 1999/2008)*.

"Implementation of M&E under the project faced difficulties, mainly because of the pressure to implement urgent activities of an emergency nature crowded out the Project Coordination Unit's (PCU's) capacity to develop and maintain a functioning M&E system to measure results and impacts. The PCU, with its priority set on rapid physical implementation, focused mainly on monitoring of physical outputs using data and information collected by its technical staff and the Provincial Project Implementation Units" (*Viet Nam – Avian Influenza Emergency Recovery Project – 2004/2007)*.

"M&E implementation was one of the weakest parts of project implementation. Selection of consultants to develop an M&E system was unexpectedly delayed for various reasons. To monitor the field progress, the PCU used a simple system to collect data and information through their technical staff and the PPMUs on a regular basis. The monitoring became steadily better and more efficient as the project progressed" (*Viet Nam – Agricultural Diversification Project -1998/2007)*.

M&E System Utilisation

"The comprehensive project M&E was carried out as recorded in semi-annual reports providing: (i) physical and financial statements; (ii) recommendations and findings of the international/national panel of experts; and (iii) recommendations for improvement of implementation performance" *(China – Yangtze Dike Strengthening Project – 2000/2009).*

"M&E utilisation was inadequate because of (a) the inadequacy of M&E design of indicators for PDO 1 and 2; (b) indicators for PDO 3, 4 and 5 were not effectively used in decision making as it was known early in project implementation that delivery targets were unlikely to be met; and (c) there were no useful milestones outlined for PDO 6. Had they been included, they could have been extremely useful as benchmarks for progress on institutional issues" (*China – Wanjiazhai Water Transfer Project – 1997/2007)*.

"The M&E system as designed was established and extensively used by project management and supervision missions to gauge progress and to identify problems and follow-up actions. The methodology and procedures used in M&E in the project were, in fact, widely adopted by other agricultural development programmes in Sichuan Province, especially in the State Office for Comprehensive Agricultural Development (SOCAD) projects" (*China – The Anning Valley Agricultural Development Project -1999/2007)*.

"The M&E data from input-output assessment, process monitoring, impact analyses, and many thematic/case studies had a strong impact on improving project implementation. In particular, thematic studies and ongoing analyses helped project management make major changes to implement strategies that resulted for example in sharper poverty focus and opportunities for women and landless; better equity among small, medium and large farmers; and greater cost efficiency in soil and water conservation works" (*India – Karnataka Watershed Development Project -2001/2009)*.

"Use of the M&E information was excellent overall and implementation feedback mechanisms were responsive. For example, the two third-party M&E service providers reported directly to the managing director of the project. Timely information and implementation progress of the project was reported quarterly, and reports were sent directly to district project managers for compliance. Monitoring data formed the basis for a project MIS/Geographic Information System (GIS), proved particularly practical for tracking reclamation activities and indicators. Monitoring of community mobilisation and organization processes, land reclamation and infrastructure works provided objective information on project progress, and was effectively used for making

decisions to achieve project objectives" (*India – Uttar Pradesh Sodic Lands Reclamation Project -1998/2008)*.

"A project M&E manual was only developed in late 2003, translated into Lao and training provided. However, the system was over-designed and too complex to be handled by district extension staff and much of the information to be collected was of little relevance for monitoring project progress. The MTR mission revised and simplified the key performance indicators and urged to fill vacant M&E positions in the Project Coordination Office as well as mobilizing appropriate TA support. However, only by late-2006, the project's M&E activities were able to provide basic information on implementation progress as well as project impacts in line with key indicators" (*Lao PDR – Agricultural Development Project – 2001/2009)*.

"Information is collected and kept in hard copy by the Portfolio Managers (FMRs) and Poverty Alleviation Fund Secretariat. These records form the basis of regular quarterly Progress Monitoring Report or PMR, Financial Monitoring Reports or FMR, and the monthly reports to the Prime Minister's Office and Planning Commission. This process is working well. It is the mission's assessment, that these reports cover Progress, and Process Monitoring but do not track Results (monitoring of Intermediate outcomes)" (*Nepal – Poverty Alleviation FundProject – 2004/2009)*.

"The role of the M&E section to check and alert the management for necessary actions which was envisaged in the PAD was rarely played. Throughout the project period, the project remained focused on inputs, outputs and progress monitoring of construction of community physical infrastructure, while little attention was paid to community-based process monitoring, which is contrary to the design in the PAD, where M&E design aimed to serve as a tool for (a) capacity building at the local level; and (b) project decision makers to use in monitoring project implementation" (*Pakistan – AJK Community Infrastructure and Services Project – 2002/2009)*.

"Available M&E data was used for the half yearly reports (for WB and EC) but did not seem to have had much effect on project performance. In particular, the fact that these reports were often misleading (with overstated data) obscured performance shortfalls and the need for changes during implementation" (*Timor Leste – Third Agricultural Rehabilitation Project – 2003/2009)*.

"Due to the weakness of the MIS-based M&E system, use of M&E data was limited, and accuracy of the data collection and handling system did not improve until the end of the project" (*Viet Nam – Community-based Infrastructure Project – 2001/2009)*.

"The project M&E system was delayed in its establishment and operations by the late arrival of the TA but was well utilised to support the monitoring and supervision of the project. Input data for the M&E system were mainly derived from progress monitoring reports prepared by the CPO and PPMUs, the Socio-economic Special Study, project evaluation activities carried out by the TA, and the MIS maintained by CPO2. Supplementary data was collected through surveys of resettled households, CAPs/VAPs and EMDF households. By the Credit's closing, monitoring data showed that: (a) the coastal erosion area was substantially reduced by 40 percent and the length and the area of coastline accreting was increased by 20 percent; (b) natural near-shore aquatic resources such as sea crabs and blood clams re-appeared and increased in some places; and (c) the incidence of poverty decreased by 38 percent and average annual incomes increased by 55 percent. Average *per capita* incomes have increased steadily in all provinces and poverty rates have decreased significantly" (*Viet Nam – Coastal Wetlands Protection and Development Project – 1999/2008)*.

"The M&E data collected were collated and presented in semi-annual progress reports to MARD and IDA that assessed the progress of project activities against annual work plans and targets but did not include specific reference to the M&E monitoring indicators developed. The PCU did not conduct regular impact evaluations of project activities, mainly because of time pressure" (*Viet Nam – The Avian Influenza Emergency Project – 2004/2007)*.

"The M&E system mainly focused on the monitoring of physical progress and inputs rather than evaluation or impact assessment. It did not have a project management activity (e.g. a

management information system - MIS) to look at monthly activities of the work plan and to flag activities "that had" (or not had) taken place in order for management to take corrective action" (*Viet Nam – Agricultural Diversification Project – 1998/2007)*.

Lessons Learned

"The difficulties of applying learning or introducing innovations in a Learning and Innovation Loan (LIL) of this type were under-estimated. M&E should have been given more prominence and should have been used more pro-actively as the primary tool to adapt the project and address its weaknesses early on. A properly functioning M&E system might have provided the basis for a stronger dialogue between the Bank and the borrower, and might have been developed more pro-actively as the learning and innovation tool" (*Cambodia – Forest Concession Management and Control Pilot Project – 2000/2007).*

"The practice of independent monitoring or supervision contributed significantly to the successful project implementation, in particular for projects with substantial resettlement and environmental management activities*" (China – Yangtze Dike Strengthening Project – 2000/2009).*

"Project development objectives and related M&E indicators need to be well defined. Under the project, there were too many PDOs, some of which were overly broad and ambiguous, whilst a number of the indicators had no causal effect with project impact or had no target value. This impeded both project supervision and impact evaluation" (*China – The Wanjiazhai Water Transfer Project – 1997/2007).*

"An independent and credible partner M&E institution can complement M&E functions in the implementing agency and provide major contributions to project success. Specialist M&E agencies can deliver a range of complementary services, including spatial information from remote sensing and GIS, intensive process monitoring and thematic studies, and high quality oversight for more specific surveys, such as poverty assessments and improved data analysis and reporting. This becomes even more important if the M&E capability in the implementation agency is limited" *(India – Karnataka Watershed Development Project – 2001/2009).*

"Third party independent and timely M&E improves implementation. Independent monitoring of implementation and using a variety of evaluations of outcome progress have been invaluable to quickly address issues arising, as well as identify and make adjustments to further expand the project impacts" *(India – Uttar Pradesh Sodic Lands Reclamation Project – 1998/2008).*

"M&E systems should be closely matched to analytical capacities and national reporting systems in order to avoid duplication and ensure full ownership among participating agencies" *(Lao PDR – Agricultural Development Project – 2001/2009).*

"Measurement and impact assessment of quantitative indicators, using a large statistical sample and rigorous methodology, requires significant time and resources and a process of technical support and capacity building. Challenges of topography, climate and political context may compound and should be anticipated as far as possible" *(Nepal – Poverty Alleviation Fund – 2004/2009).*

"Development of M&E framework with clear indicators ensures timely project interventions as well as identification of issues to be resolved. Basic is to set up a clear M&E framework and baseline indicators at the outset of the project needs to be emphasised in a project of this size. It would also help in the assessment of qualitative and quantitative outcomes and impact of the project. Community-based process monitoring would also contribute towards the improvement of project's decision in timing and types of intervention" *(Pakistan – AJK Community Infrastructure and Services Project – 2002/2009).*

"M&E system needs to receive proper resources and be adequately designed. Project output and impact targets should be made clear, simple and realistic. Indicators need to be simple and consistent to facilitate M&E implementation. It is important to use indicators that are simple and easy collectable, not requiring expensive, time-consuming and large surveys. The use of qualitative data collection methods needs to be considered e.g., case studies, focus group discussions; participatory tools, etc." *(Timor Leste – Third Agricultural Rehabilitation Project – 2003/2009).*

"MIS and M&E platform should be designed and functional at the early stage of project implementation" (*Viet Nam – Community-based Infrastructure Project – 2001/2009).*

"Early and effective implementation of M&E, including collection of comprehensive baseline data to characterise pre-project conditions, is important to ensure that the project can be objectively evaluated at completion" (*Viet Nam – Coastal Wetlands Protection and Development Project – 1999/2008).*

"Speed and transparency are key factors of success when dealing with an emergency, early and transparent reporting are essential to contain the disease. Similarly, prompt response is also a key factor for success" *(Viet Nam - The Avian Influenza Emergency Recovery Project – 2004/2007).*

"The project provides one more example of an M&E system failing to achieve the quality anticipated at design. The role of consultants in designing and making the system operational should be more focused. There should be an emphasis on "measuring the measurable" and in this respect the accurate definition of the PDOs is of key importance. Objectives such as "increasing farmers' incomes" should not be set unless the system and resources are in place accurately to measure such a variable and, more importantly, to be able to address confidently the issue of attribution and correct for exogenous (non-project induced) factors" (*Viet Nam – Agricultural Diversification Project – 1998/2007).*

ANNEX 3

Glossary of key terms in M&E[8]

Activity. Actions taken or work performed through inputs, such as funds, technical assistance and other types of resources are mobilised to produce specific outputs.

Appraisal. An overall assessment of the relevance, feasibility and potential sustainability of a development intervention prior to decision for funding.
Note: In development agencies, banks, etc., the purpose of appraisal is to enable decision-makers to decide whether the activity represents an appropriate use of corporate resources.

Base-Line Study. An analysis describing the situation prior to a development intervention, against which progress can be assessed or comparison made.

Benchmark. Reference point or standard against which performance of achievements can be assessed.
Note: A benchmark refers to the performance that has been achieved in the recent past by other comparable organizations, or what can be reasonably inferred to have been achieved in the circumstances.

Development Intervention. An instrument for partner (donor and non-donor) support aimed to promote development.

Development Objective. Intended impact contributing to physical, financial, institutional, social, environmental, or other benefits to a society, community, or group of people via one or more development interventions.

Effectiveness. The extent to which the development intervention's objectives were achieved, or are to be achieved, taking into account their relative importance.
Note: Also used as an aggregate measure of (or judgement about) the merit or worth of an activity, i.e. the extent to which an intervention has attained, or is expected to attain, its major relevant objectives efficiently in a sustainable fashion and with a positive institutional development impact.

Efficiency. A measure of how economically, resources/inputs (funds, expertise, time, etc.) are converted.

Evaluation. The systematic and objective assessment of an on-going or completed project, programme or policy, its design, implementation and results. The aim is to determine the relevance and fulfilment of objectives, development efficiency, effectiveness, impact and sustainability.

Ex Post Evaluation. Ex post evaluation looks more broadly at the probable impact of the completed project implementation in relation to original expectations. As it takes place at a later date, it has the benefit of hindsight. An important purpose of ex post evaluation is to ascertain the reasons for the project's apparent success or failure.

Formative Evaluation. Evaluation intended to improve performance, most often conducted during the implementation phase of projects or programmes.

Goal. The higher order objective to which a development intervention is intended to contribute.

Impact. Positive and negative, primary and secondary long-term effects produced by a development intervention, directly or indirectly, intended or unintended.[9]

Indicator. Quantitative or qualitative factor or variable that provides a simple and reliable means to measure achievement, to reflect the changes connected to an intervention, or to help assess the performance of a development actor.

8 Based on OECD/DAC Glossary of Key Terms in Evaluation and Results-Based Management. Paris 2002.

9 Within the context of agriculture and rural development interventions impacts can be, and often are, already evident in the short-term, i.e. during implementation.

Inputs. The financial, human and material resources used for the development intervention.

Institutional Development Impact. The extent to which an intervention improves or weakens the ability of a country or region to make more efficient, equitable, and sustainable use of its human, financial, and natural resources, for example through: (a) better definition, stability, transparency, enforceability and predictability of institutional arrangements and/or (b) better alignment of the mission and capacity of an organization with its mandate, which derives from these institutional arrangements. Such impacts can include intended and unintended effects of an action.

Lessons Learned. Generalisations based on evaluation experiences with projects, programs, or policies that abstract from the specific circumstances to broader situations. Frequently, lessons highlight strengths or weaknesses in preparation that affect performance, outcome, and impact.

Logical Framework (Logframe). Management tool used to improve the design of interventions, most often at project level. It involves identifying strategic elements (inputs, outputs, outcomes and impact) and their causal relationships, indicators, and the assumptions and risks that may influence success and failure. It thus facilitates planning, execution and evaluation of a development intervention.

Mid-Term Evaluation. Evaluation performed towards the middle of the period of implementation of the intervention.

Monitoring. A continuing function that uses systematic collection of data on specified indicators to provide management and the main stakeholders of an ongoing development intervention with indications of the extent of progress and achievement of objectives and progress in the use of allocated funds.

Outcome. The likely or achieved short-term and medium-term effects of an intervention's outputs.

Outputs. The products, capital goods and services which result from a development intervention; may also include changes resulting from the intervention which are relevant to the achievement of outcomes.

Participatory Evaluation. Evaluation method in which representatives of agencies and stakeholders (including beneficiaries) work together in designing, carrying out and interpreting an evaluation.

Partners. The individuals and/or organizations that collaborate to achieve mutually agreed upon objectives.
Note: The concept of partnership connotes shared goals, common responsibility for outcomes, distinct accountabilities and reciprocal obligations. Partners may include governments, civil society, non-governmental organizations, universities, professional and business associations, multilateral organizations, private companies, etc.

Performance. The degree to which a development intervention or a development partner operates according to specific criteria/ standard/guidelines or achieves results in accordance with stated goals and plans.

Performance Indicator. A variable that allows the verification of changes in the development intervention or shows results relative to what was planned.

Performance Measurement. A system for assessing performance of development interventions against stated goals.

Performance Monitoring. A continuous process of collecting and analysing data to compare how well a project, programme or policy is being implemented against expected results.

Programme Evaluation. Evaluation of a set of interventions, marshalled to attain specific global, regional, country, or sector development objectives.
Note: A development programme is a time bound intervention involving multiple activities that may cut across sectors, themes and/or geographic areas.

Process Evaluation. An evaluation of the internal dynamics of implementing organizations, their policy instruments, their service delivery mechanisms, their management practices, and the linkages among these.

Project Evaluation. Evaluation of an individual development intervention designed to achieve specific objectives within specified resources

and implementation schedules, often within the framework of a broader programme.

Project Implementation Plan. A method of presenting the activities of a project that identifies their logical sequence and any dependencies that must exist between activities. It is also used as means of identifying who will be responsible for implementing an activity.

Project or Programme Objective. The intended physical, financial, institutional, social, environmental, or other development results to which a project or programme is expected to contribute.

Purpose. The publicly stated objectives of the development programme or project.

Results. The output, outcome or impact (intended or unintended, positive and/or negative) of a development intervention.

Results Based Management (RBM). A management strategy focusing on performance and achievement of outputs, outcomes and impacts.

Results Chain. The causal sequence for a development intervention that stipulates the necessary sequence to achieve desired objectives – beginning with inputs, moving through activities and outputs, and culminating in outcomes, impacts and feedback. In some agencies, reach is part of the results chain.

Results Framework. The programme logic that explains how the development objective is to be achieved, including causal relationships and underlying assumptions.

Stakeholders. Agencies, organizations, groups or individuals who have a direct or indirect interest in the development intervention or its evaluation.

Target Group. The specific individuals or organizations for whose benefit the development intervention is undertaken.

Triangulation. The use of three or more theories, sources or types of information, or types of analysis to verify and substantiate an assessment.
Note: By combining multiple data-sources, methods, analyses and theories, evaluators seek to overcome the bias that come from single informants, single-methods, single observer or single theory studies.

References

Baum, Warren C., and Tolbert, Stokes, M. 1985. *Investing in Development.* Published for the World Bank. Washington, D.C.: World Bank. Oxford University Press.

Carletto, Calogero, and Morris, Saul, S. 1999. Designing Methods for the Monitoring and Evaluation of Household Food Security and Rural Development Projects. IFPRI Technical Guide No. 10. Washington, DC.

Casley, Dennis, J., and Lury, Denis, A. 1982. *Monitoring and Evaluation of Agriculture and Rural Development Projects.* Published for the World Bank, John Hopkins University Press, Washington, DC.

Casley, Dennis, J., and Kumar, Krishna. 1987. *Project Monitoring and Evaluation in Agriculture.* Published for the World Bank. John Hopkins University Press, Baltimore.

European Commission. 2004. *Project Cycle Management Guidelines.* Aid Delivery Methods. Volume 1. Brussels.

FAO. 1997. *Rapid Rural Appraisal.* Chapter 8 of Marketing Research and Information Systems, Rome.

FAO, 2004. *Rural Households and Resources. A Pocket Guide for Extension Workers.* Rome.

Hilhorst, Thea and Guijt, Irene. 2006. *Participatory Monitoring and Evaluation: A Process to Support Governance and Empowerment at the Local Level. A Guidance Paper.* Royal Tropical Institute, Amsterdam, Netherlands.

IFAD. 2002a. *Practical Guide on Monitoring and Evaluation of Rural Development Projects.* Rome.

IFAD. 2002b. *Managing for Impact in Rural Development: A Guide for Project M&E.* Rome.

IMF/World Bank, 2002. *Better Measuring, Monitoring and Managing for Development Results.* Paper prepared for the Development Committee, Boards of Governors of the Bank and the Fund, September 18, 2002. Washington D.C.

Lai, K. C., *Lessons for Project Design and Implementation from selected Rural Development Projects in Asia (1990 – 1999).* FAO Investment Centre Occasional Paper Series No. 11, July 2001. Rome.

Multilateral Development Banks. 2004. *Managing for Development Results.* Joint Marrakech Memorandum. Second International Roundtable sponsored by the Multilateral Development Banks, Marrakech, Morocco.

OECD. 2002. *Glossary of Key Terms in Evaluation and Results Based Management.* Development Assistance Committee (DAC). Paris.

OXFAM. 1995. *A Basic Guide to Evaluation for Development Workers* (by Frances Rubin) Oxfam Development Guidelines/ Skills and Practice Series.

USAID. 1996. *Selecting Performance Indicators.* Performance Monitoring and Evaluation TIPS, Number 6. Washington D.C.

USAID. 1998a. *Establishing Performance Targets.* Performance Monitoring and Evaluation TIPS, Number 8. Washington D.C.

USAID. 1998b. *Guidelines for Indicator and Data Quality.* Performance Monitoring and Evaluation, TIPS Number 12. Washington D.C.

USAID. 2000. *Building a Results Framework.* Performance Monitoring and Evaluation. TIPS Number 13. Washington D.C.

White, Howard. 2003. *Challenges in Evaluating Development Effectiveness.* Operations Evaluation Department Conference Paper. Fifth Biennial World Bank Conference on Evaluation and Development. Washington, D.C.

Woodhill, Jim. 2007. "M&E as Learning: Rethinking the Dominant Paradigm", in De Graaff, J, Cameron, J et al (Eds.), *Monitoring and Evaluation of Soil Conservation and Watershed Development.* World Association of Soil and Water Conservation. Science Publishers: Enfield, USA.

World Bank, 1992. *Effective Implementation: Key to Development Impact.* Portfolio Management Task Force. Washington, D.C.

World Bank, 1996. *Performance Monitoring Indicators Handbook for Task Managers.* Washington, D.C.

World Bank. 2002. *The 2002 Annual Report on Operations Evaluation.* Washington, D.C.

World Bank. 2003. *Monitoring and Evaluation: Measuring and Assessing Agricultural Development Programmes.* Agricultural Investment Sourcebook, Module 11. Washington, D. C.

World Bank, 2004a. *Template and Guidelines for the Project Appraisal Document (PAD). Washington, D.C.*

World Bank. 2004b. *Monitoring and Evaluation: Some Tools, Methods and Approaches.* OED. Washington. D.C.

World Bank. 2005. *Improving the World Bank's Development Effectiveness. What Does Evaluation Show?* Washington, D.C.

World Bank. 2006a. Agricultural Investment Sourcebook. Module 12 "Scaling Up Agricultural Investments in the Bank's Changing Internal Environment". Washington, D.C.

World Bank. 2006b. *Impact Evaluation: The Experience of the Independent Evaluation Group of the World Bank*. Prepared by Howard White, Independent Evaluation Group. (IEG).Washington, D.C.

World Bank. 2006c. *Impact Evaluation: An Overview and some Issues for Discussion*. Room Document 5. OED: Fourth Meeting of the DAC Network on Development Evaluation, 30 – 31 March 2006. Washington, D.C.

World Bank. 2006d. *Updating the Bank' Operational Policy on Monitoring and Evaluation. Operations and Country Service. Washington, D.C.*

World Bank. 2006e. *Experience with Institutionalising Monitoring and Evaluation Systems in Five Latin American Countries: Argentina, Chile, Colombia, Costa Rica and Uruguay* (by Ariel Zaltsman). Evaluation Capacity Development Working Paper Series No.16.

World Bank/OPCS 2009. Investment Lending Reform. Concept Note. Washington D.C.

Please address comments and inquires to:
Investment Centre Division
Food and Agriculture Organization of the United Nations (FAO)
Viale delle Terme di Caracalla – 00153 Rome, Italy
Investment-Centre@fao.org
www.fao.org/tc/tci

Report No. 1 – December 2010