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Improving Irrigation Project Planning and Implementation Processes in Sub-Saharan Africa: Diagnosis and Recommendations

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IWMI International Water Management Institute

FUTURE HARVEST
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List of Acronyms

ADB	African Development Bank
ADF	African Development Fund
AFD	Agence Française de Développement
ASARECA	Association for Strengthening Agricultural Research in Eastern & Central Africa
CAS	Country Assistance Strategy
CBO	Community-Based Organization
CI	Cooperating Institution
CORAF	Conférence Ouest et Centre Africaine pour la Recherche et le Développement Agricole
COSOP	Country Strategic Opportunities Paper
CPM	Country Program Manager
CSP	Country Strategy Paper
DAC	Development Assistance Committee
ECOWAS	Economic Community of West African States
EDF	European Development Fund
ESRDF	Ethiopian Social Rehabilitation and Development Fund
FAO	Food and Agriculture Organization of the United Nations
FAO-IC	Food and Agriculture Organization Investment Center
FERHA	Fonds d'Entretien des Réseaux Hydro-Agricoles
GTZ	Gessllschaft fur Technische Zusammenarbeit
HIPC	Highly Indebted Poor Country
HIV/AIDS	Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome
ICID	International Commission on Irrigation and Drainage
ICR	Implementation Completion Report
IDO	International Development Organization
IFAD	International Fund for Agricultural Development
IFIs	International Financing Institutions
ILRI	International Livestock Research Institute
IMT	Irrigation Management Transfer
IPTRID	International Program for Technology & Research in Irrigation and Drainage
IRR	Internal Rate of Return
IWMI	International Water Management Institute
IWRM	Integrated Water Resources Management
M&E	Monitoring and Evaluation
MaraFIP	Mara Region Farmers' Initiative Project (Tanzania)
MTR	Mid-Term Review
NGO	Non-Government Organization
OE	Office of Evaluation
OECD	Organisation for Economic Co-operation and Development
OED	Operations Evaluation Department
O&M	Operation and Maintenance

ONAR	Operations North East & South Agricultural & Rural Development Department (ADB)
OPEV	Operations Evaluation
PCR	Project Completion Report
PER	Performance Evaluation Report
PIDP	Participatory Irrigation Development Program (Tanzania)
PIP	Project Inception Paper
PHBM	Projet de développement du Haut Bassin de Mandrare (Madagascar)
P&I	Planning and Implementation
PMU	Project Management Unit
PPAR	Project Performance Assessment Report
PPI	Petit Périmètre Irrigué
PRBM	Projet de Réhabilitation du périmètre rizicole du Bas Mangoky
PRSP	Poverty Reduction Strategy Paper
REAP	Rural Enterprise and Agri-Services Promotion Project (Kenya)
SADC	Southern African Development Community
SDARMP	Smallholder Dry Areas Resource Management Project (Zimbabwe)
SSA	sub-Saharan Africa
SSI	Smallholder Systems Innovations
SWAps	Sector Wide Approaches
SWMNET	Soil and Water Management Research Network
UN	United Nations
UNCDF	United Nations Capital Development Fund
UNOPS	United Nations Office for Project Services
USAID	United States Agency for International Development
WB	World Bank
WUA	Water User Association
WSDP	Water Sector Development Program

SUMMARY

Weaknesses in planning and implementation (P&I) have been identified as one of the main reasons for the disappointing results of agricultural water development and management projects. Based on a review and critical analysis of experiences and case studies in sub-Saharan Africa, this study component proposes practical ways of improving performance related to planning and implementation and thereby enhancing the returns to investments in agricultural water.

P&I is analyzed within the overall context of the project life cycle, broken down into the following six phases: (i) Identification; (ii) Preparation; (iii) Appraisal; (iv) Negotiation and Approval; (v) Implementation and Supervision; and (vi) Evaluation. Weaknesses reported at the different stages of this cycle are identified and analyzed. A comprehensive desk review of 18 selected projects funded by the World Bank and African Development Bank, covering 11 countries in West, East and Central Africa, and detailed case studies of 19 projects in 5 countries, are supplemented by the P&I lessons learnt from another 5 case studies of IFAD-supported projects in Kenya, Tanzania, Madagascar and Zimbabwe carried out under the Poverty Reduction component of the Collaborative Program. In addition, staff of several development agencies (including ADB, IFAD, AFD, FAO) were interviewed. The sample of projects analyzed is therefore broadly representative of agricultural water development and management experiences in sub-Saharan Africa. This summary presents the major findings and key recommendations emerging from the study.

Major findings

Similarities and differences among different international financing institutions (IFIs): Overall, financing agencies follow similar project cycles with some variation in terms of the emphasis and actors involved at different stages. For example, IFAD's approach tends to be more participatory compared to the World Bank and African Development Bank. With respect to the project cycle, governments take the lead in project identification; few IFIs take an active part at this stage. Insofar as project preparation is concerned, the official position is for the borrower to drive the process with the financing institution providing support as needed. But in practice this phase is led by financing agency staff, assisted by their consultants (although some IFIs provide assistance to the borrower through special loans or grants, or solicit borrower inputs through stakeholder workshops and consultations). IFIs' approaches to project appraisal and negotiations are very similar. All IFIs consider project supervision as a critical task and provide for periodic formal progress reviews during the project life, with a project completion report produced at the end of the implementation period. Finally, ex-post evaluation is carried out systematically for all World Bank projects, but other IFIs do this more selectively; in all cases, this is performed by specialized departments of the financing agencies, separate from those responsible for operations and implementation.

Overview of P&I weaknesses: The contribution of the project to the realization of relevant sectoral strategies, national policy goals and more recently poverty reduction strategies has not always been explicitly spelt out. This often results in a lack of fit between the project planning process and the general policy dialogue between government and IFIs and ultimately, weak buy-in on the part of the latter, and difficulties for governments to satisfy their own commitments. Although the impact

of sound project preparation and appraisal on project performance is recognized, particularly by IFIs, it does not seem to get the attention it deserves in practice. For example, design choices that do not take into account actual on-the-ground operational and management capabilities can seriously compromise outcomes. The arrangements for overall project implementation and supervision are by far the major determinants for project success. Key constraints are: limited technical and managerial capacities within government and executing agencies, lack of incentives to attract and retain skilled staff, inadequate monitoring, inappropriate supervision by IFIs (with over-emphasis on physical achievements and disbursements at the expense of development effectiveness), and difficulties coping with institutional changes such as decentralization, irrigation management transfer, and greater private sector participation. Finally, explicit mechanisms (and resources) to evaluate project impacts such as on poverty reduction are rarely in place with the result that there is no real opportunity to learn from project experiences and feed into a country's knowledge base of P&I of agricultural water projects.

IFIs' responsibilities in P&I failures: Shifts in IFIs' funding priorities sometimes lead to inconsistency with government strategies, particularly in the case of bilateral financial institutions (which are strongly influenced by the political orientation of the financing country). However, multilateral agencies are also blamed by national partners for their complex and lengthy disbursement procedures and strict conditionalities. On the other hand, financing agencies also appear to be operating under a lot of pressure — staff not only have large portfolios of responsibility but are also expected to have sound knowledge of the agency's procedures, be skilled in project management and their own area of disciplinary competence, as well as be able to integrate crosscutting issues such as gender, HIV/AIDS, and the environment, among others. This situation has an adverse effect on IFI involvement in critical phases of the project cycle and ultimately on project performance and outcomes. Furthermore, internal communication and sharing of experiences within and among different departments of financing agencies are deemed to be poor, hampering development of institutional memory and capacity. The fragmentation of, for example, water projects among different departments of IFIs mirrors the fragmentation among government departments, and hinders their capacity to take an integrated approach consistent with the principles of Integrated Water Resources Management (IWRM). In view of the trend towards decentralization of authority to local government levels, IFIs also need to focus more seriously on supporting capacity building at these levels to support this decentralization trend.

Government responsibilities in P&I failures: Government responsibility ranges from the commitment of financial and human resources to assuming ownership and responsibility for project performance. Falling short in any of these areas – inability to respect counterpart contributions, inadequate staff skills, poor support services to beneficiaries, non-transparent procedures for procurement and recruitment of personnel — seriously compromises outcomes. This predicament is not made easier by the different IFIs procedures and rules, and the trend towards decentralization to local levels, where the shortage of skills and resources is even worse than at national level.

Responsibilities of executing agencies in P&I failures: It is not always easy to assemble and retain the complex mix of technical, social, economic and management skills required for an effective project management team, especially in light of the limited human and financial resource base of many countries in SSA. In the absence of incentives such as a reasonable salary and working conditions, it is a huge challenge to retain the requisite skills and build continuity and national capacity in project management. On the other hand, early establishment of a project management unit

adapted to the local context enhances chances of successful project implementation, although there is debate about the desirable degree of autonomy of a PMU: whether the governmental executing agency should use its own staff for the PMU, or hire staff especially for the task with the risk of their abandoning the project before completion.

Recommendations

Two overarching recommendations emerge from this study. The first is that project management should not be viewed as an "overhead" to be minimized, but an essential feature of successful projects, with potentially huge pay-offs. It requires the deployment of adequate human and financial resources and is applicable at IFIs as well as government and partner levels.

The second overarching recommendation is that projects must be considered as learning and capacity building opportunities that will contribute to a knowledge base on planning and implementation of agricultural water projects (costs, technical options, standards/norms, policies, institutional arrangements for service provision, inventory of expertise …), strengthening the institutional memory of governments and IFIs, and ultimately creating an environment that encourages and enables better quality investments.

Other recommendations are summarized in the table below:

STAGE IN PROJECT CYCLE	ACTOR TO WHOM THE RECOMMENDATION IS DIRECTED		
	Governments	IFIs	IFIs & Govts.
Identification	• Better articulation of linkages between project objectives, sectoral strategies & overall national development goals • Identify & put in place enabling conditions for beneficial use of investments • Promote participatory assessment of community needs • Agree on clear criteria for selecting project beneficiaries	• Greater involvement of IFIs at this stage with a view to achieving a better understanding of local context and hence perform a better-informed appraisal	• Governments and IFIs should coordinate investments, in a way that takes best advantage of individual IFIs' strengths
Preparation, Appraisal and Negotiation/ Approval	• Carry out careful analysis of local context – bio-physical, socio-economic, environment • Minimize complexity of projects to fit local management and implementation capacities • In making infrastructure design choices, take into account indigenous knowledge and local capacity for operation & maintenance • Early establishment of the project management team to help build relations of confidence and mutual respect with IFI staff, participating local communities & other partners; will also improve monitoring of project progress & timely decisions about possible remedial action • Adopt participatory approaches to allow beneficiaries to articulate their own needs and preferences, and be an integral part of project identification, design and implementation.	• Greater involvement of IFIs at this stage with a view to achieving a better understanding of local context and performing a better-informed appraisal	• Promote use of project management tools such as log frames in a participatory way • Limit number of project components to fit better with local management capacities • Create and make use of knowledge base of lessons and past experiences

STAGE IN PROJECT CYCLE	ACTOR TO WHOM THE RECOMMENDATION IS DIRECTED		
	Governments	IFIs	IFIs & Govts.
Implementation & Supervision	• Be more inclusive in selection of service providers (level playing field); provide training & capacity building to potential local and national bidders where necessary • Make greater use of NGOs and private sector to fill skills and capacity gaps and shortcomings in public sector • Provide adequate incentives to sustain the interest and retain qualified project staff	• Make provision for closer supervision and knowledge sharing • IFIs & governments should mutually agree on the supervision framework • PMU and beneficiaries should be able to give feedback on the ToR of consultants, participate in their selection and assess their performance • Quick feedback and responsiveness will improve implementation of remedial measures • Introduce sufficient flexibility in implementation to allow for adapting designs to local context	• Effective implementation of agreed M&E procedure responding to government and users needs; train local staff in use of project management tools
Evaluation (completion)		• Carry out and disseminate PCR expeditiously	• Joint evaluations of government and IFIs with beneficiary partners
Evaluation (post-completion, after-care)	• Provide for some 'residual' government role, especially in regard to provision of support services (inputs, markets, credit) • Avoid or overcome O&M problems through design choices (physical, institutional) that are compatible with locally available skills and capacity, and support the emergence of professional quality service-oriented services providers specifically in charge of O&M.	• Long term support to, and monitoring and evaluation of new institutional and financial arrangements for irrigation services provision (public-private partnerships, federation of WUAs)	• Devise better ways of assessing poverty reduction impacts of projects

STAGE IN PROJECT CYCLE	ACTOR TO WHOM THE RECOMMENDATION IS DIRECTED		
	Governments	IFIs	IFIs & Govts.
Along and around the project cycle	• Improving the understanding of rural poverty and how agricultural water management contributes to its reduction by all stakeholders (financing institutions, national and local governments, academic institutions, NGOs) • Adopting participatory approaches to designing and implementing projects will strengthen local water and irrigation management institutions and improve the sustainability of such projects. On the other hand, implementation of such an approach will entail (a) building the capacity of relevant project personnel in participatory approaches, and (b) setting up incentives that encourage them to interact with local stakeholders • Strengthen collaboration between IFI staff and project management staff at all stages of the project cycle • Provide for training, capacity building and skills development at all levels as part and parcel of project • Simplify IFIs' procedures for procurement, disbursement, monitoring, reporting. IFIs should adopt uniform procedures to make the job of government and executing agencies easier • Development and adoption of Result-Based Management tools for policy dialogue, sector work and projects • Include more systematically in evaluation reports standardized indicators regarding P&I: i.e., information on project management arrangements, how effective they were, lessons learned • Revisit internal organization of financing/development agencies vis-à-vis assigning roles and responsibilities; sharing of information and experience regarding P&I successes and failures and best practice; alleviating time pressures on task managers; decentralizing financing agency responsibilities to country/regional offices wherever possible; adequate technical support on issues outside project task manager's area of expertise • Assist governments to take the lead with respect to agricultural water development and management seeking for integration with PRSP processes.		

RÉSUMÉ

Les résultats décevants des projets d'aménagement et de gestion hydro-agricoles ont été attribués principalement aux faiblesses de la planification et de la mise en oeuvre des projets. Basée sur une revue et une analyse critique d'expériences et de cas d'étude en Afrique sub-saharienne, ce rapport propose des voies pratiques pour améliorer les performances liées à la planification et à la mise en œuvre des projets afin d'accroître la rentabilité des investissements hydro-agricoles.

La planification et la mise en oeuvre sont analysées dans le contexte général du cycle de projet, décomposé en six phases : (i) Identification; (ii) Préparation; (iii) Evaluation préalable; (iv) Négociation et Approbation; (v) Mise en œuvre et Supervision; et (vi) Evaluation a posteriori. Les faiblesses relatives aux différentes étapes de ce cycle sont identifiées et analysées. Une revue détaillée d'une sélection de 18 projets financés par la Banque Mondiale et la Banque Africaine de Développement, couvrant 11 pays en Afrique de l'Ouest, de l'Est et Centrale et des études de cas détaillées de 19 projets dans 5 pays sont complétées par les leçons tirées de 5 autres cas d'étude de projets financés par le FIDA au Kenya, en Tanzanie, à Madagascar et au Zimbabwe, et conduits dans le cadre de la composante sur la Réduction de la Pauvreté du Programme de Collaboration. De plus, des personnels de plusieurs agences de développement (BAD, FIDA, AFD, FAO) ont été interviewés. L'échantillon de projets analysés est donc d'une manière générale représentatif des expériences d'aménagement et de gestion hydro-agricoles en Afrique sub-Saharienne. Ce résumé présente les principaux enseignements et les recommandations clés qui se dégagent de cette étude.

Principaux enseignements

Similarités et différences entre les différents bailleurs de fonds : Dans l'ensemble, les bailleurs de fonds suivent des cycles de projets similaires, avec quelques variantes concernant l'importance relative de chaque étape et les acteurs qui y sont impliqués. L'approche du FIDA, par exemple, tend à être plus participative, comparée à celles de la Banque Mondiale et de la Banque Africaine de Développement. En ce qui concerne le cycle du projet, les gouvernements ont l'initiative dans la phase d'identification, alors que peu de bailleurs de fonds s'impliquent à ce stade. Pendant la phase de préparation, la position officielle est que l'emprunteur conduit le processus avec si nécessaire l'aide du bailleur de fond. Mais en pratique cette phase est conduite par le personnel des institutions financières internationales ou leurs consultants (bien que certains bailleurs de fonds fournissent une aide aux emprunteurs sous forme de prêts ou de subventions, ou sollicitent la participation des emprunteurs au travers d'ateliers ou de consultations des parties prenantes). Les approches des bailleurs au cours des phases d'évaluation et de négociation du projet sont très similaires. Toutes les institutions financières internationales considèrent la supervision du projet comme une tâche cruciale et prévoient des rapports d'avancement tout au long du projet, avec un rapport final à la fin de la période de mise en œuvre. Pour finir, une évaluation ex-post est conduite systématiquement pour tous les projets de la Banque Mondiale, mais d'autres bailleurs de fonds n'y ont recours que ponctuellement. Dans tous les cas, ces évaluations sont conduites par des services spécialisés des agences financières, différents de ceux qui sont en charge de la mise en œuvre et de la gestion des projets.

Vue d'ensemble des faiblesses de la planification et de la mise en œuvre : La contribution des projets à la réalisation des objectifs des politiques nationales, des stratégies sectorielles pertinentes, et plus récemment des stratégies de réduction de la pauvreté, n'est pas toujours démontrée de façon explicite. Il en résulte souvent une inadéquation entre le processus de planification des projets et le dialogue général sur les politiques entre le gouvernement et les bailleurs de fonds, avec pour conséquence un manque d'engagement de la part des bailleurs et des difficultés pour les gouvernements à assumer leurs propres responsabilités. Bien que l'intérêt d'une solide préparation du projet et de l'évaluation de ses performances soit reconnu, en particulier par les institutions financières internationales, cette phase ne semble pas recueillir dans la pratique toute l'attention qu'elle mérite. Par exemple, une conception qui ne tient pas compte des capacités réelles d'exploitation et de gestion sur le terrain peut compromettre fortement les résultats du projet. Les arrangements concernant la mise en œuvre et la supervision sont de loin les déterminants majeurs de la réussite du projet. Les principales contraintes à ce stade comprennent des compétences techniques et d'encadrement limitées au sein du gouvernement et des agences d'exécution, le manque de mesures incitatives pour attirer et fidéliser un personnel qualifié, un suivi sur le terrain et une supervision inadaptés de la part des institutions financières internationales (avec trop d'importance accordée aux réalisations physiques et aux décaissements au détriment de l'efficacité du développement), et des difficultés à faire face à des changements institutionnels tels que la décentralisation, le transfert de gestion de l'irrigation et la participation accrue du secteur privé. Enfin, les mécanismes explicites (et les ressources) permettant d'évaluer les impacts des projets, par exemple sur la réduction de la pauvreté, sont rarement en place, ceci limitant les possibilités réelles d'apprentissage à partir des expériences de projets et de constitution de bases de connaissances sur la planification et la mise en œuvre des projets hydro-agricoles.

Les responsabilités des institutions financières internationales dans les échecs de la planification et de la mise en œuvre : Des changements dans les priorités de financement des bailleurs de fonds amènent parfois à des incohérences avec les stratégies des gouvernements, particulièrement dans le cas des institutions financières bilatérales (qui sont fortement influencées par l'orientation politique du pays bailleur). Toutefois, les agences multilatérales sont aussi montrées du doigt par les partenaires nationaux en raison de la complexité et de la lenteur de leurs procédures de décaissement et de la rigueur de leurs conditions d'octroi des financements. D'un autre côté, les agences financières opèrent sous une forte pression – leurs employés ont non seulement un large éventail de responsabilités mais sont également supposés avoir une connaissance approfondie des procédures de l'agence, être qualifiés dans leur propre discipline et dans la gestion de projets, et être capables d'intégrer des questions transversales telles que le genre, le VIH/SIDA et l'environnement, entre autres. Cette situation a un effet négatif sur l'implication des bailleurs de fonds dans les phases critiques du cycle du projet et finalement sur les performances et les résultats des projets. De plus, la communication interne et le partage d'expériences au sein de et entre les différents services des agences financières sont connus pour leur faiblesse, ce qui gène le développement des capacités et la constitution d'une mémoire institutionnelle. La fragmentation des projets hydrauliques par exemple entre différents départements des institutions financières internationales reflète la fragmentation entre les départements ministériels au niveau des pays, et limite leur capacité à adopter une approche intégrée cohérente avec les principes de la Gestion Intégrée des Ressources en Eau (GIRE). Etant donnée la tendance à la décentralisation de l'autorité vers les niveaux locaux de gouvernement, les institutions financières internationales doivent aussi renforcer sérieusement leur soutien au développement des capacités à ces niveaux pour appuyer ce mouvement de décentralisation.

Les responsabilités des gouvernements dans les échecs de la planification et de la mise en œuvre : La responsabilité des gouvernements va de l'engagement des ressources financières et humaines à l'appropriation et à l'endossement de la responsabilité des performances du projet. Un manquement dans quelque domaine que se soit – incapacité à respecter sa contribution financière, personnel insuffisamment qualifié, insuffisance des services d'aide aux bénéficiaires, manque de transparence dans les procédures d'approvisionnement et de recrutement du personnel – peut compromettre sérieusement les résultats des projets. Cette situation est rendue plus difficile encore par la diversité des règles et des procédures des différents bailleurs de fonds et par la tendance à la décentralisation vers les niveaux locaux, où le manque de ressources et de qualification est encore pire qu'au niveau national.

Les responsabilités des agences d'exécution dans les échecs de la planification et de la mise en œuvre : Il n'est pas toujours facile de rassembler et de maintenir la combinaison complexe de compétences techniques, sociales, économiques et d'encadrement requise pour former une équipe de gestion de projet efficace. Ceci est d'autant plus vrai si l'on considère les ressources humaines et financières limitées de beaucoup de pays d'Afrique sub-saharienne. En l'absence d'incitations telles qu'un salaire raisonnable et de bonnes conditions de travail, c'est un énorme challenge que de conserver les compétences et de maintenir la continuité et la capacité nationale de gestion des projets dans le pays. A l'opposé, la mise en place, très tôt, d'une équipe de gestion de projet adaptée au contexte local accroît les chances de réussite du projet. Il y a cependant débat à propos de l'autonomie de cette équipe de gestion de projet : l'agence gouvernementale d'exécution doit-elle employer son propre personnel pour la constituer ou recruter des personnes spécialement pour cette tâche, au risque de les voir partir avant l'achèvement du projet ?

Recommandations

Deux recommandations générales émergent de cette étude. La première est que la gestion de projet ne doit pas être considérée comme une charge, que l'on doit chercher à réduire, mais comme une caractéristique essentielle à la réussite des projets, génératrice de bénéfices potentiellement très importants. Elle nécessite de ce fait la mobilisation de ressources humaines et financières adaptées et concerne à la fois les institutions financières internationales, les gouvernements et leurs partenaires.

La seconde recommandation générale est que les projets doivent être considérés comme des opportunités de création de savoirs et de renforcement des compétences qui contribueront à une base de connaissances sur la planification et la mise en œuvre des projets hydro-agricoles (coûts, options techniques, standards et normes, politiques, arrangements institutionnels pour la fourniture de services, inventaire des capacités d'expertise,…) , renforçant la mémoire institutionnelle des gouvernements et des bailleurs de fonds, et créant finalement un environnement qui encourage et facilite l'accroissement d'investissements de meilleure qualité.

D'autres recommandations plus spécifiques aux projets d'aménagements hydro-agricoles sont résumées dans le tableau ci-dessous :

PHASE DU CYCLE DU PROJET	ACTEURS AUXQUELS SONT DESTINEES LES RECOMMANDATIONS		
	Gouvernements	Institutions financières internationales	Institutions financières internationales & Gouvernements
Identification	• Mieux articuler les relations entre les objectifs du projet, les stratégies sectorielles et les objectifs de développement nationaux. • Identifier et mettre en place les conditions d'une utilisation rentable des investissements. • Promouvoir l'évaluation participative des besoins des communautés. • S'accorder sur des critères clairs pour la sélection des bénéficiaires du projet.	• Une plus grande implication à ce stade, dans le but de mieux comprendre le contexte local et de réaliser ainsi une évaluation préalable mieux renseignée.	• Les gouvernements et les institutions financières internationales doivent coordonner leurs investissements, afin de tirer le meilleur avantage des points forts de chaque bailleur.
Préparation, Evaluation préalable et Négociation/ approbation	• Mener une analyse précise du contexte local – bio-physique, socio-économique, environnemental. • Minimiser la complexité des projets pour s'adapter aux compétences locales de gestion et de mise en œuvre. • Prendre en compte les savoirs indigènes et les capacités locales d'exploitation et de maintenance dans les choix de conception des infrastructures. • Mettre en place très tôt une équipe de gestion de projet pour aider à l'établissement de relations de confiance et de respect mutuel entre le personnel des institutions financières, les communautés locales et les autres partenaires. Ceci améliorera aussi le suivi des avancées du projet et l'adoption en temps voulu d'actions correctives. • Adopter une approche participative pour permettre aux bénéficiaires d'exprimer leurs propres besoins et préférences, et de prendre part à l'identification du projet, à sa conception et à sa mise en œuvre.	• Plus grande implication à ce stade, dans le but de mieux comprendre le contexte local et de réaliser ainsi une évaluation mieux renseignée.	• Promouvoir l'usage des outils de gestion de projet tels que les cadres logiques dans un contexte participatif. • Limiter le nombre de composantes du projet pour s'adapter aux compétences locales de gestion. • Créer et utiliser une base de connaissances des leçons et expériences passées

PHASE DU CYCLE DU PROJET	ACTEURS AUXQUELS SONT DESTINEES LES RECOMMANDATIONS		
	Gouvernements	Institutions financières internationales	Institutions financières internationales & Gouvernements
Mise en œuvre et Supervision	• Ouvrir plus largement la sélection des prestataires de services ; si nécessaire, offrir des formations aux soumissionnaires locaux et nationaux. • Recourir plus largement aux ONG et au secteur privé pour combler les lacunes du secteur public en terme de compétences. • Fournir des incitations adaptées pour maintenir l'intérêt et conserver le personnel qualifié.	• Prendre des dispositions pour une supervision plus rapprochée et un partage du savoir. • Les bailleurs de fonds et les gouvernements doivent s'entendre sur le cadre de supervision. • Les équipes de gestion de projet et les bénéficiaires doivent avoir la possibilité de se prononcer sur les termes de référence des consultants, de participer à leur sélection et d'évaluer leurs performances. • Une capacité de réaction rapide améliorera la mise en œuvre des mesures correctives. • Introduire suffisamment de flexibilité dans la mise en œuvre pour permettre l'adaptation de la conception au contexte local.	• Mise en œuvre effective de procédures agréées de suivi et d'évaluation répondant aux besoins des gouvernements et des usagers ; formation du personnel local à l'utilisation des outils de gestion de projets.
Evaluation (achèvement)		• Rédiger et distribuer rapidement les rapports d'achèvement de projet.	• Evaluations conjointes par les gouvernements, les bailleur de fonds et les partenaires bénéficiaires
Evaluation (post-achèvement, assistance)	• Assurer un rôle « résiduel » du gouvernement, en particulier quant à la fourniture de services aux agriculteurs (intrants, marchés, crédit) • Eviter ou surmonter les problèmes d'O&M par des choix de conception (physique, institutionnelle) compatible avec les compétences et capacités disponibles localement et favoriser l'émergence de prestataires de services professionnels, orientés vers la qualité du service, spécifiquement en charge des fonctions d'Ó&M.	Soutien à long terme, et suivi et évaluation des nouveaux arrangements institutionnels et financiers pour la fourniture des services d'irrigation (partenariats public-privé, fédération d'associations d'usagers de l'eau)	• Améliorer les modes d'évaluation des impacts des projets en matière de réduction de la pauvreté

PHASE DU CYCLE DU PROJET	ACTEURS AUXQUELS SONT DESTINEES LES RECOMMANDATIONS		
	Gouvernements	Institutions financières internationales	Institutions financières internationales & Gouvernements
Au long et autour du cycle de projet	•Améliorer la compréhension de la pauvreté rurale et de la contribution potentielle des aménagements hydrauliques agricoles à sa réduction, de la part de tous les acteurs (institutions financières, gouvernements nationaux et locaux, institutions d'enseignement et de recherche, ONG). • L'adoption d'approches participatives pour concevoir et mettre en oeuvre les projets renforcera les institutions locales de gestion de l'eau et de l'irrigation et améliorera la durabilité des projets. Par ailleurs, la mise en oeuvre d'une telle approche comportera (a) le renforcement des capacités en termes d'approche participative du personnel du projet, et (b) la mise en place d'incitations à interagir avec les parties prenantes locales. • Renforcer la collaboration entre les personnels des bailleurs de fonds et les gestionnaires des projets à toutes les étapes du cycle du projet. • Proposer des formations, un renforcement et un développement des compétences à tous les niveaux comme partie intégrante du projet. • Simplifier les procédures des bailleurs de fonds pour l'approvisionnement, le décaissement, le suivi et le reporting. Institutions financières internationales doivent adopter des procédures uniformes afin de faciliter le travail du gouvernement et des agences d'exécution. Développement et adoption d'outils de gestion basés sur les résultats pour la discussion des politiques, les programmes sectoriels et les projets. • Inclure plus systématiquement dans les rapports d'évaluation des indicateurs standardisés sur la planification et la mise en œuvre des projets, telles que la description des arrangements institutionnels pour la gestion du projet, leur efficacité, et les leçons que l'on peut en tirer. • Revoir l'organisation interne des bailleurs de fonds et agences de développement concernant l'attribution des rôles et responsabilités ; le partage de l'information et des l'expériences en termes de succès, échecs et bonnes pratiques de planification et lmise en œuvre ; réduire la pression sur le personnel opérationnel ; décentraliser autant que possible les responsabilités au niveau des bureaux régionaux ou nationaux des agences financières ; fournir un appui technique adapté sur les questions en dehors du champ d'expertise des personnels opérationnels. • Aider les gouvernements à prendre l'initiative en matière de gestion et d'aménagement hydro-agricoles, en recherchant l'intégration avec les processus de définition des Stratégies de Lutte contre la Pauvreté.		

1 INTRODUCTION

1 Disappointing results of agricultural water development efforts in the past have often been associated with poor planning, appraisal and implementation of investment opportunities in Asia as well as Africa (Nijman, 1991; 1992). Failures in design and implementation of projects have often caused low or even negative returns on investment, emergence of environmental and health problems, lack of sustainability, subsequent collapse of infrastructure, and emergence of a rehabilitation – lack of maintenance – rehabilitation cycle. Even where project design has been satisfactory, weak implementation capacity has often led to unsatisfactory results.

2 Many projects in the past (not only agricultural projects) were designed and implemented in a top-down fashion, with little or no real participation of the supposed 'beneficiaries' in designing and implementing projects. Investments have often been driven by International Financing Institutions (IFIs) and governments, and not by the demands and wishes of potential beneficiaries. Even projects specifically intended to enhance farmers' capacity for scheme management have often not succeeded, in part because of serious project design and implementation weaknesses (Shah et al. 2002).

3 The main challenge in the sector is to create the environment for increased and sustainable agricultural production through efficient management of the existing irrigated lands and expansion into new areas, to improve food security and livelihoods. This requires development planning and mobilization of investment resources for implementation and operation of many projects over the coming decades. Weaknesses in the planning and implementation process had been identified at the Harare workshop initiating the Collaborative Program and in other forums as one of the key issues that should be addressed to facilitate increased development in the sector. This is the justification for this component study.

2 OBJECTIVES AND SCOPE

4 The specific objective of the Planning and Implementation component is to identify ways to increase the performance and sustainability of investments in agricultural water, by pinpointing practical measures to improve project preparation and implementation. This includes planning, appraisal, implementation arrangements, supervision (or 'implementation support'), and systems for monitoring and evaluation. Special attention has been paid to the institutional framework for project planning, appraisal and implementation, in terms of the incentives the different parties may have with respect to achieving the project goals. Ways to make projects more demand-driven, such that the water users are motivated and enabled to use the infrastructure productively and sustainably have been emphasized. This component focuses on agricultural water use projects funded by multilateral IFIs (World Bank, African Development Bank, International Fund for Agricultural Development, European Union). A few projects funded by bilateral agencies (Agence Française de Développement), governments, non-governmental organizations (NGOs) (Care, World Vision) and private sector were incorporated in the analysis. The study covers both large-scale and small-scale schemes.

5 The study comprised two phases: a desk review, and a field study based on a limited set of country cases. The purpose of the desk study was to review and classify the different causes of success and failure of agricultural water development projects that had already been identified and the solutions proposed to remedy these problems. The case studies were intended to fill gaps in information and provide the basis for deeper insights. They focused on recently implemented, not necessarily completed, projects, to assess to what extent the new trends in IFIs' policies and procedures are implemented on the ground, to identify the constraints faced and innovative ways of overcoming them. This report integrates and synthesizes the findings of the two phases[1].

3 METHODOLOGY

3.1 Conceptual framework

6 Planning and implementation problems are often cited to explain the differences between objectives and achievements in agricultural water use projects in Sub-Saharan Africa. Moreover it is assumed that most of the technical failures have an institutional origin. Criteria used to judge these projects refer to their relevance and their efficacy. The ***efficacy*** of projects relates to how the results compare to the objectives, i.e., were the things done in the right way. The ***relevance*** of projects refers to how a set of objectives is defined, i.e., were the right things done[2]. These objectives are then compared to the national development plans and strategies. The idea is therefore to explain how planning and implementation processes may have an impact on the relevance and efficacy of the projects.

7 Planning and implementation problems have already been well documented in many studies, with several contributions dating from the early 1990s (see for example Diemer and Vincent 1992). Nevertheless, the ranking of importance among the possible causes of these problems varies from one expert to another. Further, it is currently difficult to assess to what extent the problems diagnosed in the early 1990s still apply today.

8 In a broad way, many of the problematic issues exposed in the early 1990s have been integrated in new policy frameworks: participation of beneficiaries in the design, attention to gender and the poorer segments of the population, design of user associations to take over the operation and maintenance after project completion, relationships between the project management unit (PMU) and governmental agencies, etc. While these elements are now part of the official discourse and thus more or less compulsorily present in project appraisal documents, more recent projects still show disappointing results vis-à-vis these issues.

[1]For more details, refer to Morardet et al. (2004 a and b).

[2]For a precise definition of the terms "relevance", "efficacy", "efficiency", see for instance World Bank, 1996.

9 Therefore, it may be useful to assess to what extent the planning and implementation processes have really evolved by comparing projects implemented at different periods within the last twenty years. An assessment of some on-going projects may demonstrate what progress has been made, and may also identify a new set of issues.

10 The various failures reported in the literature may occur at different stages of the planning and implementation process. Therefore, the proposed conceptual framework is based on a description of the project life cycle, and on the identification of the different types of failures associated with each stage.

11 The effectiveness of each stage is closely linked to the stakeholders involved in implementation and to the way the responsibilities are shared among them. Therefore it is important to clearly identify for each stage its requirements, the institution in charge, the expected outputs, and the potential means of monitoring its execution.

12 The institutional failures can be divided into three types:

- A lack of capacity of one or more of the actors regarding one or more of the actions (planning, supervision, implementation, etc);
- A lack of incentives to complete successfully the expected actions; and
- A problem within the project lifecycle.

13 There are also often perceived trade-offs between the benefits of an improvement of the institutional process and their costs, but there is evidence to the contrary.

14 For a specific project, the failures or successes at each stage of the project life cycle can be identified by answering the following questions:

- What are the incentives of the various actors involved in the project (e.g., the investor, government officials, politicians, contractors, the presumed 'beneficiaries')? Are project objectives and the incentive structures aligned and consistent? Who are the losers and who are the winners? How do these affect the project outcomes?
- What is the quality of data used in planning, implementation, and monitoring? How effectively are these data used? Do all parties to the project have access to the data they need? How do these issues affect project outcomes?
- How effective are the mechanisms for project management? Do all the key actors have a voice? Is there an effective, transparent planning and monitoring process? Does the project have the support from the government, investors, and beneficiaries it requires for effective implementation? Are the decision-making, tendering, financial disbursement, etc. mechanisms effective, transparent, and consistent with best practice? How do these factors affect project outcomes?

- How is the project design and implementation affected by government policies and capacities? Is the project consistent with government policies? Is the capacity of the implementing agency adequate for project implementation as agreed? If not, what is being done to ensure capacity is built? Is the project designed in a way to capture lessons that may be relevant for improving government policies? How do these factors affect project outcomes?

15 Other issues to be at least partially addressed include the following:

- Application of IWRM principles and treatment of agricultural water within the framework of holistic, integrated river basin management and integrated rural development approach or lack of it[3];

- Suitability of physical design and choice of technology to the local situation; suitability of scale and complexity of project to local capacities and conditions; and

- Strategy for capacity building, awareness and widening the knowledge base including public education; professional services and construction; research and technology adaptation.

16 This component of the Collaborative Program has compiled experiences of countries and the collaborating partners from past and recent project preparation and implementation, and analyzed lessons learned to identify key constraints and innovative approaches to enable increased investment in the sector. The methodology is, broadly, an "institutional analysis," drawing from sociology and institutional economics but focusing on identifying practical implementable suggestions for improvement without indulging in a broad theoretical critique of project design.

17 The study has analyzed the institutional and technical settings wherein projects are conceptualized, developed and implemented and eventually operated. The idea is to understand how these setting have contributed to a project's success or failure.

3.2 Material and method

18 The desk review analyzed past experiences and approaches of financing institutions and countries to identify possible reasons for successes or failures, based on a review of academic and gray literature (a comprehensive list of the references used is provided in Morardet et al., 2004a). Documents from three financing institutions, World Bank (WB), African Development Bank (ADB) and International Fund for Agricultural Development (IFAD) have been analyzed: policies and guidelines, reviews of project performance, and crosscutting evaluations.

[3]Uncritical implementation of inappropriate policies in the name of "IWRM" is also an issue; see Van Koppen and Safilios-Rothschild 2005.

19 The desk review also included 18 selected projects funded by the World Bank (12 projects) and ADB (6 projects), started from 1977 to 1994, and completed from 1984 to 2000. The classification of projects according IFIs, regions and period of completion is given in Table 1 (a comprehensive list can be found in Morardet et al. 2004a). This sample shows a good representation of West, Central and East African projects but it comprises no project from Southern Africa. Besides, there is clearly an imbalance between French-speaking and English-speaking countries in favor of the former, which balances biases of previous studies towards Anglophone countries.

20 Most of the projects in this sample are large or medium scale schemes; only two projects concern small-scale irrigation schemes (WB Nigeria 1999, WB Mauritania 1993). Most of the schemes use surface water, with only two projects using groundwater (WB Nigeria 1999). Rice is the only crop in 12 projects and the major crop in 3 projects, with only 3 projects without rice (WB Sudan 1995; ADB Ethiopia 1984; ADB Chad 1999). There is an overall balance between new development and rehabilitation projects and between pump and gravity irrigation. Only project completion reports have been studied except for two projects (ADB Ethiopia 1984, ADB Niger 1989), for which we reviewed performance audit reports.

21 Five countries were selected to conduct field case studies: Mali, Nigeria, Ethiopia, Madagascar and Zambia. A consultant (or team of consultants) was appointed in each country to conduct a three-part study: (1) a review of available irrigation literature in the country in the context of its agriculture sector and where available, information on irrigation project planning and implementation from relevant agencies; (2) lessons from key informants interviews, and (3) analyses of several case projects, with a special focus on small-scale schemes to balance the bias of the first sample towards large scale perimeters.

Table 1. Distribution of reviewed projects according to IFI, sub-region and completion period.

	Period of completion		
Region	1984-89	1990-94	1995-2000
West Africa	WB Niger 1984	WB Niger 1992	WB Senegal 1995
	ADB Niger 1989	WB Mali 1992 (2 projects)	WB Nigeria 1999
		WB Mauritania 1993	
		WB Burkina Faso 1996	
Central Africa			ADB Chad 1999
East Africa	ADB Ethiopia 1984	WB Madagascar 1991 and 1993	WB Madagascar 2000
		ADB Madagascar 1994	ADB Madagascar 1995
		ADB Tanzania 1993	WB Sudan 1995

NB: Projects are labelled by their financing institution, country and year of completion.

22 The key informants included:

(1) various government agencies — departments of agriculture/environment and irrigation agencies and project implementing units, as well as planning departments;

(2) local and foreign contractors/consultants involved in irrigation projects;

(3) representatives of main multilateral and bilateral financing institutions in irrigation sector;

(4) national research institutes; and

(5) NGOs implementing irrigation projects.

23 Key informants were interviewed on their views, based on experience, of the planning and implementation process of irrigation projects. Proposed improvements or "solutions" to past failures or successful experiences were also gathered from them[4].

24 Specific project cases were analyzed on the basis of available project documents (pre-feasibility studies, preparation report, appraisal report, supervision reports, completion and evaluation reports, mission reports) complemented by key informants' shared information and knowledge, and interviews of stakeholders involved in project planning and implementation at local level (project implementation unit, beneficiaries). Table 2 lists the projects analyzed in each of the five countries. In a final phase, lessons were also drawn from case studies analyzed within the Study on Agricultural Water Development and Poverty Reduction in Eastern and Southern Africa (under the Collaborative Program) (see Table 3 for a list a case studies used for the present component).

25 Combining the three sets of projects (desk review, P&I case studies, poverty reduction case studies), the sample analyzed in this report is broadly representative of experiences in SSA, even if its size does not allow statistical analysis.

26 Desk reviews and case studies were complemented by interviews of staff of different funding agencies or Cooperating Institutions (ADB, IFAD, Agence Française de Développement, FAO Investment Center). Finally, participation in the Regional Water Management and Irrigation Workshop – Eastern and Southern Africa, organized by IFAD in Mwanza (Tanzania) in March 2005 provided an opportunity to meet IFAD representatives and managers of IFAD-assisted projects.

27 Differences among the IFIs' systems and processes in designing and implementing projects were documented using internal and public documents from WB, ADB and IFAD. The qualitative analysis of the different causes of both successes and failures for the whole project cycle was based on examples found in academic and gray literature and on the analysis of the project samples. The proposed recommendations derive from the analysis of literature and the three samples of agricultural water development projects. Both factors

[4]As discussions were not systematically held with consultants and contractors in all our country case studies, there is no specific section in this report on the interviews outcomes. More details are given in each country case study report.

of success and failure and recommendations were classified from two points of view: the phase of the project cycle in which they occur or apply, and the main actors concerned. In the following sections, a reference to a country without mentioning the name of the project means a reference to the general conclusion of the country case study.

Table 2: List of projects analyzed during country case studies.

Country	Project	Funding agency
Mali	Pilot Private Irrigation Promotion Project	World Bank
	Maninkoura Irrigation Scheme	ADB
	Zone lacustre Development Project Phase II	IFAD
	Valorisation des Ressources en Eau de Surface	European Union
Nigeria	National Fadama Development Project (Fadama I)	World Bank
	Second National Fadama Development Project, (Fadama II)	World Bank and ADB
Ethiopia	Sheled project (IFAD Special Country Program Phases I & II)	IFAD
	Weyu Seriti Pump scheme and Dodicha Pump irrigation	World Bank through ESRDF(*)
	Bato Degaga pump irrigation	World Vision Ethiopia
	Doni Kombe gravity irrigation scheme	CARE
	Godino Rehabilitation and Expansion SSI	Ethiopian government
	Wakie Teyo small pumps	Private/farmers initiated
Madagascar	Projet de réhabilitation des petits périmètres irrigués phase 1	World Bank, European Union and AFD
	Second irrigation rehabilitation project	World Bank
	Projet de réhabilitation du périmètre de bas Mangoki	ADB
	Projet de mise en valeur et de protection des bassins versants du Lac Alaotra	AFD
Zambia	Small-scale Irrigation Project	ADB
	The Kaleya outgrowers scheme	Smallholders scheme supported by Zambia Sugar company
	Smallholder Irrigation and Water Use Program	IFAD

(*) ESRDF: Ethiopian Social Rehabilitation and Development Fund.

Table 3: List of case studies analyzed from the "Study on Agricultural Water Development and Poverty Reduction in Eastern and Southern Africa"[5]

Country	Project	Funding agency
Kenya	Rural Enterprises Agribusiness Promotion Project (REAP)	IFAD
Tanzania	Mara Region Farmers' Initiative Project (MaraFIP)	IFAD
Tanzania	Participatory Irrigation Development Program (PIDP)	IFAD
Madagascar	Upper Mandrare Development Project	IFAD
Zimbabwe	Dombolidenje dam and irrigation scheme (sub-project of Smallholder Dry Areas Resource Management Project - SDARMP)	IFAD

[5]Other case studies were analyzed as part of the Study on Agricultural Water Development and Poverty Reduction in Eastern and Southern Africa. However the case studies mentioned in this table are the only ones used for the present report on P&I processes. See Peacock (2005).

4 SYNTHESIS OF FINDINGS

28 The first section describes the project life cycle, considered as the basic organization of the planning and implementation of development projects, in particular in agricultural water management[6]. Similarities and differences among three funding agencies, WB, ADB and IFAD, are highlighted. The second section presents the general failures of planning and implementation processes which are not specific to agricultural water management projects, classified according the phases in which the problems occur. Problems more specifically related to agricultural water investments are then discussed separately. Responsibilities of the different actors in the process are presented in the fourth section. Finally, current trends in P&I processes are placed in the context of the new development assistance framework.

4.1 The project life cycle: Comparison of planning and implementation processes among different funding agencies

29 The following description of the project cycle in the World Bank, African Development Bank and IFAD is based on documents supplied by the three organizations, complemented for ADB and IFAD by interviews of operational staff involved in the different phases of the project life cycle. Table 4 below presents the actors involved at different phases of the project cycle, respectively.

30 It appears that the three funding agencies have more or less the same phasing of the project cycle, which can be divided into 6 phases[7].

i. *Identification* largely relies on proposals prepared by governments and submitted to the three funding agencies. The example of Madagascar, however, shows that some financing institutions (AFD, EDF) take a more important role in identification (see Table 5), based on their previous interventions in the country. The formal inclusion of a project in the project pipeline, which is the responsibility of IFI operational staff, depends on the consistency of the project with the IFI's policies, the country development strategy (CAS, CSP or COSOP) and finally on the level of preparation of the proposal. If necessary, sector or project identification missions are undertaken to collect additional data and interact with the borrower.

ii. The purpose of the preparation phase, which may take up to 3 years, is to draw up the detailed design of the project. The official position of the three funding agencies is to encourage the borrower to drive the process, the Bank/Fund's staff providing only support as requested[8], in order to preserve the sense of ownership by the borrower. Nevertheless, in practice, financiers largely drive the process – mainly because the

[6]This description is derived from the funding agencies' most recent documents, therefore real processes may differ from those presented here, as policies and guidelines are not always applied.

[7]The project cycle described here is not specific to agricultural water investments projects.

[8]Unlike what is claimed in ADB and WB documents, past agricultural water development projects seem to have often been driven by donors.

borrower usually does not take the initiative, or does not have the technical and financial capacity to do so. Consequently, many projects are prepared/designed by consultants employed by the Bank/Fund or by the FAO Investment Centre with Cooperative Programme funds (see example of Madagascar in Table 5). However, IFAD, for example, does make an attempt at getting the borrower involved through using national consultants or government staff on preparation missions – and of course through stakeholder workshops and briefing/wrap-up meetings[9]. The minimum task of the IFI staff is to ensure that all the information needed for appraisal are gathered. Nevertheless, the necessity of an active role of the financing institution in the preparation is recognized to ensure the quality at entry. The Special Programme for Food Security funded by FAO was cited in the Mali case study as an example where an early interaction between financing institutions and beneficiaries helped to build a better understanding of the local situation and mutual confidence, with beneficial impacts on implementation (Keita, 2004). Based on documents, IFAD staff members seem to take a more important part in preparation than in the case of the other financing institutions, though this may not be the case on the ground (Tony Peacock, personal communication). In all cases, the importance of a participatory approach is stressed in the procedure documents, though it is not clear to what extent participation is really implemented. To help borrowers to prepare sound proposals, WB and ADB may provide special loans or grants for technical assistance and engineering (Project Preparation Facility in WB, Technical Assistance Fund, Project Preparation Fund or bilateral funds managed by the Bank in ADB, cooperative programs with UN agencies for both). Support for preparation can also come from bilateral financing institution grants. Because of the variety of factors that are involved, this phase is probably the least formalized of the whole project cycle, but also the most demanding in terms of time and resources.

iii. The project can be appraised once the financing institution and the government have agreed on the details of the project. The *appraisal* involves a comprehensive and systematic review of all the aspects of the project, with a view to preparing the ground for the financing institution's Board of Directors' decision. In all cases, this phase is the responsibility of the financing institution and conducted by its staff and/or consultants. The appraisal, which comprises a field mission and desk review of work done in previous phases, covers different aspects: technical (sound design, appropriate engineering and technology), institutional (implementing organization, management and staff, conditions of operations of this institution, need for technical assistance), economic (contribution to the country development objectives, cost-benefit analysis, risk analysis) and financial (cost estimates, availability of funds to cover implementation costs, risk of non-payment of the loan). Crosscutting issues such as poverty, gender, participation and environment are also examined. In all institutions, the appraisal report is subject to a formal review process before submission to the Board of Directors.

[9]For example, PIDP was prepared by FAO/IC on behalf of government of Tanzania. During the preparation phase a series of workshops was held in various centers throughout the large project area, attended by a wide range of stakeholders, including farmers, NGOs and so on. Government staff participated fully in appraisal (Tony Peacock, personal communication).

iv. Negotiation and approval: After the financing institution's staff has completed the project appraisal report, the IFI and the borrower negotiate the terms and conditions of the loan agreement (conditions of effectiveness of the loan, conditions of disbursement and withdrawal procedures, interest rate and currency…). The project (appraisal report and loan agreement) is then submitted to the IFI's Board of Directors for final approval and to the government for ratification by the relevant institution (council of ministers or legislature). This ratification is a standard condition of effectiveness of the loan. Once signed by both parties' representatives and all conditions are fulfilled, the loan is declared effective. This agreement sets a deadline for the last disbursement, depending on the nature of the project and the planned length of the implementation period.

Table 4: Actors involved at each stage of the project cycle according to funding agency.

Phases of Project Cycle	World Bank	African Development Bank	IFAD
Identification	Bank Task Managers and borrower	ADB Country Operations Department and/or Sector Department	IFAD Country Portfolio Managers (CPMs)
Preparation	Borrower with support from the Bank Task Managers (consultants)	Borrower with support from ADB Sector Departments (consultants)	Borrower and beneficiaries
Appraisal	Bank's operational staff (consultants)	ADB's operational staff (consultants)	IFAD CPMs and review committees
Negotiation	Bank and borrower	Bank and borrower	IFAD and borrower
Approval	Bank's Board of Executive Directors	Bank's Board of Directors	IFAD Executive Board
Implementation	Borrower, implementing agency/PMU, (consultants) beneficiaries	Borrower, implementing agency/PMU, (consultants) beneficiaries	Borrower, implementing agency/PMU(consultants) NGOs, CBOs, beneficiaries
Supervision	Bank's operational staff (consultants)	ADB's operational staff (consultants)	Cooperating Institutions / IFAD (consultants)
Completion	Bank's operational staff	ADB's operational staff	IFAD operational staff (CPMs)
Ex post Evaluation	Bank's Operations Evaluation Department (OED)	Operations Evaluation Department (OPEV)	1) Office of Evaluation (OED) (consultants) for the evaluation report 2) OED, stakeholders for the agreement at completion report

Sources: World Bank Project Cycle (website); IFAD project cycle (website); IFAD (2002 and 2003); ADB Group (1999); ADB and IFAD staff interviews.

v. Implementation and supervision: In all cases, implementation is the responsibility of the borrowing country, which generally sets up a Project Management Unit in charge of operational management. In the WB and ADB, the financing institution is responsible for supervision; IFAD delegates this task to Cooperating Institutions (CIs)[10] (IFAD,

[10]The Agreement establishing IFAD states that the Fund shall delegate the administration of its loans and the supervision of its projects to "competent international institutions", generally called Cooperating Institutions. Common CIs are World Bank, regional development banks or United Nations Office for Projects Services (UNOPS). CIs can also perform pre-investment activities (e.g., project identification, preparation and appraisal) on behalf of the Fund.

2003). Implementation comprises different tasks: procurement of goods and services, loan administration, contract management, supervision of the construction of physical components, monitoring and reporting, facilitation and training, institutional building, etc. Monitoring and reporting is an important part of the activities of the Project Management Unit in the borrowing country and the basis of the supervision by the financing institution's staff.

Table 5: Comparison of P&I approaches of various financing institutions in Madagascar

Project phase	Process	Advantages	Drawbacks
Identification	by IFI, following their previous intervention (AFD and EDF projects)	Rapidity of identification	Lack of ownership from Magalasy government
	by government (WB, ADB, and IFAD projects)	Better ownership from government	Lengthy process (3-4 years)
	by IFI and government in second phase projects	Rapid process Good ownership	Low capacity of adaptation to new orientation, persistence of bad practices inheritated from previous project
Preparation always led by IFIs and done by: - FAO-IC for WB, ADB and IFAD-funded projects - international consultants for AFD and EDF funded projects	WB PPI 1 and 2 (nationwide) ADB PRBM and IFAD PHBM (localised)	Beneficiaries' participation	No beneficiaries participation, foreign consultants
Appraisal	EDF, AFD, WB: responsibility and authority of the IFI		
	ADB, IFAD: particpatory approach		
Implementation and supervision	PPI funded by WB, EDF, AFD: implementation by existing government agencies	Strengthening of governmental agencies, knowledge capitalisation	Hierarchical organisation, centralisation, less participation, lack of horizontal collaboration, lack of external control
	ADB and IFAD projects: independant PMU	Better efficiency, more flexibility, supervision by administration	No capitalisation of knowledge after completion, lack of ownership from governmental institutions

Source: synthesized from Rajoelison (2004). This table reflects the perception of stakeholders interviewed during the case study.

The three financing institutions consider project supervision as one of their most important activities. Its purposes are to ensure the achievements of project objectives in conformity with the loan agreement, to identify problems quickly and to help the borrower resolve them, to cancel the project if necessary, to disseminate significant lessons to the IFI's staff, management and Board, to prepare completion reports, and to use the experience gained to improve the design of future projects, strategies and policies. The supervision is a combination of desk review (progress reports prepared by the borrower, supervision of procurement and disbursement, maintenance of project records, actions to resolve problems) and field visits to resolve specific problems and obtain direct information. ADB's stated policy is to give adequate priority to supervision in the allocation of staff time and other resources. It also recognizes the necessity for flexibility in the timing and frequency of supervision missions according to the nature and complexity of the project. Following a 1996 review of supervision in the projects it financed, IFAD undertook a five year action plan (1997-2001) to improve the effectiveness of the supervision in order to enhance the quality of project implementation.

All the three financing institutions have implemented a mid-term review as part of their supervision process. Supervision of individual projects is complemented by regular country or sector portfolio reviews that summarize the difficulties encountered during implementation of projects in a country or a sector.

At the end of the implementation period (up to 10 years), a project completion report is prepared identifying accomplishments, problems encountered and lessons learned. This report is submitted to the Board of Directors for information. As a self-evaluation document, the completion report is the last step of the supervision, but it also prepares for the following phase of evaluation. This report makes use of all the data available from the borrower, the executing agency, consultants and supervisory staff. For ADB and IFAD-assisted projects, the borrower should prepare its own completion report, which is supplied to the Bank/Fund's staff prior to their completion mission. The World Bank asks borrowers comment on its Office of Evaluation Department (OED) report[11] and to prepare their own completion report.

vi. *Evaluation*: In the three funding agencies, project evaluation is carried on by an independent department (OED in WB, OPEV in ADB, OE in IFAD). Since 1970, *ex post* evaluation is a requirement for all WB projects. The evaluation comprises three stages: (i) an audit of the outcomes of the project against its original objectives is prepared just after completion, (ii) a Project Performance Assessment Report rating project outcomes, sustainability of results and the institutional development impact, is prepared for one out of four completed projects; (iii) an Impact Evaluation Report assessing the economic worth of the project and its long-term effects on people and the environment, is performed 5 to 8 years after completion. In ADB, the Project Evaluation Reports are prepared upon request, but not for all projects. They are generally done two or three years after project completion. In IFAD, the evaluation team comprising consultants recruited by OE under the supervision of a lead evaluator

[11]Prepared alongside the project completion report submitted by operational staff.

prepares the evaluation report. OE, relevant IFAD officials and other stakeholders develop an Agreement at Completion Point stating how they propose to translate into actions the recommendations issued in the evaluation report. All the three agencies have developed sets of criteria for evaluation in order to facilitate the comparison of evaluation results across countries and sectors.

31 As illustrated in Table 4 and Table 6, the project cycle of the three agencies presents many similarities. The main difference is the nature of actors involved in the process and the distribution of roles among actors: in WB and ADB, the process is fairly centralized with little involvement of the Banks in the identification and preparation phases; the particularities of the IFAD's process compared to the other two financing institutions are the importance attached to the participation of all stakeholders, including the beneficiaries, from identification to evaluation, and the delegation of supervision to Cooperative Institutions. Differences in the designation of project documents (Table 6) reveal disparities in format and requirements that may increase the burden of borrowing countries, especially for projects co-funded by several financing institutions, as it was stressed during case studies.

4.2 General failures in P&I processes

32 The different sources of information used in this study show a broad convergence regarding the reasons for poor performance of agricultural water development projects, and illustrate their extreme diversity. A first classification of these failures according to the stage of the project life cycle in which they occur is provided in Annex 1. The Annex associates each technical failure identified with the underlying institutional problem, indicates papers that documented it and gives examples of projects in which this problem occurred. From this first analysis, one must acknowledge that many of institutional failures related to planning and implementation that affect agricultural water management projects are not specific to this sector[12]. These general planning and implementation problems are summarized in Table 7. The issues specific to agricultural water management projects are addressed in the next section.

33 Neither the literature, nor the evaluation or project documents make many references to problems that occur at **identification** stage[13]; most of the flaws at this stage have been reported by key informants interviewed during the case studies. ADB operational staff acknowledge that identification is a lower priority since it falls under the borrower's responsibility with little financing institution intervention. Generally speaking identification remains poorly documented.

[12]Many of the failures described below are also pointed out by a review of 75 ADB funded projects in various sectors, completed from 1979 to 1997 (ADB/ADF/OED 2002).

[13]For example a WB review of irrigation projects in 1995 stated "*irrigation evaluations provide no insights into the quality of project identification*" (Jones 1995).

Table 6: Documents produced at different phases of the project cycle by funding agencies.

Phases of Project Cycle	Documents or reports produced		
	World Bank	ADB	IFAD
Policy dialogue	Poverty Reduction Strategy Paper		
	Country Assistance Strategy (CAS)	Country Strategy Paper (CSP)	Country Strategy Opportunities (COSOP)
Identification (or inception)	Project Concept Note, Project Information Document	Identification Report	Project Inception Paper (PIP)
Preparation (or formulation)	Environmental Assessment Report, Indigenous Development Plan, Environmental Action Plan, Preparation Report	Preparation Report	Specific studies, final project proposal, Preparation Report
Appraisal	Project Appraisal Document	Appraisal Report	Project Appraisal Report
Negotiation and Approval	Loan/Financing Agreement	Loan/Financing Agreement	Loan/Financing Agreement
Implementation and Supervision	Supervision reports Interim evaluation	Supervision reports Interim evaluation	Supervision reports Mid term review lessons
Completion	Implementation Completion Report (ICR)	Project Completion Report (PCR)	Completion Report
Ex post Evaluation	Project Performance Assessment Report, Impact Evaluation Report, Inspection Panel Report	Performance Evaluation Report (PER)	1) Evaluation Report 2) Agreement at Completion Point

Sources: World Bank Project Cycle (website); IFAD project cycle (website); IFAD (2002); ADB Group (1999); ADB staff interviews.

34 On the contrary, failures occurring in the preparation and implementation phases are well documented in the literature, project documents and case studies. The impact of the quality of **preparation and appraisal** on project outcomes has been demonstrated by Jones (1995) in the case of World Bank irrigation projects. Case studies and documents of projects funded by other financing institutions (ADB Chad 2000[14]; ADB Ethiopia 1984[15] IFAD Tanzania

[14]Impact on salinity of the irrigation scheme not properly addressed during preparation.

[15]Poor technical design of the canal leading to high sedimentation.

MaraFIP[16]; IFAD Zimbabwe Dombolidenje dam[17 18]) give additional examples of this relationship. In our case studies the most often cited problems are lack of participation of beneficiaries in identification and design (all countries) and inadequacy of environmental studies (Nigeria, Madagascar[19]). However, although IFI task managers consider project preparation as the most sensitive phase, evaluators reckon that it is still not given enough attention (ADB/ADF/OED 2002; ADB/ADF/OED 1999) and, in a number of cases, the quality of preparation studies can be questioned. Preparation presents particular difficulties in the case of projects consisting of several small-scale irrigation schemes (which is current in IFAD-funded projects, for example). Because of the relatively small amount of investment in each sub-project, their technical feasibility and financial viability are sometimes not seriously analyzed.

35 The **overall project organization** (or implementation arrangements) plays a key role in implementation. The main problems recorded are related to the number and complexity of components, the number of actors involved in the process[20], the quality of their relationships, the clarity of roles and responsibilities assigned to each of them[21], and their accountability. Communication difficulties are reported in several case studies (Zambia, Madagascar), but examples of successful organizations also exist (Tanzania PIDP, Madagascar Upper Mandrare). In projects composed of several sub-projects (e.g., IFAD-funded projects), problems are compounded by the increased levels of decision necessary for selection of sub-projects and disbursements (e.g., Dombolidenje case study in Zimbabwe, where the dilution of responsibilities along the 5 levels in the selection process led to the selection of an irrigation scheme that should not have been approved).

36 Even a carefully prepared project may demonstrate poor performance if not properly implemented. For example, the Ethiopian case study reported that some aspects of the study process are undertaken simply to comply with funding agencies' requirements, but once the project is appraised and approved, there is often limited follow up during **implementation** and post-implementation. The main issues at this stage are therefore the **flexibility** in project design and the **quality assurance** process (see Box 1 for further discussion). Again, case studies and project documents reviewed in this study give abundant examples of implementation problems (see Table 7 and details in the Annex and in next sections). Most of the difficulties can be explained by three major problems: lack of means and technical and managerial capacities at country level (cited in Nigeria and Madagascar

[16]Technical design funded on insufficient knowledge of local agricultural practices.

[17]No financial viability assessment was prepared.

[18]In the two latter cases, the problems arose because of poor preparation and appraisal of the subprojects during the project implementation.

[19]On the latter, see also the synthesis report of the Environment and Health component of the Collaborative Program (McCartney et al., 2005).

[20]For example, the high number of organizations involved at federal and state levels in the Fadama Project in Nigeria is one of the main reasons for the problems observed in this project.

[21]This can be made difficult if structural changes are taking place in concerned ministerial departments during project implementation (e.g., Ethiopian case study).

case studies)[22]; inadequate monitoring and evaluation system set up by the borrower and its executing agencies (cited in Madagascar case study); and inappropriate supervision provided by financing institutions. These issues are addressed in more detail in the next sections.

37 Flaws in the **evaluation** process are mostly reported by meta-evaluations (i.e., evaluation of the evaluation process) commissioned by financial institutions, and have not been identified during case studies. Almost all case studies report difficulties experienced by farmers **after project completion** in accessing markets for inputs (Ethiopia, Mali, Zambia) and outputs (Nigeria, Zambia), getting adequate information and extension support in agricultural production (Ethiopia), and sustainably managing the schemes (Ethiopia, Mali, Madagascar, Nigeria). According to cases, these difficulties can be explained either by poor preparation or failing implementation or both.

38 It has proven difficult to establish a **hierarchy among the different causes of failures** identified, partly because the sample of projects we reviewed was too small to allow a statistical analysis, partly because of the subjective nature of this type of analysis. A review of the World Bank's experience in irrigation covering all the regions of the world (Jones 1995) shows how operational staff and evaluators rated the different factors of success and failure of irrigation projects (see Box 2 for a list of categories of problems): both categories of staff consider that irrigation design and effectiveness of bank preparation and appraisal are the main factors of success/failure of a project. They also both consider that agricultural issues and drainage design are not the main problems. But they disagree on the importance of project implementation and basic data availability (rated higher by operational staff than by evaluators), and outside project factors, (more important for evaluators than for operational staff)[23]. As far as we know, there was no equivalent work done recently on irrigation in Sub-Saharan Africa, and it was not possible to perform the same kind of survey given the limited scope of this study.

4.3 P&I issues specific to irrigation projects

39 Although it was not possible to perform a quantitative analysis of P&I failures, interviews of ADB staff, discussions at the IFAD workshop in Mwanza and an e-conference in 2003, as well as case studies provide some insights into the main problems specifically related to water development projects.

[22]This can be compounded by the lack of standard and effective P&I guidelines, as expressed in the Ethiopian case study.

[23]These differences are apparently more related to the stage of project cycle at which each category intervenes and to the role they play, than to their professional background.

Table 7: Main failures of project planning and implementation process along the project cycle.

Phase	Failures of P&I processes
Identification	- Lower priority given by financing institutions - Country Strategy papers not sufficiently detailed, poor communication between departments of financing institutions - No continuity in priorities and funding from financing institutions - Inconsistencies between financing institutions' priorities and government strategies - Absence or inadequacy of reference to similar projects
Preparation and appraisal	- Poor quality of available data (environmental, economic, social, health) - Lack of time and skills dedicated to pre-evaluation studies - Lack of early involvement of actors responsible for implementation (in particular poor participation of beneficiaries) - Poor understanding of national and regional contexts of project implementation in terms of environmental conditions, financial and managerial capacities and livelihood strategies of rural households - Environmental and health impacts not taken into consideration - Targeting of beneficiaries
Implementation and supervision	- Release of project funds delayed because not in phase with government budgetary cycle - Lack of technical and managerial capacities of government and executing agencies in loan management, procurement and contract management, - Lack of incentives from governments to attract and keep skilled and trained staff (because of insufficient means and awareness) - Poor participation and capacity building of various actors (farmers, agricultural service providers, WUAs…) - Inadequate or non-existent monitoring and evaluation system (poor capacities of project staff and/or insufficient preparation) and poor communication among the various actors - Insufficient and inadequate supervision from financing institutions: lack of time, composition of supervision mission, general bias towards physical achievements and disbursements at the expense of development effectiveness; insufficient technical supervision - Difficult management of institutional changes (decentralization, irrigation management transfer, privatization) and weak political will - Political interference in implementation decisions
Completion and evaluation	- No real measurement of project impact on rural poverty - Quality of information available related to M&E systems - Insufficient time and skills dedicated to evaluation
After completion	- Inadequate support to farmers in terms of extension services, access to inputs, credit and agricultural markets - Difficulties in O&M linked to poor design, inadequate or insufficient capacity building, weakness of private service providers, or insufficient funds

Source: synthesis of literature review and analysis of project documents (see Annex for details). Country irrigation strategy.

Box 1: Project design and flexibility during implementation: A quality assurance issue.

Regarding project design and flexibility during implementation, two schools of thought can schematically be opposed:

- For the first, the implementers should, if they wish, be able to change any activities and organization arrangements as long as they respect the 'Overall Objectives' and 'Project Purpose';

- For the other, the project log frame and *Appraisal Report* are the basis of the *Loan Agreement* and must be adhered to whatever the circumstances – or at least until the Mid-Term Review (MTR) confirms that design modifications are necessary.

Obviously, there is room for alternative approaches within these two extremes. However, a *laissez faire* approach may be extremely dangerous for the following reasons:

- irrigation projects are almost always complex;

- consequently considerable multidisciplinary analytical and design expertise has to be employed in formulation and appraisal missions – and this expertise is provided mainly by external specialists (bank staff, consultants, FAO Investment Centre), because local capacity is too weak to do so; and

- when random design changes are made during implementation, decision-makers do not have access to such expertise (either from within the project or from external assistance) and, therefore, bearing in mind the complexity of irrigation projects, such changes bring a high risk of compromising project objectives.

Saying that, a rigid compliance with the *Appraisal Report* is also not desirable. Project staff members often develop very valid design alternatives – and they should be encouraged to do so – even before an MTR. The question is whether adequate mechanisms for approvals are in place. In many cases, even when design changes have the blessing of the financing institution's management, there is still a quality assurance gap, because the financing institution's management itself may not have the skills to judge the full implications of its approvals.

So far, no universal solution has been suggested. One option might be to refer all proposed design changes to the Project Development Team in funding agencies – with specific technical support when necessary. The use of framework consultants could be an alternative.

(Tony Peacock, personal communication)

Box 2: Classification of irrigation implementation problems perceived by operation and evaluation departments in World Bank (from Jones, 1995).

In 1992, World Bank staff members involved in irrigation project management or evaluation were asked to identify their perception of problem areas in irrigation. In a series of brainstorming sessions, 129 categories of problems encountered in irrigation were identified, and then grouped into the 16 following categories:

1. basic data availability
2. planning and resource assessment
3. irrigation system design
4. drainage system design
5. agricultural support design
6. other project elements
7. project implementation
8. system water operations
9. system maintenance
10. agricultural technical support (after operations)
11. agricultural production factors
12. processing marketing and transport
13. cost recovery, taxation, regulations and benefits
14. effectiveness of preparation and appraisal by the financing institution
15. outside project factors
16. other factors not in above categories

4.3.1 Country irrigation strategy

40 Two main categories of goals can be identified in the sample of projects we studied[24]: 1) almost all the projects, completed in all periods, aim at increasing staple food production, increasing rural household income and improving food security at local and national levels; 2) about one third of the sample has an additional goal of building institutions to manage irrigation schemes in a sustainable way, and is the sole objective in only two cases. Only two projects, among the most recent, mention explicitly reduction of poverty. This trend is confirmed by the preliminary findings from an OED study on agricultural water management World Bank-supported projects started between 1994 and 2004: *"only about one third have explicit poverty focus in objectives"* (OED, 2005 – see also Abdel-Dayem, 2005). The linkages between the project objectives and either the national agricultural strategy or the strategy of the financing institution regarding the sector or the country are not strongly emphasized in PCRs and PPARs[25]. Previous experience of the financing institution in the country is not always even cited[26]. These facts may be interpreted as a relatively poor integration of the project planning process within the general policy dialogue between financing institutions and borrowers, as well as, possibly, a weak buy-in by financing institution staff in charge of project preparation.

[24]This paragraph refers only to ADB and WB assisted projects, of which PCR or PPAR content was analyzed, not to IFAD–assisted projects.

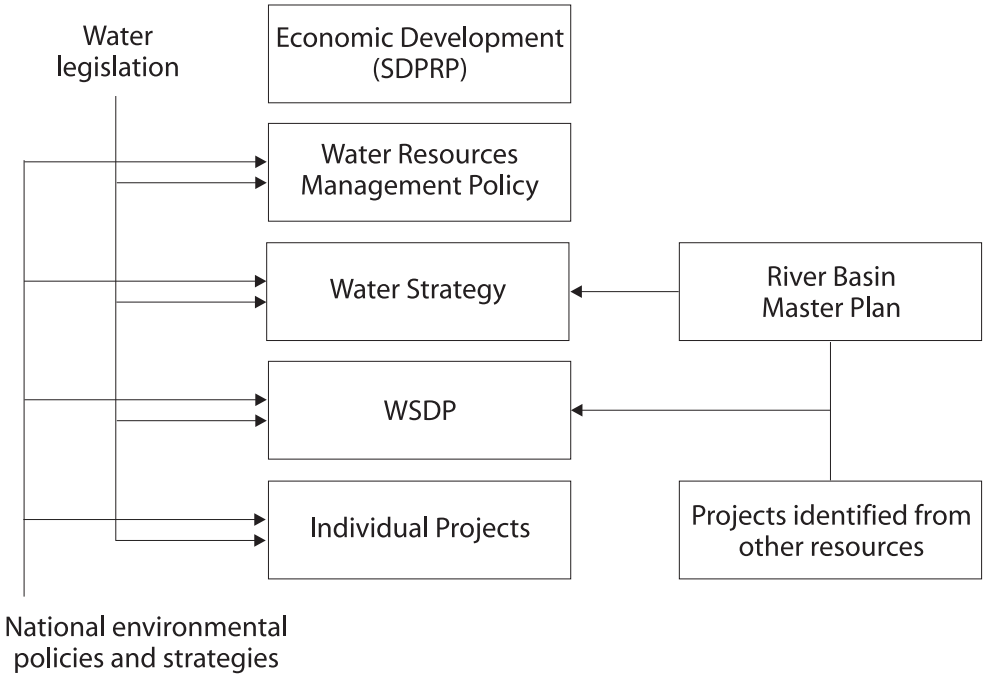
[25]The national agricultural development policy is referred to in almost all projects we analyzed, sometimes extensively, sometimes very briefly, but an irrigation strategy is never mentioned. The lending strategy of the Bank is mentioned in only three cases (all funded by WB).

[26]It might be done in appraisal reports but we did not have access to these documents.

41 However, as illustrated in our case studies, since the mid-1990s some governments, possibly under the pressure of financing institutions, have designed national irrigation strategies that integrate the objectives and orientations of different sectoral policies (rural development, agriculture, environment…) and general policies (macro-economic policy, poverty reduction strategy, decentralization…).

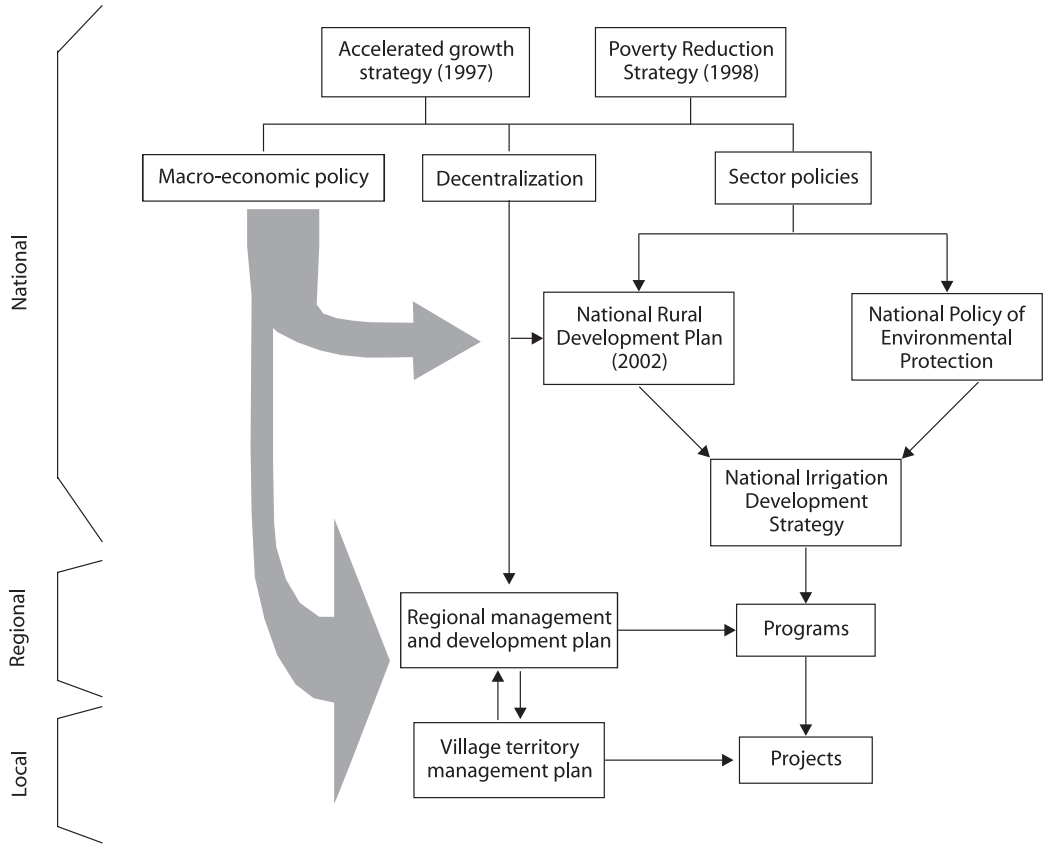
Figure 1 and Figure 2 show examples of Ethiopia's irrigation development policy and Mali's National Strategy of Irrigation Development. Common features of these new political trends comprise: state withdrawal of irrigation management and promotion of private sector investments, decentralization of planning, increased involvement of rural populations in planning and management of irrigation schemes, and greater attention given to environmental impacts and sustainable management of water resources. In many cases, the impacts of these relatively recent policies on P&I processes are still difficult to perceive.

Figure 1. Linkages between water resources management, policy, strategy and legislation in Ethiopia (source: Gessesse and Natea, 2004).



42 In our interviews of ADB staff, surprisingly, issues such as the scope of projects (water development versus integrated agricultural development versus integrated rural development), scale of irrigation schemes (large scale / small scale / individual technologies), purpose of irrigation investments (staple crops for food self-sufficiency / high value crops for export) were not touched on. These issues were addressed during the e-conference organized by the World Bank in 2003, and partially during the IFAD workshop in Mwanza in March 2004, but without clear-cut conclusions. The case studies give some insights on some of these topics. Regarding the purpose of irrigation, our analysis of the "Poverty

Figure 2: Relations between macro-economic policy, poverty reduction strategy, sector policies and irrigation strategy in Mali (source: Keita, 2004).



Case Studies" suggests that even when the project aims at reducing poverty, the need for cost effectiveness and higher productivity of agricultural production should still be a major concern – but it is not always clear whether this is the case (see also Van Koppen et al., 2005). FAO Technical Investment Centre staff we interviewed shared this view. From the case studies, it appears that although small-scale irrigation schemes – which does not necessarily mean small investment projects – may facilitate the participation of farmers, they can also experience implementation failures and poor performance, because it is more difficult to focus the necessary but scarce skills on small schemes, especially if they are not included in a bigger program, as it the case of some schemes developed by NGOs (Ethiopia, Zambia)[27]. Technical design may be neglected and economic analysis may be very superficial. In cases where small subprojects are embedded into a bigger program (as in IFAD-funded projects), the multiplicity of decision levels often increases the risk of implementation problems.

[27]The cost study addresses this issue; see Inocencio et al. 2005: Large investment projects to develop large numbers of small irrigation schemes tend to show lower costs and better performance than for example small investment projects.

4.3.2 Targetting beneficiaries

43 WB and ADB projects we studied never mention criteria for targeting the beneficiaries of the projects: it is assumed that once the site of the project is selected, all the rural households in the area will benefit. Even when poverty alleviation is specifically mentioned as a project goal, there is rarely an explicit or implicit poverty reduction impact assessment (e.g., Fadama I Project in Nigeria - Omilola, 2004; see Van Koppen et al., 2005). Moreover, among recent projects funded by the World Bank, there is a *"widespread assumption that since most households are poor no poverty targeting is needed"* (OED, 2005). Appraisal documents generally show a weak analysis of who are poor and why, although non-dedicated agricultural management projects (e.g., integrated rural development projects, community-driven development projects) usually perform better from this point of view. In cases where a specific targeted population is specified (e.g., IFAD-supported projects), the PMU does not know how to proceed in practice, and the better-off farmers are more likely to be selected because they have better access to information and can more easily contribute to the labor and/or capital costs (e.g., Dombolidenje scheme in Zimbabwe). Poor women-headed households are from this perspective very difficult to reach (Kenya REAP, Tanzania MaraFIP, Tanzania PIDP, Madagascar Upper Mandrare). The report on the poverty component of this study provides further insights on this topic (van Koppen et al., 2005).

4.3.3 Phasing and timing of irrigation projects

44 Some ADB staff suggested phasing irrigation projects (construct the core infrastructure to harness water sources, and then develop the command area) as a way to simplify project implementation, thereby minimizing delays and lack of appropriate implementing staff capacity and to ensure 'manageability' of projects. The gap between project length and what is necessary to really implement a scheme and make it functioning was also underlined. ADB and AFD staff and some key informants interviewed during the case studies feel that financing institutions' support stops too early after the achievement of the physical components.

4.3.4 Crosscutting issues to consider at preparation

45 Crosscutting issues, such as environment (water resources, drainage, aquifer and catchment management), gender, land tenure, and agricultural support services, are considered as very important by the operational staff we interviewed (see also Jones, 1995), and not always well addressed in past projects. They mention some improvements, but they acknowledge that it is still difficult to really implement the recommendations in these domains. This is also confirmed by the health and environment component study (McCartney et al., 2005). Two areas have been mentioned extensively in the case studies:

- *Land tenure*: in Mali, for example, contradictions between customary law, community law, modern law and irrigation scheme management have been highlighted; in the Kenya REAP project, the uncertainty about land tenure prevented farmers to really commit to the project;

- *Environmental and technical engineering studies*: availability of resources (aquifers in Nigeria), climatic variability (irrigation scheme implemented without storage facilities, in Tanzania PIDP), recurrent erosion problems threatening the sustainability of infrastructure not addressed (Madagascar).

46 Overall agricultural support is still an important issue in many projects (ADB/ADF/OED 2002), especially for small-scale irrigation schemes. In all the case studies, farmers complain about lack of access to inputs and outputs markets, credit facilities, and extension services[28] jeopardizing the economic profitability of the schemes and their sustainability (risk of decreased yields, low income compared to operation and maintenance costs…). Farmers' organizations are still quite weak, even in cases where a marketing component has been embedded into the project (Kenya REAP). In partnerships between smallholders and private companies (e.g., Kaleya smallholder irrigation company limited, in Zambia), there is a risk that farmers do not understand the arrangements with the company and lose their power of decision making.

4.3.5 M&E in irrigation projects

47 Failures in monitoring and evaluation systems have been revealed mostly by the case studies (Mali and Madagascar case studies, Tanzania MaraFIP. Tanzania PIDP, Madagascar Upper Mandrare), and have only recently been mentioned in PCRs. The most frequent problems are: (i) the lack of proper data collection on who are the beneficiaries and what are the benefits (Tanzania, MaraFIP and PIDP); (ii) the lack of baseline information on production (areas under crops, yields) and poverty status (Madagascar Upper Mandrare)[29]; and (iii) the uncertainty about the source and quality of agricultural data used to assess the benefits (one year or average, best farmers or average…). The Madagascar case study illustrates that the focus of M&E is too often focused on disbursement and physical achievements and not enough on economic and other indicators to measure the efficiency and effectiveness of the project. Indicators on capacity building and institutional building achievements are often very weak (the Madagascar case study for example underlines that the only indicators used in terms of institution building are the number of WUAs and the rate of payment of irrigation fees). The Mali case study points to the heterogeneity of indicators according to consultants and projects, which in itself is not bad because indicators need to be adapted to each project; but such heterogeneity does not facilitate systematic M&E across projects to learn generic lessons.

[28]On this particular issue, the on-going OED study notes an improvement: *"57% (of appraisal studies) gave significant coverage to complementary extension linkages"*, but only *"19% to marketing and credit"* (OED, 2005). The cost, poverty and private sector component studies also emphasize this concern (Inocencio et al., 2005; Van Koppen et al., 2005; Penning de Vries et al., 2005).

[29]This is also confirmed by the on-going study of OED on WB-assisted agricultural water development projects: "poverty indicators in logframe (are) quite rare" (OED, 2005).

48 The organization of M&E systems is often to blame: in some cases M&E systems are not designed during preparation but only during implementation; staff in charge of M&E at country or project levels lack experience and skills to properly implement them (Madagascar Upper Mandrare; Zimbabwe, Dombolidenje dam).

49 The use of log frames is now common in all financing institutions, but only recently (only the most recent PCRs we reviewed mention it). However there is still a long way to go to achieve their complete integration into project management practices. In this respect, the way it is built and understood by all actors involved in the P&I process may be more important than its use itself. Without referring specifically to irrigation projects, Ticehurst and Cameron (2000) note a persisting tendency to design M&E systems to fulfill accountability requirements of development agencies rather than the needs of beneficiaries. They also stress that *"little attention seems to be paid during implementation periods on learning how demands change over time"* (Ticehurst and Cameron, 2000, p.9), failing to really inform future decisions. Finally, they flag the risk of premature attempts to assess impact during implementation and over ambitious M&E systems, with resulting demotivation of the project management team. EuropAid gives a very clear description of the logical framework process and how it is related to the project cycle; this may serve as a basis for implementing M&E system (European Commission, 2001). The quality of the process depends on available information, ability of the planning team, good consultation of stakeholders, and thorough consideration of lessons learnt throughout the project cycle. The IFAD Guide for Project M&E provides more details on the process and examples of rural development projects (IFAD, 2002). It emphasizes the dynamic nature of the process, linking project design, annual planning and M&E, to the need for capacity building at all levels (farmers, implementing team, local governments), and the importance of using log frames and M&E as learning and adaptive management tools (IFAD, 2001, 2002, 2005). Box 3 gives an example of the participatory process proposed for farmer-initiated and managed smallholder irrigation schemes in Tanzania (United Republic of Tanzania, 2003). Only the first steps are detailed here, but at each further step the participation of all stakeholders (farmers, regional and district staff and officials) is sought to ensure a full ownership of the objectives and action plans of the proposed sub-projects. The example of the Tanzania PIDP project shows that it is possible to elaborate the log frame with the participation of farmers themselves (Figure 3), increasing ownership of the project and facilitating the collection of monitoring indicators by farmers themselves[30].

[30]Unfortunately, this project failed to take full advantage by collecting the data needed to assess impacts on household incomes (Tony Peacock, personal communication); for the latter ApproTEC is a better example—see Peacock 2005; Van Koppen et al., 2005).

Box 3: Example of logical framework participatory process for farmer-initiated and managed smallholder irrigation schemes in Tanzania.

Step 0: Selection of districts for program support

Why? Selection of districts to be supported, because of limited resources

How?
- Awareness campaign in administrative regions
- Application by interested district council to the Irrigation Department/Project Coordination Unit (ID/PCU)
- Evaluation and scoring of applications
- Ranking and selection of districts based on the degree of demand, local ownership and commitment of district councils
- MoU between selected districts and ID/PCU

Who? Districts, Zonal Irrigation Unit (ZIU), ID/PCU

Results List of districts, MoUs

Step 1: Scheme selection

Why? Selection of schemes to be supported among existing schemes in selected districts

How?
- District level awareness campaign
- Application by irrigator groups using a rudimentary logical framework approach (opportunity to exploit or situation to change, what they expect to achieve, what they want the program support for, own contribution)
- Visit of the schemes that have applied
- Evaluation, ranking and selection of schemes according criteria agreed during a participatory process (degree of market driven demand, local ownership and commitment)
- Results of selection forwarded to the Zonal Irrigation Unit (at regional level) for validation

Who? Districts leading, irrigators groups applying, ZIU backstopping and validating

Results List of schemes to be included into District Agricultural Development Plan, simple log frames

Step 2: Participatory Action Planning

Why? Involve all stakeholders in defining and committing themselves to a workable plan of action for the preparation of subprojects

How? Short participatory planning workshops, participants divided into groups:
- Preparation of a list of causes of identified problems by groups, presentation and discussion of all lists to reach a consensus
- Analysis of the different steps of the preparation and implementation stage: group discussion to decide on action for each step, sharing and consensus building
- Assessment of costs for each action, identification and agreement on responsibilities for meeting the costs

Who? Stakeholders participating, Districts leading, ZIU/consultants facilitating

Results Action Plan for preparation

Step 3: Registration of irrigator groups as legal entities and letter of undertaking

Step 4: Participatory Diagnostic study

Step 5: Participatory Design and feasibility study

Step 6: Joint investment decision and financing agreement

Step 7: detailed designs and tender documentation

Step 8: Tendering and contract award

Step 9: Implementation

Step 10: Operation and maintenance

Source: United Republic of Tanzania, 2003.

Figure 3: Example of a log frame and work plan elaborated at local level with the beneficiary community (Tanzania, PIDP).

Table 8: Examples of M&E indicators for irrigation projects.

Objective	Indicators
Reduce poverty (see also van Koppen et al.)	Number of households affected by the project, per wealth class; incremental income; incremental food supply; number of jobs created
Increase agricultural production	Net income: suppose to collect information on yields, areas and prices of existing crops, prices and quantity of inputs, with an indication of their variability according to climatic variations and types of farmers
Improve food security	Fraction of the production used for household consumption
Increase rural population income	Number of households affected by the project, per wealth class, side effects on local economies (in terms of job creation for example)
Building sustainable water management institutions	Number of WUAs created, cost recovery rate

4.3.6 Relationship between engineering design and O&M

50 Strong and statistically significant relationships between planning and design quality and project results have been demonstrated by the 1995 review of the World Bank's experience in irrigation (Jones, 2005), and confirmed by our more recent study (Inocencio et al., 2005). The WB report also stressed the higher frequency of changes in design and of construction problems than in other sectors, and their correlation with project performance. It emphasized the impacts of design on further O&M (see also Chidenga, 2003), and the fact that O&M often differs from what was anticipated. Divergences were attributed to wrong appraisal of water resources availability, poor design and construction, and poor attention given to institutional arrangements, especially at local level. The lack of participation of beneficiaries at early stages of project planning results in a lack of consistency between physical design and institutional capacities and arrangements, i.e., designs requiring levels of management the institution in place cannot do.

51 Our case studies provide abundant examples of such failures: designs based on insufficient knowledge of agricultural practices and the local situation (best time to sow, crop cycle, peak water requirements - Tanzania MaraFIP); lack of capacities of public sector services to carry out all the necessary engineering studies (Tanzania PIDP); shortages of water due to flaws in design (lack of pump capacity, dam silted up, water availibility not assessed properly).

52 Engineering designs are usually prepared by government and/or project staff, as well as by government appointed-consultants, during project implementation. This is often a stumbling block in the implementation process (as noted by Jones 1995), because of weak local capacity, reluctance to engage the private sector and incompetent technical assistance – as well as the inability of most supervision missions to provide technical support for the very complex tasks involved in irrigation. The point is that irrigation design is often very demanding technically; if not done correctly, the intervention will not physically function, even if all the other factors of success are in place (participation and training of beneficiaries, agricultural and marketing support …).

4.3.7 O&M, cost recovery and irrigation management transfer

53 The classic remedy proposed by financing institutions to cut the vicious cycle of poor maintenance – non-payment of water charges – rehabilitation, has been to combine increased public spending on O&M with higher water charges on users. Experience shows that better cost-recovery does not necessarily lead to better maintenance, particularly when water charges are not earmarked and go to the national treasury. Financial autonomy of schemes has been recommended to enhance the scheme manager's accountability towards irrigators (e.g., Merrey, 1996; Small and Carruthers 1991). However, there are other ways of achieving this autonomy than assigning fee collection and responsibility for O&M to a user group, as argued by the ICID working group on public-private partnership (Vidal et al., 2004). Despite an abundant literature on these issues, recent projects demonstrate a *"quite widespread lack of realism about cost recovery and hand over"; "incentives and proposed phasing towards pricing for water application efficiency are rarely analyzed in PADs"* (Project Appraisal Documents) (OED, 2005 – see also Abdel-Dayem, 2005).

54 Irrigation management transfer to users' groups is neither easy to implement nor successful in all circumstances. IMT does not always receive the required policy support from concerned ministerial departments. Therefore irrigation management transfer remains incomplete in all our country case studies, especially in Nigeria and Madagascar. If the conditions for successful water users associations have been abundantly documented and analyzed (see for example Ostrom 1992; Agrawal 2001), the way to implement these conditions is still not obvious. Vermillion and Sagardoy (1999) proposed guidelines for the implementation of irrigation management transfer, but they emphasized that it is not possible to formulate categorical recommendations and that these guidelines should be adapted to the specific national and local contexts. Shah et al., (2002) found that the sub-Saharan African context differs from the situations where IMT has worked: a legacy of dependence parastatals agencies; high cash costs due to mechanization absence of credit, input and

output markets; insecure land rights; the small size of agricultural plots; and high costs of pump schemes, which contribute to the low productivity of smallholder irrigation schemes and explain the subsequent likelihood of IMT failure[31]. A recent IFAD evaluation of experiences in Ethiopia warns against being naïve about participatory demand-driven processes in contexts where these are not yet common (IFAD 2005).

55 All our case studies report difficulties in the process of irrigation management transfer: difficulties in water fees collection; lack of clarity on water rights and ownership of assets (Nigeria Fadama I); lack of clarity on the share of responsibilities for maintenance in case of disaster (Tanzania PIDP, Madagascar Upper Mandrare); difficulties for WUAs to gain access to banking services (Nigeria Fadama I); and lack of or inappropriate training for farmers and WUAs on irrigation management, accounting, banking and credit operations, savings mobilization and loan repayment (Madagascar Upper Mandrare, Nigeria Fadama I), which lead to a poor understanding by farmers of financial implications of O&M. Despite these difficulties, as the public sector is likely to decrease its financial support to O&M of irrigation schemes, IMT should be pursued, while taking care to design schemes that farmers can afford to operate, and to work towards a conducive institutional and even cultural framework. In addition, IMT reforms should be tailored to fit each country's circumstances (type of irrigation schemes, capacities of public and private sector, culture, etc.) (Johnson III et al., 2004). As suggested by an AFD study on IMT in Madagascar (République de Madagascar, 2000), there is a need for extended support to WUAs beyond project completion to ensure their sustainability. Nevertheless, *"only a few projects invested in sustainable institutional support structures for WUAs (at local and higher levels"* (OED, 2005). It should also be noted that participation of beneficiaries from the early stages of the project, if necessary, is not sufficient in itself and needs to be properly implemented by experienced people[32].

4.4 Responsibilities of the different actors in P&I failures

56 The failures of the P&I process identified and listed in Annex may also be analyzed from the perspectives of the actors involved. Five categories of actors are involved in project planning and implementation: financing institutions, governments (borrowers), executing agencies, beneficiaries and external consultants. Each of them plays a particular role in the process.

[31]The high costs of O&M compared to annual income in the Dombolidenje case in Zimbabwe, which comprise a high risk of deferred maintenance, are an illustration of this.

[32]Our cost study found that farmer participation leads to lower-cost projects and better performance, but over-investment in "software" such as farmer training, while helping hold down costs, makes no contribution to improving performance of irrigation schemes. This suggests much greater attention is needed to the quality of training and support to farmers.

4.4.1 Financing institutions' performance

57 Financing institutions' performance may be related to three main domains: general policies; the roles, skills and capacities of their operational staff; and their internal structures, culture and processes that determine the context in which staff perform their activities.

General policies and procedures

58 The lack of continuity in financing institutions' funding priorities and in some cases the lack of consistency with government strategies was pointed out in our case studies. It is particularly true for bilateral financial institutions, whose priorities are strongly influenced by the political orientation of the financing country government (see example of Mali in Box 4).

59 Country partners blame large multilateral banks for their complex and lengthy disbursement procedures and tight conditionalities. The absence of a local correspondent in the borrowing country, as in ADB's case, worsens the process. Government representatives in the Madagascar and Mali case studies criticized the multiplicity of procedures required by different financing institutions. This is consistent with the conclusions of DAC Task Force on Donor Practices (OECD, 2003).

Box 4: Example of changing funding priorities in Mali.

- Three or four years ago, USAID funded post-production projects (processing, packaging and marketing), but now gives priority to agricultural production projects (rice production, support to seed production, etc.).
- After having favored the agricultural sector, Dutch cooperation directs its contribution to the health sector, sanitation, education, and poverty reduction in general.
- French Cooperation interventions are judged multiple and diverse but always strongly influenced by the political orientation of the French government and the negotiation capacity of the Malian government at the time of project preparation.
- German cooperation has focused on capacity building and support to decentralized financial systems for several years.

These multiple financing strategies lead the government to bend to IFIs' will, even if the latter does not match the country strategy.

(Source: Keita, 2004)

Staff issues: roles, skills and resources

60 The difficulty of the ***role of operational staff*** has to be acknowledged: they should demonstrate at the same time an accurate knowledge of the funding agency's procedures (task managers have to produce and to read a lot of documents along the project cycle), and capacities in project management and in their particular area of competence (economy, engineering, agronomy among others). As irrigation projects now require ***a larger spectrum of skills*** (gender, HIV, environment, poverty, participatory approach, etc.) than previously, they should be able to take into account these crosscutting issues, and therefore need to be trained on these aspects. Despite the guidelines and manuals prepared by policy departments, operational staff often find it difficult to integrate all these different skills. In ADB, some task managers point to the lack of guidelines on gender issues, HIV/AIDS, stakeholder participation, and even on the technical aspects of irrigation.

61 Their task is more difficult since they often work under ***time pressure***. There is a general feeling among ADB's task managers that operational departments are under-staffed: each task manager is in charge of 10 projects at different stages of the project cycle. Policy and evaluation department staff members acknowledge that their colleagues from operational departments, who hardly find time to read the documents they prepare, favor simple prescriptions rather than detailed and comprehensive reports.

62 Morgan (2002) also argues that operational staff face conflicting purposes: to their initial role of task accomplishment was added a mandate of building capacities of national participants. *"And finally, IDOs[33] did not find ways to add a third critical purpose: helping country participants to build the capacity to build the capacity."* (Morgan, 2002:10). Due to the little time IFIs' operational staff spend in the field, their relationships with government officials and project managers at country level remain weak.

63 The ***mix of skills*** within ADB's operational department is seen as unbalanced[34]: for example despite a repeated recommendation to hire more engineers, and the fact that most projects include a construction component, operational staff feel that there is still a lack of engineers, especially in irrigation. Instead, ADB chose to strengthen its expertise in crosscutting issues such as environment and gender. A gap in water management capacities is also expressed.

64 Management science has demonstrated that, in any organization, individuals act according the ***criteria used to assess their performance***. Rightly or wrongly, ADB's task managers think that they are evaluated on the number of projects submitted to the Board, implemented on time and running without problems, and the total amount of lending they generate[35]. Staff financial benefits are neither connected to project performance at field level (Morgan 2002), nor to the way in which they fulfill other departments' expectations.

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[33]IDOs: International Development Organizations.

[34]As an illustration, ONAR, ADB's operational department for Northern, Eastern and Southern Africa. comprises 15 agricultural economists, 5 agronomists, 2 irrigation engineers, 2 livestock specialists, one finance specialist, and one environment specialist.

[35]This *"bias towards lending at the expense of increased development impact"* is also highlighted by Kilby (2000).

65 There is no clear picture of what might be the ***priorities for a Task Manager***: for example, although ADB's Operational Manual states that supervision should be considered as the most important task for project managers, some of them consider that the appraisal report represents most of their job. Our interviews of ADB's staff also reveal different views on the relative contribution of the different project phases to its success or failure.

66 All these elements may explain why, in spite of a general recognition of their importance, issues such as characteristics of the project beneficiaries, land tenure systems, labor organization and availability, poverty impacts, and women's involvement in agricultural production systems do not receive the attention they deserve. This also helps our understanding of the insufficient involvement of financing institutions in the critical phases of the project cycle, preparation and supervision (cited for example, in the Ethiopian case study), with its consequences for project performance and development achievements.

Internal structure of funding agencies

67 Morgan (2002) notes that international development organizations focus more on producing policies, strategies and guidelines than on developing an approach to implementation and achievement of performance at field level. Even the strategic documents seem to be directed at an external public rather than at internal use. There is no proper mean to ensure that recommendations and guidelines are really taken into account by operational staffs.

68 Several problems of ***communication*** were mentioned in ADB between operational departments and the Evaluation Department (OPEV), on one hand, and between operational departments and policy departments, on the other hand. Besides the lack of communication between country and sector operational units already mentioned, the feedback from the Evaluation Department to operational departments is diversely appreciated:

- Operational staff often consider the Evaluation Department's capacities to be insufficient, and evaluation results are not well disseminated[36]. The absence of regular workshops to share information on projects and experience was pointed out. Except in working groups, staff members do not have enough time to share experiences and learn from others about best practices. However they acknowledge a trend towards improvement.

- OPEV argues that feedback is being improved: it takes part in the diverse levels of the review process (Inter Department Working Group and Senior Management Committee); matrices specifying who does what at what time have been prepared for recommendations and monitoring; a specific website has been developed.

[36]For example, some task managers note that appraisal reports now focus more on financial and administrative issues at the expense of past Bank's experience in the country, which used to be an important chapter.

69 Even within operational departments, communication is judged as being poor: except in working groups, task managers do not have enough time to share their experiences and learn from others about best practices. The absence of regular workshops to share information on projects and experience was pointed out.

70 Regarding more specifically water management projects, it was stressed that water management capacities are fragmented in too many departments and that there is neither real collaboration among task managers nor coordination of related projects. This fragmentation retards the capacity of the IFIs to implement the IWRM approaches they preach: domestic water projects are handled by separate departments from agricultural water or hydropower projects, and all of them are separate from the health department. We suggest there are many lost opportunities resulting from this fragmentation.

71 This lack of communication affects ***institutional memory***: the changing of project management staff (both at Bank and country level) over time, together with the absence of effective monitoring and management information systems for project implementation lead to losses in project information and expertise and a failure to capture and disseminate lessons from experience.

4.4.2 Governments' performance

72 Several authors have emphasized the responsibility of governments for project performance. This responsibility pertains to different areas, from lack of financial and human resources to the broad theme of commitment and ownership, to governance issues. Before going into more details, it is worth noting that the criticisms stated below come mainly from IFIs' staff or scientific evaluations, although some government representatives consulted during the case studies acknowledge their own weaknesses: lack of capacities and of financial means, lack of communication between ministerial departments, and between ministerial department and autonomous PMU, lack of motivation of government staff.

Financial and human resources

73 It is clear that the level of financial and human resources governments allocate to project planning and implementation affect project performance. As shown by the ADB Evaluation Department (ADB/ADF/OED 2002), there is a strong association between per capita income and economic performance and overall ratings of projects. This means that countries with higher income probably have better capacities to implement projects, thus resulting in better performance. These capacities are particularly critical, as already mentioned, at preparation and implementation stages.

74 The first consequence of governments' poor resources is their difficulty in mobilizing their counterpart financial contribution; it continues with the recruitment of adequately skilled staff to manage the project (because of low level of remuneration) and the provision of adequate means to achieve their activities; it ends up with the poor support given to beneficiaries to operate and maintain the irrigation systems, once they are built. In countries,

which have entered into a process of decentralization, the lack of human and financial resources is even worse at local level (Mali case study).

75 The range of skills necessary to implement an irrigation project is detailed further. If IFI staff mention some improvements in country capacities, the fact that, after decades of foreign assistance, this is still a main cause of project failure raises questions about the ability (and willingness) of financing institutions to build capacities at national level (Morgan, 2002). As an illustration, some ADB staff rightly observe that there is no formal Bank policy on capacity building at country level. One should also acknowledge that there is a large variability of situations from one country to another, the reasons for which are not well documented. There is also the issue of building farmers' capacities, another neglected area.

76 The responsibility of financing institutions for some of the problems related to disbursement and procurement procedures and monitoring and evaluation systems seems clear. There is no evidence of standardized financial and project management tools provided to governments by financing institutions. In fact, financing institutions have somewhat different procurement rules, increasing the complexity for governments. This point was strongly expressed by key officials, experts and IFI staff at the country level surveyed by the DAC Task Force on Donor Practices (OECD, 2003), and in our own case studies. The absence of reliable data for project preparation and evaluation can also be linked with the lack of proper monitoring systems. Coordination among international financing institutions could make a significant contribution to improving the efficiency of investments.

Governance

77 The theme of governance covers various causes of project failures: from the consultant selection process (transparency, competition) to coordination among government departments (in charge of planning and of operation), to devolution of power to autonomous institutions (irrigation agency, water users associations). The issue of corruption and political interference, which is not mentioned very often in PCRs and was not addressed by ADB staff, was cited in some case studies (e.g., irregularities in the procurement of pumps in the Fadama I project in Nigeria; political interference in the choice of schemes to be rehabilitated, and political support to farmers who refuse to pay their irrigation fees in Madagascar). This remains a critical issue, but one we were not able to address in depth.

Borrower's commitment

78 The lack of borrower's commitment, frequently suggested as a main cause of project failure, is not straightforward. Detailed studies in Sri Lanka of two projects financed by an IFI showed how complex an issue this is: because of the dominant role played by the IFI and its consultants, the government departments were not committed to the success of these projects (Nijman, 1991, 1992). As for skills and capacities, there is shared responsibility for this situation: to ensure the effectiveness of their investments, development agencies tend to increase their involvement in and control over all steps of the project cycle, thus

giving no incentive to governments to commit themselves to projects (Morgan, 2002). It has been argued that governments may accept foreign aid because of the advantages associated with projects (jobs, high fees, overhead costs, power) (Morgan, 2002) rather than for the general stated objective of development. Our study of costs of irrigation investments in SSA found that the IFIs' policy to maximize government financial contribution to project is counter-productive—it leads to higher costs and poor performance (Inocencio et al. 2005); the conclusion is that IFIs should perhaps help governments improve the effectiveness of their financial and project management systems.

79 The lack of a clear strategy for the irrigation sector, or more generally for development and poverty reduction, can be considered as an indicator of governments' poor commitment, and a reason for the donor-driven P&I process. The recent policy to encourage the development of Poverty Reduction Strategy Papers, and more specifically of Water Resources Management Strategies, can be seen as a sign of a changing development approach. Our case studies (see Figure 1 and Figure 2) show that some countries have made progress in this area. However, as underlined by IFAD, the first round of PRSPs "*were weak on identifying the fact that poverty reduction is very much a rural problematic – and that the solution to the rural problematic lies not only in improved social services, but in improving the economic assets and opportunities of the poor*"[37]. There is also little evidence that agriculture, let alone agricultural water management, was given high priority in the first round.

4.4.3 Implementing agencies and Project Management Unit

80 Project management teams at country level must include a complex mix of skills: technical, economical and social skills, leadership, team building and project management capacities. It is not easy to find such talented people if there are no positive incentives to be involved and to stay: a reasonable salary, sufficient means to carry out their tasks (vehicle, computer, telecommunications). For example, the Madagascar case study refers generally, without mentioning a specific project, to the lack of motivation of project management staff and insufficient local capacities in project management and monitoring and evaluation. The continuity in management staff also appears to be critical for project sustainability. It is indeed important to keep records of project history and to be able to derive lessons from it. For the same reason, it is particularly important to set up the project team right from the preparation stage, and not only at implementation, a common practice which may be due to lack of finance from the government. This early installation facilitates the establishment of a relation of confidence and mutual respect with IFI staff, important for good monitoring of the project progress and for timely decisions about possible necessary changes.

[37] An *IFAD Desk Review of the Poverty Reduction Strategy Paper Process in Eastern and Southern Africa*, Rome, December 2002, cited in IFAD (2004).

81 Evaluation results show that decentralization and autonomy of the project team is a condition of success (ADB/ADF/OED 1999; ADB/ADF/OED 2002). The case of the Tsiribihina irrigation project in Madagascar is cited as an example of successful project management at country level. Advantages of decentralization include better capacity to adapt the project to local requirements and to focus on more technical issues rather than policy or strategic ones. Communication channels and reporting procedures should be carefully designed and implemented, as some case studies reported poor communication between ministerial departments and the PMU, and among ministerial departments (Zambia).

82 Nevertheless, there is no common agreement about the ideal degree of autonomy of the PMU: some recommend that the government executing agency should use its own staff for the PMU, arguing that staff especially recruited for the project may affect its sustainability (these people are more likely to abandon the project before completion) and the building of experience within the executing agency[38]). Some others recommend a mix of international consultants and national staff to mitigate the supposed lower skills of the latter and provide mentoring services. There are examples showing that autonomy can result in some poor sub-project choices when there is no adequate **quality assurance** (Zimbabwe Dombolidenje), or lead to major flaws in design in the absence of an effective steering committee or technical oversight (Tanzania). Box 5 reports the experience of project team recruitment process in Mali.

Box 5: Choice of project team in Mali.

Project teams are chosen based on an agreement between Malian government and IFIs. Small project management teams are prefered. Therefore, in addition to the project coordinator, the team may include a financial officer; a rural engineer; a capacity building specialist; an M&E officer; a secretary; a driver; and a guard. Executive staff members are recruited through open tenders with a no-objection by IFIs. Project coordinators and senior executives who had previously been state civil servants seconded to projects with an (often very low) bonus, are now entirely recruited through tenders by projects. Civil servants who want to participate in projects must resign from their position. This new approach allows providing them better remuneration, gives them a higher sense of responsibility, and encourages them to better manage project resources. Regarding specifically the choice of coordinator, some interviewed IFI staff underline that they do not put pressure on government. However, they remark that a civil servant chosen by government to do the planning during the preparation phase, even if he/she is competent and can carry out project coordination, may be replaced at the last minute without any valid reason. It is the reason why financing institutions prefer the tender procedure for the recruitment of executive staff.

(Source : Keita, 2004)

[38]For example, Merrey showed that the use of special units to implement the various donor projects in Egypt hindered the integration of project innovations into the normal management processes of the Ministry of Public Works and Water Resources (Merrey, 1997).

83 There is no evidence in the literature we reviewed on the governmental process of choosing project managers and executing agency staff, and on the likelihood of political interference in this process. However, irregularities in staff recruitment were reported in some case studies (for example change of staff without valid reason in Mali, see Box 5) or in the Fadama II Project in Nigeria (Box 6).

Box 6: Recruitment of project staff in the Fadama Project in Nigeria.

Although the recruitment of project implementation staff at local, state and federal levels was very transparent, there are pockets of problems here and there with recruitment of staff based on favoritism. For instance, facilitators for Fadama II were first recruited at the national level before the state implementing agencies clamored for the recruitment of these staff directly by themselves in their own communities. This was done in order to recruit facilitators with knowledge of, and familiarity with, Fadama localities where they would work. However, some grossly ineffective, inexperienced and unqualified facilitators have succeeded in being recruited as facilitators in some of the participating states and Local Government Councils due to political interference.

(Source : Omilola, 2004)

4.4.4 Consultants

84 International or national consultants can be involved at different stages of a project: at preparation to carry out specific studies or to do the design, at implementation to manage the project or implement particular components (often construction or design of sub-projects), and at supervision and evaluation. In the first two cases the borrower hires them, in the last one it is the financing institution.

85 There is an unsolved debate about the types of consultants to be used. Is it worth engaging highly skilled international staff, who are relatively expensive, may propose technical choices not adapted to local conditions with which they are not familiar, and may have a poor commitment to the project? Or should the emphasis be on hiring local consultants who are less expensive, may be more familiar with local conditions, but are thought in some cases to have less capacity? Of course local consultants do not always have knowledge about local conditions; and if capacity is an issue, the project provides an opportunity to build this capacity. In principle, best practice appears to (a) ensure a level playing field among national and international consultants and (b) procure by international competitive bidding (Tony Peacock, personal communication). However, if building local capacity is an explicit goal, pairing of experienced international consultants with local counterparts is a viable option.

86 Chisenga (2004) presents an extreme example of poor international consultant intervention in Malawi, where the lack of capacity to manage international consultants, responsible for the engineering design, resulted in a spate of implementation flaws. In this case, hopefully exceptional, there was obviously a quality assurance problem in the procurement and supervision processes. Other project managers at national level during the IFAD Mwanza workshop expressed the same kind of mistrust towards international technical assistance. Local stakeholders surveyed for the Madagascar case study also report misunderstandings between foreign technical assistants, project managers, and government officials.

87 On the other hand, successful experiences are reported, including in Madagascar, where the recruitment of a local senior engineer to supervise the design of rice irrigation schemes helped to develop a local framework and guidelines for manual work done by beneficiaries (assisted by a technician). The same approach has then been successfully used to rehabilitate several schemes.

88 Getting the right terms of reference (ToRs) for consultants and technical assistants is critical. ToRs should include a requirement to partner local and foreign consultants to build local capacities while including more local knowledge. Uphoff (1992a) analyzes a case in Sri Lanka where engineers learned to work effectively with farmer organizations in designing and constructing field and distributary canals. In that project, international consultants mentored local social scientists who took the lead in assisting the engineers to work more effectively with farmer organizations.

89 Whether engineering design should be performed by government departments or by private consultants raises, apart from efficiency considerations, the issue of accountability: if farmers invest in contributing to the capital costs and the works do not physically function because of an engineering design fault, where do they obtain recourse? If farmers were expected to engage more in agricultural markets, it would be preferable for them to obtain engineering design services from the private sector and sue the latter if they do not perform; but this may not be feasible in many cases.

4.4.5 Beneficiaries' participation

90 The lack of beneficiaries' participation throughout the project cycle has often been cited as a cause of failure of water development projects (e.g., ADB/ ADF/ OED, 2002; Diemer and Huibers, 1991; Bonneval et al., 2002). The participation of women is particularly sensitive and is generally given very little attention (see for example the Fadama I project in Nigeria)[39]. Participation often comes after the overall project is designed; i.e., the design is not based on beneficiaries' demands and interest. This late participation often results in a lack of sense of ownership from the beneficiaries and little involvement in O&M. Interaction between external assistance and local participation is a key factor of success (see for example Vermillion and Al-Shaybani, 2004).

[39]Kweka (1998) provides a case study of a small scale irrigation project aimed at women in Tanzania.

91 Recent evolution of IFI policies and guidelines show a trend towards more involvement of beneficiaries in project preparation and implementation. However, the lack of involvement/ participation of intended project beneficiaries in both project planning and implementation is still noticed in some recent projects, for example the Fadama I project in Nigeria (Omilola, 2004). The reason probably lies in the insufficient capacities of project staff at national and local level compounded by the little experience of IFI staff involved in preparation and supervision. In authoritarian political regimes, participation can also be seen as a risk by undermining the power in place and government may therefore be reluctant to fully implement it. A recent evaluation by IFAD of its small-scale irrigation investments calls for being realistic about participation in contexts where it is relatively new (IFAD 2005). Finally at local level, participation can be hampered by the high level of illiteracy among poor rural people (mentioned for example in Mali case study - Keita, 2004).

4.5 Local actors' points of view on P&I processes

92 Failures and successes cited by local actors do not differ from those mentioned in project documents or expressed by IFI staff and reported in the desk review report (Morardet 2004a). Of course, each category of actors has a tendency to point out others' faults, i.e., government officials and project managers complain about slow and complex IFI procedures to release funds, poor support and communication during implementation, fluctuating priorities, and focus on disbursement achievements rather than on development effectiveness; and financing institution representatives point to political interference in the choice of project staff and in procurement process, and lack of logistic and financial means of governmental agencies. However, in some countries, local actors acknowledge their own weaknesses: lack of capacity and financial means; lack of communication between ministerial departments, and between ministerial department and PMU; and lack of motivation of government staff. Farmers seem to be more interested in project achievement and post-implementation constraints than in P&I processes, on which those consulted did not express any view.

4.6 Evolution over time of P&I processes

93 Although improving, the quality of preparation studies is still insufficient on environmental, social and economic aspects (especially regarding marketing issues and assessment of poverty status). However, the most recent projects show signs of improvement regarding environmental aspects: systematic aquifer assessment in Fadama II, catchment-irrigated scheme approach in Madagascar.

94 The participation of beneficiaries remains very poor, even non-existent, in the planning phase, and is often limited to provision of labor and local material during implementation. Noticeable exceptions are VRES project and Bewani scheme in the Office du Niger area in Mali, Dodicha SSI- ESRDF project in Ethiopia, and PRBM-ADB and PHBM-IFAD projects in Madagascar. The Fadama II project in Nigeria intends to focus on community-driven development, but it is too early to see how and whether it will really be implemented.

95 Even though almost all projects that were analyzed include a formal WUA, the process of irrigation management transfer is not completed: WUAs encounter problems recovering irrigation fees, accessing credit and repaying loans, realizing outstanding maintenance and providing farmers with adequate agricultural inputs. In Nigeria, numerous Fadama Users Associations have been established but they are suffering from lack of management capacity, and it is not clear how the second phase will address this flaw. In Madagascar, only 20 out of 293 WUAs created through the PPI2 project are operational. Lack of a proper monitoring and evaluation system has been cited as a persistent major flaw in all country case studies. Mali and Madagascar are showing interesting evolution of their P&I processes (Box 7).

Box 7: Evolution of P&I processes in Mali and Madagascar.

In Mali, large-scale « ready to use » irrigation projects of the 1970s have been abandoned in favor of small-scale irrigated schemes (less than 100 ha), with the objectives of yield stabilization, higher agricultural intensity and therefore higher profitability of investments. Farmers and more generally rural communities have been involved in planning and implementing projects from the beginning, to reduce the government's financial burden. More original are multi-IFI projects, and the integration of irrigation projects within rural development programs developed by local government (decentralization process). The process of decentralization is also apparent in the setting up of autonomous PMUs, with specifically recruited staff (previously PMUs were composed of civil servants), and in the taking over of post implementation routine monitoring by regional or local technical offices, with the support of national departments in case of specific difficulties. Finally, pilot phases are more systematic in new projects.

In Madagascar, new projects developed since 2000 are characterized by a more integrated approach in terms of development (*plateforme riz*) and environment (catchment approach), and a better involvement of farmers in formulation and design of projects. Increasing communication among various stakeholders, specifically between government and financing institutions, is highlighted: better coordination of various IFIs' interventions (*secrétariat multi-bailleurs*, *Task force BV PI*), participatory processes used in the elaboration of the new irrigation policy (government officials at national, provincial and local levels, WUAs, NGOs, financing institutions, technical assistance). The Malagasy government is taking more responsibility in preparation of projects: for example it followed a participatory process for the formulation of guidelines for implementation of irrigation projects in the framework of the BV-PI program, to be applied nationwide. The national irrigation strategy is being updated, with the participation of all stakeholders.

(Sources: Keita, 2004; Rajoelison, 2004)

4.7 P&I of irrigation projects in the new development assistance framework

96 In February 2003, the WB and the Development Assistance Committee (DAC) organized a high level Forum on Aid Harmonization that concluded with a definition of principles and best practices in this domain (OECD 2003). This document marks a stage in the evolution of development assistance in the last decade characterized by a greater focus on policy dialogue among financing institutions and country partners and a diversification of funding mechanisms (sector approach, budget support). The low efficiency and high transaction costs (for implementation and monitoring of funding) of past project-based assistance and the diverse or even conflicting objectives of the different international financing institutions motivated this evolution. This new framework, whose objectives are to increase aid efficiency and country ownership, goes beyond the mere adaptation of financing institutions' procedures and practices to put country concerns at the center of aid mechanisms: country partners are supposed to develop a national development strategy which will serve as a basis of the interventions of international financing institutions (e.g., PRSPs) (Jaudoin and Leclerc, 2003).

97 The elaboration of a national strategy, which may take time, should be a participatory process including the civil society, and leading to a shared vision of the country's future development. For financing institutions it implies modifications in their ways of providing aid: more focus on capacity building and institutional development, support to the elaboration of development strategy[40], coordination among international financing institutions (which offers theoretically opportunities for sharing experience but may prove difficult for bilateral financing institutions which, in the past, have sought political and commercial influence through project-based assistance).

98 However, conditions for success of the new development assistance framework, in particular of good governance, are far from being common. It thus comprises some risks, because it relies on a double bet: the willingness of country partners to carry the strategic exercise through to a successful conclusion, and the benefit of a real dialogue between financing institutions and the country partner. It will require in particular an agreement on the definition of conditionalities and performance indicators. Policy dialogue, if designed as a learning and experience sharing approach, is therefore very important.

99 An internal World Bank review of the rural content of 12 PRSPs[41] (Cord et al., 2002 cited by Proctor, 2002) showed that the treatment of rural poverty is still not satisfactory. Despite rural development being a priority sector in all the reviewed PRSPs, there is no systematic and consistent approach to addressing core rural issues in each of the sections of PRSPs (participatory processes, poverty diagnosis, targets and indicators, and priority public actions).

[40]This is intended to handle the contradiction between the need of country partners for support and the risk of interference from donors, concerned with the wise use of funds.

[41]For Africa: Uganda; Tanzania; Burkina Faso; Mauritania; Mozambique; Niger; Guinea; Zambia; and Gambia, and for Latin America: Honduras; Nicaragua; and Bolivia.

The participation of rural stakeholders and their sectoral line Ministries in the PRSP process seems rather limited. Moreover, almost all the strategies refer to the rural poor as a homogenous group; the heterogeneity of the rural poor is not adequately recognized. Rural poverty rates are often not disaggregated by gender, landholdings or ethnicity. Little quantitative information is provided on sources of income and livelihood diversity, the distribution of land assets, and participation in various markets. Similarly, little detail is provided on the qualitative or quantitative nature of determinants of rural poverty, their relative importance and the process by which they affect the different groups of rural poor. Indicators for rural poverty reduction proposed for monitoring do not always have quantified targets and in some cases are not easily quantifiable or monitored. Linkages between indicators and issues raised by the poverty diagnostics are rarely explicit. As rural development is treated as a crosscutting issue, proposed actions to address it are scattered among many areas. The discussion of the issues is fairly generic and brief and the institutional framework for their implementation generally not fully specified. Actions proposed tend to be investment oriented, and major policy changes have not been initiated. Rural actions are not yet fully prioritized and /or sequenced. In few cases are priority actions explicitly linked to impact and outcomes indicators, even if they are broadly consistent with them. Similarly the linkages between the priority public actions and rural poverty are implicit.

100 Sector Wide Approaches (SWAps), an instrument initiated by the WB primarily in the social sector, comprise a mix of policy change, institutional development, and material investment. They *"are held to be the most effective platforms for pursuit of common sectoral objectives – when linked to overarching statements of development purpose (the PRSP) and the corresponding statement of priority in financial allocations"* (IFAD, 2004, p.7). Experiences of agricultural SWAps in SSA are quite rare (probably because of the complexity of the agricultural sector), relatively recent, and limited to Eastern and Southern Africa. Therefore, it is difficult to assess their performance compared to projects. Their success implies a reconnaissance of the central role of agricultural development for rural poverty reduction (which is obviously not the case in many PRSPs), and a strong commitment from government and financing institutions to change their policies and practices. SWAps in themselves do not guarantee more effective poverty reduction, and the process of building them is more important than the adoption of the instrument. An IFAD issue paper gives insights on the possible problems and errors to avoid in implementing agricultural SWAps for poverty reduction (IFAD, 2004).

101 In the short and medium term, project-based assistance will remain appropriate as part of a transition phase, while sector programs are still emerging; in countries in crisis where conditions for sector approach or budget support success are not present; and to explore innovative approaches for poverty reduction. Table 9 summarizes the advantages and drawbacks of the different funding mechanisms in the agricultural water management sector.

Table 9: Advantages and drawbacks of different funding mechanisms of development assistance.

Instruments	Advantages	Drawbacks
Project approach	• Allows for innovation • More clarity in use of funds and their direct outcomes • Mobilizes resources focused on specific objectives	• Poor coordination of different IFIs' interventions • High costs of implementation and monitoring for IFIs
Sector approach	• Helps government to provide adequate resources for project implementation and functioning (in particular extension services, capacity building, statistical systems, research and education systems…) • Opportunities for harmonization, up-scaling and replication • Governments can develop and apply own procedures rather than trying to please multiple IFIs • Governments can avoid spreading resources among too many different projects	• Reduced opportunities for innovation • More difficult to document linkages between investments and outcomes • Dependence on government processes for financial accountability
Budget support	• Better ownership of development strategy • Help government to provide its financial counterpart • Impose more transparency on the use of funds from government	• Risk to lose focus on agricultural development in general and agricultural water development in particular (Eicher, 2004) • Risk of a shift of funds from the agricultural sector to other sectors • Risk of a top-down and opaque process of fund allocation, weakening the empowerment of local stakeholders, and therefore the sustainability of irrigation projects • Risk to implement projects only in the most accessible and best-known regions • Risk of inappropriate transfer of funds from national government to local governments and of competition between urban and rural areas (with a clear bias towards the former) • Risk of more dependency on external assistance

Source: IFAD (2004), IFAD and FAO staff interviews; authors' analysis.

5 RECOMMENDATIONS

5.1 Overview

102 It is very dangerous to offer "prescriptions" as if, like a medical doctor, we have completed a scientific diagnosis complete with laboratory tests and know exactly what is the problem and what is "the" solution. In fact, it has been argued that for the past three decades there have been altogether too many prescriptions offered as if they are panaceas, ready-made solutions to all problems (Merrey et al., 2006). In view of the complexity of the problem, the huge range of variation among countries, communities, and agro-ecologies, and the uncertainties of social science, we offer the following list of recommendations with considerable humility. These are recommendations and ideas we have gleaned from the literature, interviews, case studies and our own experiences. Some may be useful as is, some not at all; but most of them, to be useful, need to be adapted to specific circumstances and then operationalized. Nevertheless, we trust that much of what we offer can be useful.

103 Before proposing the detailed recommendations, we offer two overarching ones that we believe are essential for future success. The first is that **project management** should not be viewed as an "overhead" that is to be minimized, but **an essential feature of successful projects**, with potentially huge pay-offs. It requires the deployment of adequate human and financial resources and is applicable at financing institution as well as government and partner level. This finding is supported strongly by the study on costs of irrigation, which demonstrates the positive payoff to investing in good planning and management (Inocencio et al., 2005).

104 The second overarching recommendation is that **projects should be explicitly designed as "experiments"** to learn lessons on how to improve P&I processes (Rondinelli, 1983), feeding a knowledge base on planning and implementation of agricultural water projects (costs, technical options, standards/norms, policies, inventory of expertise …), strengthening the institutional memory of governments and financing institutions, and ultimately creating an environment that encourages and enables increased and better quality investments. This implies:

- Considering projects as learning opportunities, by including applied research and experiments, based on the principles of a "learning organization", and helping countries adopt a more learning organization approach to their programs;

- Seeing projects as capacity building opportunities: financing institutions and governments need to invest much more in capacity strengthening (policies, sustainable and effective institutions, policy analysis, project management skills, etc.) at all levels – government, private sector, farmers, etc. Increased capacity broadly defined will create an environment that encourages and enables increased and better quality investments;

- Designing projects in a way that fits local needs and capacities for implementation and subsequent operation, and builds capacity to move forward by providing successful experiences. Effective targeting is essential, and targeting the appropriate partners equally important: trying to focus directly on the poorest of the poor in an irrigation project may not be the best way to reduce poverty for example.

5.2 Recommendations specific to agricultural water development projects

5.2.1 For Governments, with support from International Financing Institutions:

At all stages

105 **Participation**: the early implementation of effective participatory approaches allowing the identification of beneficiaries' needs and preferences and their participation in project identification, design and implementation is very important, in order to strengthen local water and irrigation management institutions and ensure the sustainability of irrigation systems.

106 At all stages of the process, rural people should be considered as partners of development rather than 'beneficiaries" or (worse) "target groups" (Uphoff, 1992b), and their ideas, management skills, technical insights, and organizational capabilities should be harnessed and enhanced. This implies changing the mindset of providers of external assistance (governments, financing institutions, consultants) towards a more collaborative approach. Therefore, real implementation of *partners*' participation would require: (i) building capacities of project managers, specifically engineers, in participatory approaches; (ii) providing incentives that encourage them to interact with local stakeholders (for example including criteria in their performance assessment system); and (iii) placing more emphasis on training rural people both in terms of technical knowledge and empowerment. Formal review procedures of project proposals by all stakeholders including farmers can be included in the decision process.

Identification

107 No investment in costly infrastructure should be planned without having beforehand implemented the conditions for its beneficial use: secure land access for poor farmers; reasonable access to financial services (savings and credit); analysis of market opportunities and risks; where appropriate, enhanced collective organization of farmers; organized access to quality inputs; and training of farmers in new agricultural practices and irrigation management at individual and collective level. Countries and regions where these basic conditions are in place should be given priority. In other cases, specific activities to strengthen these aspects should be included within projects or developed as parallel programs.

108 Whenever possible, identification of projects should include the participation of rural populations and be based on an in-depth community needs assessment that allows better targeting of beneficiaries. An identification brief should be issued at the end of the process and reviewed by all stakeholders including farmers.

Preparation

109 A careful **situation analysis of the local context** is necessary. Four categories of issues should be considered: (i) socio-economic aspects, including an analysis of the diversity of households in terms of poverty status, assets and objectives, with particular attention to gender issues, and an assessment of the economic environment of farms (rural credit, input supply, output markets,) and of the social and institutional context (resources management, social cohesion); (ii) technical aspects (technical capacities of farmers, and local service providers, availability of spare parts and back up, affordability, cost of investment and O&M, user friendly design); (iii) environmental aspects (location, availability and reliability of water resources, soils, impacts on groundwater and catchment); and (iv) health impacts (nutritional and economic status, quantity and quality of domestic water supply, vector-borne diseases, … see McCartney et al., 2005 for a detailed list). Data on agricultural production (crops, yields, areas, prices) should be collected at farm level taking into account the diversity of farmers and of natural settings and their variability over time according to climate and markets. The economic and financial analysis based on these data should take into account environmental and market risks.

110 The importance of **cost-effective engineering design** needs to be integrated by all stakeholders if the declining trend in irrigation investment is to be reversed. In addition, design choices should take into account local knowledge (farmers and local experts) on water resources, soils and agricultural practices particularly in rehabilitation of traditional schemes. Technical options should also be adapted to the state of social organization (for example, if the design requires strong cohesion of the farmers' group, which does not exist before the project, difficulties in O&M are likely to occur). Impact of technical options on future O&M costs and organization should be considered seriously, and O&M manuals prepared as part of the planning and implementation process.

111 The **implementing team** (be it a governmental agency or an autonomous PMU) should be set up as early as possible. Whenever possible it should include government staff to ensure capitalization of knowledge in government organizations. Government staff may be complemented with internationally or nationally recruited staff as required. In the choice of the project manager, particular attention should be given to his/her ability for networking (which can ease the implementation). As stressed above, project staff should be provided with adequate incentives to sustain their motivation (wages in relation to their skills and level of autonomy, performance-related bonus, housing allowance, good working conditions, trust). Apart from basic facilities to undertake their tasks, good mix of skills and appropriate training, they should be given some autonomy for decision-making. The degree of autonomy should fit the managerial and technical capacities of the team and of the organization in charge of supervision. In any case an appropriate reporting system, control and back up should be implemented to ensure the quality of the process. Roles and responsibilities should be clearly defined from the outset. It is recommended that the implementing team focus on coordination, information, control and follow-up evaluation and that contracting activities are delegated to financial and procurement experts. The organization of project management should be in line with the organization of local governments, while limiting the number of decision levels in the review and approval process to what is necessary for accountability.

In case of programmatic interventions, subprojects financiers, designers, implementers and supervisors need to be more concerned with the technical and financial implications of subproject selection and design.

Implementation

112 **Contract firms**: it is important in the long run to create a favorable environment for building capacity of local contractors and for encouraging them to get involved in construction activities and participate in bids. Specific training sessions in tender writing and technical aspects can be organized. It is also important to adapt the size and content of bidding to the capacities of local enterprises, without compromising the social and economic objectives of the project.

113 **Private sector and NGOs'** capacities can be used to compensate shortcomings in public sector capacities (especially to implement participatory approaches). The role of government here should be to create the enabling environment that facilitate private investments, including policies (a) facilitating access to financing systems; (b) improving support (physical and social) for infrastructure; (c) reducing risk through access to information and better equipped micro, small and medium enterprises; and (d) facilitating demand creation through promotion of products produced by the private sector and facilitation of market linkages, strong institutions to enforce laws, effective infrastructure (roads, communications, major water development, etc.) (see Penning de Vries *et al.*, 2005 for more details).

After project completion

114 If the decentralization of water and infrastructure management after completion of the project is also a clear factor of success, that does not mean a total and rapid withdrawal of state support. The process of **IMT** should be planned carefully (see for example the guidelines for designing institutional reform of the irrigation sector proposed by Johnson III et al., 2004) and requires time. Government support to farmers and their organizations should be extended beyond project completion, especially in terms of training (agricultural, financial management, leadership and entrepreneurship), extension services (well trained development agents assigned to irrigated schemes), market linkages and management of water users associations. For this type of support, sector-based approaches may be more appropriate than projects.

115 **O&M**: a clear agreement (with a formal contract) between government entities and WUAs on the ownership of the assets and the share of responsibility regarding light and heavy maintenance should be prepared before implementing construction. Raising the level of professionalism in O&M services is of utmost importance to ensure the sustainability of existing and new irrigation schemes. New institutional and financial arrangements, with a focus on quality service, should be sought to efficiently perform O&M functions, such as federation of WUAs and/or contracting of irrigation services to private services providers (Vidal et al., 2004). Early experiences of such arrangements in SSA should be carefully

monitored and evaluated to derive and disseminate lessons. In any case, IMT reforms need to be carefully adapted to the national, regional and local contexts. Mechanism to calculate and levy irrigation fees should be made clear and discussed with farmers during before completion of works. Crisis plans (in case of technical, climatic, agricultural or financial crisis) should be discussed among farmers, service providers and government, well before any crisis occurs, and provision for an emergency fund implemented (Tardieu, 2004). For example, the development of mechanisms to facilitate important repairs, such as the *Fonds d'entretien des réseaux hydro-agricoles (FERHA)* in Madagascar (Box 8), should be encouraged.

Box 8: Fonds d'entretien des réseaux hydro-agricoles (FERHA) in Madagascar.

Facing difficulties to maintain and repair head works, frequently damaged by extreme climatic events, the Malagasy government is thinking of creating a special maintenance fund using taxes on rice imports. The creation of this fund is under study by the Task Force *« Bassin Versant – Périmètre irrigué »*, which includes representatives of Government and its technical and financial partners (research institutions, financing institutions, FAO…). This Task Force, which is a platform for discussion, validation and decision-making, was set up in 2004 by the Ministry of Agriculture to prepare the « *Programme National Bassin Versant – Périmètres Irrigués* ». The study includes a description of implementation modalities, elaboration of its regulations and organization, and planning, programming and budgeting of maintenance.

(Source : Rajoelison, 2004; J.F. Jullien, AFD, personal communication)

116 **Markets**: Governments should facilitate market access by farmers through a range of interventions: facilitating farmers' access to market information and storage facilities; encouraging investments in processing plants using the farmers as out growers; improving rural transport systems; undertaking detailed market studies as part of the project preparation; facilitating marketing arrangement between WUAs and cooperative unions; and improving access to banking facilities (credit, savings).

5.2.2 For International Financing Institutions:

Preparation

117 It is recommended to increase the participation of international development agencies (at least for ADB and WB) in project identification and preparation. This increased involvement is not to impose IFIs' points of view on governments. On the contrary, it would allow a better understanding by IFI staff of the local context and an enhanced capacity to properly appraise the proposed project. For national staff, it would provide the possibility to learn from the financing institution's experience. This would probably mean devoting more human and financial resources to this phase from the IFIs' point of view. Besides, the composition

of appraisal teams should be carefully thought out (more diversified skills, more staffs and more time spent on field). In particular, it is recommended that appraisal missions include irrigation engineers and water management specialists.

Implementation

118 There is wide agreement on the necessity to improve the supervision provided by financing institutions, both in quantity (at least one supervision mission per year, more staff involved) and quality (more diversified skills). More supervision from financing institutions should be considered as *an opportunity for knowledge sharing and mutual learning*, and a way to ensure the quality of implementation. Mutual respect and confidence that can be built this way are factors of success.

119 The framework for supervision should be mutually agreed between financing institutions and government. Supervision missions could associate IFI staff, consultants if required, government staff, project staff, and partner/beneficiary representatives, all these participants undertaking field visit together.

120 It is recommended that the borrower, PMU and beneficiaries have the opportunity to comment on the terms of reference of consultants, participate in the selection process, and give feedback on the performance of the consultants for future reference.

121 Supervision (and subsequent evaluation) should focus on development effectiveness and sustainability rather than on implementation of the project (physical achievements, disbursement) per se. In addition, it is critical to maintain a high technical quality of designs and construction of infrastructure so it is robust and cost-effective. The quick dissemination of supervision mission reports from supervisors to PMU and all stakeholders would help in adjusting design, mitigating unexpected constraints, and reviewing operational guidelines for project implementation.

122 More flexibility in implementation needs to be allowed, to adapt the design to the local context, provided that an adequate quality assurance and supervision system is set up.

123 Long-term technical and financial support to experiments with new institutional and financial arrangements for O&M is recommended. Special attention should be given to addressing the various risks facing irrigation services providers (political, non-recovery, water scarcity and variability of water demand). Adequate monitoring and evaluation of these experiments is necessary prior their adaptation and dissemination to other contexts.

5.2.3 For financing institutions and governments:

124 The general idea is here to strengthen the collaboration among IFIs, national and local project staff during various phases of project cycle in order to improve mutual confidence and ease problem solving.

Preparation

125 **Better understanding of poverty:** Development agencies and governments should collaborate to develop methodologies to achieve a better understanding of poverty and how agricultural water management projects can contribute to its reduction. The use of the Sustainable Livelihood (SL) Approach developed by DFID (Carney, 1998, cited by Ticehurst and Cameron, 2000), that explicitly *"recognizes complex and dynamic relationships between the activities, opportunities, entitlements, risks and assets that shape people's livelihood strategies"* (Ticehurst and Cameron, 2000, p.15) is suggested. The SL approach emphasizes the importance of learning throughout the implementation process and focuses on the link between micro effects (on people's livelihood) and the macro impacts (development and poverty reduction)[42].

126 **Planning**: The use of the logical framework matrix as a development tool should be mainstreamed, including at the rural communities level. Project log frames should be developed in a participatory way, bringing together beneficiary partner representatives, project management staff and members of the steering or supervising committees to ensure ownership of projects at country level. The quality of the process of building the log frame is more important than the tool itself. Financing institutions' and national staff should jointly elaborate a monitoring and evaluation system to facilitate project follow-up (see below). Particular attention should be given to linking the policy dialogue exercise (PRSP, sectoral development plan) with participatory planning exercises at local level. The use of pilot studies and learning-by-doing approaches is also encouraged, since they allow capitalizing on experience and hence really building local capacities.

127 **Project organization**: It is also suggested to limit the number of components of projects so that they are manageable with limited local capacities. Implementing simple projects successfully is more likely to build the capacity of local human resources than failing to implement a complex project.

Implementation

128 **M&E**: The planning exercise based on developing the logical framework should be followed by the early implementation of a monitoring and reporting system and the early recruitment of the staff to manage it. As for the log frame, the M&E development process should be as participatory as possible. M&E systems should be conceived as a way to systematize institutional learning at all levels, and shortening the feedback loop (Ticehurst and Cameron, 2000). Adequate training should be provided to government and project staff ahead of the project start. Harmonization of M&E systems across projects and among IFIs will facilitate

[42]Better targeting of poor people is also addressed in Van Koppen et al.); and the SL framework is applied in the private sector component study (Penning de Vries et al., 2005).

their implementation and also sharing of lessons learned. M&E should clearly focus on development achievements and poverty reduction effectiveness. In addition, it is recommended that M&E systems be designed to respond to country and end-users' priorities, rather than to fit the needs of development agencies (Ticehurst and Cameron, 2000). Monitoring of institutional changes must include an assessment of the local perception of these changes. The component on poverty reduction of the present Collaborative Program proposes a list of indicators that could be integrated into the M&E system to assess the impacts of projects on poverty reduction (Van Koppen et al.); however, this is an area where further work is needed to identify practical and useful poverty indicators.

129 Indicators of project impacts on beneficiaries should be easily measurable and relate directly to planed outcomes. It is particularly important to use quantitative data directly measured at farm level in place of qualitative proxies.

130 Farmers should be encouraged to measure their results themselves, with the support of project staff or extension officers. Alternatively, a sample of farms selected across the various social strata and geographic positions in the scheme can be monitored over several years. Further thought needs to be given to relevant criteria to monitor WUAs performances and institution building. All the indicators should be compared to the baseline survey conducted for project appraisal.

Agricultural water management projects in general

131 Government and financing institutions would both benefit from the development of a **knowledge base on agricultural water management**, which will gather, store and disseminate useful information at operational and decision-making levels on best practical models for designing and implementing agricultural water development projects. This knowledge base can be developed either at national or regional levels, according to the interest and state of reflection in the considered countries. This knowledge base could comprise among others:

- A database of unit costs of irrigation and drainage projects to help financing institution and government staff prepare budgets at appraisal; it would be updated regularly with results of completed projects (or when the bill is received and paid); it is of particular importance that this database be widely shared among financing institutions, governments, consultants, etc. It could be managed by a consortium of country partners, multilateral and bilateral financing institutions, or by sub-regional organizations, or even by the NEPAD Secretariat;

- The identification and promotion of a selected set of technologies having the following characteristics: low interdependence among irrigators, high potential for stepwise upgrading, easy maintenance or replacement, water savings, low dependence on external assistance, and high potential for up-scaling;

- The development of regional irrigation design standards and best practices, especially for smallholder irrigation technologies;

- Documented and evaluated experiences of new institutional and financial arrangements for O&M (e.g., public-private partnerships);

- The documentation of cases and databases of projects (as is currently undertaken by SWMNET in eastern and central Africa);

- A directory and a network of experienced engineers (government staff, national and regional consultants).

132 Networking activities, visits and workshops could be organized to inform project managers on technologies and available expertise and to develop standardized processes and design methods. This can be completed by more standard training sessions, and gathering IFI staff, government staff (at national and local levels) and project staff on crosscutting issues (participatory approach, gender issues, marketing aspects, among others), to fill the present gaps in capacities[43]. The program of such workshops should be based on the needs expressed by participants, and training quality should be assessed.

133 In the longer term, revision and strengthening of education and training systems in agricultural water development are important. In particular, the integration of training modules on participation, gender, environment…in the degree courses of agricultural engineers and economists would help enhance initial capacities.

134 Finally, the strengthening of information and statistical systems on environment and agriculture is necessary to do good preparation.

5.3 Recommendations regarding development assistance in general

135 **Simplifying procedures**: our main recommendation is to really implement the recommendations of the Task Force on Donors Practices of the OECD Development Assistance Committee (DAC) (OECD, 2003) in the following areas: framework for IFI co-operation, country analytic work and preparation of projects and programs, measuring performance in public financial management, reporting and monitoring, financial reporting and auditing, delegated co-operation[44], procurement and evaluation[45] . The simplifications proposed by the present study concern: (i) reducing the disparity in project documents formats across financing agencies; (ii) limiting the conditions for effectiveness of the loan in order to limit delays at inception, (iii) harmonizing procurement and disbursement procedures and monitoring and reporting systems; and (iv) training country project managers, government officials and financial specialists on these procedures, early in the project cycle.

[43]Again, the idea is not that donor staff, supposedly more skilled, train national staff, but on the contrary, that they both learn from each other's experience.

[44]I.e., when one donor acts on behalf of another.

[45]A specific task force has addressed these last two issues.

136 **Developing and applying result-based management tools** at project, program as well as country levels. Development results are defined as actual changes in the state of human development at different scales of time and space that are attributable to a specific intervention (Universalia and Baastel, 2004). The core principles of Result-Based Management are: (1) a focus of performance measurement on development results; (2) the strong articulation between several levels of objectives supported by different kinds of stakeholders – MDGs, country development goals, development agencies strategies, objectives defined at corporate, sector and project levels; (3) focus on client service and stakeholder participation; (4) use of lessons learnt from performance information for management decision-making, this becoming the responsibility of the project management team; (5) the link between results, planning and allocation of resources. In itself the adoption of such tools should be part of an in-depth reform of development agencies (as it is proposed in the case of ADB – OPEV, 2000 and 2001) aiming at providing a coherent framework for learning, transparency and accountability.

137 **Enhancing evaluation system**s through more systematic inclusion in evaluation reports of information on the project experience with planning and implementation, and lessons learned. The following information can be systematically reported: project management by PMU or line department; composition of the PMU in terms of skills and origin of staff; existence and composition of steering committee and efficiency of its intervention; planning and implementing arrangements; roles of various actors; existence and effectiveness of the M&E system; existence and effectiveness of participation at different stages of the project cycle…

138 Reforming internal organization of development agencies: Five areas of change are suggested:

- Distribution of roles: identify one corresponding staff member for each country and each sector, who has good knowledge of the country; assist senior staff by providing junior staff for repetitive tasks (such as procurement and disbursement control) and for dissemination of project information, so that the senior staff member can concentrate on more sensitive and tricky tasks (preparation and supervision).

- To effectively implement IWRM, IFIs, like governments, need to overcome their current fragmentation. Because of the way local people use water, single-use water supply systems, for example domestic water or irrigation schemes, do not make sense. IFIs will be in a better position to achieve the synergies inherent in the IWRM concept if they can find a way to overcome this fragmentation, either through re-organizing departments, or creating integrative mechanisms and developing shared projects.

- Dissemination and sharing of information on failures and successes and best practices in project management inside and outside financing agencies: when it does not already exist, build a database on projects accessible online for IFI staff and stakeholders at country level.

- Strengthen the internal review process by giving more time to Task Managers to answer comments.

- Decentralization of project management to country offices or when this is not possible, the use of corresponding local experts to interface with the Bank; the size of the organizational structure, basically light, will depend on the volume of the Bank's portfolio in the country considered. This would improve the support provided to borrowers in the preparation of the required documents, and the supervision by having a permanent and close presence in the countries.

139 **Helping governments take the lead on their own agricultural water development**: As strong leadership from the government is essential for the success of projects, investments in preparing and improving strategic documents such as Poverty Reduction Strategy Papers, supported by IFIs, should be continued. More focused strategic documents should also be developed on food security and water and land resources management. These documents should be fully owned by the country and not be a catalogue of recipes imposed by financing institutions. Therefore, they need to be developed with the participation of all stakeholders at different levels of constituency. Lessons can be drawn in this respect from recent experiences of decentralized natural resource management in Africa (Ribot 2001). IFIs should respect these strategies and ensure some continuity in funding to support them.

140 Regarding specifically the development of **poverty reduction strategies**, development agencies should increase their technical, institutional and financial support to national actors while letting them define their own objectives. Areas of support include preparation of national rural development strategies; strengthening participatory processes and structures to ensure the voice of the rural poor in the articulation of priority public actions; design of socio-economic surveys on rural poverty; development of national, regional and local M&E systems for rural development; and strengthening the institutional capacity of sectoral ministries, academic institutions and NGOs in poverty diagnosis, participatory approaches, monitoring, expenditure tracking and planning. This implies not only profound changes in the type of relationships between IFIs and governments, but also reform of IFI internal organization and activities; necessary engagement of rural development practitioners in the country-driven PRSP process to ensure that the rural poor have a voice (not only staff of the departments in charge of sector work and policy dialogue, but also task managers involved in projects and evaluation department staff); improvement in the understanding of rural poverty (see paragraph 125); and development of learning platforms (see paragraphs 131 and 138).

141 The shift from project-based assistance to sector programs and budget support can benefit agricultural water development if it comprises specific support to strengthen agricultural research and training institutions, and information and statistical systems. Considering the inadequate resources of most countries in the region, a sub-regional approach is advisable, for example by supporting institutions like ECOWAS and SADC.

142 The pooling of resources of several international development organizations with national participation is encouraged as part of the broader reform of international technical assistance, based on a better coordination among financing institutions. One output of this movement could be the creation at country level of a central project office funded by various development agencies with a multidisciplinary steering committee of experts, to prepare and monitor projects and to participate in the preparation of strategic and policy papers.

6 CONCLUSION

143 Recognizing that weaknesses in planning and implementation remain one of the main reasons for the disappointing results of agricultural water development and management projects, the objective of this component of the Collaborative Program was to identify ways to increase the performance and sustainability of investments in agricultural water, through practical measures to improve project preparation and implementation.

144 The approach adopted comprises a review of literature, a thorough analysis of a sample of projects broadly representative of agricultural water development and management experiences in sub-Saharan Africa, and interviews of staff from several development agencies (including ADB, IFAD, AFD, FAO). Factors of successes and failures of projects were then analyzed in relation with the project life cycle and the actors that are accountable for them.

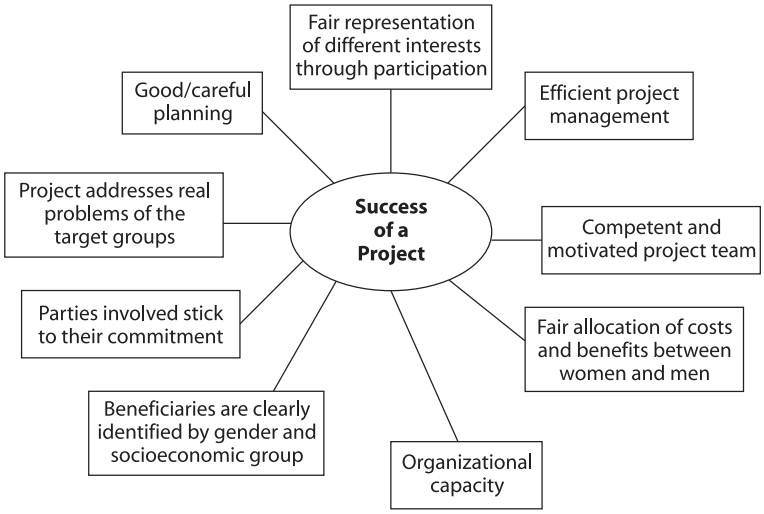
145 Figure 4 summarizes factors of success for general development projects. Our analysis shows that in many instances, agricultural water development and management projects, which rank among the most complex and unpredictable, do not fulfill these conditions, as illustrated in Figure 5. Another lesson derived from this study is that responsibilities for problems are shared among financing institutions and national governments of the concerned countries. However the past modalities of development assistance, essentially based on a combination of prescriptions and control, relied on unbalanced relationships between these two main actors.

146 The study highlights that many determinants of success and failure are not specific to water development issues but are linked to broader problems: general conception of development assistance, internal organization of financing institutions, in-country factors (governance, financial, legal and administrative institutions), rules and regulations of international trade… All these factors can be summarized as a poor understanding of rural poverty and of processes of change and innovation.

147 Present trends in financing institutions' policies and procedures seek to address the previously identified flaws of the planning and implementation process. IFIs' capacities have been strengthened in several sensitive domains, such as environmental, economic and social studies. The new development assistance framework, based on a clearer focus on poverty reduction (PRSPs), intensified policy dialogue between international financing institutions and country partners, and new funding mechanisms (sector approach, budget support) offers opportunities for better ownership of development objective and process by governments. However, to be effective it will require a profound transformation in IFIs' procedures and practices and government attitudes.

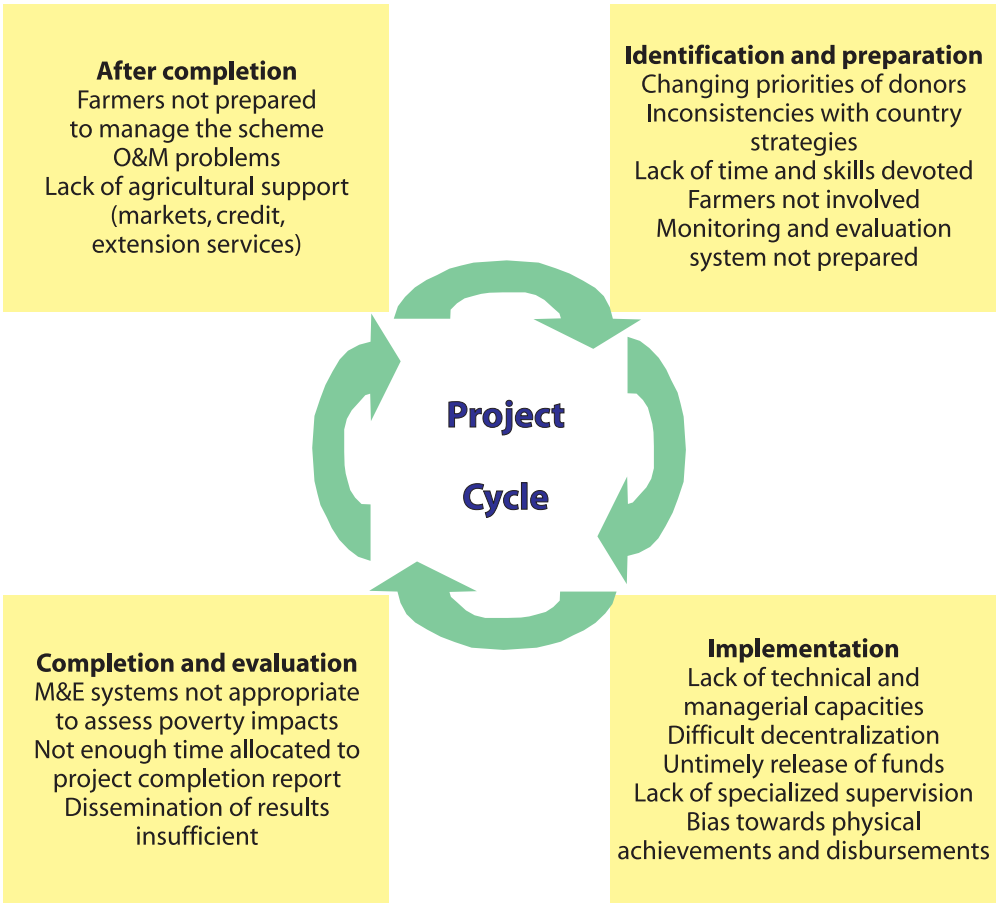
148 We have made two overarching recommendations. The first is that **project management** should not be viewed as an "overhead" that is to be minimized, but **an essential feature of successful projects**, with potentially huge pay-offs. It requires the deployment of adequate human and financial resources and is applicable at financing institution as well as government and partner level.

Figure 4: Some factors of project success.



(*Source:* European Union, 2001)

Figure 5: Main weaknesses of P&I processes in agricultural water management projects.

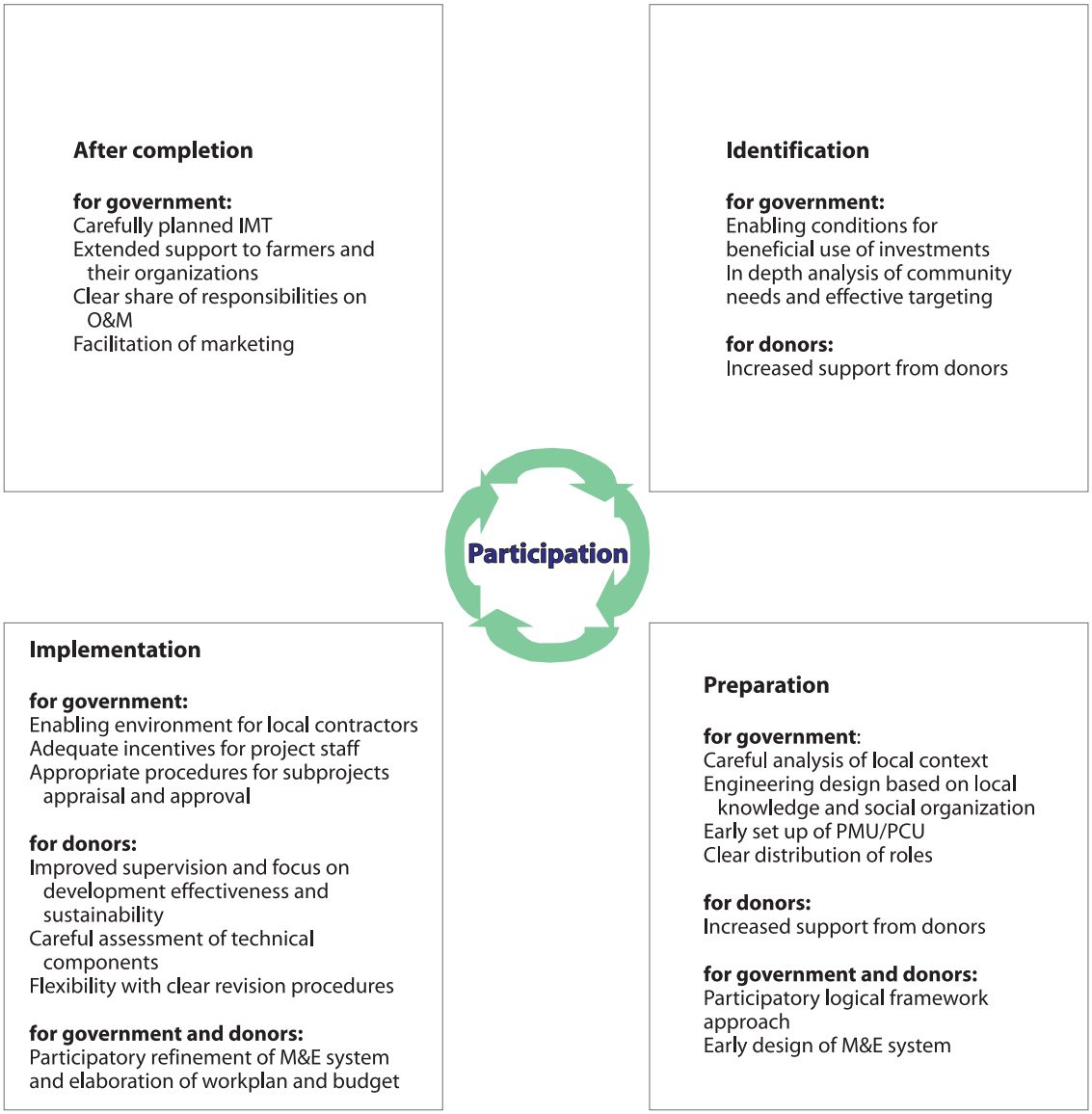


149 The second overarching recommendation is that **projects should be explicitly designed as "experiments"** to learn lessons on how to improve P&I processes (Rondinelli, 1983), feeding a knowledge base on planning and implementation of agricultural water projects (costs, technical options, standards/norms, policies, inventory of expertise …), strengthening the institutional memory of governments and financing institutions, and ultimately creating an environment that encourages and enables increased and better quality investments.

150 Finally, the need for creating more synergies among financing institutions and governments should be emphasized. This could be facilitated by NEPAD, which is supporting each of the sub-regions to promote more and better investments in support of CAADP. This provides an opportunity for effective IFI coordination.

151 Specific recommendations for agricultural water management projects are summarized in Figure 6.

Figure 6: Specific recommendations for agricultural and water management projects.



152 In the course of the study, some gaps in knowledge on P&I processes of agricultural water development projects were identified. These include:

- A comprehensive assessment of irrigation management transfer experience in SSA, with special attention to the role of private sector, would help guide future institutional reforms.

- An analysis of existing training courses on agricultural water development in SSA, in terms of project management, irrigation design, project design, economics of irrigation at farm and local levels, social and institutional aspects of irrigation, environmental and health impacts of irrigation, and empowerment would provide a basis for a comprehensive program of capacity building. It should cover initial and continuing education systems and different degree levels.

- A quantitative analysis of planning and implementation issues in relation with project performance could be designed on the basis of the Cost study, and would help prioritizing measures to improve P&I processes.

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ANNEX

Examples of technical and institutional failures reported in the literature

✓ *Identification, preparation and appraisal phases*

Issue	Technical failure	Institutional failure	Source	Example of projects
Macro environment analysis	Unexpected decrease in world prices or change in currency rate	Lack of capacity or incentive of the Financing institution and the government to require and then monitor the assessment of the macro-environment risks, the market perspective or of the integration of the project in a global perspective	World Bank, 1994	WB Burkina Faso, 1989 ADF Ethiopia, 1984
	Lack of integration in a basin perspective		Barrow, 1998	ADF Niger, 1989
	Lack of integration in a national investment strategy		Nijman, 1992 and WCD, 2000	
	Lack of appreciation of the political context		PCRs	WB Mauritania 1994 WB Madagascar 1995
Economic analysis	Lack of market analysis		IFAD, 2000	WB Nigeria 2000 WB Senegal 1997 ADF Niger 1989
Technical and environmental Analysis	Lack of sound engineering	Lack of capacity or incentive of the financing institution and the government to require and then monitor the engineering choices	IFAD, 2000	WB Niger 1986 WB Burkina 1989 WB Madagascar 1995 ADF Chad, 2000 ADF Ethiopia, 1984 ADF Madagascar, 1998
Social Analysis	Heterogeneity among beneficiaries is not taken into account	Over simplified appraisal methods	Van de Walle and Gunewardena (2001)	Nigeria case study
Participation of beneficiaries	Not enough time to achieve the participation	Incentive for the financing institution to use the funds as soon as possible and hence lack of incentive to give time enough for public participation	IFAD, 1998 Diemer, 1992	
	No in-depth participation	Consultant not judged on this criterion, lack of time	Botchway, 2001	WB, Nigeria, 2000 + Nigeria case study
		No organization of potential beneficiaries	IFAD, 1998	
		Lack of capacity for the Appraisal Team to monitor the extent of participation in the choice among options	IFAD, 2000	

✓ *Identification, preparation and appraisal phases*

Issue	Technical failure	Institutional failure	Source	Example of projects
Choices of options	Wrong choice of option which leads to difficult O&M afterwards	Agency in charge management not part of the decision-making organized by the minister in charge of the development		WB Senegal 1997
	Wrong choice of option which leads to lower IRR afterwards	The Agency in charge of development is not liable to the loans made. The Ministry of Finance takes responsibility alone of the loan.		WB Madagascar 1995
	Too expensive technical options	The Consultant has an incentive to protect his image by offering a high-quality and hence high-price service	Personal communications	
	Poor design and choice of technical options	Lack of consideration of beneficiary capacities for O&M, i.e. inadequate attention to design-management interactions	Chidenga, 2003	
Project design	Complexity of the project (number of agencies involved and components) which lead to delays in implementation	Wrong appreciation of government and executing agency capacities to manage the project		WB Mali 1994 ADF Ethiopia, 1984

✓ *Implementation and supervision phases*

	Technical failure	**Institutional failure**	**Source**	**Example of projects**
Financial aspects	Delays in implementation or non achievement of some components	Untimely release or lack of counterparts funds from the government	Jones, 1995 PCRs ADB project managers	WB Nigeria 2000 WB Mali 1994
		Government lack of capacity to deal with the conditions set up by the financing institution to disburse the loans	AFD and ADB project managers	WB Mauritania 1994
Procurement and contracts	Delays in implementation or non achievement of some components	Poor procurement planning and contracts management poor knowledge of financing institutions' procedures	Jones, 1995 PCRs ADB project managers	WB Nigeria 2000 WB Mali 1999 WB Mali 1994 ADF Ethiopia, 1984 ADF Madagascar, 1997 ADF Madagascar, 1998 ADF Tanzania, 1997
Project staff management	Delays in implementation or non achievement of some components	Lack of incentives for project management team and of support from government, which lead to rapid turn over of project staff and lack of commitment to the project Government decision to change project manager and/or disagreement between financing institutions and government on project staff	PCRs ADB project managers	WB Niger 1994 WB Sudan 1995 ADF Tanzania, 1997
Institutional changes		Poor management of institutional changes, which can be either too slow (resulting in inefficiencies) or too rapid (no institution responsible for an important component, lack of commitment, lack of capacities)	PCRs	Too slow: WB Mali 1994 WB Burkina Faso 1989 Too rapid: WB Senegal 1997 WB Madagascar 1992 ADF Madagascar, 1998 ADF Tanzania, 1997
		Disagreement among IFIs or between financing institution and borrower about the role of some institutions	PCRs	WB Madagascar 1992 ADF Madagascar, 1998
		Government interference in day to day project implementation	PCRs ADB, 2002	WB Niger 1994
		Lack of participation from beneficiaries due to lack of support from government (information, extension services) and/or poor assessment of their needs during project preparation		WB Mauritania 1994

✓ *Implementation and supervision phases*

Issue	Technical failure	Institutional failure	Source	Example of projects
Implementation	Delays in implementation	Gap between requirement of the project and government managerial capacity	IFAD, 2000 FAO, 1996	WB Mali 1999 ADF Madagascar, 1997
	Irrelevant capacity building provided to government, which do actions better achieved by NGOs and private sector	Lack of desire from Financing institutions and government to involve NGOs and private sector in the development of the project	IFAD, 2000	
	Land acquisition	Misunderstanding of local context, insufficient attention given to land issue at preparation stage	Jones, 1995	
Irrigation design and quality of construction	Error of design, delays in implementation, and high costs of O&M	Lack of capacities of local firms and engineers and of implementing agencies	Jones, 1995 PCRs	WB Madagascar 1995 ADF Chad, 2000 Nigeria Fadama I case study
	Design changes and delays	Preparation too rapid not allowing detailed and sound design	Jones, 1995	
Supervision	Poor design	Lack of an engineer in the supervision team	IFAD, 2000 ADB project managers	ADF Ethiopia, 1984 ADF Tanzania, 1997
	Not enough supervision for large projects	An institutional bias toward lending at the expense of increased development impact	Kilby, 2000 ADB project managers	WB Senegal 1997 Nigeria Fadama I case study
	Lack of information mechanisms to compare on-going projects and expected outcomes (monitoring and evaluating)	Lack of incentive to set these information mechanisms	Clements, 1999	WB Mauritania 1994
Final evaluation	Frequent positive bias in evaluation reports	Evaluation expert may fear to criticize too much a completed project, because of his own career	Clements, 1999 ADB project managers Jones, 1995	

✓ *After project completion*

Issue	Technical failure	Institutional failure	Source	Example of projects
Assistance by government	Lack of funds to finance O&M	The Operation Department has a much lower budget than the one in charge of building new schemes	Burke, 2002	
	No help to cope with the new risks associated with new technologies	No incentive for the administration to help farmers Insufficient extension services	IFAD, 1998 PCRs	WB Mauritania 1994
	Poor O&M	Lack of commitment of the Irrigation Agency (i.e. no "ownership" of the project), linked to lack of participation and consultation at earlier stages	Nijman, 1991 and 1992	
Collective management of irrigation system	Lack of collective management inside the farmers' group	Lack of provision of support to help farmers designing their farmer association	Shah et al., 2002	WB Senegal 1997
Choice of agricultural productions	Lack of diversification of agricultural products resulting in higher vulnerability to market risks	No incentives for farmers to diversify Uneasy access to input and output markets	PCRs	WB Senegal 1997
Macro-economic context	Low economic rate of return	Unfavorable macro-economic policies (agricultural price administration, trade policy)	PCRs	WB Niger 1994
Evaluation	No information on development effectiveness	No monitoring after project completion neither from government nor from financing institutions	ADB, 1999	

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