Institutionalizing IMPACT Orientation

Building a performance management approach that enhances the impact orientation of research organizations

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with Alistair Sutherland

Performance and Impact Programme
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Natural Resources Institute

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Glossary

Capacity The ability to effectively, efficiently and sustainably perform functions, solve problems and set and achieve objectives

Delivery plan The description of how a particular result or outcome is to be achieved

Effectiveness The extent to which a plan, project, programme or organization achieves its goals

Efficiency Using the least cost resources to achieve desired results

End-user Client or beneficiary of the application of research findings

Evaluation A periodic review of the performance of a plan, project, programme or organization

Goal What a programme or organization wants to achieve in specific terms by a certain time (e.g. sustainable increase in core funding by 25% over the next 2 years)

Impact orientation The focus of a plan, project, programme or organization on outcomes rather than outputs

Impact The sustainable change of a particular initiative attributable to specific actions in and among different stakeholder environments

Institutionalization The acceptance and utilization of the rules and norms of an approach, made evident through becoming part of standard operating procedures and organizational culture

Measure The indicator selected to assess a specific activity or objective

Mission What an organization or programme is about

Monitoring The ongoing activity of measuring progress in delivering an organization's plan, project or programme implementation and operation with a view to learning and correcting at the time

Objective What is to be achieved, specific planned accomplishments (e.g. improved utilization of research findings)

Outcome What has been achieved by an objective

Output What is produced as a consequence of a specific process (e.g. production of a new crop variety)

Performance The functioning of a programme or organization over which the actors involved have direct control or manageable interest

Performance management The effective integration and utilization of performance measurement within an organization's strategic and planning decision-making processes

Performance measurement The system (methods and tools) used to monitor and assess the programme or organization's functioning

Perspective An aspect of an organization or programme

Process The activities and effort required through which inputs, such as funds, technical assistance and other types of resources are mobilized to produce specific outputs

Result Synonymous with outcome

Stakeholder Any individual, group or organization that has a vested interest in the operation and effect of a plan, project, programme or organization

Strategy How the organization or programme intends to accomplish its objectives and goals; the approach or plan (e.g. develop strong partnerships with key stakeholders)

Sustainability The extent to which the positive changes generated through a particular initiative are likely to continue after external support has ended

Uptake The utilization and adaptation of outputs by differing stakeholders

Vision What a programme or organization wants to be in the future in contributing to a wider goal

Acronyms

ABR	Annual Budgetary Requirement
AgSIP	Agricultural Services Sector Investment Programme (Ghana)
ASARECA	Association for Strengthening Agricultural Research in Eastern and Southern Africa
ATIRI	Agricultural Technology and Information Response Initiative
CBO	Community Based Organization
CIAT	International Centre for Tropical Agriculture
CIDA	Canadian International Development Agency
CIFOR	Centre for International Forestry Research
CIMMYT	International Maize and Wheat Improvement Centre
CGIAR	Consultative Group for International Agricultural Research
CGIAR TAC	CGIAR Technical Assistance Committee
CRI	Crops Research Institute (Ghana)
CSIR	Council for Scientific and Industrial Research (Ghana)
CSO	Case Study Organization
DFID	Department for International Development (UK)
ECD	Evaluation Capacity Development
FPR	Farmer Participatory Research
FRI	Food Research Institute (Ghana)
GTZ	German Agency for Technical Co-operation
ICARDA	International Centre for Agricultural Research in Dry Areas
ICRAF	International Centre for Research in Agroforestry
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IDRC	International Development Research Centre

IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
IITA	International Institute for Tropical Agriculture
IPGRI	International Plant Genetic Resources Institute
ISNAR	International Service for National Agricultural Research
JICA	Japanese International Co-operation Agency
KARI	Kawanda Agricultural Research Institute (Uganda)
KPI	Key Performance Indicator
M&E	Monitoring and Evaluation
MOFA	Ministry of Food and Agriculture (Ghana)
MTEF	Medium Term Expenditure Framework
NAADS	National Agricultural Advisory and Development Service (Uganda)
NARO	National Agricultural Research Organization (Uganda)
NARP	National Agricultural Research Project
NARS	National Agricultural Research System
NBRP	National Banana Research Programme (Uganda)
NGO	Non-Governmental Organization
NIRP	National Institutional Renewal Programme (Ghana)
NRI	Natural Resources Institute (UK)
OECD	Organization for Economic Co-operation and Development
OED	Operations Evaluation Department, World Bank
PIP	Performance and Impact Programme, NRI
PMA	Programme for the Modernization of Agriculture (Uganda)
PPMED	Policy, Planning, Monitoring and Evaluation Department (MOFA, Ghana)
RBM	Results-Based Management
R&D	Research and Development
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
WARDA	West African Rice Development Association

Executive summary

'Institutionalizing Impact Orientation' was a 16-month inception project designed to introduce performance management concepts and build the performance management capacity of a pilot group of agricultural research organizations. The project was the first phase of a larger initiative to develop and implement effective performance management systems in public research institutions. Two organizations in Ghana, the Crops Research Institute and Food Research Institute, and the National Banana Research Programme in Uganda, participated in the project.

DEMAND FOR THE PROJECT

The demand for this project was based on a recognition that the public policy reforms associated with donor aid delivery, particularly poverty reduction strategies and associated expenditure frameworks, require research and development organizations to have clear, accountable and attributable measures of performance to demonstrate their impact. Moreover, the emphasis now being placed on client-orientation through decentralized programmes implies a need for 'joined-up' monitoring and evaluation (M&E) systems that not only incorporate broader perspectives and clientele, but also focus more closely on results and service delivery. This pressure is keenly felt in agricultural research organizations, where funders' perceptions of a lack of evidence for the uptake and impact of products and services are questioning the organizations' efficacy and existence.

MONITORING THE RIGHT THINGS

In attempting to address this situation, the project focused on the need within agricultural research organizations for systems that monitor changes over which the organizations and their employees have direct control or a manageable interest, rather than on systems which measure longer-term outcomes and impacts over which they have less direct influence. The balanced scorecard was adopted as the central approach for developing a performance management system. It has

proven successful within private sector corporations and is increasingly being used in the public sector. The scorecard provides a 'balanced' view of an organization's performance across four perspectives; employee, business, client and financial. It stresses a balance between monitoring internal processes and the views of the clients and other stakeholders; both are seen as crucial to an organization's survival within an increasingly complex and competitive global environment, and should be internalized within any performance management system.

ADAPTING AND APPLYING THE SCORECARD

The scorecard was adapted for pilot testing with the three case study organizations (CSOs). A set of tools was developed to build understanding of performance management, diagnose organizational capacity and performance management issues, and begin developing systems. The tools were applied during diagnostic visits to each CSO, and during a workshop where, using the scorecard approach, representatives of each organization and other stakeholders developed plans for performance management.

DIAGNOSING CONTEXT, CAPACITY AND NEEDS

The institutional context and capacity diagnosis conducted with each CSO identified three main issues. Firstly, that certain inherent weaknesses exist within the system at the organizational level in each CSO: variable communication across and between levels, poor feedback and learning mechanisms, lack of clearly defined attributable achievements, burdensome bureaucracy and the lack of a well-balanced set of performance measures. Secondly, that each CSO contains certain inherent strengths: high quality staff and (in general) equipment and good systems for measuring the research process. Further, a series of realistic opportunities was identified that each CSO would like pursue including: effective utilization of their technical comparative advantage and human resource base, and enhanced linkages with potential clients, policy-makers and funders. Finally, a need to be adaptable in a changing institutional environment, implying a need for a management system that is sufficiently robust to incorporate a better understanding of the external environment (clients and donors) into the internal processes of the organization.

UTILIZING THE SCORECARD

Two main accomplishments stand out. Firstly, the balanced scorecard approach enabled a thoughtful consideration and partial reconfiguration of the activities of each CSO. Goals were reviewed so that they accurately represented the work of each organization, objectives and key performance indicators were developed to achieve this goal, and delivery plans to achieve some of these objectives were drafted. Secondly, there was an identification and increased awareness among participants of work areas that have not previously received attention. Notably, methods for enhancing feedback and for learning across the scorecard perspectives, such as the importance of monitoring employee satisfaction and its link to organizational performance.

ADDED VALUE

Four main areas have been identified where this project has added value to the participating CSOs' understanding and development of organizational performance. Firstly, clarifying current capacity, issues, potential opportunities and threats. Secondly, utilizing a conceptual framework for broadly understanding organizational performance. Thirdly, developing corporate objectives and indicators that aim to bring together the core work areas of each CSO. Finally, developing delivery plans for improved performance management. These plans identified critical success factors for achieving the corporate objectives, identified current M&E activities in these areas, and revealed gaps between what is being done, and what needs to be done.

PRODUCTS

Through adapting and applying the balanced scorecard as an approach to building performance management capacity amongst a sample of agricultural research organizations, the project has developed two products. A set of methodological tools for diagnosing institutional, and more particularly, M&E awareness and capacity; and a further set for constructing a performance management system.

NEXT STEPS

A proposal is currently being developed to take this project forwards. This will involve working with the three CSOs to refine and implement the outline performance management plans and will also include developing mechanisms for stimulating cross-learning during implementation. Moreover the aim is to link the project's approach to parallel initiatives being conducted by the Consultative Group for International Agricultural Research (CGIAR), the World Bank and other development agencies. The proposed second phase will detail strategies for applying the lessons and tools developed to parallel initiatives to scale up impact on capacity building.

"This has been an enlightening experience on the balanced scorecard method of M&E. I hope it will go a long way to formalize M&E procedures in the NARS everyday activities and subsequently if results are presented they can help in influencing policy discussions."

Participant feedback from the project workshop, 10 July 2002

Background

This section outlines the purpose of the project, together with the assumptions, principles and collaborative arrangements upon which it was based.

PURPOSE AND ANTECEDENTS

This project ran from September 2001 to December 2002. It aimed to improve the performance of agricultural research organizations by introducing performance management concepts, and developing and pilot testing a performance management approach. The approach focuses on managing performance to enable more sustainable achievements through applied learning, improved ownership and application of technical research outputs amongst relevant stakeholders, and ultimately, a greater impact on the poor.

The project stems from previous work conducted by the NRI's Performance and Impact Programme (PIP)[1] and comparable initiatives[2] that highlighted the importance of national research and development (R&D) organizations in the development process, and the role that their effectiveness plays in overall development effectiveness. Within this context, monitoring and evaluation (M&E) is under scrutiny, both as a means through which effectiveness is assessed, and as a function which enables decisions to be made through the provision of accurate and timely information. Distinguishing between the learning and accountability functions of evaluation is increasingly being recognized, with considerable implications for the approaches used in building organizational performance management capacity.

ASSUMPTIONS

The demand for performance management capacity building is based on a number of assumptions. These reflect both the rationale for this project, and the essence of why the approach used was developed and tested with the participant organizations.

Discernible improvements in the uptake and impact of research are being inhibited by inappropriate monitoring and evaluation

Factors determining whether research successfully influences policy decisions have been well documented (Garrett and Islam, 1997). However, at more meso- and micro-levels, the reasons why the uptake of research findings occurs in some cases and not in others are inadequately understood. This remains the case in spite of efforts among R&D organizations to ensure greater participation of stakeholders in the planning, implementation, monitoring and evaluation of research. Whilst considerable investigation into the factors that affect uptake and dissemination have provided insights[3], the fact that problems of uptake and dissemination still exist implies that these factors have not been fully internalized and acted upon by collaborating organizations. This, in turn, suggests that M&E activities have not provided a basis upon which lessons can be learned, and corrective action taken.

It is argued that this is because of the over-reliance on, and in some cases inappropriate use of, impact assessment studies as the basis for decision-making. The main reason why these studies have not made more of a difference is that their main objective is to validate past decisions made on resource allocation, rather than to inform future strategies[4].

A systemic approach to evaluation, centred on indicators of organizational uptake, can provide evidence of developmental impact

Whilst the developmental impact of research is notoriously difficult to assess, indicators of organizational uptake can provide reliable proxies or 'leading' indicators of developmental impact. This implies that overcoming the lack of connection between research outputs and development impacts should not be pursued through impact assessment studies alone, but through appropriate systems that account for organizational uptake and research outcomes which will provide the clearest evidence of likely developmental impact.

In contrast to public sector research, reviews of the evaluation procedures within private sector R&D companies have found a

greater emphasis on the ongoing process rather than *ex post* achievements (Jakes and Leatherberry, 1986; Henderson, 1999). Whilst this is largely explained by the financial need to identify research 'failure' early on in the cycle to ensure that products or processes that advance to the final stage of development have a high probability of (commercial) success, it is felt that this has resonance for public sector research.

A balanced set of indicators is required if organizations are to be developmentally effective

A balanced set of indicators that explicitly address the key elements of organizational performance are central to achieving impact. Within this context, results will provide a more realistic assessment of ongoing research progress and assist more clearly in identifying potential problem areas. Targets for assessing the performance of research organizations must involve a broad body of measures that reflect the external environment, including client satisfaction and funding streams, alongside internal measures of staff performance, staff satisfaction and the research process. For example, accepting client satisfaction as a meaningful measure of external performance including uptake (also termed application, 'reach' or adoption) provides a minimal but more measurable set of indicators of research benefits. Thus, whilst the timeframe of research and its location on the strategic-adaptive continuum may in particular cases constrain the extent to which economic impact can be assessed, progress across these other measures can still be evaluated, with the findings used as a basis for learning and action.

The vital role of local and national R&D organizations in the development process has been sidelined by preoccupation with end-user impact

The emphasis on poverty elimination, the widespread adoption of Millennium Development Goals and more people-centred development strategies (such as 'sustainable livelihoods') have tended to focus attention almost exclusively on the end-users, not on intermediate R&D organizations. From a funding perspective, this preoccupation with assessing beneficiary impact has tended to mask the relative lack of information about the capacity and capabilities of

local R&D systems before, during and after investment periods (Mackay and Horton, 2000). Consequently, it has been difficult to link any sustainable impact among beneficiaries with information on institutional capacity at the time the research products were being developed. This was felt to be one possible reason why there remains a lack of confidence among funding agencies in the results of impact studies showing high rates of return to investments in agricultural research (McCalla, 1999; Ticehurst, 2002).

Externally driven needs assessments have tended to target end-users, rarely intermediate organizations. At best, this is because funders have assumed that intermediate organizations have the capacity and resources to undertake their assigned role within research and development, at worst, they have been bypassed under the naive belief that participatory research is simply about running trials directly with farmers. In this latter case, the distinction has been blurred between firstly, achieving changes amongst a sample of target end-users participating in the R&D process, and secondly, developmental impact, which requires participatory research to be defined as engaging with an array of stakeholders, at a significant scale that requires promotion/replication through an appropriate institutional framework (Sutherland *et al.,* 2001).

Changes in the development agenda have fundamental implications for local and national R&D organizations' M&E capacity

A number of trends over the past decade have focused attention on the role of national organizations within the development process, and their capacity to fulfil this role. In 1997, the OECD signalled a shift in development co-operation away from capital intensive projects towards institutional capacity strengthening because of the perceived failure of technically focused aid (OECD, 1997). Concomitantly, development assistance is increasingly decentralizing, national processes are being prioritized over those of donor countries, and the role of partnerships and empowerment of service users are being stressed. Organizational performance or effectiveness is thus increasingly being recognized as central to development effectiveness.

It is, therefore, assumed that public sector reforms (together with changes in the approach to aid delivery) require local/national R&D organizations to adopt 'joined-up' M&E systems that not only incorporate broader perspectives and clientele, but also focus more closely on results and service delivery. By-and-large such systems are not currently in place within intermediate R&D organizations, and need to be developed in partnership with key stakeholders in the national R&D arena. Thus, building capacity in M&E relates more to developing direct, accountable and attributable measures of performance over which an organization or programme has control or manageable interest, rather than focusing on longer-term outcomes and impacts over which the organization has less direct influence.

People tend to work so hard to be sure that things are done right, that they hardly have time to decide if they are doing the right things (Covey, 2002)

The time and performance pressure placed on staff within R&D organizations, as in many other public and private sector organizations, often makes self-assessment a low priority. Efforts to measure and manage public sector organizational performance has come under critical assessment, with little rationalization of approaches, targets and measures. The consequence of which is an accumulation of systems and processes created to collect, review and feed back that lead to the collection of more information than is manageable (Estis, 1998). This has broadly had two main effects. Firstly, that a culture of obedience pervades many civil service organizations in which reporting is based on the latest system, or set of targets, developed without a clear idea of how it fits in with the previous, or existing institutional framework. Secondly, where targets are set without a clear process of how they are to be achieved, measurement becomes fixed at two polar levels – workload (input-output measurement) and environment (macro-level changes). Thus, the reasons why public sector strategies, or in case of R&D, research results, are not taken up are little understood. It is posited here that a process is required that links individual achievements to overall targets and goals, thus enabling the identification of bottlenecks and the rewarding of positive achievements.

PROJECT PRINCIPLES

Underpinning the work of PIP lies a set of core principles that were adapted to suit this project.

1. The process is iterative and process-driven.
    - The project aims to support participating organizations in identifying and reflecting on their capacities, constraints and requirements.
    - The project aims to respond to the needs of the organizations themselves, as they define them. Thus, it is expected that the project's assumptions, approach and methodology will be tested in dialogue with the CSOs and other stakeholders and revised accordingly (the 'adapt, don't adopt' approach).
    - The project does not aim simply to deliver outputs, but to develop a process of incremental capacity building.
    - The engagement with several organizations aims to facilitate learning across sectors and experiences, rather than working in isolation.

2. The project is a pilot initiative with an action-research element. It is focused upon testing and reviewing the appropriateness of the approach and methods within the organizations with which it works, rather than aiming to apply a generic set of 'solutions' to the assumptions raised.
3. The project focuses at the organization or programme level, rather than the micro-level of individual projects or client groups, or the macro-level of international bodies. This is to ensure that the results will be sustainable (recognizing that projects are by their nature transitory) and realizable (recognizing that international bodies are too large and complex to be supported by this pilot initiative).
4. The project focuses on the way in which the organization or programme measures and manages its performance, not on the performance of the organization, the programme or the individuals within it. Thus, the project does not aim to evaluate the organization's performance (and thus should not be considered a

'threat'), but to improve the way in which the existing activities can measure and manage performance more effectively.

COLLABORATION

Two types of collaboration were sought through this project. Firstly, intensive engagement involving capacity development with those organizations or programmes interested and willing to collaborate – 'case study organizations (CSOs)'. Secondly, periodic engagement through advice and support with other agencies and individuals that expressed a genuine interest in the initiative – 'other stakeholders'.

Case study organizations

The selection of CSOs was based on two levels of criteria to gauge suitability and interest (Annex 1). An initial pool of potential organizations and programmes with strong connections through DFID's Renewable Natural Resources Research Programmes and which responded positively early in the consultation process, was narrowed to those based in Africa for reasons of expediency[5]. Three organizations/programmes were visited between April and June 2002, all of which proved to be interested, willing and suitable to participate:

- Crops Research Institute, CSIR, Ghana
- Food Research Institute, CSIR, Ghana
- National Banana Research Programme, NARO, Uganda

One further (virtual) organization, the Soil Fertility Management and Policy Network for Maize-Based Farming Systems in Southern Africa (Soil Fert Net), joined as an observer during the second stage of the project. These three (plus one) CSOs were felt to present a fair balance, representing different parts of Africa, differing research foci and institutional contexts, and located at different programmatic levels (two national institutes, one national programme, and the observing regional network).

Other stakeholders

Aside from the CSOs, a range of agencies and individuals were contacted which could both bring expertise and experience to the project, and also benefit from the project's experience.

These agencies and individuals were identified in two camps. Firstly, those with considerable experience in monitoring, evaluation and capacity building, and thus could usefully contribute to the project. Secondly, those with strong linkages with national agricultural research organizations, and have a role in disseminating findings and best practices. Thus, their involvement was deemed crucial in contributing to the development of the project, and potentially communicating the findings.

Contact was made with numerous agencies and individuals, including all DFID research programmes, all the Consultative Group for International Agricultural Research (CGIAR) centres, government ministries in Ghana and Uganda, the World Bank and research and development agencies including IDRC, GTZ and the Rockefeller Foundation. Liaising individuals within these agencies received copies of the project's approach paper (outlining the objective, rationale, methodology and activity plan) as a basis for dialogue, sharing and feedback. These stakeholders were filtered into two tiers[6] according to their experience and the extent to which they engaged in the project.

NOTES

[1] Performance and Impact Programme (PIP) at the Natural Resources Institute (NRI), UK. Antecedents include the adaptation of the balanced scorecard approach to improve ongoing assessment of forestry research, design and implementation of performance assessment frameworks for AgSIP in Ghana and PMA in Uganda, assessment for the outsourcing of agricultural extension in Mozambique and programmatic advisory support on performance management to DFID's Crop Post-Harvest Programme.

[2] Universalia/IDRC's framework for strengthening organizational capacity for IDRC's research partners (Lusthaus *et al*., 1995) adapted and used by ISNAR (Horton *et al*., 2000; Horton, 2001). and the World Bank (Adrien, 2001); World Bank's Evaluation Capacity Development initiative (Mackay, 1999); results-based management approaches (World Bank, 1999; USAID, 2000; UNDP, 2002).

[3] **Research results uptake.** The problem of effective uptake of research results is broadly based. Science Connections Ltd (SCL)'s review of adoption, dissemination and promotion pathways for ODA's renewable natural resources research strategy noted that government and corporate officials often simplify the link between the development of new products and tangible economic gains as a result of their production or dissemination. Linear models detailing mechanistic steps aimed at quickly identifiable benefits were noted as being suspect, with the complexity and variability of research being identified too subtle and sensitive to be amenable to any such 'magic bullet' approach (SCL, 1994).

Attempts to understand how the findings of research can be effectively taken up has led to extensive studies and reviews on the processes of communication, dissemination, the importance of effective linkages between actors and the planning of the research process itself (Edwards and Farrington, 1994; SCL, 1994; Eponou, 1996; Garforth, 1998; Eponou *et al.*; 1999; University of Reading, 2000). Whilst distinguishing between these elements is not crucial (communication and linkages are arguably interrelated, and dissemination is increasingly defined as a two (or more)-way process that resembles 'communication'), it is important that ineffective or disfunctional elements in each of these are typically related to the planning process – with solutions centred around a more inclusive and structured procedure at all stages in the cycle.

Whilst many of the issues and 'solutions' are well known, it is crucial to understand why in numerous cases these problems remain. Is it that appropriate planning and implementation procedures are not in place, or that the processes themselves are ineffective? The ability to effect change to address these constraints, and the levels at which change must occur are key factors.

[4] **Impact assessment critiques.** Critiques of studies of research impact emphasize three main shortcomings. Firstly, it is becoming accepted that problems of attribution associated with econometric impact studies are very difficult to overcome methodologically even with crop varieties, and are further compounded if one tries to look at more complex technologies, such as agro-forestry, soil fertility or integrated pest management. This is exemplified by the conclusions of CGIAR's analysis of *ex post* studies of impacts of international agricultural research centres, stating that "...the documents are relatively uninformative about what kinds of people are using these products and about the short- and long-term effects of the use of the products on these beneficiaries. In other words… we still know very little about the degree to which the CGIAR is achieving its mission" (CGIAR, 1997).

Secondly, these studies tend to focus on end-users and do not look more broadly at the other effects of investments in research which are essential to

the delivery of research results, such as in human and organizational capacity building (Mackay and Horton, 2000).

Thirdly, impact studies rarely provide the type of information that is needed by decision-makers to develop their programmes and organizations to address emerging opportunities. The growing emphasis on results-based management is highlighting these tensions between learning and accountability (DAC, 2001). The private sector has broadly recognized this, and pays less attention to evaluating the final impact of its products. While the demands upon the public sector to monitor impact of service delivery on end-users are higher than for the private sector, public sector organizations also need to have a keen eye on identifying future opportunities for service development.

[5] Initially, ideas were discussed with the funding agent, DFID's Forestry Research Programme, to explore the scope for a project which would pilot an innovative approach to performance management at programme level in national forestry research institutes. However, the results of this consultation were disappointing, with a lack of enthusiasm expressed by the institutions approached. Consequently, after further consultation, a decision was taken to expand the scope of the project to include all national research programmes and organizations with a natural resource related mandate, subject to the logistical limitations of a small pilot project.

[6] **Stakeholder tiers**
Tier 1 – A small group of individuals from agencies that have considerable experience in evaluation of capacity development/performance assessment (and participated through feedback on the approach paper), or stakeholders of the CSOs. A number of these individuals were invited to the Stage II workshop (held in July 2002) with the CSOs to help develop the methodology and provide input on the process. Those present at the workshop from Tier 1 included the M&E officers of the National Agricultural Research Organization, Uganda, and the Ministry of Finance, Ghana, alongside representatives of key stakeholders from each CSO. Unfortunately, representatives invited from IDRC, ASARECA, GTZ and ISNAR were unable to attend due to prior commitments.

Tier 2 – A larger group of agencies that showed an interest in the uptake of findings from the project, and/or expressed a broader interest in the methodologies developed. These included DFID research programmes: Crop Protection Programme, Crop Post- Harvest Programme, Natural Resources Systems Programme and Aquaculture; CGIAR centres – IITA, CIAT, WARDA, ICRAF, CIFOR, ICARDA, IPGRI, CIMMYT and IFPRI; the CGIAR TAC Standing Panel on Impact Assessment and Standing Panel on External Reviews and the World Bank (Operations Evaluation Department).

Approach

This section is divided into two areas, reflecting the evolution of the project itself. Firstly, the clarification of existing terminology, and the introduction of new terminology. Secondly, the introduction of the 'balanced scorecard' as an approach to assessing capacity and building a performance management system.

PERFORMANCE MEASUREMENT AND MANAGEMENT

Performance was defined for the purpose of this initiative as the functioning of a programme or organization over which the actors involved have direct control or a manageable interest. Thus, by extension, performance measurement is the system (methods and tools) used to monitor and assess the programme or organization's functioning. Monitoring and evaluation in this context is a sub-set of a wider performance measurement system[1].

The concept of performance measurement was presented by outlining the characteristics of a good performance measurement system, how this might help an organization and a number of performance measurement challenges (Annex 2). When presented to the case study organization (CSO) teams, these facets of performance measurement stimulated two reactions. Firstly, that the challenges to instilling a performance measurement mentality and instrumenting a performance measurement system already exist within organizational systems. These include the lack of a consistent understanding of performance measures, lack of integration of existing M&E activities, and to a certain extent – particularly at the higher management levels – the (not unjustified) fear of trying new systems. Secondly, there was a broad consensus over the need to address these challenges. These reactions illustrated the relevance of building capacity in performance measurement in these organizations.

Performance management was defined as the effective programme or integration and utilization of performance measurement within a programme or organization's strategic and planning decision-making processes. The differentiation of 'measurement' from 'management' is stressed as it was recognized that while a performance measurement system may run independently of management, if it is to be effective, it must be both integral to the programme or organization's strategic goals and objectives, and inform management planning and budgetary decisions.

THE BALANCED SCORECARD

This sub-section discusses the reasons why the balanced scorecard was selected as central to the approach for reviewing and building performance management capacity, and what the scorecard looks like – both as a singular approach, and its various facets.

Why the balanced scorecard?

The assumptions upon which this project is based centre around the inappropriateness of conventional M&E approaches, particularly *ex post* impact assessment, as a means for facilitating and assessing natural resources research uptake and impact. The assumptions made in designing this project emphasize the role of systems that include active and 'leading' indicators of *organizational* uptake and research outcomes as providing the clearest evidence of likely development impact.

In shifting the focus of monitoring and evaluation away from solely end-users and end-user impact, to organizational performance, the project sought an approach that would best serve this purpose. In reviewing comparable initiatives, elements of evaluation capacity development (as a means of diagnosing capacity and seeking entry points) and results-based management (as a means of impact-orienting) were felt to be of use[2]. However, neither approach is designed to serve as both a means of understanding performance management capacity development needs, and function as a performance management system. Thus, attention was turned to the balanced scorecard approach (hereafter termed 'the scorecard'). The scorecard can serve both as a framework for assessing organizational

capacity and as a performance measurement (and management) system that has proven successful within both private and public sector organizations.

The balanced approach to performance management is drawn from the work of Kaplan and Norton (1992) who developed a performance management system that sought to marry strategic business objectives with operational management activities. The scorecard is founded on the belief that conventional business performance measures, which rely on summary financial indicators, hinder private sector organizations' capacity to create future economic value and are increasingly inadequate in the modern age. Public sector organizations exhibit a different set of problems, typically measuring performance based on a raft of old measures superimposed by new ones reflecting internal (organizational) and external (government) policy shifts. Over time, measures accumulate, systems and processes are created to collect, review and transmit the measures, and soon more information is created than anyone has time to read (Estis, 1998).

Both private and public sector organizations thus suffer from the lack of a balanced approach to performance management, being either too narrow (private) or too broad and cluttered (public). The scorecard seeks to address this by providing a 'balanced' view of performance across four perspectives; client, internal business, employee learning and growth, and financial, stressing that internal processes together with the client or customer and other stakeholders, are crucially important to an organization's survival and should be internalized within any performance assessment system. Whilst the scorecard was introduced as a private sector tool, it has been adopted by the public sector to examine the ways in which government organizations can include customers, stakeholders and employees in their performance management efforts – to reach some balance in the needs and opinions of these groups with the achievement of the organization's stated mission.

Reviewing its history, particularly the positive evidence of its use in public sector organizations[3], the scorecard was used by the project initially as a conceptual framework through which opportunities at improving M&E in agricultural research organizations could be

explored. Conceptually, the scorecard approach was seen as compatible with the assumptions of the project, notably, the need for national R&D organizations to be increasingly results or impact-orientated, and a related need to adapt and use a set of measures that balance interests between internal needs and external requirements.

What does the balanced scorecard look like?

As new approaches and frameworks can often be difficult to conceptualize and explain, analogies are commonly used as a first point of reference. In the case of the scorecard, the analogy mostly typically found is that of an instrument panel in a car.

> "Good performance management is like driving a car towards a predetermined destination. There are many dials on the instrument panel. Whilst you are driving, you take note of the level of fuel (you don't want to run out of petrol). You watch the water level (you don't want the engine to overheat). If the emergency light came on, you would notice that as well. These are all secondary observations, however, to the driver's primary focus of moving the car safely towards its destination. That is what a good management system of an organization should enable. A balanced set of performance measures are like the instrument panels on the car, the goal is the destination."
>
> (Adapted from National Partnership for Reinventing Government, 1999.)

In other words, the balanced approach stresses the importance of defining a clear goal, and a strategy to achieve that goal which considers all operational measures simultaneously. Key measures should tell management how the organization is doing, and whether improvement in one area is at the expense or benefit of another. The framework of the scorecard is represented in Figure 1.

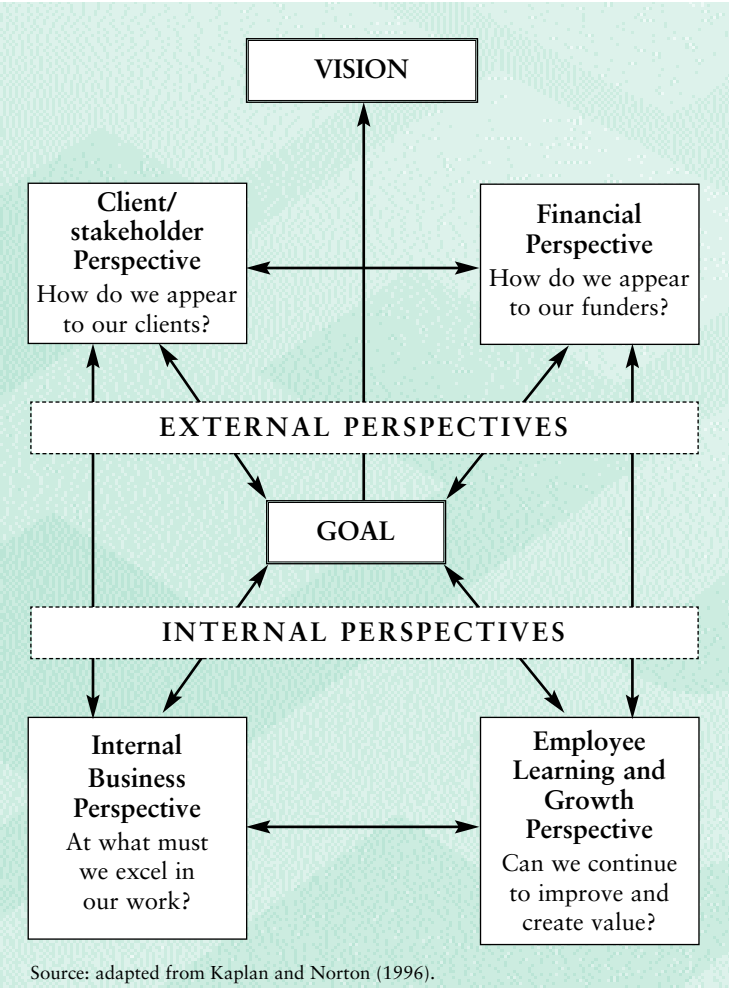


Figure 1 The balanced scorecard framework

***Vision*:**[4]what a programme or organization wants to be in the future (a longer-term and more linked aim, i.e. one which situates the organization or programme within a broader institutional context)[5].

***Goal*:** what a specific programme or organization wants to achieve by a certain time (e.g. be a centre of excellence by Year X [**Note:** with clear measures used to define 'centre of excellence'].)

***Internal perspectives*:** the systems and processes which drive a programme or organization.

***Employee learning and growth perspective*:** *"Can we continue to improve and create value?"* This perspective focuses on the performance of internal employee-related processes that drive the programme or organization, including forward-looking targets for continual improvement. Without employee 'buy-in', an organization's achievements are likely to be minimal. This is particularly relevant in an environment where: (i) other agencies (e.g private companies and NGOs) are attracting able employees away from the public sector to potentially more lucrative jobs; and (ii) where donors are looking to invest in attractive, growing organizations.

The types of issues addressed under this perspective are:

- how do we get employees to see our organization as a good place to work?
- how can we improve employee development and retention?
- what is our level of turnover of staff?

***Internal business perspective*:** *"To satisfy our clients, at what business processes must we excel?"* This perspective focused on the value chain from identifying client needs through to the delivery of the service or product. Central to this perspective is the link with the external views (particularly of clients) and the internal research process – developing, adapting and changing (technology and knowledge) as effectively as possible to provide the services and/or products required by clients. Indicators for the internal business perspective should relate to actions of staff involved in a particular process, while retaining their focus on the external requirements.

Examples of the types of issues addressed under this perspective are:

- are our measures outcome/results-based (i.e. do they provide a clear indication of the necessary steps to achieve specific targets)?
- are the results we produce something our stakeholders (i.e. end-users, extension departments, national and international research organizations, private sector, NGOs) really want?

- do we have real-time data for corrective and reporting purposes (i.e. does our system/do our indicators give us the information we need, when we need it)?

***External perspectives*:** relate largely to external interests, both the intermediate and end-users of the services, and those funding the service provision.

***Client and stakeholder perspective*:** *"How do we appear to our clients and stakeholders? How do we want them to view us?"* This perspective considers the programme or organization's performance through the eyes of a client or stakeholder, so that the organization retains a careful focus on client needs and satisfaction. In the case of agricultural research, a number of client groups are not funders, and may often not understand what is involved in producing the service delivered, or how to clearly articulate their needs in relation to potential research outputs that may benefit them (hence the emphasis from donors and others over the past twenty or so years on 'demand-driven' and 'client-oriented' research[6]). Greater power placed in the hands of farmers as clients of R&D services (e.g. through the privatization of extension services in Uganda), increases the need for agencies to better understand and incorporate the views of these clients in organizational planning and operation.

Examples of the types of issues addressed under this perspective are:

- who has a stake in our programme or organization (e.g. end-users, national and international research organizations, extension organizations, donors, NGOs, CBOs, agribusiness companies)?
- how do we want these stakeholders to view us?
- have existing monitoring activities incorporated external stakeholder input?
- do our existing measures for monitoring and evaluation and reporting reflect the expectations of varying stakeholders (e.g. provide relevant, accessible, accurate, clear and timely information)?

***Financial perspective*:** *"How do we appear to our investors: donors, government and corporations? How is this reflected in our financial strategy?"* This perspective looks at how a programme or

organization's financial position can be managed in view of external trends, i.e. (i) government sources (poor disbursement coupled with anticipated lower funding levels); and (ii) external funds (degree of fit with, on the one hand, the reasons why donors invest, and on the other, with the reasons why the programme or organization undertakes the work). Apart from the routine financial monitoring that goes on in all research institutes through established procedures, managers often do not have a clear idea of costs, or how to establish a relationship between costs and outputs (let alone outcomes) to assess whether they are using their financial resources prudently and strategically. There is often a preoccupation with operating costs, while staff costs are perhaps seen as outside the control of research managers relying mainly on staff recruited through the public service, while capital costs are often tied to large loans and donor-funded projects. Moreover, a current preoccupation with income recovery may risk a research organization straying from its strategic goal in order to address more immediate budgetary concerns and income generating opportunities.

Examples of the types of issues addressed under this perspective are:

- are our sources of finance sustainable (e.g. what is the ratio of project to core-funding? what are the implications of this?), what is our strategy to maintain financially viability?
- what are our own financial accountability requirements, how do these fit with the requirements of the funding agencies?
- how are current and future government and donor policies likely to affect our financial viability?

Constructing the scorecard

As previously noted, the scorecard can be used in several ways. As a framework for assessing organizational capacity and trends, the scorecard highlights the central performance areas of an organization. Thus, it identifies entry points for learning and change[7]. As an approach or system the scorecard facilitates the review and development of specific objectives and measures of an organization's internal and external perspectives, to generate a balanced, operationalizable data set for managing organizational performance.

Used systemically the scorecard explicitly recognizes that no single measure provides a summary of overall performance. Arranging the perspectives horizontally and vertically is a way of checking internal consistency, revealing cause-and-effect linkages, overlaps where an indicator may measure more than one objective, and gaps where no indicators are found but are needed. Figure 2 illustrates a simplified vertical linking of cause-and-effect.

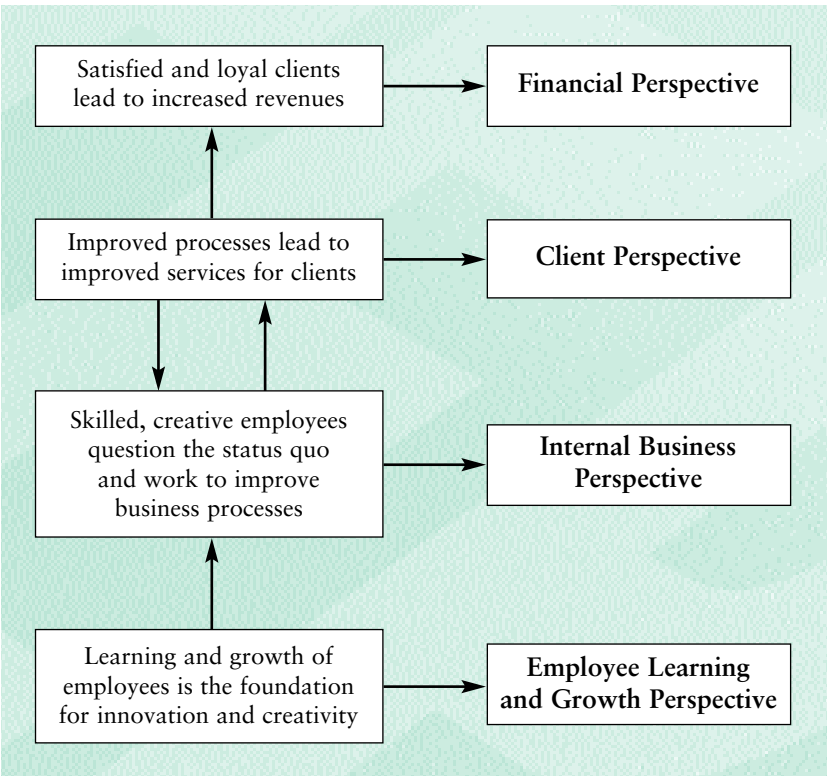


Figure 2 Vertical cause-and-effect in the scorecard

The construction of objectives under each perspective is followed by a stepwise review of what is currently being done in each area. This is followed by a consideration of what needs to happen if the objective(s) are to be achieved. Identification of gaps (between what is happening, and what needs to happen) leads logically to the development of delivery plans to address these gaps.

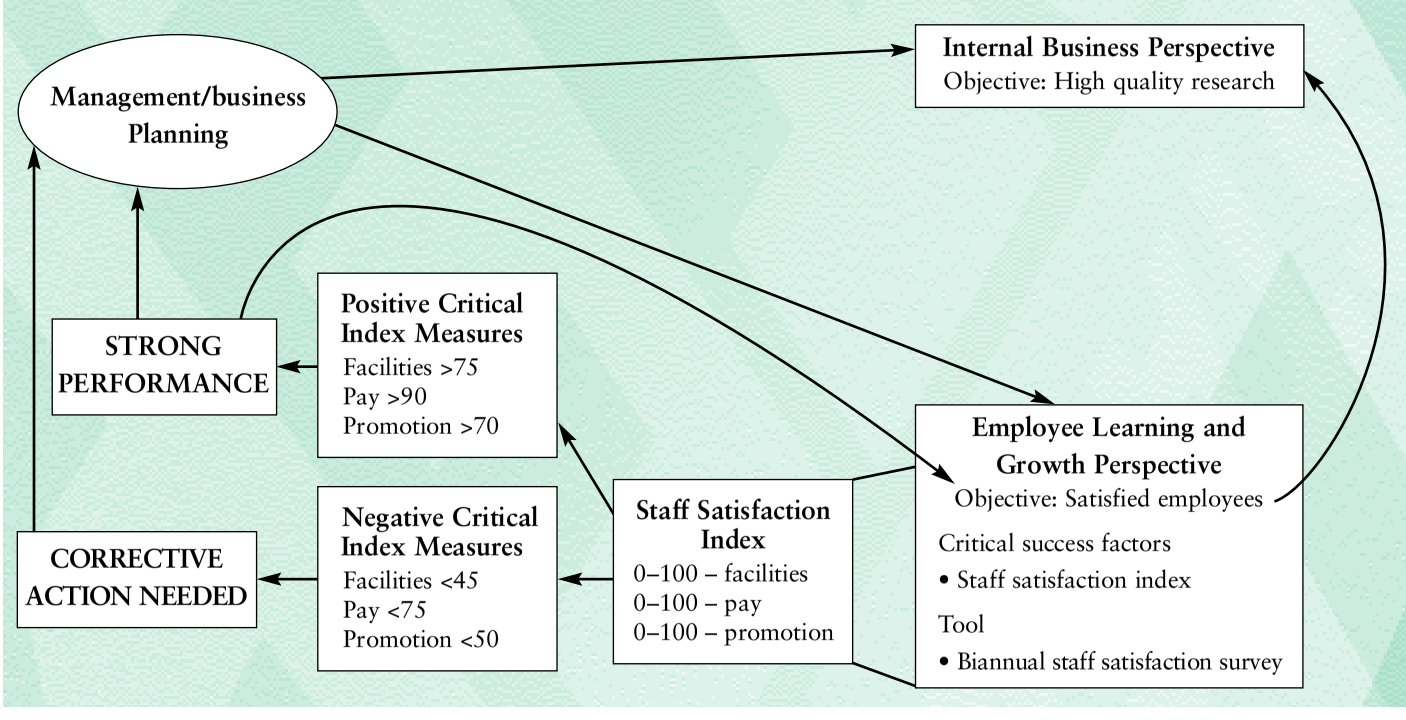


Figure 3 An example of the lower half of a completed scorecard

In its complete form, a programme or organization should have a performance system composed of four integrated sub-systems (under each perspective) which collects and provides real-time information on organizational performance.

Figure 3 illustrates what part of a completed scorecard might look like. In this partial (and heavily simplified) example, the objective of 'satisfied employees' is measured through a bi-annual satisfaction survey. An index based on the scores generated from this survey (disaggregated into its main elements – facilities, pay and promotion) is used to assess change. If satisfaction scores fall below certain pre-determined levels, management needs to take corrective action – perhaps looking at the research facilities, pay levels or other indicators, as this, in the views of the staff, is crucial to their satisfaction. High scores on the index means satisfied staff which then links to the next perspective (internal business) and can be reviewed in relation to the quality of research being conducted. In a full scorecard, this would link up to the client/stakeholder and financial perspective (vertically) and to the organization's goal.

Whilst the construction of the scorecard is not a guarantee of improved organizational performance[8], the process of building the scorecard through each perspective provides a clear view of the programme or organization as a whole. Following a procedure all the way to its logical conclusion for its own sake is clearly to be avoided, and considerable benefits can be derived from simply acting upon some of the gaps identified in one or more perspective. Experience has shown that when management and employees collaborate in constructing a scorecard, the process promotes wider ownership of organizational goals and strategic objectives, and improves the general awareness of issues that need to be addressed within an organization (Olve and Sjostrand, 2002).

APPROACH AND METHOD STAGES

A stepwise approach was designed by the project team to guide the scorecard building process. The approach was composed of two distinct stages: Stage I – diagnosis; Stage II – scorecard construction for each CSO. The diagnosis focused on two areas: organizational context and capacity. The results of the diagnosis were reviewed through the lens of

the scorecard's framework perspectives. This identified areas that required targeting during scorecard construction. The construction process was designed as a systemic planning exercise, aimed at developing draft delivery plans for targeted needs.

"Interactions <were> effective as participants were involved in the generation of their own goals, objectives and delivery plans"

Participant's comment about the Stage II workshop

Whilst the approach was developed within a reasonably tight structure (in view of constrained time schedules and considerable expectations), it was expected that it would be subject to adaptation during implementation. As such, a conscious decision was made by the team to remain open to change, whilst at the same time being aware that a process with clear goals needed to be implemented if the project was to be successful. Figure 4 presents the approach plan.

The plan was implemented using methodologies developed and/or adapted[9] by the project team. Specific personnel (from within and outside each CSO) participated at different stages, reflecting the balance of internal and external factors.

NOTES

[1] **Monitoring and evaluation and performance measurement**
The term 'performance measurement' was differentiated from the more familiar 'monitoring and evaluation' to emphasize the importance of organizational measurement. Monitoring and evaluation (M&E), particularly within the context of agricultural research, is primarily conceived within the context of research projects, focusing largely on the space between inputs and outputs, and on research impact. Thus performance measurement, looking at the organizational-level system rather than just the activities conducted within the research sphere, was deemed to include M&E (in the research sense) amongst other measurement activities.

[2] **Results-based management**
One of the most popular models being promoted in support of organizational performance management capacity development is results-based management (RBM), based on the recognition that public sector performance systems have historically been disjointed, managing inputs and measuring macro-level shifts, but with little clear idea of how they are affecting change. Consequently, RBM focuses attention clearly on to attributable results

through providing guidance for developing a 'results-chain', linking resources, processes, outputs, client reach, outcomes and impact (World Bank, 1999). This model, or system, is being strongly promoted by donor agencies (World Bank, UNDP, USAID) as a means of both improving the likelihood of development effectiveness, and to track progress towards this end.

Evaluation capacity development

Whilst little disagreement exists that the results-based approach focus is helpful both in terms of establishing realistic and attributable targets, and in tracking progress towards these, there has been some concern expressed over the need for capacity building (including approaches, frameworks, models) to reflect existing constraints and institutional realities. On one hand, the entry point for donor support has often been at the level of 'performance', made visible through products, programmes and services, prior to fully understanding institutional motivations (Lusthaus *et al*., 1995). On the other hand, reviews of previous capacity development efforts themselves have been found to be somewhat unsystematic in their approach to assessing both the requirements of the target organization, and the performance of the interventions themselves (Horton *et al*., 2000). A number of approaches and frameworks have been developed with the objective of providing donors with a way of better understanding and assessing organizational capacity to facilitate investment decisions. Amongst these, Universalia/IDRC's framework for strengthening organizational capacity (Lusthaus *et al*., 1995) and the World Bank's evaluation capacity development delivery framework (Mackay, 1999) focus on understanding better the demand and supply for performance management, and assessing the capacity, capability, motivation within organizations as the drivers and inhibitors of performance.

The Universalia/IDRC framework for strengthening organizational capacity (Lusthaus *et al*., 1995) was designed for assessing the capacity of IDRC's research partners, and has been adapted and used by ISNAR in evaluating their capacity development initiatives (Horton *et al*., 2000, Horton, 2001) and the World Bank in a guide for conducting reviews of organizations supplying M&E training (Adrien, 2001). The framework emphasizes the importance of understanding organizational motivation (internal factors that influence the direction of organizational activities) and capacity (the resources, knowledge and skills of an organization), as influenced by the operational environment and affecting organizational performance (the achievements of the organization in relation to its objectives). Through deconstructing and evaluating the components of these four elements of an organization, the framework provides a means for preparing appropriate capacity development initiatives.

The World Bank's Evaluation Capacity Development (ECD) framework (Mackay, 1999) is organized into nine related steps to assist in the identification of an ECD delivery plan. These steps include the identification of key ministries and bodies, a diagnosis of the public sector environment and an

assessment of activities and capabilities, leading to the mapping of options for developing evaluation capacity.

[3] **Examples of public sector use of the balanced scorecard approach**
The United States Postal Service (USPS) established its measurement programme by identifying three key 'aspirations' – business, customer and employee commitment. From these USPS developed its Customer Perfect performance management model based on three pillars: (i) the voice of the customer, (ii) the voice of the employee, (iii) the voice of the business (National Partnership for Reinventing Government, 1999).

Canada's St. Lawrence Seaway Management Corporation acknowledged that it required a performance management system that is 'living'. Its performance measures are currently being adjusted to reflect the corporation's new, more commercialized, non-profit status. It conducts employee satisfaction surveys every two years to determine overall satisfaction and alignment between employees and the organization's vision and objectives (National Partnership for Reinventing Government, 1999).

The UNDP's Local Rural Development Programme in Ramallah, West Bank has adapted the balanced scorecard approach to facilitate the management of the programme (Schroll, 2001).

[4] Considerable debate took place over the definitions of 'goal' and 'vision', used in varying and often interchangeable ways by different organizations and programmes, and projects within these. For the purpose of this initiative, they were defined as stated.

[5] In the case of this project (recognizing its limitations), greater emphasis was placed on reflecting and reviewing programmatic/organizational 'goal' than 'vision'. The reasons behind this, and the outcomes of this reflection are discussed at several points in the report.

[6] Various initiatives to empower end-users are being tested in Africa through the allocation of research budgets through which they may contract research and development services. Examples include the World Bank ATIRI project in Kenya, DFID project in northern Uganda, and Netherlands Government projects in northern Tanzania. See Gill and Carney (1999).

[7] Much in the same way as the capital assets pentagon within the sustainable livelihoods framework, albeit within a different context. For more on this see Ashley and Carney (1999).

[8] Whether using the scorecard or another approach, the appropriateness, adaptability and suitability of the system will play a major role in determining its success.

[9] The main sources of methodologies reviewed and adapted to suit this project were: Olve, N., Ray, J. and Wetter, M. (1999); PEA (1999); Viriginia Department of Planning and Budget (1998); Chang, R.Y. and de Young, P. (1995).

STAGE I – ORGANIZATIONAL DIAGNOSIS
Inception: Introducing the project

Organizational context. Defining the organizational context and describing the role of the organization within it.

Organizational capacity. Defining the organization's capacity, including M&E systems.

Review and diagnosis. Review and diagnosis of organizational context and capacity within the framework of the balanced scorecard.

STAGE II – SCORECARD CONSTRUCTION
Workshop: Constitution and format

Organizational goal. Reviewing and revising the organizational goal of each CSO.

Method for developing delivery plans. Developing objectives, key performance indicators and delivery plans.

Employee perspective.

Internal business perspective.

Client/stakeholder perspective.

Financial perspective.

Review of scorecard. Reviewing draft delivery plans and looking at internal logic.

Figure 4 Approach plan

Stage I Organizational diagnosis

INCEPTION: INTRODUCING THE PROJECT

An approach paper was developed which clarified the rationale and structure of the project, and presented the basic ideas to the project's audience. The paper was sent to each participating case study organization (CSO) prior to the visits, and followed up on arrival with a brief presentation, followed by question and answer sessions with the assembled organization representatives. Each CSO had organized an assembly of senior staff drawn from a cross-section (or in some cases, all) of departments or sections, based on the project's specified need to work at the level at which strategy, management and M&E functions are carried out.

STEP 1 – ORGANIZATIONAL CONTEXT

The purpose of this step was to gain a consensual understanding of the characteristics and requirements of the research and development (R&D) sector in the country. This included anticipated changes, so that a clear understanding of the organization's current position and role within this context could be reached.

Aim	Method	Participants
Defining the CSO context	Semi-structured individual interviews by the PIP project team	Senior management within each CSO and independent opinion leaders

Three organizations participated as case studies in this project: National Banana Research Programme (NBRP), Uganda, Crops Research Organization (CRI), Ghana, Food Research Institute (FRI), Ghana.

Independent opinion leaders were contacted in advance, and interviewed by the project team separately to provide a balance of internal and external views. This enabled an informative diagnosis with the CSOs, sharing external stakeholders views of the institutional

environment within which each CSO is operating (see Annex 3 for more details).

Crops Research Institute (CRI) and Food Research Institute (FRI), Ghana

The CRI and FRI are two of thirteen institutes under the Council for Scientific and Industrial Research (CSIR). The CRI was established in 1964. Its research mandate covers most food and some industrial crops[1], with the mission to ensure high and sustainable crop productivity and food security through the development and dissemination of environmentally sound technologies. FRI, established in 1963, has a mandate to carry out applied research into problems of food processing and preservation, storage, marketing, distribution and utilization in support of the food industry, and also to advise government on food policy. FRI is increasingly involved in providing laboratory and advisory services to the food processing industry on a revenue-generating basis.

Both institutes operate research programmes and projects funded by the Government of Ghana and external agencies[2]. As with the NBRP, each of these projects has its own reporting and M&E requirements. However, at present, access to funding is more centralized in Ghana than in Uganda. Consequently, improved performance management at the institutional level in this context will serve the purpose of providing information through which CRI and FRI are better able to negotiate resource raising and allocation with central government[3].

The Ministry of Food and Agriculture (MOFA) is the primary ministry responsible for food and agricultural development in Ghana. Whilst MOFA and the CSIR are institutionally separate, the research outputs generated by the CSIR institutes are largely disseminated through MOFA. While government extension is being re-organized[4] under the Agricultural Sector Investment Programme (AgSIP, run through MOFA), the plans are less radical than in Uganda. There is more emphasis on making linkage structures more effective, with a degree of withdrawal from direct service delivery towards an advisory and support role. Funding through AgSIP is expected for research, and this has the potential to strengthen the linkages between the CSIR and

MOFA. However, what form this will take and how accessible it will be to the CSIR institutes has not yet been determined.

Two reviews under the National Institutional Renewal Programme (NIRP) have been carried out within the CSIR over the past year. An externally managed institutional review funded by the Government of Ghana and the World Bank was conducted which suggested considerable restructuring of the research system. The recommendations of this review were largely rejected by staff under the CSIR. This has been followed by an internal research review (currently underway), managed from the corporate office of the CSIR, and engaging directors from each institute. The aim of this review is to review the corporate mission of the CSIR, identify priority issues, and link these to the CSIR mission. It is expected that by the end of 2002 a strategy will have been developed for rearranging technical services under the CSIR.

National Banana Research Programme (NBRP), Uganda

The NBRP is located within Kawanda Agricultural Research Institute (KARI), one of eight institutes within Uganda's National Agricultural Research Organization (NARO). Its mandate is to conduct applied and adaptive (farmer participatory) research and promote technologies on bananas and plantains. The NBRP is funded by a diverse array of donors, including the Government of Uganda, Rockefeller Foundation, IDRC, IPGRI and DFID, to implement various projects, each of which has its own reporting and M&E requirements. These projects are increasingly targeted at solving specific problems, moving away from a commodity-based approach, thus creating the need for collaboration with a wider body of researchers within and beyond NARO.

Under the auspices of Uganda's Programme for the Modernization of Agriculture, research and development is currently undergoing considerable reform. The newly formed National Agricultural Advisory and Development Service (NAADS) has in some districts replaced the conventional government extension service as a quasi-private entity to provide extension services to clients. A review of the national agricultural research system (NARS) is currently being conducted. Central to this review is the current structure of NARO,

and what changes may be appropriate to develop a more service-orientated system, responding to the research needs of farmers. Anticipating the recommendations of the NARS reform, and in recognition of the need to be more demand-driven, one of NBRP's strategies is to sharpen its internal performance management system.

Context summary

The interest of these research organizations in this project stems from the increasingly complex and changing institutional environment in which each is operating. In anticipation of the recommendations of the NARS reform process in both countries, increasing pressure to source funding and be part-commercially viable, have caused them to consider their internal structure and systems to best position themselves. It is recognized that, in principle, strong performance management will enable each organization to function well, forging strong working environments, delivering good products and services as demanded by various client groups, and thus be recognized as a strong centre for research.

STEP 2 – ORGANIZATIONAL CAPACITY

The diagnosis of organizational capacity and need was conducted through self-identification of institutional strengths and weaknesses, opportunities and threats followed by a review of mandate, planning and performance structures and processes. Through this review process, the internal drivers and inhibitors were linked to perceived external opportunities and threats.

The institutional strengths and weaknesses exercise revealed the current state of mandate, structure and processes within each organization. When aligned with future, externally focused opportunities and threats, the changes, if any, that may need to be made to the internal elements are revealed. The findings of these two analyses are presented in combination with those of the stakeholder mapping exercise.

Across the three CSOs, considerable alignment was found in the main internal strengths and weaknesses. Figure 5 presents the common features. Contradictions inherent in most workplaces were found in the

Aim	Method	Participants
Defining the CSOs' functions	Strengths and Weaknesses Analysis. Focusing on the internal environment (organizational). Individual cards – two points per card – posted on the wall and discussed in plenary.	Senior staff from the CSO
Reviewing shared organizational goal	Goal Analysis. Individual cards – each participant asked to write down what they understand the organization's goal to be based on the question "if you were asked to summarize what your organization does, what would you say?". Results were arranged, posted and discussed in plenary.	Senior staff from the CSO
Describing the relationship between the CSO and its context	Stakeholder Mapping Exercise. Identifying the major clients and stakeholders, the nature of the linkages with these agents, and the strength of these links from the organization's perspective. Conducted in plenary. Opportunities and Threats Analysis. This analysis focuses on the relationship between the CSO and its external environment – both currently and in the future. Individual cards – two points per card – posted on the wall and discussed in plenary.	Senior staff from the CSO

three CSOs. Whilst each identified a strength in the quality and team-working of staff, at the same time, some felt understaffed, identifying brain-drain to better paid posts elsewhere, with associated motivational problems. In a number of cases this could be attributed to systemic issues within each organization, such as a lack of feedback internally

Current Strengths

- **Human resource** – multi-disciplinary, good teamwork, highly skilled, sufficient quantity
- **Physical resource** – technical research equipment
- **Research** – long history, high quality
- **Dissemination** – transferring technologies, training, good client relationships

Current Weaknesses

- **Human resource** – numbers, allocation, motivation, communication
- **Physical resource** – information technology
- **Systems** – bureaucracy, planning, M&E, feedback
- **Dissemination** – with some clients, notably private sector
- **Funding** – delayed disbursements, variety of sources

Figure 5 Common features across CSOs

(from managers to staff), but in some cases reflects failures in the dissemination process to provide needed assurance and accreditation.

Dissemination was identified as both a strength and a weakness and reflects different client bases. Whilst links with traditional clients and stakeholders were identified as strong in each case, the shifts in the institutional environment surrounding each CSO is necessitating a change or expansion of the client base, often towards the private and NGO sectors where links are non-existent or weak. This is also reflected in the perceived weakness over funding, particularly amongst the Ghanaian organizations, where pressure to secure private (non-governmental) funding is mounting.

When the externally driven potential opportunities and threats were considered, the situation across the CSOs is made clearer (Figure 6). Whilst there is considerable existing and latent demand for the products and services of each organization, there is competition for research funds from other research bodies in a declining pool of overall research funding. This mimics the global trend of increasing disaffection with agricultural research by funding agencies.

Future Opportunities

- **Research demand** – for existing products and services delivered and potential new products and services
- **Dissemination** – broadening the dissemination base to new clients and having a greater impact
- **Funding base** – potential new sources of funding from donors and private agencies

Future Threats

- **Institutional change** – public sector squeeze, downsizing, privatization, research-extension linkages
- **Human resource** – brain-drain of staff into private sector, NGOs or other agencies
- **Funding** – competition for common-pool research funds, reduction in funds available for research, privatization demands

Figure 6 Potential opportunities and threats across all CSOs

Whilst the continued demand for what is predominantly 'public good' type research is perceived to exist (rural farmers were stated to be the main client group of at least two of the organizations), increasing pressure is being felt by the CSOs to embrace the private sector. This move to commercialize ranges from sourcing private funds, at one end, to fears over the privatization of the research system at the other. Whilst this actual and potential trend towards privatization does not necessarily imply a radical shift in the nature of the research being conducted, nor necessarily the main client groups, it is beginning to unsettle these well-established organizations.

Further, the nature of agricultural research means that those demanding and receiving products and services are often not those funding the research. Thus, whilst strong feedback mechanisms with farmers has enabled the research to be increasingly demand-focused, these clients are not those directly determining policy and institutional change. In this sense, it is a necessary but, on its own, insufficient condition for maintaining the standing of these organizations.

Central to the findings of these assessments is the need for strong relationships with key clients and stakeholders and better understanding of their needs, thus improving the effectiveness and efficiency of the CSO's use of resources and the production of relevant products and services. Performance management was perceived to have a role in this process by tracking progress towards improved product and service delivery.

Planning, monitoring and evaluation

The capacity in planning, monitoring and evaluation was diagnosed using exercises to review how staff plan, and their knowledge and perception of M&E within the organization. The diagnosis was supported by the fact that some of the staff within each CSO had M&E training, and all had experience of M&E.

Aim	Method	Participants
Diagnosing planning, monitoring and evaluation	Planning Analysis. Assessing how staff plan, what information they use and how they collect the information. Individual cards – two points per card – posted on the wall and discussed in plenary. Brainstorming. A brainstorming session on M&E was held to gauge understanding amongst senior staff. M&E Capacity Self-Assessment Tool (Table 1). Fifteen positively orientated statements to which each staff member marked strongly disagree to strongly agree. Conducted on an individual basis (25 minutes each), analysed in plenary and fed back in final report.	Senior staff from the CSO

Planning: The planning exercise focused on understanding the logical sequence of an individual's contribution to the goal of the organization, how activities to meet this goal are planned, what information is used, and how it is used. Through combining and

comparing the individual responses, an indication of consistency (amongst the tools used) and attribution (i.e. whether or not the planning processes accurately reflect their contribution to the goal) was obtained[5].

The breadth of individual contributions to the CSO goal (from investigative design studies to technology dissemination) is reflected in the planning tools used. With the primary *modus operandi* being farmer participatory research (FPR) (in the case of the NBRP), it is unsurprising that the majority of planning tools begin with an understanding of farmer needs and perceptions, followed by team planning and research protocol development. Whilst this approach is justifiable, the implication is that FRP is used in place of a more balanced set of planning tools which reflect not only farmer needs, but internal capacity and requirements, and those of other stakeholders. For example, while stakeholders were mentioned as being included in the planning process, little emphasis was placed on the specific role of extension services or other intermediaries who are ultimately responsible for the dissemination of the products and services produced. Thus, an imbalance exists between investigating end-user (farmer) needs on the one hand, but not engaging as fully with the stakeholders responsible for dissemination (extension services, public and private agencies) on the other.

Further, the planning process described on an individual level highlighted the central role of the project through which research is conducted. The lack of a clear overarching CSO goal through which projects are aligned suggests that planning starts and ends within these project loops, thus not explicitly contributing to a higher level objective.

Whilst this may be sustainable on a project level, it does not provide the CSO with a clear direction, through which targets can be established and measures used to assess achievement. In the absence of organization-level processes, there is less obvious space through which lessons can be learnt from project success and failure as a basis for future resource allocation.

Brainstorming M&E: A brainstorming session on what constitutes good M&E[6] was a starting point from which to gauge levels of

understanding. The exercise highlighted various issues that have been grouped into what good M&E might do, what it might involve, how it might be done, and what needs it might address (Figure 7).

Good M&E was perceived as having a variety of roles. These included planning, tracking progress by informing about the achievement of

What good M&E might do…

- Review plans and objectives
- Plan for future activities using the present as the basis
- Aid financial management/control
- Establish appropriate responsibilities
- Provide answers/solutions, especially in emergency situations
- Verify indicators
- Provide reasons for non-achievement
- Track progress and impact
- Improve service delivery
- Go beyond what's written down – should see it
- Assess the costs and benefits of participation

What good M&E might involve…

- Strong participation
- Effective feedback mechanisms
- Link to well-defined objectives
- Targets

How good M&E might be done…

- Use of the logical framework approach
- Monitorable indicators
- Effective training
- Data analysis/processing

Potential M&E needs…

- Improved understanding/perceptions
- M&E in our context (not blueprints)
- Standardization of instruments for data collection

Figure 7 M&E brainstorm

good results and providing reasons for the non-achievement of results, validating achievement and allocating responsibility to fulfil this achievement, aiding financial management and improving service delivery. During discussion, it was agreed that good M&E may be achievable through strong participation and effective feedback mechanisms using clear targets reviewed in a timely manner. The instruments for good M&E included the possible use of the logical framework approach which involves the selection and application of monitorable indicators. This was felt to require training and strong capacity in data analysis/processing.

Reflecting on potential weaknesses that exist in monitoring and evaluation, participants from the NBRP highlighted three major needs. Firstly, a clear shared understanding of terminology and action. Secondly, the need for a framework, approach or system that is designed within the institutional context, rather than one imposed without consideration of circumstance. Finally, the need for standardization of data collection, to ensure that results are valid and comparable.

In considering the results of this exercise, the PIP project team felt that senior staff within each CSO shared a good grasp of the nature, role and function of monitoring and evaluation. The extent to which these facets of monitoring and evaluation, or a M&E system, were present within the CSOs themselves was explored through an M&E capacity self-assessment exercise (Table 1).

***Diagnosing M&E capacity*:** The self-assessment tool used for this diagnosis (Table 1a), enabled the senior staff from each participant CSO to grade a series of statements that reflect the state of monitoring, evaluation and performance management within their organization. The scores for each statement were accumulated and are illustrated in graphic form in Table 1b.

For analytical purposes, the statements were grouped into three categories: the M&E system (Figure 8); internal utilization (Figure 9) and external focus (Figure 10). The use of the term 'system' was slightly analogous, as few staff from each CSO recognized a formal system to be in operation – rather there was an informal system comprising a series of M&E functions, including planning,

Table 1a M&E capacity self-assessment tool

Assessment criteria	Rating scale *					Explanatory notes
	1	2	3	4	5	
1. We define our measures from the communities point of view						
2. Our current M&E system measures all the right things						
3. Responsibilities for assessing different measures are clearly defined						
4. Our M&E system does not produce more paperwork than is necessary						
5. Results from our M&E system inform decisions on budgetary allocations						
6. Our system always gives us the information we need when we need it						
7. We are only accountable for measures over which we have control						
8. Everyone in our organization understands the measures used to assess performance						
9. Senior management built our M&E system with a plan - it did not evolve by chance						
10. Our M&E system contains a 'well-balanced' blend of measures that reflects the different levels of objectives in our strategic plan						
11. We assess client satisfaction on the outputs we deliver with and for them						
12. We have a way of summarizing all our outputs easily						
13. We pay as much attention to the non-financial measures as we do the financial measures						
14. We track performance for internal operations as well as the delivery of outputs						
15. We act on results quickly						

* 5 = strongly agree; 4 = agree; 3 = neither agree nor disagree; 2 = disagree; 1 = strongly disagree.

Adapted from Chang and de Young (1995).

Table 1b. Monitoring and evaluation capacity self-assessment

ASSESSMENT CRITERIA

M&E system

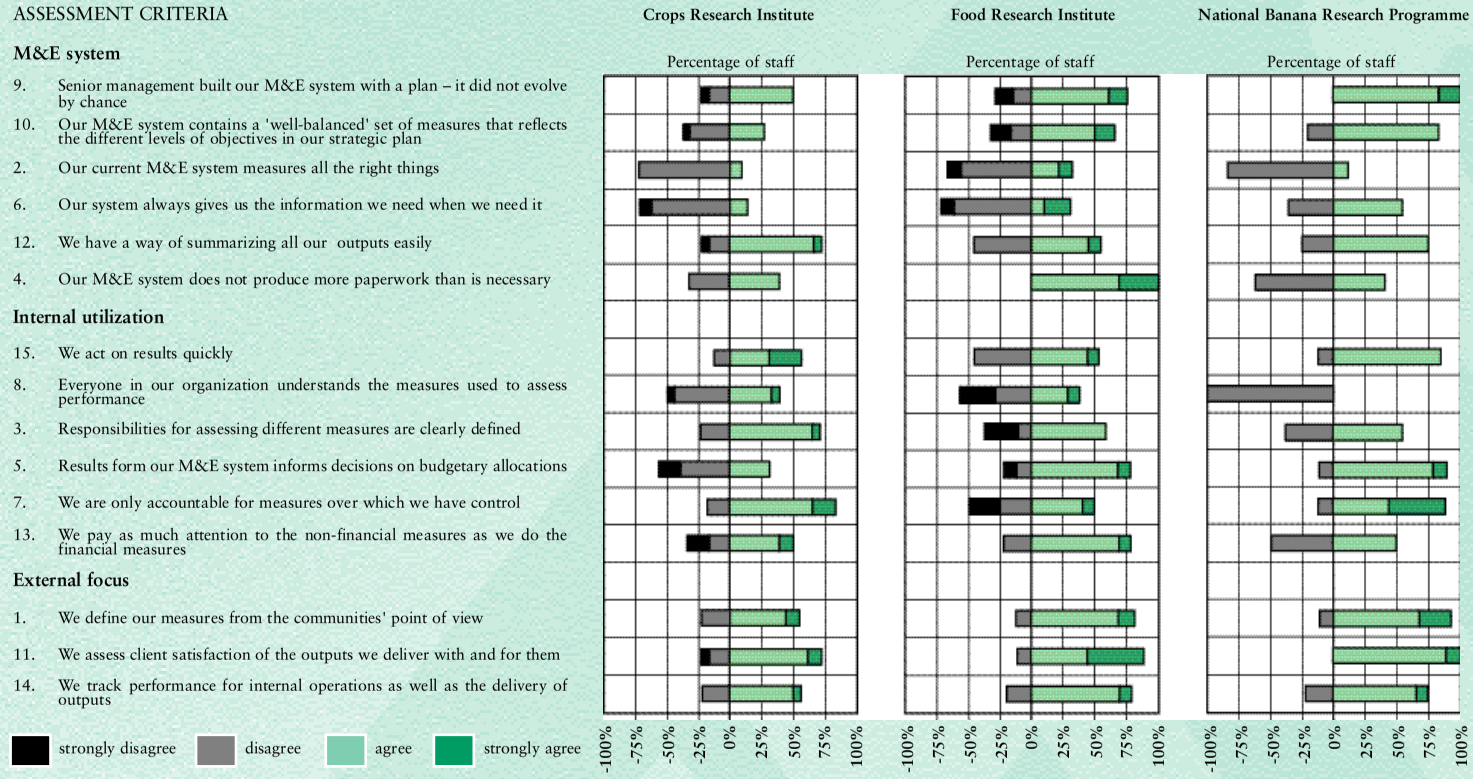
9. Senior management built our M&E system with a plan – it did not evolve by chance
10. Our M&E system contains a 'well-balanced' set of measures that reflects the different levels of objectives in our strategic plan
2. Our current M&E system measures all the right things
6. Our system always gives us the information we need when we need it
12. We have a way of summarizing all our outputs easily
4. Our M&E system does not produce more paperwork than is necessary

Internal utilization

15. We act on results quickly
8. Everyone in our organization understands the measures used to assess performance
3. Responsibilities for assessing different measures are clearly defined
5. Results form our M&E system informs decisions on budgetary allocations
7. We are only accountable for measures over which we have control
13. We pay as much attention to the non-financial measures as we do the financial measures

External focus

1. We define our measures from the communities' point of view
11. We assess client satisfaction of the outputs we deliver with and for them
14. We track performance for internal operations as well as the delivery of outputs



Note: The results focused only on the positive and negative responses to the statements, omitting the 'neither agree nor disagree'. In discussion, and through reviewing the explanatory comments made on the self-assessment forms, it was recognized that in many cases those who marked as such did so because they did not fully understand the statement.

monitoring, reviewing and evaluation. Thus, in reviewing each of the statements, 'system' was understood in this informal sense.

+	Senior management built our M&E system with a plan – it did not evolve by chance (9)
+	Contains a well-balanced set of measures that reflect different levels of objectives in our strategic plan (10)
-	Measures the right things (2)
-	Gives us the information when we need it (6)
+	Enables outputs to be easily summarized (12)
+/-	Doesn't produce more paperwork than necessary(4)

Key

+ agree - disgree +/- mixed

Figure 8 M&E system

Despite the lack of a formal system, the M&E functions identified in each CSO were felt to have been strategically developed by management (Statement 9). In both the FRI and NBRP, indicators were identified across the range of components of the organization, and at different operational levels (Statement 10). By contrast, the majority of staff at CRI felt that this did not exist in their organization.

The breadth of existing indicator coverage (high for FRI and NBRP) did not imply that the right things were necessarily being measured. A weakness was identified by each CSO in this area (Statement 2). Thus, whilst recognizing that the 'systems' function well, it was also felt that there were gaps in what they measure. The efficiency of the systems in the case of CRI and FRI was also questioned, with a strongly negative response to the statement "our system always gives us the information we need when we need it" (Statement 6). Despite this, all CSOs felt that the format of the information provided through the system was useful, and thus easily summarizable (Statement 12).

These variable responses question the nature of information and feedback mechanisms above project level in each CSO. Whilst it was acknowledged that outputs are easily summarized and enable responsiveness (all felt

positively about acting quickly on results – Statement 15), questions were asked as to the extent to which the information collected is useful (not measuring the right things, not everyone understands the measures – Statement 8). A distinction is apparent here between specific project outputs that are well structured, and other types of information (performance-orientated) that appear to be lacking.

+	We act on results quickly (15)
-	Everyone understands the measures used to assess performance (8)
+/-	Responsibilities for assessing different measures are clearly defined (3)
+/-	Results inform decisions on budgetary allocations (5)
+	Only accountable for measures over which we have control (7)

Key

+ agree - disgree +/- mixed

Figure 9 Internal utilization

Feelings over accountability were mixed. At FRI, doubt was raised over the issue of being accountable only for measures over which they (as individuals) have control (Statement 7). This may reflect the lack of clarity over the delineation between 'research' and 'extension'. Research dissemination has pushed into traditional 'extension' areas in the absence of effective extension networks due to a pressing need to demonstrate research impact. This has caused concern over what researchers can be held accountable for, particularly because they are not able nor responsible for dissemination at a scale necessary to affect the development process (i.e. production increases, poverty reduction, etc.).

+	Define our measures from the communities point of view (1)
+	Assess client satisfaction (11)
+	Track performance for internal operations as well as the delivery of outputs (14)

Key

+ agree - disgree +/- mixed

Figure 10 External focus

evidently strengthened the linkages and feedback mechanisms with this client group (Statements 1, 11 and 14). Other client groups are not specifically addressed through the self-assessment diagnosis, but evidence from the 'opportunities and threats' analysis suggests that linkages and feedback mechanisms are more varied. Whilst each CSO identified numerous strong links (see separate volume on individual case studies for detail), a number of clients were also perceived to be threats as competitors.

STEP 3 – REVIEWING ORGANIZATIONAL CONTEXT AND CAPACITY

A draft report was produced by the project team for each CSO based on the findings in Steps 1 and 2. The balanced scorecard perspectives were used as a framework for organizing the material. The main findings were presented at a meeting of senior CSO representatives where they were discussed. Points raised were included in a draft report by the project team which was subsequently handed over to the CSOs. These reports were further edited by the CSOs, and used as part of the workshop planning process, providing a good indication of the extent to which each CSO had taken on board the ideas introduced. The positive reception of the scorecard encouraged the team to continue to use it as the central approach in the workshop. The review highlighted the following themes.

Established centres of research, but situated within an uncertain institutional environment

Each CSO is a well-established centre of research, with self-identified strengths in the quality of the staff, essential resources, research outputs and client bases. However, the institutional environment of each is complex. They are located within large bureaucratic structures with numerous clients and stakeholders. These clients and stakeholders include those who fund the research, those who receive the products and services, and those that both pay for and receive products and services. Both the nature and source of funding, and the type of clients and funders are in some cases shifting. This situation is both an opportunity and a threat to each CSO.

Awareness of need to re-consider internal systems in view of external changes

These changes in the institutional environment have caused each CSO to reconsider their internal structure and systems so that they can best position themselves to function effectively and serve the diverse client and stakeholder groups. This is reflected in the understanding of the M&E function; on the one hand, performing effectively within the CSO's traditional core business activities and project-focused structures, on the other, being challenged by changes in the external environment which require the CSOs to demonstrate performance and learn lessons institution-wide. Further, as the mandate of each broadens, the impact expected is being pushed into areas potentially beyond direct control (i.e. beyond research into extension). This has implications for accountability.

Demand for performance management capacity development

It was recognized that, in principle, strong performance management will enable each CSO to function well, forging strong working relationships, delivering good products and services as demanded by various client groups, and thus be recognized as strong centres of research. A number of key opportunities were identified for strengthening existing performance management (varying in importance according to individual CSO):

- reconsideration of the corporate framework to help staff and investors witness the CSO's performance
- development of a consistent and commonly understood basis to enable the internal research and staff processes learn and adapt to the demands of clients and the shift in funding patterns
- the need for a clear understanding and measurement of those areas for which staff are accountable.

NOTES

[1] Except for cocoa, coffee, cola, sheanut, coconut, oil palm, sorghum and millet which are the mandated crops of other research institutions.

[2] CRI, for example, has projects and programmes funded by the following donors, CIDA, DFID, IFAD, IITA, ICRISAT, JICA and USAID.

[3] The CSIR is funded from the Ministry of Finance, through the Ministry of the Environment, with funds appropriated to each institute on the basis of the number of staff on the payroll. (A case is being made that research funding should be centralized, and apportioned on the basis of achievement rather than on staff numbers.) A commercialization programme was established within the CSIR in 1995. It was mandated that by December 2001 the CSIR should generate 30% of its annual budgetary requirement (ABR) and that government support to the CSIR would be slashed by 30%. Current private funding revenue stands at 5.45% of total budgets across the CSIR institutes, due in part to the barrier imposed on institutes preventing them from bidding for research contracts from donor agencies that are channelled through the government (seen as a conflict of interests).

[4] Research Extension Liaison Committees (RECLs), located in each agro-ecological zone in Ghana, provided a bridge linking CSIR institutes and MOFA extension, and farmers and policy-makers. The RECLs ceased to exist in 1997/98 when the National Agricultural Research Project (NARP), also funded by the Government of Ghana and the World Bank, officially ended. Since then, the systematic (formalized) linkage between research and extension has not functioned so effectively.

[5] The planning exercise was only conducted with the National Banana Research Programme (NBRP) due to time constraints.

[6] The term monitoring and evaluation (M&E) was used as the entry point for the discussion of performance measurement and management because M&E is understood and used, whilst the terms performance measurement and management are not. The shift to focusing on performance management took place during the initial stages of the scorecard construction process.

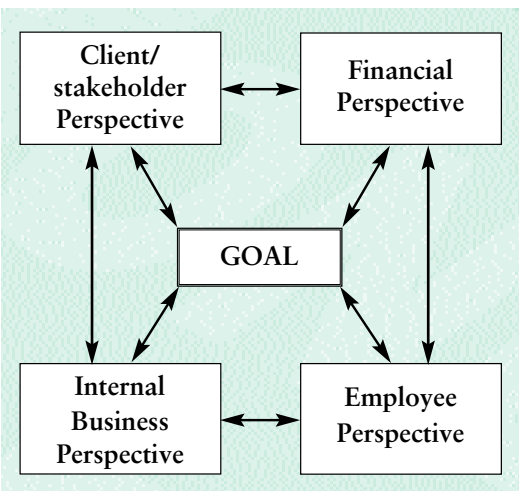
Stage II Scorecard construction

WORKSHOP: CONSTITUTION AND FORMAT

The second stage of this project (Steps 4–10) was conducted through a three-day workshop held during the second week of July 2002 in Ghana. Representatives of each case study organization (CSO) were joined by stakeholders (representing uptake partners) and ministry M&E officers (to provide technical support and a contextual link to these ministries). Two members of the UK-based project team facilitated the workshop[1].

The aim of the workshop was threefold. Firstly, to review the organizational diagnoses conducted with each CSO during Stage I of the project through plenary presentation and discussion. Secondly, to introduce performance management concepts to an audience relatively unfamiliar with the topic. Finally, to begin building delivery plans for each CSO in the balanced scorecard perspectives prioritized during the diagnostic review.

A series of exercises were conducted throughout the workshop to build performance management systems using the scorecard approach. This involved reviewing the corporate goal, and building sub-systems around four tenets of the framework, i.e. employee, internal business, client/stakeholder and financial perspectives. Review, consultation and construction of performance management sub-systems for each perspective drew heavily on the findings of the organizational diagnoses from Stage I.



The results of each of these exercises are illustrated through examples from the

CSOs experience, drawn together under each perspective. This stage ended with an initial look at how these sub-systems interrelate – reviewing horizontal and vertical linkages – and considering what further stages need to occur to produce an overarching system.

STEP 4 – ESTABLISHING THE ORGANIZATIONAL GOAL

A strong performance management system relies upon a shared understanding of a common goal. It was, therefore, considered essential early on in the diagnosis to ascertain whether or not a jointly held goal exists amongst the staff of each CSO. Using the diagnostic review as a starting point, representatives of each CSO revisited and revised their organizational goal.

Aim	Method	Participants
Review and, if necessary, revise organizational goal	CSO-based group sessions following the 'organizational goal' exercise (Table 2) Results presented and discussed in plenary.	CSO and stakeholder representatives

Revisiting organizational goals: During the diagnostic stage, the stated goal of many respondents was conducting effective research in their organization's area of expertise. Differences in individual's understanding of their organizational goal reflected differing interpretations of the term 'goal', and differing expectations for what the organization may be accountable. This ranged from the development, testing and dissemination of research products and services, to improving the welfare (food security and income) of end-users. In discussion, whilst the former was felt to be appropriate in terms of the mandate of each organization, the latter implied a responsibility beyond the mandate.

This latter perspective reflects certain expectations and pressures on research organizations to have a greater impact on national (and in some cases international) welfare. As previously mentioned, this implies either a significant role for research within extension (to reach sufficient users to have a substantial impact), or a substantial influence over existing extension services to achieve this wider mandate. Whilst it was noted that (in particular for the CRI and NBRP), extension does form part of their role through on-farm research with extension staff

and farmers, it was acknowledged that these organizations need to be clear about where their boundaries lie for accountability purposes.

In some cases, individuals from the CSOs found it difficult to distinguish between what they do (i.e. day-to-day activities) and the overall goal of their organization. Whilst this was partially explained by a lack of clarity over terminology, it also revealed the lack of a clearly defined and known shared purpose[2].

Revising organizational goals: In view of this diagnosis, and using relevant policy documents[3], representatives of each CSO followed an exercise designed to formulate a commonly agreed organization goal. The focus of this exercise was defining a statement of intent that was challenging but realistic, incorporating the needs of clients and stakeholders, accountable and measurable.

Recognizing that redefining an organization's goal is central to strategic planning, and thus must necessarily involve senior management, each CSO (except CRI) was represented by the director or deputy-director. Further, it was accepted that redefining a strategic-level goal, if taken seriously, has implications for the existing functioning of the organization. The goals (Figure 11) were felt to describe a clear, accountable (in terms of the actions of each organization), and in two cases, time-bound, statement of intent. On the basis of these goal statements, it was acknowledged that measures could be developed which relate directly to the core functions of each organization, and provide a clear indication of progress.

Food Research Institute goal
To be a centre of excellence that conducts market-orientated research and provides accredited technical services to the food industry by 2008

Crops Research Institute goal
To become a centre of excellence in research and development of high yielding, disease/pest resistant/tolerant consumer accepted varieties and associated technological packages for mandated crops by the year 2010

National Banana Research Programme goal
Lead agency developing and promoting technologies for increasing banana productivity and utilization options for the benefit of producers and consumers

Figure 11 Revised organizational goals

Table 2 Organizational goal exercise

1. BACKGROUND

Question posed during the Stage I visits:

- what do you (individually) believe is the overall goal of the case study organization (CSO) that you work for?

Common themes that came out

- Different levels of understanding. Some stating a goal that is too broad, i.e. beyond the ability of the CSO to achieve (e.g. food security, reduced poverty). Others stating a goal that summarized activities, and not an aim (e.g. to conduct research, rather than stating how the research conducted contributes to something larger). Determining the boundaries over which the actors have a direct and manageable interest.
- Lack of common terminology: for some 'goal', for others 'purpose'. As defined in this project:

  organizational goal = what the CSO wants to achieve by a certain time

2. PROCESS

A. Review in groups the issues raised about 'goal' during the inception visits as illustrated in the reports and through reviewing other strategy documents.

B. Consider the following guidance for reviewing the CSO goal.

- The goal statement should be challenging, yet realistic in terms of what the CSO reasonably expects to accomplish
- The goal statement should reflect the areas considered key to the CSO – both internal and external
- The goal statement should be written in clear, simple language, which can be easily understood by all employees as well as the general public
- The goal statement should be brief and to the point; one or two sentences are generally adequate

C. Agree a draft goal statement that can be used during the workshop as a basis for building a framework for performance assessment.

D. Test this goal statement against the following:

GOAL	DOES IT MEET THE TEST?						
	T1?	T2?	T3?	T4?	T5?	T6?	T7?
	✔	✔	✔	✔	✔	✔	✔
	✘	✘	✘	✘	✘	✘	✘

Table 2 *cont.*

Test 1: Is the goal statement clear and concise?
Test 2: Is the goal statement easily understood by the CSO's clients/end-users and stakeholders?
Test 3: Does the goal statement indicate what the CSO intends to accomplish?
Test 4: Does the goal statement define whom the CSO serves?
Test 5: Is the goal statement realistic?
Test 6: Does the goal statement reflect the CSO's key areas?
Test 7: Does the goal statement acknowledge and take into consideration client/end-user and stakeholder expectations?

E. Make any revisions to the statement in line with these criteria. Agree upon the draft statement. Note: This can be discussed and refined back at the home institutions with other staff members.

F. Present the results for further discussion.

Source: The tests in this exercise (and the following 'objective-setting' exercise) were drawn and adapted from several sources, but notably the Virginia Department of Planning and Budgeting (1998). The process used in the objective-setting exercise was drawn from Chang and de Young (1995).

STEP 5 – METHOD FOR DEVELOPING DELIVERY PLANS

Specific, actionable delivery plans in the areas targeted by each CSO were developed using a five-part methodology. Emphasis was placed on formulating clear, attributable and results-orientated measures that can be used both to reorient existing M&E activities and systems, and to identify capacity development entry points.

The methodology, presented below, was developed by the PIP team for the specific requirements of this project, and is considered a unique product that may be adapted and used in other contexts.

Formulating objectives for each perspective. On the basis of the Stage I diagnoses and the re-formulated organizational goals, each CSO followed a process of determining appropriate objectives under each of the scorecard perspectives.

Identifying key performance indicators for each perspective. Key performance indicators (KPIs), the measures used to determine performance against objectives, were formulated for each objective.

Reviewing existing M&E activities under the priority objectives. Objectives developed were prioritized, and the most important were selected with a view to identifying what each CSO is already doing in the area. Thus, existing work plans were reviewed in light of these new objectives to see which activities contribute, and which do not.

Identifying critical success factors. Putting aside the review of existing activities, the prioritized objectives were considered in terms of what critically needs to happen if they are to be achieved. This determination of 'means-ends', or critical factors for success, involves considering the validity of assumptions implicit in proposed strategies.

Developing draft delivery plans. Taking the set of existing activities, and the critical success factors, each CSO formulated a 'gap analysis' of the steps required to achieve the objective. This was constructed around an input-output chain, excluding what is currently being done from the delivery plan, thus leaving what is required to take the process forwards.

Aim	Method	Participants
Develop objectives under each of the perspectives	CSO-based group sessions following the 'objective- setting' exercise (Table 3).	CSO and stakeholder representatives
Develop key performance indicators for each objective	CSO-based group sessions following the 'key performance indicator building' exercise (Table 4). Results (of objective and key performance indicator selection) presented and discussed in plenary.	CSO and stakeholder representatives
Review existing CSO activities and the monitoring and evaluation that is currently being used to assess this	CSO-based group sessions following the 'developing delivery plan' exercise (Exercise 5) Results presented and discussed in plenary session.	CSO and stakeholder representatives
Determine critical factors to successfully achieve these objectives		
Develop a delivery plan based on the 'gap' between what is being done and what is required		

A summary of the results are presented according to the balanced scorecard perspectives, reflecting the process of objective, performance indicator and delivery plan development of the CSOs.

Table 3 Objective-setting exercise

1. BACKGROUND

This session considers each of the perspectives on the scorecard in turn, and develops objectives for each one.
The key questions to address in each case are:

- within this perspective, on what do we focus to ensure our success?
- what is to be achieved, and when it is to be accomplished.

- *Each objective should be expressed as an outcome* In other words, the result of the action, not the actions or processes themselves.
- *Clear and measurable* Each objective should be stated clearly and precisely and in a way that can be objectively measured. For example, the statement 'increased ability of entrepreneurs to respond to an improved policy, legal and regulatory environment' is both ambiguous and subjective. How one defines or measures 'ability to respond' to a changing policy environment is unclear and open to different interpretations. A more precise and measurable objective in this case is 'increased level of investment'.
- *Uni-dimensional* An objective ideally consists of only one result. Unitary objectives help clarify management questions, improve the targeting of resources, and permit a more straightforward assessment of performance.
- *Timebound* Objectives should be achievable within a clear timeframe.

Note: Conceptualizing objectives. It is common for people to conceive objectives in terms of activities. They are different, as they should be expressed as an outcome of result – the objective of a series of activities – as stated above.

2. PROCESS

A. Discuss the scorecard perspective to be addressed.
In the group, discuss what the perspective means through using the guidance provided in the following section. This includes reviewing the outputs of the inception report, and following a series of guiding points.

B. Generate objectives.
Independently, each team member writes down his/her objectives in a few words. The team can work with a 5-minute timeframe, and come up two objectives each.

C. State and record objectives.
In round-robin fashion, team members should offer one from their list. The recorder simultaneously writes the objectives on a flip chart visible to the group. This continues until each person has given all his/her

Table 3 *cont.*

objectives. The recorder should not duplicate items. If items are combined, the recorder should make sure the team agrees that the objectives are, in fact, related.

D. Clarify each item on the list.
The aim here is to clarify each idea in case the wording is not clear, and not to win arguments. For each item on the list, allow an equal amount of time for group discussion. The leader reads each idea aloud, asks if there are any questions, and is responsible for keeping the group moving through the list.

E. Rank items silently; list rankings.
Assign a letter to each objective listed on the flip chart. Ask each team member to write down the letters corresponding to those listed on the flip chart. Ask each team member to vote silently (by writing down) the one that best reflects their view of what the results-based objective should look like. Assign a '1' to that objective, '2' to the second best objective, and so on.

F. Tally rankings.
In this step, each team member calls out their rankings. The recorder lists them on the flip chart. Add up the total horizontally against each idea. The lowest total represents the team's decision at this point – prior to the discussion of the merits of the idea.

G. Test objectives and agree.
List the items your team has agreed upon in descending order on a flip chart. Select the top three objectives. Test these against the following criteria:

PERSPECTIVE/ OBJECTIVE	DOES IT MEET THE TEST?					
	T1?		T2?		T3?	
	✔	✘	✔	✘	✔	✘

Test 1: Is it reasonable to believe that the CSO can influence the objective in a meaningful way?
Test 2: Would measurement of the objective help identify CSO successes and help pinpoint and address problems or shortcomings?
Test 3: Will the CSO's various constituents accept this as a valid objective?

If an objective does not pass all three tests, discuss what needs to be changed.

NOTES FOR EACH PERSPECTIVE
Employee perspective: "Can we continue to improve and create value?"
Internal business perspective: "To satisfy our clients, at what internal business processes should we excel? Client/stakeholder perspective: "How do we appear to our clients/ stakeholder? How do we want them to view us?" Financial perspective: "To succeed, how should we look at donors, government and investors from the corporate sector?

Source: as organizational goal exercise.

Table 4 Key performance indicator building exercise

1. BACKGROUND

What are key performance indicators (KPIs)?

- measures to determine how well the institution/programme is accomplishing its objectives

Key questions to ask in developing KPIs:

- what concrete indicator could be used to demonstrate how successful we are being in achieving a particular objective?
- what would we point to if we were asked how we were doing in achieving a particular objective?

- *Tracks actual performance change* Measures efficiency (timeliness, quantity, etc.) and/or effectiveness (impact, quality, contribution, etc.)
- *Controllable* As objectives previously chosen should be achievable by the organization, so indicators must be both controllable and measurable by the organization.
- *Objective* An objective indicator has no ambiguity about what is being measured, i.e. there is general agreement over the interpretation of results. It is both uni-dimensional (measures only one thing at a time) and precise.
- *Practical* An indicator is practical if data can be obtained in a timely way at a reasonable cost.
- *Reliable* Whether data of sufficiently reliable quality for confident decision-making can be obtained.
- *Related* Taken together, the indicators chosen should be connected. Indicators in the internal perspectives (business and employee) should lead logically to those in the external perspectives (client/stakeholder and finance).

Examples of linked KPIs for the client perspective:

- percentage of clients satisfied with timeliness; this is the client's degree of satisfaction with the timeliness of delivery of products or services
- percentage of clients satisfied with quality; this is the client's satisfaction with the quality of products and services delivered
- percentage of clients satisfied with the responsiveness, co-operation and communication skills of the organization; this indicator is based on the degree of responsiveness of the organization (or team), the success of mechanisms which support co-operation, and the degree of satisfaction with communication and issue addressing.

Table 4 *cont.*

2. PROCESS
(Follow the same process as for 'objective-setting')

A. Review the objectives.

B. Ask the two KPI questions.

C. Generate answers.

D. List answers in round-robin fashion.

E. Discuss and clarify list of possible KPIs.

F. Ranking and tallying.

G. Fill in and check on using the KPI quality table.

CHECKING KPI QUALITY

PERSPECTIVE/ OBJECTIVE/ KEY PERFORMANCE INDICATOR	DOES IT MEET THE TEST?					
	T1?	T2?	T3?	T4?	T5?	T6?
	✔ ✘	✔ ✘	✔ ✘	✔ ✘	✔ ✘	✔ ✘

Test 1: Does this KPI directly relate to the objective it represents?
Test 2: Is the KPI easily understood?
Test 3: Will the KPI help our work group manage its performance?
Test 4: Are the data available, or can they be collected?
Test 5: Is the KPI reliable?
Test 6: Is the KI cost-effective to collect?

This can be brainstormed with the criteria along the top (1–6) and the list of indicators down the side. Can tick or cross boxes to see which ones meet most of the criteria.

Source: as organizational goal exercise.

Table 5a Developing delivery plans exercise

1. BACKGROUND

Having reviewed and revised the organizational goal, developed objectives under each of the four balanced scorecard perspectives, and key performance indicators to measure progress towards achieving these objectives the next step is to: identify critical factors to ensure the success of these objectives, and thus the organization's goal.

What does this mean?

- identifying what is already being done by each organization in these areas
- identifying what needs to be done by each organization in these areas
- matching up the two identified gaps to be pursued.

2. PROCESS

Part 1. What we are doing already?

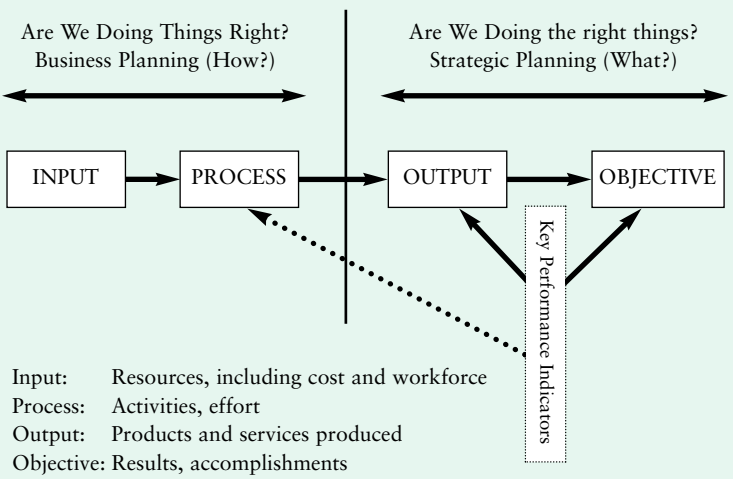
A. Consider one perspective at a time.

B. Take one objective in turn (or together under one perspective if preferred) and consider the following questions:

- **what are we already doing that is effective in meeting this objective?**
- **what are our positive experiences of monitoring our performance in this area (M&E)?**

Discuss in organizational groups these questions attempting to be as concise as possible. Use the following tables to describe these issues.

The objectives determined, and key performance indicators selected should help you to decide…



Input: Resources, including cost and workforce
Process: Activities, effort
Output: Products and services produced
Objective: Results, accomplishments

Source: Rohm (2002)

Table 5b Developing delivery plans exercise

FRAMEWORK FOR CRITICAL SUCCESS FACTORS

PERSPECTIVE (e.g. client perspective)		
OBJECTIVE (relate to one of the four perspectives)		
KEY PERFORMANCE INDICATORS (related to the objective)		
	What are we already doing that is effective in meeting this objective?	What are our poitive experiences/practices of monitoring performance in this
OUTPUTS (products/services produced		
PROCESSES (activities, efforts)		
INPUTS (resources, including costs and workforce)		

C. Put this current status of outputs, processes and inputs to one side.

Part 2. What we need to do?

D. Consider this question:

- to achieve this objective what has got to happen?

Individually, on cards, write down two of the most critical actors that you believe will ensure success of this objective.

Table 5b ***cont.***

E. In the group, share these factors and write a list. Discuss.

F. Prioritize the list through a ranking exercise – either individually or in the group.

Part 3. Matching up.

G. Pin up on the flip charts both what you are currently doing, alongside the critical success factors to achieve the objective.

H. Using the framework of perspective, objective, outputs, process and inputs, consider which of your current deliveries (outputs, processes and inputs) relates to these critical success factors.

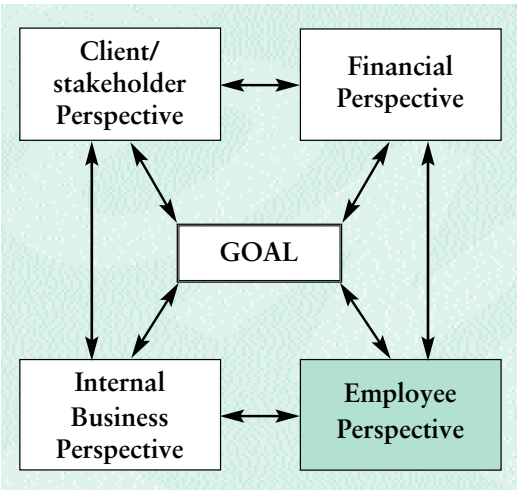
PERSPECTIVE (e.g. client perspective)			
OBJECTIVE (relate to one of the four perspectives)			
KEY PERFORMANCE INDICATORS (related to the objective)			
	Critical success factors	By when?	Who responsible?
OUTPUTS (products/services produced			
PROCESSES (activities, efforts)			
INPUTS (resources, including costs and workforce)			

STEP 6 – DEVELOPING THE EMPLOYEE LEARNING AND GROWTH PERSPECTIVE

"How can we continue to improve and create value?"

Reflecting on employee processes

Clarifying or defining objectives for this perspective involve the performance of employee-related processes that drive an organization, including targets for continual improvement.



In each of the three CSOs, high quality, technically proficient staff was identified as a key strength. However, certain internal inconsistencies and external pressures were found which undermine their value and utilization. Weaknesses were reflected through poor communication between staff, including, in some cases, a lack of feedback from management to staff on performance, and poor remuneration. Staff motivation, key to this perspective, was also found to be partially undermined through the lack of a consistent understanding of the measures used to assess performance.

The failure to identify and reward staff achievements in some cases (notably CRI and FRI) reflects a lack of clarity over attribution. Products and services disseminated through intermediate institutions (MOFA in the case of CRI and FRI) has meant that credit is not always fed back down the chain to those who have carried out the work. This causes some motivation problems, leading to fears that this may result in a gradual 'brain-drain' of staff away from these organizations into the private sector, NGOs and other institutions.

Defining objectives and performance indicators

These findings were used as a basis through which to define objectives and key performance indicators (KPIs) to measure these objectives. Defining the objectives focused on identifying clear, measurable, uni-dimensional statements, while remaining focused on a key question. Potential objectives generated by each CSO team were tested by considering whether or not they could be influenced by the CSO in a meaningful way, whether measurement of the objective would help the organization identify its successes and pinpoint its shortcomings, and whether key stakeholders (outside the CSO) would consider them valid.

Focal question in defining objectives

"Within this perspective, on what do we need to focus to ensure our success?"

Similarly, KPIs were defined using a set of criteria, i.e. measures that track actual performance change, that are directly controllable by actions, and are objective, practical, reliable and related. A similar series of tests was applied to each potential KPI, based on whether or not they directly relate to the objective, are easily understood, help manage performance, based on available or easily (and cost-effectively) collectable data and reliable.

Focal question in defining key performance indicators

"What concrete indicator could be used to demonstrate how successful we are being in achieving a particular objective?"

Two or three objectives were defined by each CSO, focusing on staff motivation, staff satisfaction and available physical resources. Key performance indicators varied considerably between the CSOs, ranging in number and content, including measures of staff satisfaction, target achievement, training levels and reward systems.

Figure 12 illustrates the objectives and KPIs selected by CRI as an example[4]. The objectives chosen reflect the fact that whilst CRI's diagnostic assessment highlighted a strength in the quality of staff, multi-disciplinary teamworking, and the effective use of systems to track aspects of internal performance, weaknesses were identified in the motivation of staff linked to internal allocation and external pull factors. Thus, the performance measures developed reflect CRI's need

Objective	Key Performance Indicator
1. Motivated staff by 2005	• % of staff who are satisfied with their jobs • % of tasks completed on time
2. Enhanced human resources by 2005	• % of staff receiving relevant training by 2005 • % of staff still in post by 2005
3. Staff satisfied with available working conditions	• % of staff who are satisfied with working conditions • % of staff leaving because of bad working conditions

Figure 12 Employee perspective – Crops Research Institute

to better understand motivational problems, enabling corrective action to be taken.

Constructing delivery plans

Having determined objectives and KPIs, the next step is to discuss and judge what is required to achieve these objectives. Aside from the diagnosis conducted during Stage I, little attention had been paid up until this point on existing activities within each CSO that reflect these perspectives. Thus, a three-step approach was outlined to consider and build on existing practices overarched by each objective.

The approach for building these objective-based 'delivery plans' involved considering three questions (see box right) through the lens of a standard input-output framework. Inputs and processes (activities) were prefaced by a further question "Are we doing things right?", whilst outputs and the objective were prefaced by "Are we doing the right things?".

Focal questions in building delivery plans

1. "What are we already doing that is effective in meeting this objective?"
2. "What are our positive experiences of monitoring our performance in this area?"
3. "To achieve this objective, what critically needs to happen?"

The first two questions involved the CSO teams reconfiguring existing activity and M&E plans by reviewing documentation and discussion. The third involved setting these existing practices aside, and following a structured process (outlined in Figure 8, page 44) of determining what critical success factors are required to achieve each objective. Matching the two (existing and required) was documented in the input-output framework alongside initial ideas of responsibility and timing – essential facets of an effective performance system.

Plan 1 (opposite page) outlines the draft delivery plan developed by CRI for one of their three objectives, i.e. "Staff motivated by 2005". Whilst improved performance measurement and management is expected to inform decision-making and thus, potentially alter the actual activities ("what are we already doing?" column) – the focus of this delivery plan is specifically on the performance system. Thus, the critical success factors reflect an augmentation of existing M&E activities.

The critical activities determined involve conducting annual staff surveys on motivational issues and needs assessment, alongside staff exit surveys. This is a departure from existing M&E activities, management reviews of staff performance, as opposed to a needs-focused assessment. The findings of these studies can be fed back to staff, potentially benchmarked against other organizations (how this would work in practice would need to be considered), and reviewed by management to gain a better understanding of internal performance issues and trends. The KPIs central to this delivery plan relate both to staff satisfaction and staff performance (percentage of tasks completed on time) – this latter indicator provides a link into the internal business process.

Plan 1 Draft delivery plan for one objective of the employee perspective at the Crops Research Institute

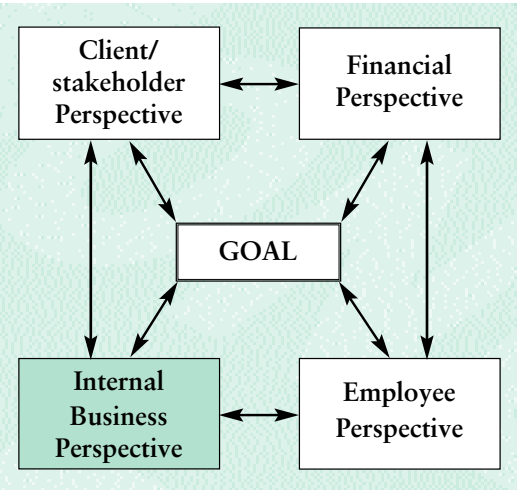
Level	What are we already doing?	What M&E are we already doing to assess this?	To achieve this objective, what has got to happen (critical success factors)?	By when?	By whom?
Objective ▲	Staff motivated by 2005				
Key performance indicators	Percentage of staff who are satisfied with their jobs Percentage of tasks completed on time				
Outputs	▮ Staff with high morale ▮ Trained staff ▮ Tasks completed on time ▮ Staff motivated	▮ Some issues followed up	▮ Survey undertaken ▮ Staff exit report written ▮ Staff conditions reviewed ▮ Survey report presented ▮ Results and recommendations implemented	Annually	N/A
Processes (activities)	▮ In-service training ▮ Staff welfare fund ▮ Car/house loans ▮ Health benefits ▮ Sourcing computers and laboratory material	▮ Annual reporting system ▮ In-house reviews of staff performance ▮ Annual planning sessions with stakeholders	▮ Undertake staff survey of motivational issues and needs assessment ▮ Conduct staff exit surveys ▮ Undertake annual review of staff conditions benchmarked against other organizations ▮ Analyse survey reviews and recommended interventions	Annually On exit Annually Annually	Heads of divisions Management Union, staff, socio-economists Union, staff, socio-economists
Inputs	▮ Staff time ▮ Budget ▮ Computers and resources	N/A	▮ Staff time ▮ Resources ▮ Survey instruments ▮ Computers/software	2003	Management, unions, socio-economists

Are we doing the right things?

Are we doing things right?

STEP 7 – DEVELOPING THE INTERNAL BUSINESS PERSPECTIVE

"To satisfy our clients, at what internal research processes should we excel?"



The objective of this perspective is to link client/stakeholder issues with the internal research processes. The internal business perspective looks towards the client/stakeholder, whilst being dependent upon the employee perspective. Without able and content staff, with good feedback mechanisms, the research process will not work effectively.

Reflecting on internal business processes

The diagnoses of each CSO highlighted two main issues. Firstly, whilst the research process in each CSO is strong, the environment in which they operate is undergoing considerable change. The client-base is in some cases changing and expanding (notably FRI and CRI, and to a lesser extent the NBRP), with opportunities opening up in non-traditional markets. Having determined which client-bases are most important currently and for the near future, each organization must be structured appropriately to respond to these clients. Intrinsic to this are strong linkage and feedback mechanisms to enable each CSO to respond to these clients' needs.

Secondly, the diagnoses suggested that most (if not all) research activities are project-based. Whilst this is not a problem in itself, what appears to be lacking is a sense of how these fit into a broader institutional framework. This highlights the need to better orient internal systems and processes towards corporate objectives as opposed to being led by project-based systems.

Defining objectives and performance indicators

The example of the Food Research Institute (FRI), illustrates a series of four objectives (Figure 13), two focused specifically on the research process, two on service delivery. The KPIs range from internal standards (technologies developed, results released), peer review (journal publications) and certified standards (patents and audits).

Of these objectives, the one identified as most important to FRI was the development of demand-driven technologies. The draft delivery plan developed (Plan 2) illustrates what is being done, and what needs to be done for FRI to be best positioned in this regard.

Objective	Key Performance Indicator
1. Quality research carried out	• *X* number of publications in international journals
2. Demand-driven technologies developed	• *X* number of appropriate technologies developed • *X* number of patents
3. Quality service delivered to clients	• *X* number of queries raised by internal audit of laboratory procedures • *X* percent of FRI analytical results sent for verification confirmed by accredited laboratories
4. Services timely delivered to clients	• *X* percent of FRI analytical results released to clients on schedule

Figure 13 Internal business perspective – Food Research Institute

Constructing delivery plans

The FRI adapted the approach to suit the discussions that evolved the delivery plan. The M&E column (third from the left) reflects not only what they are currently doing, but also what needs to be done to

Plan 2 Draft delivery plan for one objective of the internal business perspective at the Forest Research Institute

Level	What are we already doing?	What M&E are we already doing to assess this?	Current frequency	M&E need	By whom?
Objective	Demand-driven technologies developed				
Key performance indicators	*X* number of appropriate technologies developed *X* number of patents				
Outputs	Highly skilled staff	Training needs assessments Staff appraisals Staff promotions	Annually	Annually	Administration Head
	Manuals on available technologies	Monitoring of clients using manuals	Nil	Annually	Client Service Unit
	Patents	Nil	Nil	Annually	Client Service Unit
	Technologies commercialized	Market survey	Nil Annually	Biannually	Client Service Unit
Processes (activities)	Specialized training for staff	Training needs assessments Staff appraisals Staff promotions	Annually Annually	Annually Annually Annually	Management Management Council
	Documentation of technologies	Periodic staff audit	Quarterly	Quarterly	Publications unit
	Preparation of technology manuals	Nil	Nil	N/A	
	Market surveys	N/A	Nil	Monthly	Client Service Unit
Inputs	Funds/staff/equipment/ research methods				

Are we doing the right things?

Are we doing things right?

achieve this objective. This is verified in the 'current frequency' column, where 'nil' indicates a new M&E activity has been created.

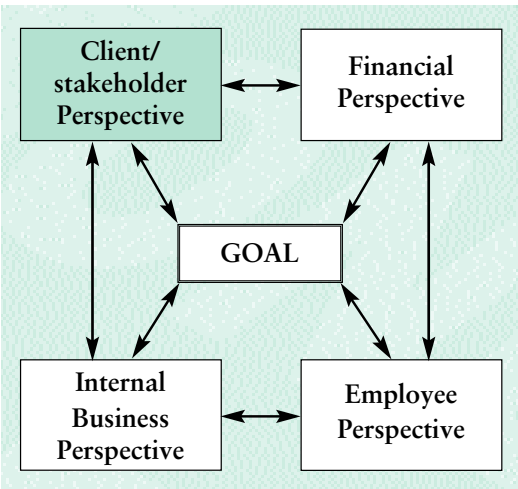
The major performance assessment gaps appear in the production of certain outputs, i.e. manuals on available technologies, patents, and the commmercialization of technologies. Whilst no monitoring currently exists, tools have been suggested to begin assessing these outputs which will provide essential feedback for the organization on the sales of technologies (quantity, quality, timeliness) and the use of explanatory manuals (for whom, quality). In other areas of FRI, existing initiatives are functioning effectively and providing the information needed.

STEP 8 – DEVELOPING THE CLIENT/STAKEHOLDER PERSPECTIVE

"How do we appear to our clients and stakeholders?"

"How do we want our clients and stakeholders to view us?"

As these two core questions suggest, this perspective considers the organization's performance through the eyes of clients and stakeholders, so that it retains a careful focus on client and stakeholder needs and satisfaction.



Reflecting on linkages with clients and stakeholders

The institutional diagnoses revealed that each CSO has numerous clients and stakeholder groups. Considerable complexity was recognized in defining and identifying different clients and stakeholders[5], and in some cases the term 'client' is limited to farmers (the link with whom is very strong). Whilst farmers were identified as the most important client group for CRI and NBRP, it was also

recognized that the link with this group is indirect, i.e. other agencies (notably government extension) are responsible for the distribution of products and services.

A range of other clients and stakeholders with whom the CSOs have strong linkages was identified (e.g. ministries of agriculture, research partners), however, in some cases these agents were also perceived to be threats. This reflects competition for common-pool research funds, policies for channelling sector funds through central ministries, competing claims over the attribution of achievement and competition for work with private firms. Weak linkages were identified with a range of clients and stakeholders, some of whom were felt to be important as partners or for image (e.g. NGOs, the public/consumers).

The biggest gap identified in existing linkages with clients and stakeholders related to the weakness of the feedback mechanisms: the extent to which the core work areas of each CSO reflect the needs of these stakeholders, and the knowledge of changes in the institutional environment that may enable each CSO to best position itself. Whilst strong feedback loops with end-users (farmers for CRI and NBRP) has enabled the research of these CSOs to be increasingly demand-focused, these clients are not directly determining policy and institutional change. This implied the need to strengthen linkages with certain stakeholders (such as policy bodies) that are more influential in the operating environment. A further identified need was to consider how each CSO relates to its weaker linkages, and what can be done to improve these. Examples include improving their image with the public, through the provision of accessible and relevant information and services, and NGOs as potential sources of funding and as collaborative partners.

Overall, improving the relationships with client and stakeholder groups was identified as crucial to better understanding their needs and thus improving the effectiveness and efficiency of each CSO and the relevance of its products and services. Monitoring and evaluation was perceived to have a role in this process through improving understanding, and tracking progress towards improved product and service delivery.

Defining objectives and performance indicators

In considering what needs to be done to improve client/stakeholder linkages, the National Banana Research Programme (NBRP) developed two objectives: an 'implementation' objective, and a related 'M&E' objective (Figure 14). This dual objective recognizes that the aim of this project is to enhance performance management, which in turn, should lead to improved performance. Thus, the KPIs selected relate primarily to the M&E objective, which utilized effectively should lead to the achievement of the 'implementation' objective.

Objective	Key Performance Indicator
The NBRP satisfactorily solves clients' problems and contributes to improving their quality of life (M&E linked objective) Better understanding of clients satisfaction with our products and services	• Score of level of client satisfaction • Extent to which major problems are solved • Timeliness of interventions or services for expressed need • Number and nature of complaints and compliments in a given period • Number of clients using our products and services • Types and numbers of clients receiving/using our products and services • How the NBRP contributes to household income • Level of awareness of prevailing constraints and solutions • Number and nature of problems not addressed

Figure 14 Client/stakeholder perspective – National Banana Research Programme

The high number and broad range of performance indicators selected by this CSO reflect the complexity and importance given to this

perspective. Most reflect the level of understanding of client satisfaction with product and service quality and delivery, but some also refer to the impact that these are having. The extent to which all the KPIs are needed or are useful for different client groups requires further attention (e.g. the nature of satisfaction, and the ability to ascertain it, are clearly different when comparing farmers with industry). The complexity is compounded by the fact that the objective formed, and the KPIs selected, refer only to clients, with a different (although related) set required for stakeholders.

Constructing delivery plans

The development of a draft delivery plan for this objective (Plan 3) reflected the NBRP's own interpretation and adaptation of the process. In consideration of what they are already doing, the focus was placed on the M&E (linked) objective, thus illustrating the consultations, reviews and surveys currently conducted with clients. 'Positive M&E experiences' were interpreted literally, with the identification of the positive impact of existing processes. The identification of factors critical for the success of the objective is presented through a clear input-output framework, starting with a review of existing procedures, the development of tools for assessing client satisfaction, pilot testing, analysis and then expansion.

The need to delineate major clients, both current and those likely in the near future is implicit and some form of stakeholder analysis is required. Subsequently, the nature of the tools developed for assessing and testing client satisfaction will vary accordingly and thus, this perspective may consist of a series of performance indicators relating to different client and stakeholder groups. There may be value in considering an overarching approach to address client and stakeholder needs in a consistent manner.

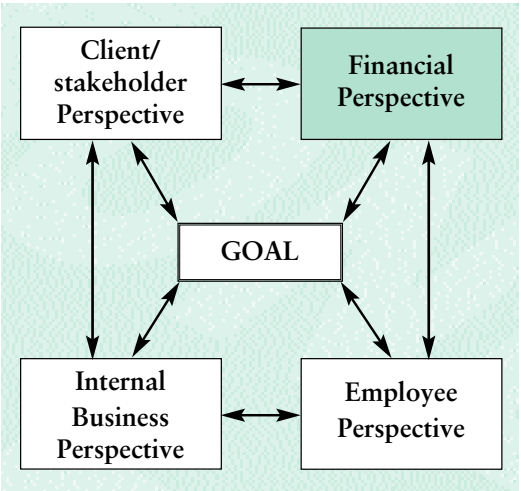
Plan 3 Draft delivery plan for the client/stakeholder perspective at the National Banana Research Programme

Level	What are we already doing?	Positive experiences of M&E in this area?	To achieve this objective, what has got to happen (critical success factors)?	By when?	By whom?
Objective	The NBRP satisfactorily solves clients' problems and contributes to improving their quality of life (M&E linked objective) Better understanding of clients satisfaction with our products and services				
Outputs	▪ Greater exposure of products and services ▪ Evaluation of products by clients ▪ Product promotion and improvement strategy	▪ Product popularity is increasing ▪ Demand exceeds supply ▪ Needs of clients increasingly better understood	▪ Client satisfaction determined ▪ Framework to address issues related to client satisfaction ▪ Proposal approved	Sep 2003 Mar 2003 Oct 2002	Post-harvest and marketing team Core team Core team
Processes (activities)	▪ Biannual review/consultative meeting with clients ▪ Continuous surveys to evaluate products and services ▪ Biannual follow-up visits after feedback ▪ Continuous monitoring and studying client participation in product development ▪ Continuous review and interdelivery ▪ Internal review and planning meetings (whenever required)	▪ More clients getting involved in product design process ▪ Voluntary participation is increasing ▪ Follow up visits are very important in order to promote interest and delivery	▪ Pilot, then expand framework ▪ Formulate a framework that addresses key client issues ▪ Analyse results of test ▪ Collect data ▪ Develop tools for identifying clients, and testing satisfaction ▪ Develop proposal ▪ Review existing procedures relating to M&E of client satisfaction (e.g. field surveys, visits, etc.)	May 2003 Mar 2003 Feb 2003 Jan 2003 Dec 2002 Oct 2002 Sep 2002	NBRP, pilot clients NBRP, pilot clients Core team All scientists Core team Core team All scientists Scientists, pilot clients
Inputs	▪ Increased staff time for OFR/outreach ▪ Increased participation and facilitation of extension staff ▪ Free samples distributed	▪ Increased resources spent on testing, promotion of products and services	▪ Increase budget for monitoring of client satisfaction by 50%	2005	Management

Are we doing the right things?

Are we doing things right?

STEP 9 – DEVELOPING THE FINANCIAL PERSPECTIVE



"How do we appear to our investors: donors, government and corporations?"

"How is this reflected in our financial strategy?"

The financial perspective focuses on how the CSOs want to appear to donors, government and other investors, and how this is reflected in their financial strategy. Whilst the client/stakeholder perspective emphasizes a better understanding and internalization of client and stakeholder needs, the financial perspective should show the result of the strategic choices made in the other perspectives, whilst at the same time establishing specific financial objectives.

Reflecting on the funding context and internal requirements

The funding context in which each CSO operates is becoming increasingly competitive and complex. In the case of the NBRP, despite the considerable perceived demand for further research on bananas, both nationally and regionally, and the NBRP's comparative advantage in this area, there is still competition from other research areas for funds in a declining pool of research funds. For FRI, the pressures on its finances come from the drive to be more commercially orientated thus, the need for more linkages with industry and the private sector. Both FRI and CRI are facing disbursement problems from central government, lower anticipated funding levels and lack of access to some common-pool funding from or through government. In each case, these factors are compounded by institutional changes: decentralization, privatization of extension, discussions about the

structure of research, the nature of donor funding, and the de-link between funder and client (the latter not being the one paying for services).

Consequently, a clear need was expressed through the diagnostic assessments to develop a corporate framework to help the staff of each CSO, as well as its investors, better understand its overall performance and impact as an institution and thus, attract funding on a more equally defined basis. This framework should include internal financial objectives, alongside mechanisms to enable each organization to engage in policy debate, provide feedback to government on how its policies affect the work of each organization and their respective commercialization drives. The aim is to enable each to position itself in the most effective way to continue to thrive in research.

Defining objectives and performance indicators

On this basis, each CSO began developing objectives and KPIs to address their financial issues. Figure 15 presents the outcomes of this initial consideration.

The three sets reflect both the different requirements in each case, and the different interpretations of the perspective. CRI developed the most exhaustive list of objectives and KPIs, emphasizing the components of a framework that reflects external focus (in efficiency and impact terms), internal systems (accounting), and the linkages between the two (feedback and communications mechanisms). The KPIs selected to best demonstrate performance in these objective areas are divided between quantity and quality measures. No explicit attempt is made to define the financial constituents, this is implicit within the design. By contrast, both the FRI and NBRP developed only two objectives relating to the financial perspective. In the former case, these refer to the fiscal integrity of the organization (efficiency and transparency), deemed to be the best way to demonstrate their strength to funders. In the latter case, the primary objective is to diversify the sources of funding, a more explicit strategy aimed at financial security. In each case, objectives reflect a complement of internal requirements matched by external focus – aiming to illustrate fiscal integrity to funders.

Objective	Key Performance Indicator
Food Research Institute	
1. Resources efficiently utilized	• Statements of account submitted on schedule • *X* number of audits raised on statements of accounts by external auditors and donor
2. Finances transparently managed	• N/A
Crops Research Institute	
1. CRI recognized as an efficient user of resources	• Number of technology products produced per unit spent • Number of research proposals funded by donors
2. Well-developed accounting system for financial resources	• Number of audit queries answered unsatisfactorily • Percentage of accounting reports delivered on time
3. Efficient feedback and communication mechanisms established	• Number of feedback reports submitted • Nature of feedback reports received from donors/government
4. Structures developed for showing impact of institute	• Number of published reports on impact studies • Number/nature of positive feedback reports
National Banana Research Programme	
1. Diversify funding base	• Number of funding sources • Types of funding source • Level of funding
2. Efficient utilization of funds	• Satisfaction of investors and donors • Cost of completing activities/milestones in given period of time • Achievement of stated objectives of financial management process

Figure 15 Financial perspective – all CSOs

Delivery plans were not developed by any CSO for the financial perspective. This reflected both a prioritization of objectives under the other perspectives of the scorecard, and the brevity of the workshop. It is anticipated that this will be developed during the second phase of the project.

STEP 10 – REVIEWING DRAFT DELIVERY PLANS AND LOOKING AT INTERNAL LOGIC

A review of a sample of delivery plans drafted towards the end of the workshop sought to reflect on the progress made from Steps 4 to 9, and consider the logic of the scorecard construction (across and between objectives, and within each delivery plan). It was recognized from the start that constructing a complete scorecard for each CSO would not be achieved during Stages I and II of this project.

As an iterative process of development, learning and adaptation, the end goal of the project was to build awareness of performance management, begin developing delivery plans and thus, identify initial capacity development needs. Thus, Step 10 represents the culmination of this project, but not the completion of the scorecard building process which is expected to continue during a second 'construction and implementation' funding cycle.

Mapping across objectives

The strength of the balanced scorecard approach lies not only in the consideration of independent perspectives of organizational performance, but also the inter-dependence of these perspectives and their contribution to the organization's goal. The mapping of objectives – looking at cause and effect relationships – visualizes how the objectives are linked.

Mapping has three purposes:

(i) to identify whether or not a balance exists in the scorecard

(ii) as a tool to help strategize and prioritize areas for development

(iii) once the system has been established, mapping will potentially help identify blockages, enabling corrective action to be taken.

Developing a cause-and-effect map is based on a set of theoretical assumptions, describing the critical links by which the goal may be

achieved[6]. Reviewing the objectives, and measures (key performance indicators) used to assess these objectives, should reveal the implicit theories (assumptions and sub-assumptions). As well as checking the theoretical soundness of these assumptions, it is also crucial that a balance across the objectives and measures is found, ensuring that short-term improvements do not conflict with long-term goals. This emphasizes the inter-dependency of the different perspectives of the scorecard, and the associated danger of over-emphasizing one aspect at the expense of another.

The CRI map (Figure 16) is presented as an example of how cause-and-effect relationships can be analysed and charted. Numerous assumptions exist in this linkage map. At the lowest level, if human resources are enhanced, staff motivation will improve and CRI will feel more confident in publicizing its human resource capacity. Improved staff motivation and demonstrated human resource capacity are likely to lead to improved institute-client relationships. Improved relationships are also contingent on a better understanding of, and linkages with, clients in terms of understanding their satisfaction (and acting upon it). Alongside strong internal fiscal systems, this should contribute to CRI being recognized as an efficient user of resources, and more broadly, a centre of excellence for crops research.

In this example, some overlap exists at different levels, and certain objectives have less clear linkages than others. The goal of the CRI, to be a centre of excellence, is also present as an objective within the client perspective, albeit as recognized by collaborators rather than by all clients and stakeholders (the overall goal). At the financial perspective level, objectives such as 'structures developed for showing impact' are not so clearly linked back down the chain. Clearly, the validity of these assumptions, and the KPIs need to be reviewed after conducting this exercise.

Current KPIs were designed to measure the performance or achievement of each specific indicator. Having linked the objectives, revision and perhaps rationalization needs to take place, alongside the selection of KPIs that measure the linkage. KPIs have a crucial role to play as measures of the success of each objective, and as indicators of the likelihood of the objective being met. Having established and

tested the key linkages between objectives, it may be necessary to review the KPIs, to see whether or not they effectively fulfil this function. If not, they may need to be adjusted or added to, or it may be considered appropriate to develop extra KPIs to look at the interface between one or more objectives. This moves the scorecard approach into impact pathway development, as the linkage KPIs are essential measures of progress towards the goal on the basis of a cause-and-effect model.

This initiative did not go beyond illustrating possible objective-mapping using those generated by each CSO. The extent to which this exercise is deemed useful will determine its validity within an overall performance management system at the organizational level for each CSO.

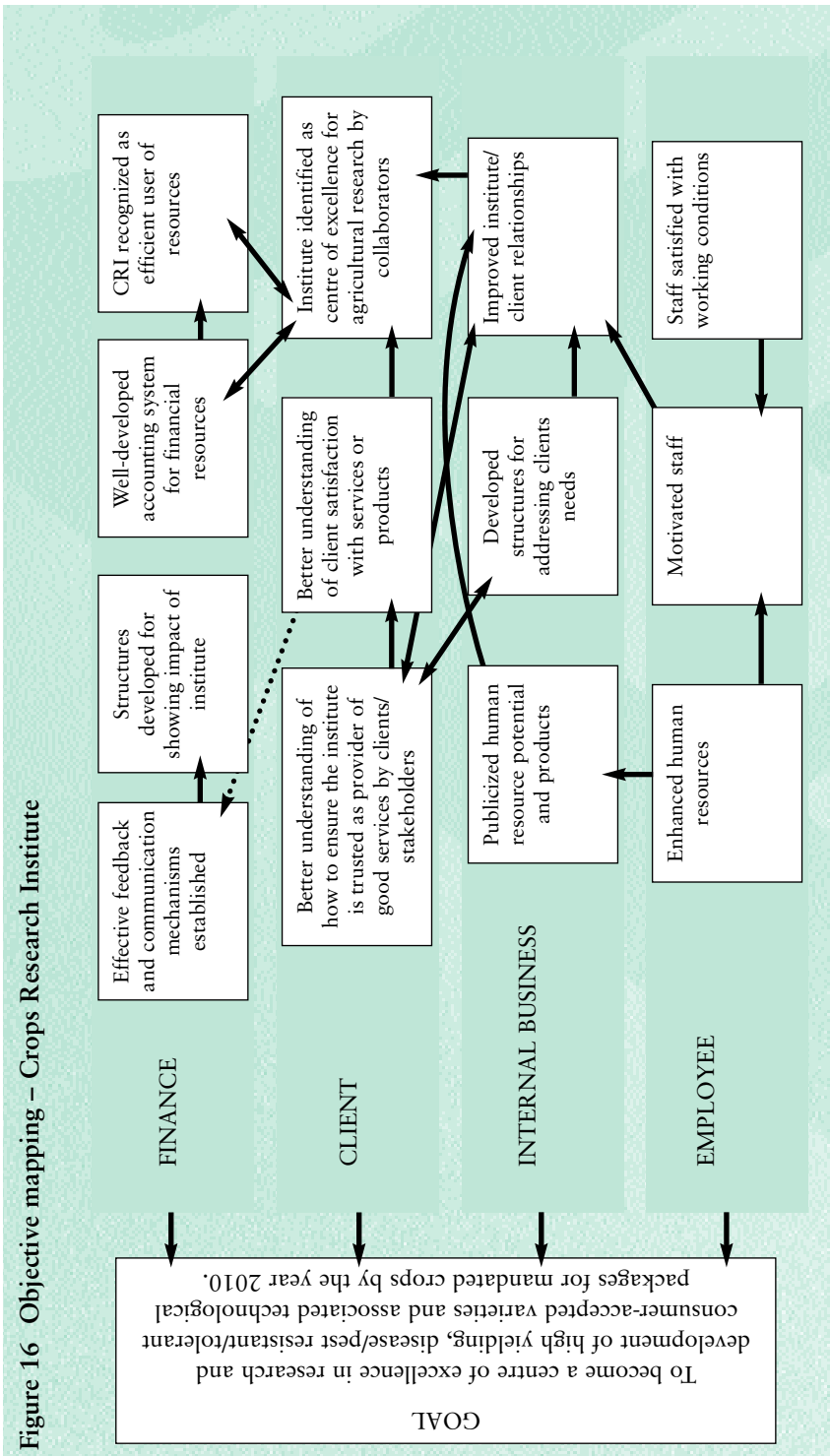


Figure 16 Objective mapping – Crops Research Institute

NOTES

[1] CSOs were represented by three staff, including a senior manager (director or deputy) and a project champion (someone appointed to advance this project; typically an M&E or information staff member). Each CSO also invited a representative of a major stakeholder to bring in this perspective to the discussions (stakeholders represented included the Extension Department, Grains and Legumes Board and a private food processing company). Senior M&E officers from NARO (Uganda) and PPMED (Ghana) were present to provide support and as a link to parent ministries.

[2] Taking this assessment further, a review was conducted into how individuals' contribute to the organizational goal, and how this contribution is measured. Two issues arose from the findings. Firstly, a considerable variation was found in the extent to which measurements accurately reflect the work in which individuals are engaged. For example, one individual is conducting studies as their contribution to the goal, and this is measured through improvement in the income levels of end-users. Clearly there is a disjuncture here, one is not measuring the other. Secondly, consideration was given to which of the measures highlighted by individuals best illustrate the achievements of the organization in view of the goal. These findings were noted for consideration during the selection of performance indicators.

[3] Medium term expenditure frameworks, sector-wide approaches to agriculture (AgSIP in Ghana, PMA in Uganda).

[4] Objectives, key performance indicators and draft delivery plans for the other two CSOs can be found in the supplementary volume to this report.

[5] Clients were defined for the purpose of this project as those who receive products and services from the CSOs (e.g. farmers), whilst stakeholders are those agents that are not direct recipients of the products and services, but have a direct interest in the CSO (e.g. donors or Government Ministry of Finance). Clients and stakeholders are disaggregated in the individual CSO reports (see supplementary volume).

[6] See Weiss (1999), for a discussion on theory-based evaluation.

Review and future actions

This final section is in two parts. The first presents a review of the inception project from the viewpoint of the participants (representatives of the case study organizations (CSOs) and stakeholders), and facilitators (NRI's Performance and Impact Programme (PIP) team). The second part provides a brief outline of how the project aims to move forwards.

REVIEW

An assessment of the effectiveness and value of this project inception phase comes from two sources. Firstly, an evaluation of the Stage II workshop (scorecard construction) was conducted which enabled each participant to comment anonymously on the process, content and relevance. Secondly, the PIP project team conducted a post-mortem on the entire process, particularly focusing on whether expectations had been achieved, and looking at the quality of the results produced.

Stage II workshop evaluation

In accordance with the principles underscoring this project (see page 10), it was considered essential to understand participants' perceptions of the process and content. Further, any feedback would indicate the likely future involvement of each CSO in the project. This was assessed through a semi-structured questionnaire (Annex 5), given to all participants at the workshop, and filled in on a daily basis.

The results, presented in Figure 17, illustrate the level of satisfaction during the three-day workshop. Of the fourteen participants (aside from the facilitators), strong responses were found in two statements: "the day was spent well and I can see where we are going", and "I feel excited about where the project is going, and want to stay involved". This contrasted with no responses at all in the other four statements, all of which had a negative bent. Overall, the response illustrates a high-level of satisfaction with the workshop process and content, and a strong indication of the interest and intention to stay engaged.

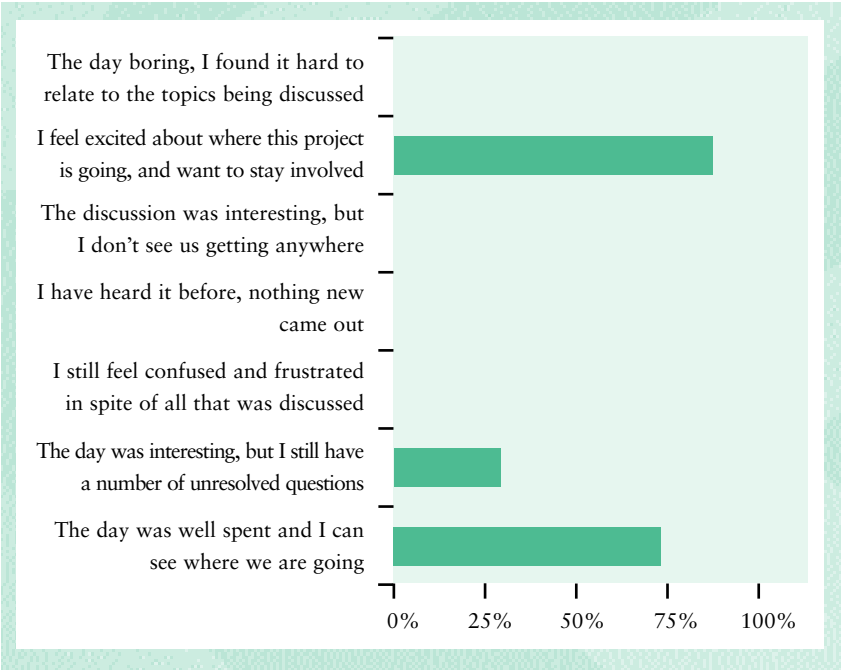


Figure 17 Evaluation of scorecard construction workshop

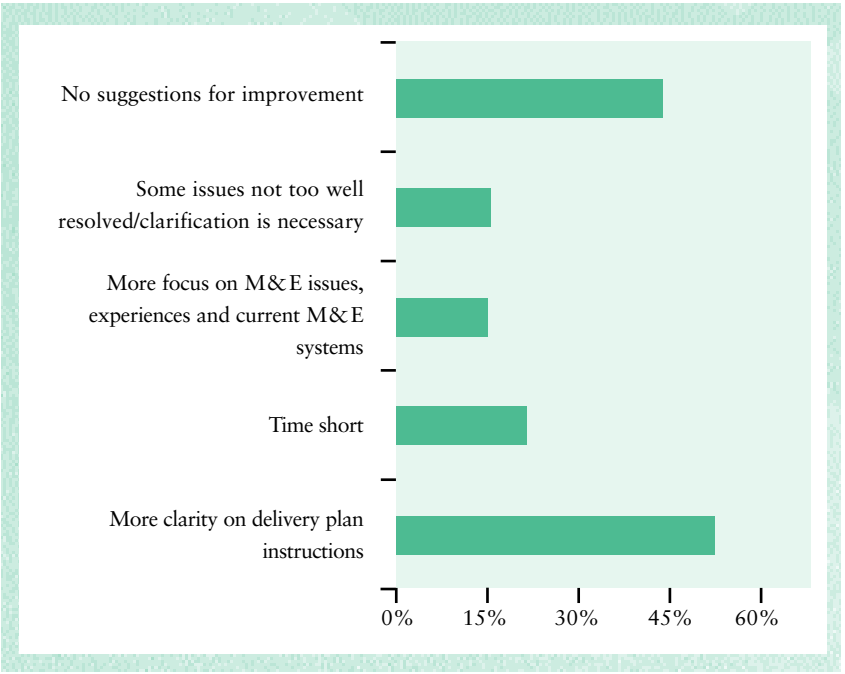


Figure 18 How the workshop could have been improved

The opportunity for participants to comment specifically on the strengths and weaknesses of the workshop (Figures 18 and 19[1]) highlighted some of the difficulties experienced in the development of draft delivery plans. This was partially attributed to the short duration of the workshop, and thus the speed at which the delivery plans had to be developed (30% of participants stated that they had "unresolved questions" – Figure 17).

In terms of strengths, the comments reflect the importance of presenting the diagnoses (conducted during Stage I of the project) to the other CSOs, and discussing areas of similarity and difference. The

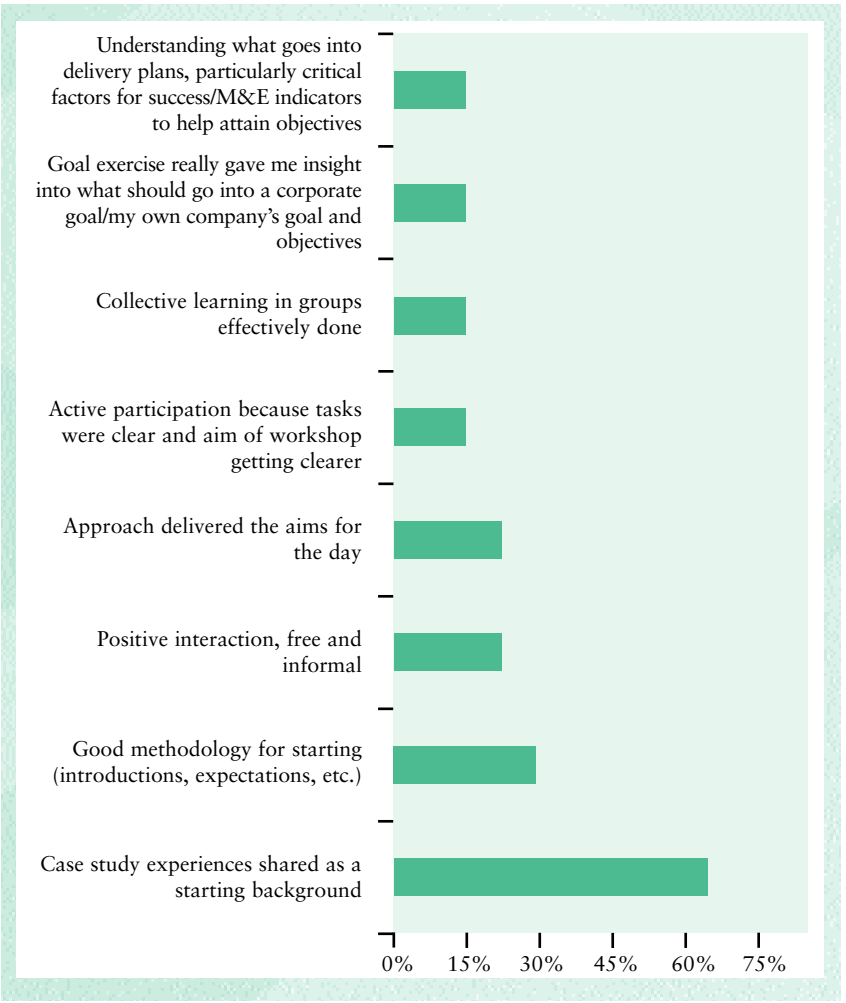


Figure 19 The positive things about the workshop

scorecard construction process was also well received in various different ways, ranging from being valued as a clear approach and involving collective learning, to the specific value of certain exercises, such as the goal analysis.

Final comments on the workshop from participants

"The workshop has been very well organized, the venue was very good."

"Whole concept of the workshop well planned."

"Lack of co-ordination of roles of facilitators in the first day. This improved dramatically on the second and third days of the workshop. In future, roles should be properly assigned so that facilitators do not create the impression of not being sure of what they want to do."

"The workshop has been well organized and participants contribution appreciated. Organizers have related excellently with the participants. Enthusiasm of organizers highly commendable."

"Congratulations to the organizers and more strength in the development of action plans, project proposals and implementation of the project. There was a good relationship between the participants and the organizers."

As final comments from the participants broadly suggest (box left), the evaluation exercise provided useful feedback for improving the scorecard exercises and moving forward with confidence in areas that were commended. Most importantly, from the perspective of the PIP project team, participants were clearly enthusiastic and interested in continuing the process.

PIP project team assessment

Reviewing the process and outputs of the project, each member of the project team noted down the strengths and weaknesses as they perceived them (Annex 6). These were then grouped into three themes: the use of the balanced scorecard; language and concepts; and the flexibility of engagement.

***The balanced scorecard – adoption or adaptation?*:** Considerable debate took place amongst the project team from the start over the extent to which the balanced scorecard should be used in its entirety, and to the exclusion of other results-based and capacity development approaches. Whilst it was agreed that it provided a useful framework for considering aspects of performance management that perhaps are sidelined by many research and development agencies, a fear was expressed that wholesale promotion and adoption of the technique would be inappropriate.

Adoption is always far easier than adaptation, but is rarely as appropriate. Recognizing this, the balanced scorecard was not introduced to the CSOs during the initial steps. Presenting the findings of Steps 1 and 2 to the first CSO was initially structured around each specific exercise, rather than through the four scorecard perspectives. However, during this feedback session, it became clear to the project team that the points being fed back would fit neatly within the four perspectives, presenting a good opportunity to present the scorecard as one possible approach to performance management capacity building. Thus, in a relatively spontaneous manner, the scorecard was illustrated on a flipchart, and the findings of Steps 1 and 2 integrated. This provoked thoughtful debate and led to considerable interest in carrying this approach forward. Consequently, the feedback report and sessions of the Stage I diagnoses carried out with the second and third CSOs were structured specifically around the scorecard.

Building on early confidence in the scorecard approach, Stage II was designed specifically to carry the scorecard forwards – reviewing goal, development objectives, measures and delivery plans. The project team did not adopt a pre-existing methodology for constructing the scorecard. Instead, the scorecard approach and the methods used to investigate certain issues were adapted and created to suit the context in which the project was operating.

The balanced scorecard approach has many links to strategic planning, and while elements of this are essential in performance management capacity building, it was not the remit of this project to follow that particular process. Thus, although organizational goals and related objectives were re-visited during the workshop, the team focused less on existing strategic and management structures than on addressing the performance management capacity of the CSO and emphasizing the potential benefits from effective performance management. Shifting the focus towards performance management and away from strategic planning necessarily involved a continual appraisal of whether the understanding of existing M&E capacity was sufficient to steer the process towards the development of performance management delivery plans.

***Language and concepts*:** Careful consideration was given to the use of language in this project. Different vernaculars exist – one in agricultural research, another in monitoring and evaluation – with the majority of participants conversant in the former and not the latter. Thus, key concepts and definitions were discussed as one of the initial activities of the workshop, and attempts were made to tone down the M&E language where possible.

Monitoring and evaluation within the context of agricultural research is often pitched at the level of the research project, focusing on cyclical aspects of design, review and assessment. Recognizing that this project was focused on monitoring and evaluation at the organizational and programme level, the terms 'performance measurement' and 'management' were introduced to engender the sense of a concept qualitatively different from 'project M&E', whilst at the same time confirming aspects common to both organizational and project-level M&E. The intention of introducing a new concept was to avoid getting stuck in the detail of existing knowledge of monitoring and evaluation at an early step. Rather, by discussing performance management, elements of monitoring and evaluation from participants experience (at the project level) were drawn in as and when appropriate.

Furthermore, the team realized that researchers' past experience of monitoring and evaluation was not altogether positive, often seen as an externally driven set of measures focusing solely on accountability, with limited use to their own internal monitoring and planning needs. It was considered important for the team to communicate the intention to work with the CSOs in building performance systems that would better reflect the needs and interests of their organizations. Feedback obtained during the Stages I and II indicated that the participatory approach used was appreciated.

"There was free and informal interaction."

"Corrective learning and adjustments of M&E development approach… a good demonstration of social capital creation when facilitators are flexible."

Source: Participants' comment about the Stage II workshop

***Flexibility of engagement*:** Considerable latitude was given to the project team in the design and implementation of this project by the donor agency, DFID

Forestry Research Programme[2]. Whilst it was necessary to achieve the objectives set out in the project proposal, the open design enabled potential CSOs to choose to engage or not on the basis of their assessment of the worth of this project (initial communications about its intentions, diagnostic visits, and the experience of the workshop). This was particularly important, as the project was situated thematically outside the experience/knowledge of most participants (i.e. not agricultural/food-research orientated).

***Conclusions*:** The project set out to develop and institutionalize performance management systems that enhance the impact orientation of research organizations. This goal involved conducting activities within this phase, and a future phase. On reflection, the project team felt that it has moved a considerable way in the direction of achieving this goal – having identified, contextualized and built upon a performance management approach that is relevant to the R&D sector. The core principles – participation, iteration and reflection – were central to the progress made in institutionalizing ideas and approaches during this inception phase.

FUTURE ACTIONS

Assuming funding is forthcoming[3], the aim of the project team is to move forwards in two directions, i.e. with the CSOs – the main focus of activities to date – and with dissemination to, and engagement with, other stakeholders to broaden the knowledge and experience base.

The case study organizations

The final part of this report outlines a series of steps that would continue the process initiated during this project to a point at which each CSO has the framework of a performance management system. This is outlined to illustrate how far the process has been carried through in this project, and what remains to be done if this particular path is followed (see Figure 20).

From inception, this project was conceived as a blend of capacity building in organizational performance management, and action research. The use of the balanced scorecard, untested in national research organizations as far as the project team is aware, inevitably

meant that the process followed was an iterative one, with considerable time for reflection at each step. Consequently, the progress of this initiative in its second phase will be based on an initial stage of reflection on what has been achieved, and on what is required. Alongside the diagnostic assessments conducted during the Stage I visits, some time was spent by each CSO during the Stage II workshop

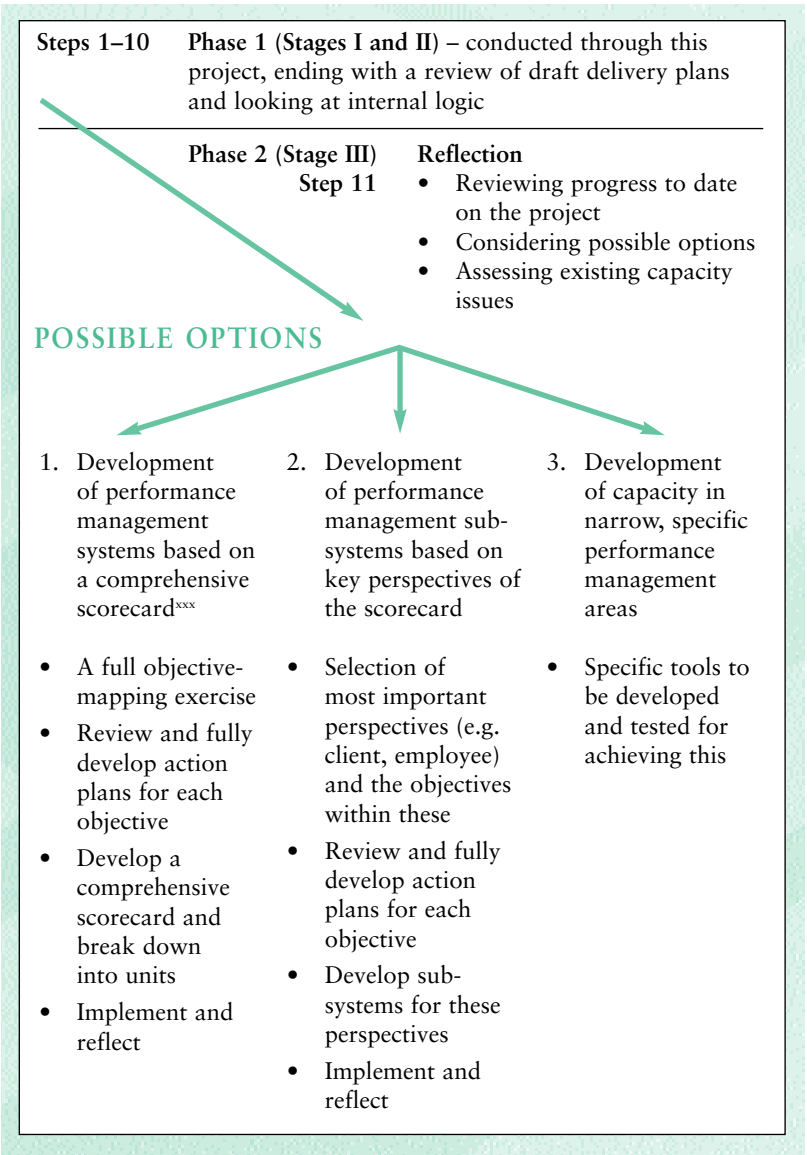


Figure 20 Possible pathways for this project

in considering existing M&E activities that contribute towards newly derived objectives. This assessment of existing M&E activities and capacity needs more detailed consideration, as do the realistic expectations (in terms of time, cost and capacity) of the senior management of each organization. Thus, the aim of a reflection stage will be to identify clearly the direction in which each organization wishes to take the performance management exercise, based on experience to date, and alongside capacity, cost and time constraints. Based on this reflection period, as an essential next stage, several options are suggested as pathways each CSO may take (Figure 20). One or more CSO may follow one of these paths, or quite possibly, each may follow variations of one or more of them.

Stakeholders

The nature and extent of engagement with other stakeholders, notably the DFID research programmes and the CGIAR centres, will depend on the degree of interest expressed as a consequence of this report. Possibilities for collaboration and joint funding will be explored as a basis for extending the possibilities for capacity building in the second phase. It is hoped that experiences in evaluation capacity development elsewhere, using different or similar methodologies, can be brought together with this initiative to facilitate cross-learning. Similar initiatives currently underway may provide an opportunity for collaboration, ranging from the merging of capacity development work in certain areas, to the sharing of ideas and experiences[5].

NOTES

[1] Comments were tabulated where more than one person stated a similar strength and weakness.

[2] After the project team received a poor response from directors of national forestry research organizations regarding interest in their participation in this project, the DFID Forestry Research Programme encouraged the team to broaden the remit to potential collaborators across the renewable natural resources sector.

[3] The project team has held preliminary discussions with several agencies regarding the funding of the next phase.

[4] Three further steps are outlined which will aid each CSO in implementing the scorecard.

These are suggested steps, and the pathway selected by each CSO may vary according to their need and interest. It is expected that some CSOs may decide to undertake the first stage, and then focus on one or two priority objectives in setting delivery plans for performance monitoring within the timeframe agreed for a phase two project. It is anticipated that the response of each CSO will be mediated by a number of factors including: past experiences of M&E and attitudes of colleagues not so far involved (this may need to be revisited); current and planned M&E activities at both project and organizational levels; the extent of continued support from senior management; any re-structuring activities that are ongoing or pending; what is being emphasized as important by the core funders at the time.

Step	Aim	Proposed method
Full objective-mapping exercise	To formulate a shared, agreed theory of action, and gain a balance across the perspectives	1. List all the objectives on cards or post-its, organize in a logical sequence discussing the reasons behind the links. Set aside those that don't fit in (see Table 3 for objective 'tests') 2. Consider the key performance indicators (KPIs), using the series of tests (see Table 4). Consider which are useful, and which others may best measure the linkages 3. Redraft objectives and KPIs
Review and develop full delivery plans for each objective	To develop a work programme under the core areas	1. Review existing delivery plans in light of the objective-mapping exercise 2. Revise existing delivery plans and develop new ones for those objectives not covered 3. Review all delivery plans together, looking for overlap and gaps; revise accordingly 4. Clearly state responsibilities and time-scales for each delivery
Develop a comprehensive scorecard and break down into units	To identify how the system will work as a complete system, and then allocate responsibilities	The completed scorecard will show various mechanisms, linked through indicators to highlight the current performance profile of the organization: this needs to be broken down into units with associated responsibilities for it to function across each CSO effectively

[5] An outline and contact details for the project have been posted on the M&E News website (mande.co.uk) which has led to a number of potential collaborative opportunities aside from those generated through immediate collaboration.

Appendix 1 Case study organization selection criteria

LEVEL 1

Appropriateness and commitment were gauged through telephone and email discussions with the case study organizations (CSOs) themselves, other stakeholders and key informants.

Appropriateness The project wanted to work with national agricultural research organizations (NARS), programmes within these organizations, or possibly agricultural research networks. This was to ensure that the results of the project would be sustainable (recognizing that projects' are by their nature transitory and that research organizations are likely to become increasing inter-linked) and realizable (recognizing that international bodies are potentially too large and complex to be supported by this pilot initiative).

Commitment/interest Without initial commitment and interest on the part of organization heads and programme leaders, the project would not progress.

LEVEL 2

Appropriate CSOs that expressed genuine commitment as per the Level 1 criteria were visited by the project team. During these visits the following (Level 2) criteria were used as a guide to gauge the suitability of the organizations to participate as case studies.

Strong leadership Strong leadership that supports the adoption of balanced measures as a feature of organizational management and accountability. Strong leadership is essential. Without strong impetus at the top, the chances of implementing a balanced set of measures is greatly diminished.

Accountability at all levels of the organization Accountability for implementing and using a set of measures within an organization lies with those responsible for achieving an organization's intended goals.

It implies:

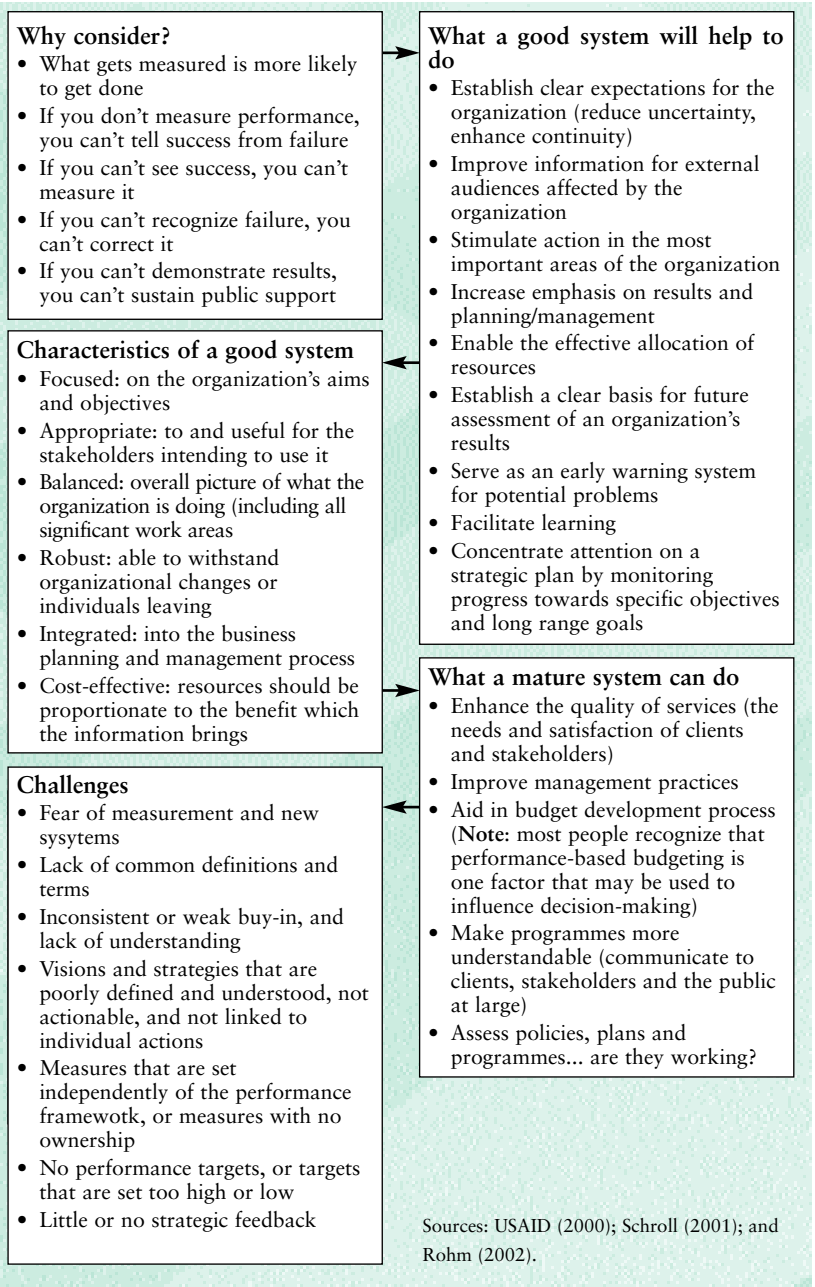
- control over actions and assets ('ownership')
- being answerable to a chain of command (which includes mechanisms to ensure the fulfilment of responsibilities)
- responsiveness to changing demands and organizational environment.

Without the first two of these, the organization's strategic framework will collapse simply from the lack of accountability. Without responsiveness, a programme becomes stagnant and irrelevant to an organization's day-to-day operations.

Informed and supportive customers, employees and stakeholders
The knowledge that customers, employees and other stakeholders are fully informed and that they understand and support the institution. The rationale behind this criterion is that without strong accountability within an organization, and an already active engagement with clients and other stakeholders, bringing these groups together and developing a balanced set of measures effectively will be a hard task.

Clear mission A mission is an organization's *raison d'etre*, reflecting its purpose, who it serves and by what means it serves them. The intended purpose of the project is not to facilitate the development of an organization's mission, but to work within an existing mission to improve the organization's ability to realize its mission through better and more effective systems.

Appendix 2 Facets of performance measurement



Sources: USAID (2000); Schroll (2001); and Rohm (2002).

Appendix 3 Mandate and context of each case study organization

NATIONAL BANANA RESEARCH PROGRAMME

The National Banana Research Programme (NBRP) is among the oldest and largest programmes of the National Agricultural Research Organization (NARO) of Uganda. The research and development it conducts is organized into activities, each of which is designed to address specific client constraints and needs. Although bananas are the main focus of the NBRP, a number of activities, notably socio-economics, agronomy and product development, often cut across several commodities and farming systems.

The overall goal of NBRP is to increase banana productivity and utilization through development and promotion of technologies for integrated management of the banana enterprise. Analysis of stakeholder needs revealed that there is a need to develop and promote technologies for prevention and management of pest build up, and increase soil fertility in areas where production has declined.

The NBRP has 65 staff, of which 20 are senior researchers, 12 junior researchers, 21 technicians and 12 support staff. Staff work in multi-disciplinary teams on several projects simultaneously. The programme has a single manager who also functions as a research scientist. The manager's role is to supervise staff, manage the finances and control staff promotion.

The NBRP is one of several programmes at Kawanda Agricultural Research Institute (KARI), which itself is one of eight research institutes of NARO. NARO senior management includes one director general and two deputies, with a management committee that determines the strategic and operational direction of the organization. The management committee reports to the National Agricultural Research Board secretariat.

Under the auspices of the sector-wide approach to agricultural development in Uganda (Programme for the Modernization of Agriculture), research and development is currently undergoing considerable change. The newly formed National Agricultural Advisory and Development Service (NAADS) has in some districts replaced the conventional government extension service as a quasi-private organization to provide extension services to clients (predominantly rural farmers) through farmer fora. Funds are channelled to fora via the devolved district administration, and former state-employed extension agents are hired by farmer fora as private contractors. The principle behind this privatization is that extension services should be demand-led, and this devolved system enables farmer fora to hire and fire self-employed extension agents on the basis of performance. NAADS is being introduced through a phased process, and is currently at an early stage.

Along similar lines, a review of the national agricultural research system (NARS) is currently being conducted to consider what changes may need to be instituted to reorientate NARS so that it becomes more demand-driven. Central to this review is the current structure of NARO, and what changes may be appropriate to facilitate a service-orientated system, responding to the research needs of farmers. Proposed options from the first stage of the review are currently being considered by policy-makers and stakeholders within NARO. In addition to making research more demand-driven, the reform also seeks to liberalize provision of research services so that it is more competitive. This implies that if the proposal is accepted, the monopoly of agricultural research by government institutions (NARO and Makerere University) will be broken, and opportunities will be competed for by both local and international research organizations. In order to compete favourably in a liberalized environment, it is increasingly apparent that the NBRP must develop strategies for strengthening its internal ability as well as its image as a centre of excellence serving client needs. In anticipation of the recommendations of the NARS reform process, and in recognition of the need to be more demand-driven, one of the NBRP's strategies is to sharpen its internal performance management system.

The NBRP is gradually evolving a monitoring and evaluation (M&E) framework for improving internal functioning, external linkages, as well as the ability to satisfy stakeholder needs. Currently M&E is developed and integrated into activities at project level, however, there is a need to strengthen programme-level integration of various units, integrate various perspectives, and strengthen external linkages. It is also apparent that a formal unified framework for M&E is lacking. It has been proposed that the NBRP adopt a performance-oriented M&E framework using the scorecard approach.

CROPS RESEARCH INSTITUTE

In 1963, the Agricultural Research Institute was formed which housed two units – the Crops Research Unit (CRU) and Soil Research Unit. In 1964, the CRU became a fully fledged institute, and was renamed the Crops Research Institute (CRI). In 1968, the Academy of Sciences was re-organized into the Ghana Academy of Arts and Sciences and the Council for Scientific and Industrial Research (CSIR), and the CRI became one of the institutes under the CSIR.

The CRI has a broad research mandate covering all food and industrial crops, with the mission to ensure high and sustainable crop productivity and food security through the development and dissemination of environmentally sound technologies. This includes developing high yielding, pest and disease resistant crops, improved crop management and post-harvest practices.

The institute is divided into nine divisions, five of which address specific crop areas or production system issues: horticulture, roots and tubers, grains, crop protection, resource and crop management. The remaining four divisions include technical services (biochemistry, biometry, etc.), information services (training, communication and publications, library), administration and business development.

Research programmes and projects, funded by the Government of Ghana and external agencies (including CIDA, DFID, IFAD, IITA, ICRISAT, JICA and USAID) fall both within specific divisions (including maize improvement, rice technology development and legume breeding) and cut across divisions (socio-economic studies, post harvest).

The CRI has over 800 staff (including unskilled labour) of which 169 are research or technical grade (80 research-grade staff, 49 technical officers and 40 technical assistants) and 320 non-research junior staff in various supporting services. The institute is governed by a management board that meets biennially, with day-to-day activities headed by a director, assisted by a deputy-director and heads of the institute's divisions. Monthly meetings are held between the director and heads of divisions.

In CRI, budgets are strictly tied to the donor funds for projects. Funds are exclusively used for the activities of that project. Individual projects stand on their own with an account opened under the name of the institute for the project. The institute's management (i.e. the directorate) assist in the management of funds, as scientists have to justify the activities to be carried out before any funds are released. In most cases, accountable imprests are taken for execution of activities. The CSIR, however, charges an overhead cost of 15%. Individual scientists are encouraged to look for funding, either through their contacts or their track records. Most cases in CRI have been through contacts, especially from postgraduate studies contacts.

FOOD RESEARCH INSTITUTE

The Food Research Institute (FRI) was established in 1963, and incorporated into the Council for Scientific and Industrial Research (CSIR) as one of thirteen institutes in 1968. FRI has a mandate to conduct applied research into problems of food processing and preservation, storage, marketing, distribution and utilization in support of the food industry, and also to advise government on food policy. The institute's mission is to provide scientific and technological support to the development of the food and agricultural sectors in the national economy in line with government policy objectives.

The institute is divided into seven divisions, four of which address technical aspects of food quality and production: microbiology, chemistry and processing/engineering. The remaining three divisions deal with business development, administration and finance. Research programmes and projects fall both within specific divisions (e.g. fats and oils studies, cereal/grain/fish processing studies) and cut across divisions (economic and consumer studies).

The FRI has 174 staff, of which 37 are scientists and engineers, 35 senior technical and administrative support staff, and 106 junior members of staff in various supporting roles. The institute has a bipartite structure, with the director directly managing the three non-scientific divisions (and with overall responsibility for all divisions and reporting to the management board), whilst the deputy director manages the four scientific divisions. Quarterly review meetings occur between the divisional managers and the director/deputy-director to present progress against objectives on programme initiatives, which in turn is reported by the director to the management board (of which there is a technical sub-committee). A research co-ordinating committee comprising staff from each division appraises proposals for consideration. The institute manages its own finance, and reports to the CSIR board on programme/project outputs.

The FRI is one of three CSIR institutes engaged in a World Bank-financed private sector development project aimed at building capacity in the commercialization of research through restructuring and commercialization of operations.

Appendix 4 Scorecard construction workshop

Building Capacity in Performance Management Workshop, Coconut Grove Hotel, Elmina, Ghana, 8–10 July 2002

OUTLINE WORKSHOP PROGRAMME

Day 1 Aims

- Develop a common understanding; the project, terminology, why we are here
- Case study organizations (CSOs) share M&E experiences and issues around organizational performance

Day 1 Sessions

1. Introductions, 'humming' expectations, workshop objectives, terminology and ground rules
2. CSO presentations:

   National Banana Research Programme, Uganda
   Crops Research Institute, Ghana
   Food Research Institute, Ghana
   Soil Fertility Network for Southern Africa

3. External perspectives on the presentations, synthesis of emerging issues
4. 'Buzzing' action plan characteristics, action plan outline, introduce task for day 2, feedback on day 1

Day 2 Aim

- Through the balanced scorecare perspective, explore priority opportunities to improve performance monitoring, linking organizations' goals to strategic objectives and indicators of performance

Day 2 Sessions

1. Why performance measurement? Overview of the balance scorecard approach, First Group work task: revisiting organizational goals
2. Second Group work task: building objectives for each perspective
3. Second Group work task continued
4. Third Group work task: identifying indicators for key perspectives

Day 3 Aims

- Develop delivery (action) plans for building capacity in performance monitoring in each CSO
- Discuss the project framework for these action plans
- Evaluate the workshop process

Day 3 Sessions

1. Framework for the delivery plans
2. Fourth Group work task: constructing the CSO delivery plans
3. Discussion of the overall project framework and modalities
4. Wrap-up and workshop evaluation

Appendix 5 Scorecard construction workshop participant evaluation questionnaire

WORKSHOP EVALUATION QUESTIONNAIRE

1. At the end of each day, tick one or more of the following statements which best describes your feelings about the day

	Day 1	Day 2	Day 3
The day was well spent and I can see where we are going.	☐	☐	☐
The day was interesting but I still have a number of unresolved questions.	☐	☐	☐
I still feel confused and frustrated in spite of all that was discussed.	☐	☐	☐
I have heard it all before, nothing new came out.	☐	☐	☐
The discussion was interesting, but I don't see us getting anywhere.	☐	☐	☐
I feel excited about where this project is going, and want to stay involved.	☐	☐	☐
The day was boring, I found it hard to relate to the topics being discussed.	☐	☐	☐

2. Suggestions about how the day could have been improved, so that time was used more effectively in achieving the stated aim/s for the day

Day 1_____

Day 2_____

Day 3_____

3. What were the positive things about the day for you?

Day 1_____

Day 2_____

Day 3_____

4. If this type of workshop was to be run again, what would you suggest might be done differently?

5. Other comments about the workshop

Appendix 6 Performance and Impact Programme project team self-evaluation

	Strengths	Weaknesses
Process	• Open to non-engagement with CSOs due to the flexibility of the design, thus, less pressure on 'signing up' collaborators than is often found • Based on a well-tried and structured approach, yet iterative • Participatory, with strong engagement of all participants • Full documentation of the process as it unfolded • Good feedback mechanisms, enabling participants to review and revise process reports • Sufficient opportunities for joint planning and dialogue over ideas and approach within the team • Continuity and variety of input from team members during the formative phase • Engagement with national research organizations on an interesting venture in fairly unchartered territory in terms of M&E • The supportive, frank and challenging exchanges with senior research managers during the project process – this helped to 'test the temperature of the water' for such a project – managers were also free not to respond at all as, unlike most M&E related activities, this project was not tied to any donor initiative	• A compromise was made between following an approach and the degree of iteration enabled, with the latter slightly sacrificed due to the time constraints • Loss of key team members during the life of the project, at a stage when not easy to bring new one on board • Inadequate time during Stage I diagnostic visits to engage with the other stakeholders of CSOs, particularly some senior research managers and policy-makers, extension and private sector representatives • The Stage I diagnostics visits and Stage II workshop process limited opportunities for in-depth analysis of the precise links between poor performance and poor systems for monitoring performance – the scorecard framework for investigating cause and effect relationships is rather theoretical and needs to be more empirically grounded in the second phase • Insufficient time spend on reflection on past M&E experiences, and lesson learning from these • Getting inputs from stakeholders proved more difficult than anticipated, due to limited expertise in this area, the more experienced potential contributors were also very busy people
Outputs	• Completion of all aims as stated in proposal and inception approach document • There is opportunity to link this initiative to wider development discourse on performance management	• More time required to develop objectives, key performance indicators (KPIs) and action plans. This compromised the quality in certain aspects, notably the KPIs which were not always imaginative • The PIP team took the lead in documentation. While the CSOs contributed significantly in terms of responses and improvements to draft documents perhaps in future drafting documents could be more of a shared task

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