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Africa Region: Irrigation Business Plan

Revised Draft

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World Bank Africa Region

Africa Region: Irrigation Business Plan

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Acknowledgements

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Acronyms and abbreviations

AAA	Analytical and Advisory Activities
AAP	Africa Action Plan
AfDB	African Development Bank
APL	Adaptable Program Loan
ARD	Agricultural and Rural Development Department
ARID	Association Régionale sur l'Irrigation et le Drainage
AWM	Agricultural Water Management
CAADP	Comprehensive Africa Agricultural Development Program
CAS	Country Assistance Strategy
CPIA	Country Policy and Institutional Assessment
CD	Country Department
CDD	Community Driven Development
CGIAR	Consultative Group on International Agricultural Research
CWRAS	Country Water Resources Assistance Strategy
DPL	Development Policy Lending
ESW	Economic and Sector Work
ETW	Energy Transport and Water Department
FAO	Food and Agriculture Organization
FY	Fiscal Year
IDA	International Development Association
IEG	Independent Evaluation Group
IFAD	International Fund for Agricultural Development
IWMI	International Water Management Institute
I&D	Irrigation and Drainage
MDGs	Millennium Development Goals
M&E	Monitoring and Evaluation
NEPAD	New Partnership for Africa's Development
NGO	Non-Governmental Organization
PPP	Public-Private Partnership
PRSP	Poverty Reduction Strategy Paper
SADCC	Southern African Development Coordination Conference
SARIA	Southern Africa Regional Irrigation Association
SD	Sector Department
SIL	Specific Investment Loan
SWAp	Sector-Wide Approach
WARDA	Africa Rice Center
WBI	World Bank Institute

Africa Region: Irrigation Business Plan

Executive Summary

Strategic Framework

Background. Growth in agricultural productivity in sub-Saharan Africa is vital to poverty reduction and to achievement of the MDGs, as emphasized in the *World Development Report 2008: Agriculture for Development*. The April 2007 update of the World Bank's Africa Action Plan (AAP) targets irrigation as a key to improving agricultural productivity and so reducing poverty, and an increase in the percentage of cropland under irrigation is an anticipated outcome of the AAP. The objective of the Africa Region Irrigation Business Plan is to operationalize the irrigation component of the AAP in terms of strategic approaches, investment and advisory work, and resource allocation and staffing.

World Bank strategy for irrigation and agricultural water in Africa. The World Bank, together with AfDB, FAO, IFAD and IWMI, has prepared an irrigation strategy *Investment in agricultural water for poverty reduction and economic growth in sub-Saharan Africa*. It identifies four priorities for developing irrigation in Africa. First, *setting the strategic framework*: African nations need to have agricultural water strategies and action plans that show how investment in agricultural water can best contribute to agricultural productivity growth and poverty reduction. Second, *promoting institutional and policy reforms*: macro-economic and sectoral policies, legal frameworks and organizations need to be in place that define and deliver an efficient role for government, promote private sector and farmer investment, empowerment and cost sharing, and provide for efficient management of irrigation schemes. Third, *investing in viable and sustainable projects*: agricultural water investments need to be economically viable, financially profitable, and socially and environmentally sustainable. Finally, *ensuring effective and successful implementation:* implementation needs to be efficiently directed towards the bottom line of increasing farmers' incomes sustainably, and management arrangements need to be determined on the basis of the most cost effective approach.

The Business Plan: Areas of Focus

Five Building Blocks. The range of possible investments in agricultural water is vast and has to be determined by the country situation. Based on experience, the Business Plan identifies five building blocks that will be used to construct effective irrigation development: (1) market oriented irrigation on a public private partnership basis; (2) individual smallholder irrigation for high value markets; (3) small scale community-managed irrigation for local markets; (4) reform and modernization of existing large scale irrigation; and (5) improved water control and watershed management in a rainfed environment. Each of these building blocks will be implemented within a comprehensive approach to agricultural water development, covering marketing, agricultural service provision, environmental sustainability, private sector involvement, as well as institutional reforms and capacity strengthening.

Priority Countries. Key lessons from the first two years of the AAP have been that the country-based model works and needs to be strengthened, and that selectivity is needed. Most countries have high irrigation development potential but there are wide variations in country readiness and interest, and also in prior Bank involvement and readiness. Under the Business Plan, countries with good potential, a strategic commitment and prior Bank involvement in the sector are highest priority for increased investment. Other high potential countries where commitment or strategic approach are less strong or where Bank knowledge is weaker are targeted first with analytical and advisory work and business development before significant investment is proposed.

The Business Plan Five-Year Program

Plan Phasing. The Business Plan period has been divided into two phases. Phase 1 (FY08-10) is a three-year *gearing up phase* in which increased investment is proposed in countries that are ready. During this Phase 1, intensive AAA and business development work will be conducted in the less ready but still high potential countries in order to ready them for investment in the subsequent Phase 2 (FY11-12), the *scaling-up phase* (FY2011-12). A base-case and a high-case scenario have been developed. The latter proposes more significant scaling-up during Phase 2.

The proposed lending and AAA program – base-case scenario. Based on the country prioritization, the base-case scenario proposes a significant increase in the Bank's level of support to the irrigation sector. Over the five year period (FY08-12), the Business Plan proposes lending for 23 projects for a total of $618 million to develop or improve up to 260,000 ha for irrigation, benefiting a quarter of a million families, and representing a 5% increase or upgrade on currently irrigated areas in the region. 400,000 ha could be further developed for water management in rainfed agriculture. In addition, the base-case proposes thorough analytical and strategic work in 6 countries, and analytical and advisory work in a further 17 countries with high irrigation potential in order to lay the basis for possible future lending.

The proposed lending and AAA program – high-case scenario. In a high-case scenario, major additional investment operations are prepared in countries with large irrigation sectors during Phase 2, leading to an additional $320 million in financing. A total of 420,000ha could be developed or improved for irrigation, representing a 9% increase or upgrade on currently irrigated areas.

Business Plan Implementation

Operational budget and staffing. Under the base-case scenario, the budget required to implement the Business Plan is estimated for the short term (FY08-10) at $2.1 million annually; and for the longer term (FY11-12) at $3.2 million annually. Staff working full time on irrigation projects should be five staff members by FY10, and eight staff members when the program reaches full speed in FY12. Under the high-case scenario, significant additional financing ($1.5 million annually in Phase 2) and staffing (two additional staff) would be required.

Co-financing and donor collaboration. Co-financing is important in the region: in recent years more than half of agricultural projects in Africa have been co-financed. Under the Africa Action Plan, the Bank has cast itself as lead financial partner and considerable effort will be devoted to building the needed strategic partnerships. A related challenge is to ensure harmonization and alignment in line with the Paris Declaration. It is likely that several investments will be made within programmatic SWAp approaches.

Implementation issues. The ambitious scaling up of Bank effort in agricultural water that the Business Plan proposes will certainly encounter many operational challenges in country commitment and capacity, and in portfolio development and project quality. The Business Plan is designed as a guide and a forum where many of these issues can be articulated and addressed. In addition, the Bank needs to be proactive in maintaining its innovative and intellectual leadership.

Monitoring Business Plan Progress and Results

The Business Plan and its deliverables should be reviewed annually and updated as necessary. A mid-term evaluation should be conducted towards the end of FY10. At the end of the five year Business Plan period, in FY12, a formal evaluation of results should be conducted and a new Business Plan prepared.

Africa Region: Irrigation Business Plan

1. Strategic Framework

1.1 Background

1. Eighty-five percent of Africa's poor live in rural areas and depend largely on agriculture for their livelihoods. Agricultural growth is therefore clearly key to poverty reduction and economic growth. While agricultural growth has accelerated particularly since 2000, the region needs faster growth and improved productivity if it is to achieve progress towards meeting the MDGs. A comprehensive effort is required to promote agricultural productivity growth in sub-Saharan Africa; investments in a more reliable access to agricultural water are critical in support of that objective, as emphasized in the *World Development Report 2008: Agriculture for Development*.

2. As populations rise, there is a supply side push to intensification, and growing domestic and export markets for higher value produce are increasing demand for irrigated products. These factors are increasing the demand for investment in agricultural water. This investment, mainly in irrigation and drainage but also in improved water control for rainfed farming, contributes to agricultural growth and reduces poverty directly by allowing intensification and diversification, increasing wage employment, and reducing local food prices. It also has a strong second round impact on local economies. A good example of this is the area of the Office du Niger in Mali, which has become a vibrant hub of mobility, employment and business activity.

3. And yet sub-Saharan Africa's agricultural water remains underdeveloped: there are only 9 million ha of land under water management in the region today[2], representing just 5% of the total cultivated area of 183 million ha, and less than a fifth of the estimated physical potential of about 39 million ha, much below other regions of the world.

4. African leaders have identified agricultural water development as a key area for investment. The Comprehensive Africa Agricultural Development Program (CAADP) prepared under NEPAD in 2002 adopted land and water management as the first of its four pillars for priority investment and proposed extending the area under "sustainable land management and reliable water control systems" to 20 million ha (i.e. approximately double the area currently under water management in sub-Saharan Africa) by 2015.

1.2 The Africa Action Plan and irrigation development

5. In response to the poverty challenge described above, the World Bank adopted in September 2005 the Africa Action Plan (AAP). The plan underlines that the poor and

[2] Of this, 2 million ha are lowlands and floodplains without formal irrigation, 5.3 million ha are irrigated schemes and lowlands or floodplains with formal irrigation, and 1.7 million ha are areas equipped for irrigation but non-fonctional. (FAO Aquastat, 2005).

marginalized must benefit from a shared growth agenda. It contains 25 initiatives and focuses on three broad areas:

- Building capable states and improving government.
- Strengthening the drivers of growth. This means a vibrant private sector, expanded exports, infrastructure investment, increased agricultural productivity, as well as investments in education, health, and access to economic opportunity for the poor.
- Increasing the impact of partnerships among governments, donor countries, and development agencies.

6. In April 2007, the AAP was updated to reflect two years of implementation.[3] The update notes considerable achievements, including irrigation systems developed on 15,500 ha over 2004-2006. Overall progress on agricultural productivity has, however, been less than anticipated. This is now listed as one of eight "flagship" operational areas where the Bank is ready to scale up its activities in response to country demand. Irrigation and Drainage (I&D) and more broadly Agricultural Water Management (AWM) are key contributors to the agricultural productivity flagship and are thus important activities of the revised AAP. An increase in the percentage of cropland under irrigation is an anticipated outcome of the AAP.

7. The objective of the proposed Business Plan is to help meet the Bank's irrigation development objectives as expressed in the AAP. The Business Plan identifies priority countries and actions for increased lending and advisory and analytical activities, and operationalizes the AAP in terms of resource allocation and staffing.

8. As described in the next chapters, the Business Plan proposes a significant increase in the Bank's level of support to the irrigation sector. Over a five year period (FY08-12) and under a base-case scenario, the Business Plan proposes World Bank lending for 23 projects for a total of $618 million to develop or improve up to 260,000 ha for irrigation, benefiting a quarter of a million families. In a high-case scenario, major additional investment operations are prepared in countries with large irrigation sectors during Phase 2, leading to an additional $320 million in financing. A total of 420,000ha could be developed or improved for irrigation, representing a 9% increase or upgrade on currently irrigated areas.

9. It is expected that this new lending will leverage additional financing - from private sources, from smallholders, from other donors, from government - although this business plan will not make an attempt to estimate these. In addition, the Plan proposes thorough analytical and strategic work in 6 countries, and analytical and advisory work in a further 17 countries with high irrigation potential in order to lay the basis for possible future lending.

1.3 World Bank strategy for irrigation and agricultural water in Africa

10. The Bank, together with AfDB, FAO, IFAD and IWMI, has prepared an irrigation strategy *Investment in agricultural water for poverty reduction and economic growth in sub-*

[3] Accelerating Development Outcomes in Africa: Progress and Change in the Africa Action Plan.

Saharan Africa. The report was a FY06 ESW product for the region[4], and was guided by recent Bank-wide analytical and strategic work, especially the Directions in Development publication *Re-engaging in agricultural water management: challenges and options* (2006). Building on this work, the following are the four strategic priorities for developing irrigation in Africa:

- *Setting the strategic framework*: national agricultural water strategies and action plans are required that show how investment in agricultural water can best contribute to agricultural productivity growth and poverty reduction. These strategies will clarify institutional responsibilities for agricultural water, identify priority development lines for the sector and set the basis for sectoral programs for investment in institutions and productive projects. National strategies and action plans will need to be reflected in Poverty Reduction Strategy Papers (PRSP), Country Assistance Strategies (CAS), Country Water Resources Assistance Strategies (CWRAS), and basin level strategies, and support to stakeholders (such as national associations of irrigation professionals) needs to be provided to make sure that sectoral priorities are adequately taken into consideration at the national level. Strategies also provide a basis for scaling up, harmonization and alignment of donor support within a programmatic approach.

- *Promoting institutional and policy reforms*: macro-economic and sectoral policies, legal frameworks and organizations need to be in place that define and deliver an efficient role for government, and promote private sector and farmer investment, empowerment and cost sharing. A particular need is for establishing and implementing viable management arrangements for large scale irrigation schemes that spell out vital factors such as the role of user associations and the procedures for cost recovery, drawing on global best practice.

- *Investing in viable and sustainable projects*: agricultural water investments need to be economically viable, financially profitable, and socially and environmentally sustainable. Investments need to be market driven, with a commercial farming objective. Farmers and farmer organizations need to be empowered as partners from the design phase onwards. Operation and maintenance of investments needs to be managed efficiently, and paid for by farmers without subsidy wherever possible. Socio-economic benefits need to be maximized, especially by taking into account the needs of the very poor and of women, and negative environmental and health impacts need to be minimized. Operationalizing this requires a comprehensive approach that positions agricultural water operations at the heart of integrated endeavors to increase agricultural productivity.

- *Ensuring effective and successful implementation*: implementation needs to be efficiently directed towards the bottom line of increasing farmers' incomes sustainably. Management arrangements – public, private, farmer organization, NGO – should be determined on the basis of the most cost effective approach. Monitoring and evaluation requires special attention: performance needs to be tracked and results fed back into design of future investments.

[4] At a WBI-organized workshop in April 2007 in Burkina Faso, attended by over 120 senior officials and professionals from 32 countries, findings and recommendations of the report were adopted in a *Ouagadougou Call for Action*.

11. Annex 1 provides an executive summary of the findings and recommendations of the Agricultural Water Strategy. Annex 2 provides a detailed plan of how these strategic approaches can be translated into action by countries and groups of countries with World Bank support.

1.4 World Bank portfolio overview

12. Historically, the World Bank has been a major investor in irrigation. As investments, traditionally in state-run large scale irrigation schemes, began to experience difficulties, the World Bank, alongside most other donors, sharply reduced its involvement in the sector in the 1990s. Since the early 2000s however, and accompanying a global resurgence of interest in irrigation and drainage and agricultural water management, the Bank has supported new Advisory and Analytical (AAA) work and investment lending operations.

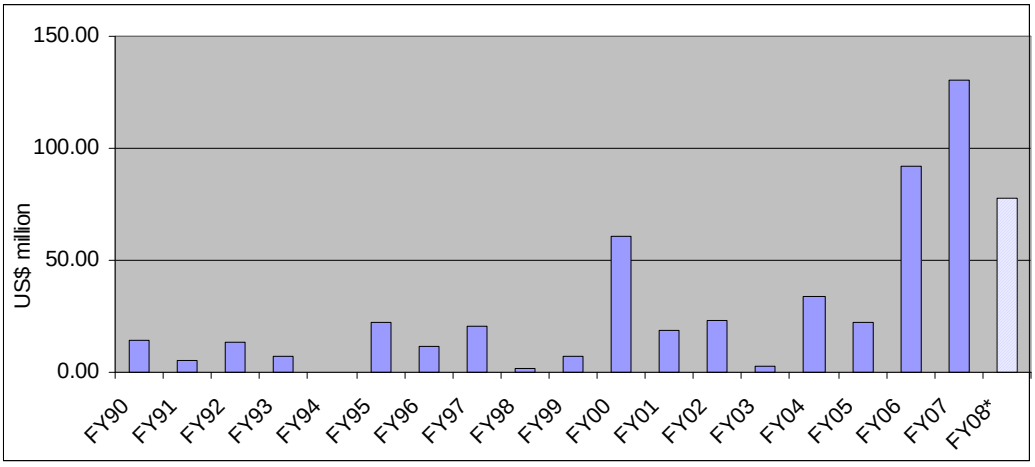
Analytical and Advisory Activities

13. The Bank has conducted increasing analytical and advisory work. Country water resources assistance strategies have been carried out in Kenya, Ethiopia, Tanzania and (currently) Mozambique, and the Bank has been working with governments on irrigation strategies in Ethiopia, Kenya, Niger, and Uganda. At the country department (CD) level, the country assistance strategies for the region have paid increasing attention to irrigation and drainage, with three of the seven CASs in the FY 2002-4 period emphasizing irrigation, and three others mentioning it in relation to agricultural development and agricultural growth in one form or another.

Investment Lending

14. After a significant decline in lending during the 1990s, a resurgence in Bank lending to irrigation began in FY00. Investment approvals in FY06 and FY07 reached record levels ($120 million in FY07). Current pipeline commitments amount to $81 million in FY08 and $37 million in FY09 (see Annex 4).

Figure 1: Annual lending to I&D in Africa, FY90-FY09



Note: FY08 is an estimate, based on projects currently in the pipeline. It is expected

that the Business Plan will impact lending amounts from FY09.

Nature of the Lending Operations

15. During the period FY91-06, the Bank financed 31 projects with irrigation components in sub-Saharan Africa. Many of these projects were multi-sectoral: only eight were "dedicated", with irrigation and drainage as the primary component of the project. The largest clients were Mali (four projects, 17% of lending for irrigation) and Madagascar (three projects, 11% of lending). Many projects supported technical assistance, capacity building and institutional reforms such as irrigation management transfer. Physical investments were often made through decentralized mechanisms to support individual small holder projects in support of commercial agriculture (Niger, Mali, Burkina Faso) or through community driven development (CDD) or Social Fund operations to support small scale community-managed irrigation (Ghana, Nigeria, Ethiopia). The Bank also supported some water management investments in rainfed areas (Mauritania, Madagascar).

16. The results of completed projects have been relatively good, with about 66% of projects rated as satisfactory, on par with the regional average[5]. Projects to support the development of private market-driven commercial irrigation have made substantial progress in Niger, Burkina Faso and Nigeria towards creating a self-sustaining smallholder irrigation sector. Support to community-managed small scale irrigation has on the whole had positive results, with good outcomes in Ghana, Nigeria and Chad but with questions over sustainability in Ethiopia. One investment in reform of large scale irrigation (Mali) was very successful and has established a model for the region. Projects supporting water management in rainfed areas have achieved their physical targets (Mauritania, Madagascar), although monitoring and evaluation has been inadequate to show what has worked and been sustainable, and what has not.

Portfolio performance of the projects currently under supervision

17. The 17 projects with irrigation components under supervision in June 2007 total $1.06 billion in IDA credit commitments, including $368 million specifically for the irrigation and drainage components. Irrigation credit commitments average $31 million in the six dedicated projects, and $16 million in the eleven non-dedicated projects.

18. Four of these 17 projects are considered "at risk", representing 20% of the irrigation portfolio, significantly worse than the 7% Bank-wide risk level for the sector (in value). However, the "risk" is largely country risk rather than project risk, reflecting the difficult environment in which projects operate in Africa. None of the dedicated projects is identified as an actual problem project, and only one non-dedicated project has been rated a problem.

[5] 66 percent of the cohort of projects with irrigation and drainage components that exited between 1991 and 2006 in SSA were rated as highly satisfactory, satisfactory, or marginally satisfactory (World Bank Business Warehouse). Over the same period, about 60 percent of the closed agriculture investment projects in SSA were rated satisfactory on outcome, and 65 percent of the non-agriculture projects in the region (IEG, 2007).

1.5 The Bank's main strengths in the sector

19. Globally and regionally, the Bank has vast experience in irrigation with more than 600 projects in the sector worldwide over fifty years, and more than $30 billion invested. The comparative advantage of the Bank in the sector lies in its international expertise and cross-country experience, and in its faculty for learning and disseminating lessons. In Africa this strength is particularly marked, as the region and ETW work in very close partnership.

20. A complementary strength is the comprehensive involvement of the Bank in country development, so that the institution is uniquely able to work at – and between – macro and sectoral levels, and between the different rural development sectors.

21. The Bank also has convening power that makes it the partner of choice for policy and strategy and for donor coordination. It is working with regional organizations such as NEPAD and also with sub-regional organizations such as the Southern African Development Coordination Conference.

22. Finally, the Bank is simply the largest external financier in the sector, and has the capability to step up its level of effort as viable strategies and projects are prepared.

2. The Business Plan: Areas of Focus

2.1 Five Building Blocks

23. The range of possible investments in agricultural water is vast and should be determined by the country situation. Based on the findings and recommendations of the strategy regarding what has worked and what has not worked in the region in recent years (see 1.3 above), irrigation development will likely consist of any or a combination of the following five building blocks:

(i) **Market oriented irrigation on a PPP basis**. Past experience is that medium and large scale irrigation development presents enormous challenges to African governments but that partnership approaches between the public and private sector can develop successful commercial irrigation. The range of institutional options is broad, from private sector 'third party' management of public schemes (as now proposed in Ethiopia) to simple facilitation by government of private sector investment, as in Zambia. One attractive model of PPP is the Green Scheme in Namibia, where since 1994 government has developed basic water delivery infrastructure and allocated 50% of the irrigated area to larger scale farmers who then provide water and other services to smallholder commercial farmers. This business line is likely to be the mechanism for most World Bank financing of large scale irrigation in Africa (see World Bank, forthcoming, *Emerging Public-Private Partnerships in Irrigation Development and Management* for more guidance).

(ii) **Individual smallholder irrigation for high value markets**. In areas close to urban or export markets, there has been considerable success with individual smallholder

irrigation, usually based on pump technology, either manual or motorized. In Kenya, it is estimated that these systems benefit 300,000 households. Investment costs can be as low as $300-600/ha. An excellent example is from Niger, where the Niger Pilot Private Irrigation Project has spread a variety of manual and small-scale mechanized irrigation technologies, creating both a demand and a supply chain and a network of irrigator organizations. Manual pumping technology affordable to poor farmers allowed a doubling of the cultivated area and earned a 68% economic rate of return. This is a highly attractive business line that could be replicated and scaled up.

(iii) **Small scale community-managed irrigation for local markets**. Many opportunities exist for creating or improving small scale community-managed irrigation. Under the Ethiopia Social Rehabilitation and Development Fund, community-based irrigation, supplied largely from earth dams and river diversions, benefited 40,000 households, with visible improvement in the lives of villagers, including increased purchase of water pumps, milk cows and radios, as well as regular schooling for the children. Much development of small scale irrigation has been done through integrated rural development, CDD or Social Fund programs where agricultural water is only one amongst several investments on offer. It is likely that this business line will continue to be promoted through decentralized and demand-driven projects.

(iv) **Reform and modernization of existing large scale irrigation**. Several countries in the region have invested heavily in large-scale irrigation. The Sudan Gezira scheme is the largest irrigation area in the world under single management – 880,000 ha. Madagascar, Sudan, Mali and Kenya have a history of large-scale irrigation that goes back 50 years or more. Yet it is hard to find examples of successful, or even adequate, results from these investments over the past decades, and there have been a number of spectacular failures. However, recent results, particularly from the Office du Niger in Mali, have shown that institutional reforms can make management accountable and obtain high rates of cost recovery. If associated with selective investment and profitable market opportunities, these reforms can make large scale irrigation schemes in Africa viable and sustainable. Given the large number of these schemes and their potential for contributing to poverty reduction and inclusive economic growth, this could be an important business line.

(v) **Improved water control and watershed management in a rainfed environment**. The potential for growth and poverty reduction through improved rainfed agriculture is theoretically vast: more than 80% of the region's households are rainfed farmers. Projects in several countries have developed profitable technologies, although there is little evidence that these technologies are readily adopted spontaneously. Scaled up at the catchment level, these technologies also form an important part of soil and water conservation programs. Given the potentially high gearing of success and the important environmental benefits, it is expected that this will be a business line at both pilot and full scales.

24. Each of these building blocks represents a comprehensive approach to agricultural water development, and includes aspects related to marketing, agricultural service provision,

environmental sustainability, private sector involvement, institutional reforms and capacity strengthening. These are discussed in the following paragraphs. The comprehensive nature of the proposed agricultural water development agenda also has implications on staffing and preferred skills mixes. These are discussed in Section 6 below.

2.2 Accompanying institutional development activities

25. Institutional development and capacity strengthening in support of irrigation development will be of vital importance for achieving the sector goal of agricultural intensification. The development of policies, organizations and skills is key for success of irrigation in Africa. The most important institutional development components are likely to include:

- ③ Support to the development of national irrigation strategies and a conducive policy environment for investment in irrigation
- ③ Support to strategies and planning at the basin scale
- ③ Capacity building exercises and information sharing at the national, sub-regional and regional level
- ③ Capacity and institutional strengthening at the local and national level (including of water users associations), in particular on issues related to sound irrigation development, processes for stakeholder involvement and strengthening of stakeholder groups
- ③ Support to regional organizations such as NEPAD/CAADP, ARID, SARIA
- ③ Support to national associations of irrigation professionals and irrigation champions, in particular in their engagement in the preparation of national poverty reduction strategies.
- ③ Networking and donor coordination activities
- ③ Knowledge generation and dissemination through studies, workshops etc.

26. Through one instrument or another (investment lending, AAA), institutional development activities are likely to be pursued in all the countries in which the Bank is active in agricultural water. Although most of this development will be associated with physical investment operations under the five business lines, there may also be some stand alone activities.

2.3 Accompanying agricultural services and infrastructure measures

27. In many cases, the local business conditions for successful agricultural water development need strengthening, in particular: input supply, farmer advisory services, finance, product processing, marketing outlets, and export market development. There may also be infrastructure needs, particularly roads. Agricultural water components cannot cover all these areas, but they will need to be dealt with through combined investment in or linkages to other sectoral development activities.

2.4 Areas where engagement is not proposed

28. Given the vast challenges and the limitations on both Bank resources and capacity, it is important to define what business the Bank will *not* do but will leave to others better qualified. These important tasks include:

- ③ Fundamental research on irrigated crops and agricultural water management, best left to the regional CGIAR organizations and National Agricultural Research centers.

- ③ Longer term capacity building and institutional development, better left to bilaterals with grant funds and to professional partner organizations such as international NGOs.

2.5 Instruments for delivering the Business Plan[6]

29. The primary **lending instrument** for delivering the Business Plan will be the *Specific Investment Loan (SIL)*, which can deliver both physical outputs and capacity building. Both dedicated operations (with a major focus on I&D) and non-dedicated operations will be pursued. Some institutional and policy reforms can be also promoted under the SIL, as in the current Kenya Natural Resources Management Project. All ongoing irrigation projects are SILs, as are all the pipeline projects. In a few cases, the *Adaptable Program Loan (APL)* may be used to support a long-term, phased, investment program, as in the ongoing Senegal River Basin Multi-purpose Water Resources Development Project. During the Business Plan period, there is at present no indication that *Development Policy Lending (DPL)* may be used in support of long term policy and institutional change, and few countries in the region are likely to meet the fiduciary requirements for budget support. However, as governments strengthen their comprehensive planning process, it is likely that Bank lending to the sector will be increasingly through SILs within a programmatic SWAp framework. In all cases, project preparation will be particularly important to ensure that a careful review of investments options has been undertaken with the government; thorough pre-identification work will have to be considered.

30. To prepare for lending, **business development** will be undertaken, primarily in countries where there is high potential but no history of investment, in order to establish a partnership and identify possible business lines and projects.

31. **Analytic and Advisory Work** will be used to help countries to strategize agricultural water development, to build capacity, and to develop institutions and partnerships. The AAA program will be demand-driven, agreed between the Bank and the country. In some cases the program will be a major structured set of interventions, as in the case of the "programmatic ESW" currently proposed for Niger. Three AAA instruments will be used. *ESW* will be used for original analytical work in support of regional and country policy and program development. A current example is the Zambezi River Basin - Sustainable Water Resources Development for Irrigated Agriculture ESW which is assessing the potential for a major scaling up of investment in water for agriculture and rural development in the whole Zambezi River basin. *Analytical studies* will be used to assess more specific problems, often tied to project preparation or implementation. Finally, *technical assistance and capacity building* activities will be used to help countries to implement reform or strengthen institutions. This could be a key instrument for engaging with countries where governments have expressed little interest in developing irrigation potential. Recent work with Sudan on the Gezira scheme is an example of the use of this instrument.

[6] Annex 3 gives a fuller description of the different instruments and how they can be used in the sector.

32. A vital part of the Bank's work will continue to be ensuring that countries integrate their irrigation strategies into the **PRSP**. The Bank also has the responsibility to make sure that the same integration takes place in the preparation of the **CAS**. Resources will be allocated for the sector departments (SD) to work with the CDs on this integration process, both for the PRSPs and for the CASs.

33. The 2004 Water Resources Sector Strategy introduced the **CWRAS** as a means of integrating Bank analysis and assistance proposals for all the water-related sub-sectors within an integrated water resource management approach. The CWRAS is thus a prime instrument for linking irrigation sector strategy and investment needs to the PRSP and the CAS. Over the Business Plan period, resources will be allocated to ensure that agricultural water is adequately represented in CWRAS, and that CWRAS proposals link into the PRSP and CAS.

3. The Business Plan: Priority Countries

34. Key lessons from the first two years of the AAP have been that the country-based model works and needs to be strengthened, and that selectivity is needed. The Business Plan has therefore been built on a country by country basis, so that interventions respond to the country's potential and commitment. At the same time, the Business Plan proposes specific measures to strengthen the country-based approach to ensure that country strategies adequately reflect agricultural productivity growth and poverty reduction objectives. The Plan also focuses selectively on countries and activities where the Bank's experience gives it a comparative advantage to intervene. This country-based model is complementary to sub-regional and regional activities, in two main ways:

- In the course of operationalizing the Business Plan, lending and AAA activities can be bundled by groups of countries where agro-ecological, environmental, economic, and political conditions are favorable, or where water sharing among countries is an issue

- Specific AAA work and capacity building activities will support sub-regional and regional level analysis, strategic visions, and institutional development, particularly where efficiencies can be exploited by working at the basin scale.

35. Three criteria have been used to propose priority countries for Bank intervention in irrigation:

- *Country irrigation development potential*. Overall potential for irrigation in sub Saharan Africa is considerable - about 40 million ha, but with uneven distribution among countries. Countries have been rated according to the availability of areas that have the economic and physical potential for irrigation development. Typically, this means that countries which have more than 100,000 hectares of land that can be developed for irrigation have been considered to have high irrigation development potential. No action is proposed in countries with limited or no irrigation potential.

③ *Country readiness and interest*. The Business Plan targets countries that are most interested in agricultural water development and where there is a coherent strategic approach. Country interest in developing irrigation has been rated according to the importance of irrigated agriculture, and the existence of irrigation policies, strategies, action plans or master plans in the country that show concrete evidence of the country's commitment to going forward with accelerated irrigation development. CPIA ratings have been used to refine recommended interventions on a country by country basis.

③ *World Bank involvement and readiness*. The World Bank has varying degrees of experience in the countries, based on prior projects and programs in irrigation and drainage, and on analytical work carried out. In some countries, the World Bank has a long history of intervention in agricultural water and thus good knowledge of the sector, its challenges and opportunities, and has experience of partnership with the country in developing the sector. The rating of Bank involvement and readiness is based on recent projects with irrigation and drainage components carried out in countries, and on an inventory of analytical work.

36. Based on these criteria, countries have been categorized in four groups (Table 1), with recommended interventions for each group. Annex 5 provides more details on the country by country situation**.**

Table 1: Categorization of countries in four main groups and recommended interventions

Group	*Irrigation development. Potential*	*Country readiness and interest*	*World Bank involvement and readiness*	*Countries*	*Recommended interventions*
1	High	High / Medium	High / Medium	Burkina Faso, Ethiopia, Ghana, Kenya, Madagascar, Malawi, Mali, Mauritania, Mozambique, Niger, Nigeria, Senegal, Tanzania, Zambia	Investment, analytical and advisory work
2	High	High / Medium	Low / No projects	Angola, Cameroon, Chad, Cote d'Ivoire, Democratic Republic of Congo, Guinea, Namibia, Rwanda, Sudan, Swaziland, Uganda	Analytical and advisory work, business development, then investment
3	High	Low	Low / No projects	Benin, Burundi, Central African Republic, Rep. of Congo, Eritrea, Gabon, Guinea Bissau, Liberia, Sierra Leone, Somalia, Togo, Zimbabwe	Analytical and advisory work
4	Low			Botswana, Cape Verde, Comoros, Equatorial Guinea, Gambia, Lesotho, Mauritius, Sao Tome & Príncipe, Seychelles	No action

Group 1: Priority for Investment Lending and AAA

37. The first group comprises countries which have good potential for irrigated agriculture and a stated interest in agricultural water development together with good CPIA ratings, and where the Bank has adequate prior experience in the sector. In these countries, the Bank should

continue investing in agricultural water, mostly through dedicated projects, whilst conducting analytical work needed to target interventions better and to help countries strategize their approach to the sector. Much of the AAA will be implemented through investment operations rather than as stand-alone AAA activities.

38. Within this general framework, specific approaches need to be designed for each country situation. In Madagascar, for example, it is recommended to continue business operations and analytical work, scaling up operations over time. Other countries where the Bank has worked with national partners on irrigation strategy may be ready for a new, or a first, lending operation. Zambia, for instance, where there is strong country commitment and sound strategy, is ready for an early lending operation. In other cases, it might be necessary first to help the country strategize its approach to agricultural water before embarking on dedicated lending.

Group 2: Priority for AAA and Business Development

39. In the second group of countries, there is good potential for irrigated agriculture and interest in agricultural water development, but prior Bank experience is missing, or the Bank does not have any current lending operations in agricultural water. Namibia, Swaziland, and Uganda are also included in this category despite their relatively limited potential for irrigated agriculture, as they are placing a high importance on irrigation development. In these countries, the Bank should pursue analytical work and technical assistance to support the country's efforts and to understand better the opportunities and challenges, and engage in business development where possible. CAS and PRSP preparation would be opportunities to decide on the support needed for irrigation development.

40. In many of these countries there are in fact ongoing agricultural operations that provide some experience in the broader agricultural sector. In those countries, as existing projects are completed, preparation of a new non-dedicated project including an irrigation and drainage component would be an entry point. In one country - Angola – ongoing preparation of a project with an irrigation component will already give an entry point to the sector.

41. Several of the countries in this second group have good potential and are historic Bank clients but have few or no Bank lending operations at present because of current or recent governance problems (Cote d'Ivoire, Sudan, DRC, Chad). These countries also have low CPIA ratings. Here the Bank will need to keep a watching brief, engage the country in strategic thinking, and proceed to business development and lending as conditions improve.

Group 3: Exploration of Potential

42. The third group of countries has good potential for irrigation development but lacks a strategic approach to irrigation development. There is very little Bank experience in the sector in these countries. The Bank should help these countries, on a demand basis, to analyze the importance of water for agricultural growth and identify the main paths for agricultural water development in the country. PRSP and CAS preparation would be good opportunities to probe the country's thinking about the agricultural water sector and to make sure that they reflect agricultural water priorities and opportunities. If this process results in strong country demand,

an irrigation component in a broader agricultural operation could be considered. Burundi, for example, has some interest in water harvesting, bottom land development, and small scale irrigation. Irrigation and drainage activities might be added to a future agricultural project. Again, all country requests would need to be screened by the Region in the light of the CPIA rankings.

Group 4: No interventions

43. Finally the fourth group of countries has low potential for irrigation development. *A priori*, the World Bank should not undertake any activities in agricultural water in these countries.

4. The Business Plan Five-Year Program

4.1 The proposed lending program

44. Based on the categorization of countries (Chapter 3 above), on a review of country and Bank strategies and programs, and on the current pipeline, a Business Plan proposal for accelerated investment in irrigation and other agricultural water development over the five year period FY2008-2012 has been prepared.

45. The Business Plan period has been divided into two phases.

- ③ **Phase 1 (FY08-10):** in a three-year *gearing up phase*, increased investment is proposed in countries that are ready, essentially the Group 1 countries. New dedicated investment operations are proposed in those countries without existing or pipeline operations. In the Group 2 countries during this first phase, intensive AAA and business development work is proposed in order to ready them for investment in the subsequent phase.

- ③ **Phase 2 (FY11-12):** In a two-year *scaling-up phase*, investments are carried out in both Group 1 and Group 2 countries. A *high-case scenario* is also drawn for a major surge in investments over the medium-term.

46. The Business Plan is prepared with two different scenarios. The base-case scenario is based on significant scaling up of investments as compared to historical investments. The high-case scenario proposes a major surge in investments over the medium-term, through preparation of major dedicated projects in countries with a large irrigation sector: Madagascar, Sudan, Ethiopia, Mali, and Nigeria.

47. The proposals, summarized in Table 2 below, are detailed in Table 5. As discussed above (section 1.4), there is already a substantial pipeline of investments in agricultural water for FY08: one dedicated irrigation project (Malawi) and four non-dedicated projects (Angola, Ethiopia, Mali, and Nigeria). There are also three projects under preparation for FY09 (Mozambique, Rwanda, and Zambia). In summary, the Business Plan Phase 1 proposals FY08-

10 would add five new dedicated investment operations in Group 1 countries – in Ghana, Mali, Mauritania, Senegal and Tanzania – to the eight pipeline operations. In the longer term, in the Business Plan Phase 2 FY11-12, and under the base-case scenario, a total of ten new investment operations is proposed. Five of these investment operations would be in Group 1 countries – in Burkina Faso, Kenya, Madagascar, Niger, and Nigeria. Five of the Group 2 countries would also benefit from investment projects in this second phase: Cameroon, Chad, Guinea, Namibia and Uganda. Under the high-case scenario, three additional investment operations and doubling of investments under two 'base-case' operations are proposed, four of which are located in group 1 countries (Ethiopia, Madagascar, Mali, and Nigeria), and one in a group 2 country (Sudan).

48. In line with the river basin integrated management approach which the Bank is actively supporting for several of Africa's river systems, some of these investment operations will be planned and implemented over several riparian countries.

Table 2: Business Plan lending in agricultural water FY08-12 (US$ million)

	Historical lending FY05-07	Short term FY08-10	Longer term FY11-12	
			Base-case scenario	High-case scenario
Total	234	318	300	620
Total Annual	78	106	150	310

49. The lending levels have been estimated based on historical loan sizes for dedicated and non-dedicated projects[7]. In the case of pipeline projects, the actual amount proposed for irrigation investment has been used. The total lending level proposed for the FY08-10 period is $318 million in I&D, an average of $106 million a year, above the average lending level of the last three years (FY05-07 average $80 million annually). Total loan amounts, including other project components, would average $260 million per year. Apart from two pipeline operations in Angola and Rwanda, all the lending in this period would be in the Group 1 countries.

50. Under the base-case scenario, scaling-up for the longer term FY11-12 is proposed, a total of $300 million in the two year period, or $150 million a year in I&D – almost double present levels of investment. Total loan amounts, including other project components, would reach $325 million per year. This level would represent a mature level of Bank investment activity that should be sustained in subsequent years beyond the Business Plan period. One third of this lending would be in Group 2 countries which will have been readied for investment during the gearing up phase.

51. The high-case scenario proposes a major surge in investments over the medium-term (FY11-12). Major dedicated projects, twice the size of regular I&D dedicated projects[8], would be prepared in Ethiopia, Madagascar, Mali, Nigeria and Sudan. Lending to I&D in the high-case would reach $310 million per year, double the levels of investment under the base-case scenario, and four times the current levels of investment.

52. As the portfolio grows, the level of operations under supervision would rise from 16 operations under supervision in FY08 to 21 in the shorter term by FY10 (eleven dedicated and

[7] $40 million for I&D in dedicated projects, and $20 million in non-dedicated projects out of $65 million total loan amount.
[8] $80 million for I&D, over $130 million total loan amount.

ten non-dedicated). By the end of the Plan period, up to 27 projects are expected to be under supervision (15 dedicated and 12 non-dedicated) under the base-case scenario, and 30 operations (18 dedicated and 12 non-dedicated) under the high-case scenario.

4.2 The proposed AAA and business development program

53. In support of the scaling-up of investment, the Business Plan provides for intensive AAA and business development activities. In Group 1 countries, generally, AAA such as support to policy development and monitoring, and capacity development activities, shall be provided for under investment operations. In addition, three major AAA studies (ESWs) are proposed in each period in these countries, some of which should have a sub-regional scope. Only these 6 pieces of AAA have been reflected in the BP resources and staffing. With regard to Group 2 countries, in the short term, specific AAA activities are proposed in 9 of the 11 countries, in addition to business development activities in four countries. In a number of countries this would include support to national stakeholders in the preparation of national strategies and action plans. In the longer term, the emphasis on AAA would continue but shift more to ensuring integration of sector strategies into PRSP and CAS processes, especially in Group 1 countries, whilst at the same time introducing AAA work in some Group 3 countries.

Table 3: Business Plan AAA in agricultural water FY08-12, Number of countries

	Short term FY08-10			**Longer term FY11-12**		
	AAA	**PRSP/CAS**	**Business Development**	**AAA**	**PRSP/CAS**	**Business Development**
Group 1	3	3		3	12	
Group 2	9	1	4	2		
Group 3				6		
Total	**12**	**4**	**4**	**11**	**12**	

54. Table 4 shows the distribution of dedicated and non-dedicated projects from a river basin perspective. Table 5 show the general distribution of activities across countries in different groups.

Table 4: Proposed FY08-12 Projects by major River Basin

	Short term FY08-10		**Longer term FY11-12**	
	Dedicated	Non-dedicated	Dedicated	Non-dedicated
Senegal River Basin				
Guinea				X
Mali	X	X		
Mauritania	X			
Senegal	X			
Niger River Basin				
Cameroon				X
Niger			X	
Nigeria		X	X	
Nile River Basin				
Ethiopia		X		
Kenya			X	
Tanzania	X			
Uganda				X
Zambezi River Basin				
Malawi	X			
Mozambique	X			
Zambia		X		

Table 5: Proposed FY08-12 Business Plan by country

	Shorter Term FY08-10			Longer term FY11-12			
	Project preparation	AAA, Bus. Dev. CAS/ PRSP		Project prep. (base-case)	Project prep. (high-case)	AAA, Bus. Dev. CAS/ PRSP	
Group 1 countries							
Burkina Faso		3 AAA activities (ESWs)		Dedicated	Dedicated	3 AAA activities (ESWs)	PRSP/ CAS
Ethiopia	Pipeline non-dedicated				Dedicated (major)		PRSP/ CAS
Ghana	Dedicated						PRSP/ CAS
Kenya				Dedicated	Dedicated		PRSP/ CAS
Madagascar				Dedicated	Dedicated (major)		PRSP/ CAS
Malawi	Pipeline dedicated						PRSP/ CAS
Mali	Pipeline non-dedicated Dedicated				Dedicated (major)		PRSP/ CAS
Mauritania	Dedicated						PRSP/ CAS
Mozambique	Pipeline dedicated		PRSP				CAS
Niger				Dedicated	Dedicated		PRSP/ CAS
Nigeria	Pipeline non-dedicated		PRSP/ CAS	Dedicated	Dedicated (major)		
Senegal	Dedicated						PRSP/ CAS
Tanzania	Dedicated		PRSP/ CAS				
Zambia	Pipeline non-dedicated						PRSP/ CAS
Group 2 countries							
Angola	Pipeline non-dedicated	AAA					
Cameroon		AAA, Bus. Dev.		Non-dedicated	Non-dedicated		
Chad		AAA				PRSP/ CAS	
Cote d'Ivoire						AAA	
DRC		AAA					
Guinea		AAA, Bus. Dev.		Non-dedicated	Non-dedicated		
Namibia		AAA, Bus. Dev.		Non-dedicated	Non-dedicated		
Rwanda	Pipeline non-dedicated	AAA					
Sudan		AAA, PRSP			Dedicated (major)		
Swaziland						AAA	
Uganda		AAA, Bus. Dev.		Non-dedicated	Non-dedicated		
Group 3 countries							
Benin						6 AAA activities	
Burundi							
Central African Republic							
Congo Rep of							
Eritrea							
Gabon							
Guinea-Bissau							
Liberia							
Sierra Leone							
Somalia							
Togo							
Zimbabwe							

5. The Business Plan: Deliverables

5.1 Monitorable outcomes and deliverables

55. Based on the Business Plan proposals, a set of monitorable outcomes and deliverables has been drawn up, covering both "soft" and "hard" results. Strategy, knowledge and policy deliverables include the number of country irrigation or agricultural water strategies in place; the effective integration of agricultural water into the PRSP and CAS; improvement in aid effectiveness; and indicators of achievement on the knowledge and capacity building agenda. Project, investment and lending deliverables include: project approvals; Bank lending amounts; expansion of the area under water management; and number of beneficiaries. The methodology for calculating the area to be developed is discussed below.

Table 6: Deliverables under the Business Plan FY08-12

Outputs and Outcomes	Strategy, knowledge or policy deliverables	Project, investment and lending deliverables
1. AAA activities in priority countries	12 AAAs by FY10, including 3 ESWs 23 AAAs by FY12, including 6 ESWs	
2. I&D integrated into preparation of PRSP and CAS	17 countries by FY12	
3. Coordination, synergy, and harmonization and alignment of donor support	Programmatic approaches agreed	
4. New I&D projects approved		FY08-10: 6 dedicated, 7 non-dedicated Base-case: 5 dedicated, 5 non- dedicated in FY11-12 High-case: 5 major dedicated, 3 dedicated, 5 non-dedicated in FY11-12
5. Total I&D lending		$318 million in FY08-10 Base-case: $300 million in FY11-12 High-case: $620million in FY11-12
6. Profitable and sustainable expansion of the irrigated area and improvement of existing systems		Base-case: 260,000 hectares developed, rehabilitated, or modernized for I&D by FY12 High-case: up to 420,000ha by FY12 Over 250,000 families benefiting by FY12
7. Water harvesting and soil and water conservation		Up to 400,000 hectares improved by FY12 Up to one million families benefiting by FY12
8. Knowledge and capacity building agenda.	Studies Publications Workshops Networks	

5.2 Area developed and beneficiaries

56. Based on historical costs of development for the different business lines, the Business Plan base-case targets for area to be developed, rehabilitated, or modernized for irrigation over the plan period are up to 260,000 ha. It is also likely that over 250,000 farm families would benefit directly, most of them rural poor. These estimates are based on the assumptions shown in Table 7. As an objective of Bank financing is to leverage other financing – from private sources,

from smallholders, from other donors, from government – the number of hectares developed and smallholders benefited is likely to be well above these estimates, but the Business Plan will not make an attempt to estimate this.

57. The expectation is also that projects can be identified over the Business Plan period to improve rainfed agriculture through water harvesting and soil and water conservation measures, either through components in dedicated irrigation projects, as part of multi-sectoral projects or as stand-alone operations. If one fifth of investment resources went to finance these measures, the area developed could be as much as 400,000 hectares, and up to a further million farm families, largely from amongst the extreme poor, would benefit.

58. In the high-case scenario, more than 400,000 ha would be developed, rehabilitated, or modernized for irrigation. This would represent a 9% increase or upgrade on areas currently under irrigation in the region.

Table 7: Area to be developed or improved under the Business Plan FY08-12[9]Business Line	**Development cost/ha**	**Target area (ha)**	**Target area, high case (ha)**
Large scale irrigation (new)	$6,500	20,000	30,000
Micro irrigation	$1,500	70,000	115,000
Small scale irrigation	$1,000	100,000	160,000
Large scale irrigation improvement	$1,500	70,000	115,000
Total irrigation		**260,000**	**420,000**
Water management in rainfed agriculture	**$200**	**400,000**	**400,000**

6. The Business Plan: Funding and Staffing Requirements

6.1 Operational budget

59. Operational budget requirements have been calculated by applying standard costs for delivering a lending operation and for the annual supervision budget. The budget for AAA, business development and support to PRSP/CAS is drawn from the activities proposed in Chapter 4, multiplied by standard budget costs.

60. A lump sum has been proposed each year for knowledge, partnerships and M&E, and for donor coordination. A preliminary list of activities includes:

③ Regional studies, for example on: (i) techniques and economics of improved water management in rainfed areas; (ii) solutions for reform of large scale irrigation in Africa; (iii) PPP for African irrigation; and (iv) market development for irrigated produce in Africa.

[9] 15% to 20% of total I&D lending available is set aside for software components, in particular institutional reforms and capacity building. The remainder is divided among different hardware components, including new large scale irrigation, micro irrigation, small scale irrigation, large scale irrigation rehabilitation and modernization, and water management in rainfed agriculture. Sources for the development costs are FAO, 2001 ; IWMI, 2005 ; World Bank/ GTZ, 2007 ; and Republique du Niger, 2005

③ Regional workshops, with a substantially expanded role for WBI.

③ Partnerships for knowledge and capacity building: in collaboration with WBI, with NEPAD, ARID, SARIA, the Collaborative Program (AfDB, FAO, IWMI, IFAD), and with CGIAR, WARDA etc.

61. The resulting budget requirements for the short term (FY08-10) are $2.2 million annually; and for the longer term (FY11-12, base-case) $3.4 million annually (see Table 8). In the high-case scenario, budget requirements reach $4.9 million annually[10].

Table 8: Business Plan operational budget requirements FY08-12 (US$ thousand)

		Short-Term FY08-10	**Medium-Term FY11-12**	
			Base-case	High-case
Lending	Project Preparation[11]			
	Dedicated	2,500	2,500	5,500
	Non-Dedicated		400	400
	Project Supervision			
	Dedicated	1,974	1,974	1,974
	Non-Dedicated	560	320	320
AAA, business development, support to PRSP/ CAS[12]		970	1060	1060
Knowledge, Partnership, M&E		250	250	250
Donor Coordination		250	250	250
Total		**6,504**	**6,754**	**9,754**
Annual Total		**2,168**	**3,377**	**4,877**

6.2 Co-financing and donor collaboration

Co-financing is important in the region: in recent years more than half of agricultural projects in Africa have been co-financed. The Bank has been the single largest donor to Africa but accounts for only 20% of external aid to agriculture. To achieve the development goals set out in the Africa Action Plan, in which the Bank has cast itself as lead financial partner, considerable effort will be required to leverage co-financing resources. The basis has been laid in the CAADP and the Collaborative Program, and the Bank has sponsored a facility with NEPAD financed by the Development Grant Facility to scale up co-financing and other partnerships for irrigation in Africa. However, considerable attention – and budget resources – will be required to build the needed strategic partnerships.

[10] Preparation of a major dedicated project is estimated to cost US$800,000.

[11] Appraisal and supervision budget is based on number of projects multiplied by a standard budget cost. Budget cost is lower for non-dedicated projects. Standard budget cost for project preparation: US$500,000 [0]for a dedicated project, and US$80,000 for contribution to the preparation of a non-dedicated project (median preparation cost for projects with I&D components was $585,000 over FY00-05 in the region). Standard budget cost for project supervision: US$94,000 annually for a dedicated project (based on FY07 average for projects in the region), and US$20,000 for a non-dedicated project. Preparation of projects in FY08 and FY09 pipeline is excluded from the calculations, as it is assumed that budget is already set aside for them[0].

[12] The budget cost estimates are based on the following figures: $120,000 for an ESW in Group 1 countries; $50,000 for AAA work in group 2 and 3 countries, and for business development; $20,000 for support to CAS and PRSP preparation; and $10,000 for support only to CAS or only to PRSP.

62. A related challenge is to ensure harmonization and alignment in line with the Paris Declaration. Several countries in the region are moving towards programmatic aid, and there is a call for programmatic Sector-Wide Approaches (SWAp). Niger, for example, has prepared an elaborate strategy for program aid to the irrigation sector, and so have Burkina Faso and Tanzania. The joint support for preparation of national strategies for agricultural water development would provide a client-driven framework for harmonization and alignment, and an important first step for joint investment.

6.3 Staffing requirements

63. Staffing requirements have been calculated by computing the number of dedicated projects and non-dedicated projects over the years, and of countries with AAA, business development, and PRSP/ CAS work, and multiplying by a standard staffing coefficient. These calculations suggest that staff working full time on irrigation and agricultural water management projects should be five staff members by FY10, and eight staff members when the base-case program reaches full speed in FY12. In the high-case scenario, requirements would reach ten staff members by FY12[13].

64. As discussed in Section 2, and in accordance with the recommendations of the *Re-engagement* report, future agricultural water investment operations will be of a comprehensive nature and will need to be well integrated into a national strategy for agricultural productivity growth in order to achieve its objectives. Skills mixes need to reflect this - there will be a strong demand for experts who can work across sectoral boundaries to integrate various parts of the agricultural growth agenda.

Table 9: -Business Plan staffing requirements on agricultural water management FY08-12[14]

		FY08-10		FY11-12 base-case	
		Number	**Staff annually**	**Number**	**Staff annually**
Lending and supervision	Supervision of dedicated projects	5 in FY08 11 in FY10	1 in FY08 2.2 in FY10	11	2.2
	Preparation of dedicated projects	5	1.7	5	2.5
	Supervision of non-dedicated projects	9	0.45	8	0.4
	Preparation of non-dedicated projects			5	0.6
AAA, Business Development, and PRSP/ CAS, others		15	1.5	24	2.4
Total of staff annually		**5.25**		**8.1**	

[13] Staffing coefficient for preparation of a major dedicated project would be 0.7 staff annually over two years.

[14] The calculation is based on standard staffing coefficients: 0.2 staff annually for each dedicated project supervision; 0.5 staff annually for each dedicated project preparation over two years; 0.05 staff annually for each non-dedicated project supervision; 0.125 staff annually for each non-dedicated project preparation over two years; 0.1 staff annually for each country with AAA, Business Development, and PRSP/ CAS activities – which would also include Knowledge, Partnership, M&E, and Donor Coordination.

7. The Business Plan: Implementation Modalities

65. The ambitious scaling up of Bank effort in agricultural water that the Business Plan proposes will certainly encounter many operational challenges in country commitment and capacity, and in portfolio development and project quality. In addition, the Bank needs to be proactive in maintaining its innovative and intellectual leadership and in promoting harmonization and alignment of external aid. The Bank will also need to support stakeholders in providing leadership on irrigation development at the national level. This section discusses these issues, and outlines how the Business Plan process may help to meet the challenges.

7.1 Ensuring country commitment and capacity

66. *Political commitment* to agriculture as a whole, including irrigation, has been weak, with many African countries allocating less than 1% of their budget to the sector. In addition, budget allocations have often been volatile and subject to resource allocation processes that reflect limited political ownership of a sector that is of fundamental importance to poverty reduction. Many governments did support ambitious dams and large scale irrigation programs in the 1970s and 1980s, but disappointing results led to rapid reduction of budget allocations. A reform agenda in the irrigation sector was proposed to many governments, but it involved changes that were difficult and many countries had little confidence in outcomes. Policy changes requiring abandonment of food self-sufficiency objectives, downsizing of public irrigation agencies, decentralization, transfer of the management of irrigation assets to farmer groups, enforcement of cost recovery, donor financing of private investments and NGO activities proved unpalatable. As a result the reform process has been slow. Only recently have some positive economic results from reform programs emerged to reinforce the commitment of governments in the region. Strengthened commitment is now evident in the ambitious CAADP agricultural water development targets. Country commitment is essential to the Business Plan approach, and the World Bank should help reinforce this commitment.

67. *Weak capacity*. The Commission for Africa (2005) found that in many African countries weak capacity has prevented the state from effectively planning and budgeting, managing development assistance, and providing services. Good staff are in short supply, and the scourge of AIDS reduces capacity still further. IEG 2007 reported that “capacity building efforts have generally been less successful than expected”. The Business Plan underlines the essential task of institutional development and capacity building, and proposes the allocation of significant resources to these tasks. These efforts will include, for example, regional and sub-regional capacity building, support to information sharing, support to national and regional organizations, national institutional development and capacity strengthening of both government staff and farmers and their representative organizations, and strategies and planning at different scales. Capacity strengthening is in particular required to accompany the scaled up investments so as to ensure stakeholder involvement and ownership, and sustainability.

7.2 Building the portfolio efficiently

68. *Links to Country Departments and the CAS.* As mentioned above, the treatment of irrigation in CASs has been improving. However, for the agriculture sector as a whole, IEG faults collaboration between CDs and SDs in ensuring that Bank programs in agriculture are sound and integrated (IEG, 2007). The report found that CASs "rarely include a holistic assessment of the agriculture sector or link sector priorities to budget". Plainly country irrigation strategies integrated with PRSPs need to be mirrored by a process of Bank strategies for irrigation integrated into CASs. The Business Plan process is designed to assist this integration by providing clarity on strategy and process and a forum and resources for CD/SD interactions regarding AAA and lending needs. The CWRAS instrument can also help this process, as can other forms of ESW.

69. Even so, CDs are increasingly constrained by reduced IDA envelopes. Agriculture and irrigation spending has at the country level often been the first victim of such reductions. This is further reinforced by the absence of explicit reference to agriculture in the MDGs. Building an efficient portfolio therefore faces the challenge that poverty reduction objectives can only be achieved if adhered to consistently and systematically, in a way that strengthens the country-based budget and priority setting process. Resource allocation processes of both IDA and BB need to reflect the need for consistent and coherent support for agricultural productivity and poverty reduction.

70. At the country level, the Business Plan proposes to strengthen the country-based approach by supporting and empowering national stakeholders in providing leadership on agricultural water development at the national level. In doing so, national stakeholders will be better equipped to actively take part in national forums and champion agricultural water management in the preparation of PRSPs.

71. *Links between and within SDs.* The need for irrigation to form part of a "package" of inputs within a market-oriented enabling environment was discussed above. Coordination and information sharing across sectoral and departmental boundaries is critical for achieving the objectives of such a comprehensive agricultural growth agenda. Some of the coordination constraints may have been resolved by the latest reorganization, but others may have emerged. Again, the Business Plan can provide a point of reference for the coordination and integration of activities.

72. *Technical capacity.* The AAP calls for significantly increased spending in irrigation. Global best practice suggests that the AAP targets can only be achieved sustainably if investments are done in a comprehensive context. The comprehensive design of agricultural water operations needs to be reflected in the skills mix in rural development in the region. However, the overall number of staff mapped to the Agricultural and Rural Development Department (ARD) in the region dropped from 82 to 60 between 1997 and 2006. It is difficult to escape the conclusion that there has been a serious loss of agricultural skills in Africa, and that the region is desperately under-staffed for the kind of expansion of activities that the AAP calls for. The Business Plan is the mechanism which highlights the needs and presents to management the staffing requirements in irrigation and agricultural water based on the proposed deliverables (see section 6).

7.3 Improving investment quality

73. *Integrated approaches to agricultural productivity growth.* As irrigation investments need to form part of an integrated approach to improving agricultural productivity, it is therefore critical that African countries develop comprehensive national programs of agricultural productivity growth around which donor support will need to coalesce. This comprehensive approach can be supported through a variety of instruments, including budget support, dedicated projects, programmatic SWAps and others. The type of instrument will depend on the specific conditions within each country and the way in which other parts of the agricultural productivity agenda are being addressed.

74. *Factoring in a poverty focus*. IEG (2006) pointed out the lack of poverty objectives, inadequate poverty-adapted design, and weak targeting and monitoring of poverty results in agricultural water projects, and these weaknesses are particularly relevant in Africa where poverty reduction is the pressing imperative. Recent ETW work has analyzed the difficulty and indicated entry points for improvement. Work is now underway within ETW to produce a Sourcebook that, combined with a training program, should help improve poverty reduction impacts of irrigation projects.

75. *Moving towards lower cost, higher return projects*. Africa-wide, the costs of irrigation development have been coming down. Investment has been increasingly in small scale investments, in rehabilitation, and in institutional development. There appears to be some correspondence between lower per hectare costs and higher rates of return (Table 10). The Business Plan targets relatively low norms for the Bank share of investment costs. Although individual cases may vary, Business Plan monitoring will provide a means of ensuring that least cost, high return approaches are being used.

Table 10: Costs and rates of return on externally financed irrigation projects in sub-Saharan Africa 1970-1999

	1970-4	1975-9	1980-4	1985-9	1990-4	1995-9
Number of projects	3	9	11	15	4	3
Cost/ha ($)	4,684	24,496	11,319	7,669	8,287	8,347
Average EIRR	10%	2%	8%	16%	17%	30%

Source: IWMI, 2005

76. *Strengthening M&E*. Weakness in M&E of all agricultural projects in Africa has been identified by an internal ARD study and by the Quality Assurance Group, and this has certainly been a challenge for irrigation projects. A recent study of six agricultural water projects financed by various donors in the region found that in not one single case were inputs, yields, prices and farmer incomes systematically measured. The Business Plan should promote stronger M&E at both project and country level, and provide within the Bank for aggregating and disseminating results across countries.

7.4 Maintaining innovative and intellectual leadership

77. After a long absence, the Bank has emerged again as a leader in sector knowledge. Following *Reaching the Rural Poor* (2003) and the 2004 *Water Resources Sector Strategy*, the

Bank produced a sourcebook for investment in AWM *Shaping the future of water for agriculture* (2005) and a Directions in Development publication *Re-engaging in agriculture water management*: *challenges and options* (2006). The *World Development Report 2008: Agriculture for Development* provides strong analytical basis for using agricultural water as a key asset in agricultural growth in agricultural-based economies. In addition, a series of working papers on watershed management, irrigation management transfer and water user associations, PPP, poverty reduction etc, were produced in the anchor. Within the region, lessons from successful reform experiences have been highlighted in *Making a Large Irrigation Scheme Work* (2005) that captures the successful transformation of Mali's Office du Niger into a regional growth pole. The Bank finally played a leading role in preparing the review *Investment in agricultural water for poverty reduction and economic growth in sub-Saharan Africa* under the collaborative programme (see 1.3 above). A start has been made in disseminating these products in the region, beginning with a region-wide workshop for policy makers organized in Ouagadougou in March 2007, which resulted in a Call for Action to scale-up agricultural water development.

8. Monitoring Business Plan Progress and Results

78. A key lesson from the first two years of AAP implementation is that stronger accountability for monitoring and delivering results will increase the development impact of Bank programs. Transparent monitoring of the Business Plan is an essential support to accountability. Resources will need to be provided for monitoring the deliverables proposed in Chapter 5 and also for monitoring the budget and staff inputs (Chapter 6). Periodic (annual or on demand) monitoring will require: (1) tracking and periodic reporting on each deliverable and input; and (2) joint review between the region and ETW, with reporting to senior management. Reports on results should be shared with partners in the region.

79. The Business Plan should be reviewed annually on the basis of the monitoring reports, and updated as necessary. A mid-term evaluation should be conducted towards the end of FY10 to assess the status of deliverables against the targets set and to evaluate contribution to achieving outcomes (see Table 5 above). The mid-term evaluation will also allow for reporting on Business Plan contributions to the AAP Agricultural Productivity Flagship target of increase in crop land under irrigation to improve value added per hectare and per worker[15]. At the end of the five year Business Plan period, in FY12, a formal evaluation of results should be conducted and a new Business Plan prepared.

[15] World Bank, 2007, Annex B Section IV

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Annex 1: Agricultural Water Strategy for Sub-Saharan Africa: Executive Summary

Poverty and agricultural growth

1. Although the world as a whole is roughly on track to do so, sub-Saharan Africa is unlikely on present trends to reach Target 1 of the MDGs – i.e., to halve, by 2015, the number of people living on less than $1 a day. If nothing changes, the absolute numbers of poor in the region will continue to increase and by 2015 close to half the world's poor will live in this region.

2. Eighty-five percent of sub-Saharan Africa's poor live in the rural areas and depend largely on agriculture for their livelihoods. Agricultural growth is therefore clearly key to poverty reduction; it can also help drive national economic growth. While agricultural growth has accelerated particularly since 2000, the region needs faster growth and improved productivity if it is to achieve progress towards meeting the MDGs. A comprehensive effort is required to promote agricultural productivity growth in sub-Saharan Africa; investments in a more reliable access to agricultural water are critical in support of that objective.

Agricultural water development, growth and poverty reduction

3. Investment in agricultural water can contribute to agricultural growth and reduce poverty directly by: (a) permitting intensification and diversification and hence increased farm outputs and incomes; (b) increasing agricultural wage employment; and (c) reducing local food prices and hence improving real net incomes. It can also reduce poverty indirectly via increased rural and urban employment as a result of the multiplier effect on growth in rural and urban non-farm economies – and the potential multipliers from agricultural water investment are higher than those from comparable investment in dryland agriculture.

4. Sub-Saharan Africa's agricultural water remains underdeveloped: there are only 9 million ha of land under water management in the region today, representing just 5% of the total cultivated area of 183 million ha – by far the lowest proportion of any region in the world. Water withdrawals for agriculture are therefore limited – less than 3% of total renewable resources – and although a number of basins are currently experiencing water scarcity this is mainly because of a lack of storage rather than absolute scarcity.

Costs and performance of irrigation development

5. Although the cost of public irrigation development in sub-Saharan Africa has been excessively high in the past, a new generation of well-designed and implemented irrigation projects has proved to be only marginally more costly than those of other regions.

6. Where water supplies have been reliable, with good access to markets and a conducive institutional environment productivity has proved comparable with that of post-Green Revolution Asia. Clearly, providing irrigation water alone will not guarantee increased productivity: not only must water supplies be reliable but they must be provided as part of a

comprehensive and sustainable package that empowers farmers to commercialize their yields and production, as well as giving them incentives to do so – including improved access to input and output markets.

7. The range of possible investments in agricultural water is vast and should be determined by the country situation. The following five business lines have shown good results:

   (vi) **Market oriented irrigation on a PPP basis**. Partnerships between the public and private sector can develop successful commercial irrigation. The range of institutional options is broad, from private sector 'third party' management of public schemes to simple facilitation by government of private sector investment.

   (vii) **Individual smallholder irrigation for high value markets**. In peri-urban areas close to urban or export markets, there has been considerable success with individual smallholder irrigation, usually based on pump technology, either manual or motorized. Manual pumping technology allows doubling of the cultivated area and can earn returns as high as 70%.

   (viii) **Small scale community-managed irrigation for local markets**. Opportunities exist for creating or improving small scale community-managed irrigation. Much development of small scale irrigation has been done through integrated rural development, CDD or Social Fund programs where agricultural water is one amongst several investments on offer.

   (ix) **Reform and modernization of existing large scale irrigation**. Recent results, particularly from the Office du Niger in Mali, have shown that institutional reforms can make management accountable and obtain high rates of cost recovery. If associated with selective investment and profitable market opportunities, these reforms can make large scale irrigation schemes in Africa viable and sustainable.

   (x) **Improved water control and watershed management in a rainfed environment**. The potential for growth and poverty reduction through improved rainfed agriculture is theoretically vast: more than 80% of the region's households are rainfed farmers. Projects in several countries have developed profitable technologies. These technologies also form an important part of soil and water conservation programs.

Development potential and constraints to further investment

8. Since less than a fifth of the physical potential for irrigation has been developed to date there is clearly significant potential for expansion. In addition, there is potential for improving the productivity of the 5 million ha currently under irrigation and for bringing back into production the 2 million ha of land that is equipped for irrigation but currently unused.

9. The main constraints to developing this potential are economic and institutional. Economic constraints include macro-economic and sectoral policies, lack of profitable markets, and the costs of development and production. Institutional constraints include the legal frameworks

for land, water and farmers' organizations, the organization of public agencies for investment and management, and lack of empowerment of farmers to manage schemes and access effective agricultural support services and markets.

Agro-ecological zones, farming systems and targeting

10. The major farming systems of the region broadly correspond with the main agro-ecological zones. Although the arid and semi-arid zones cover 39% of the land area of the region the share of agricultural population of these zones is only 16%. The great majority of people depending on agriculture for their livelihoods therefore live in the higher potential subhumid and humid zones – which consequently also coincide with the greatest pressure for agricultural intensification. The greater opportunities for poverty reduction and growth are therefore likely to be found in the more humid zones than in the arid and semi-arid zones.

Key Recommendations

1. Adopt a strategic vision

11. The governments of sub-Saharan African countries should promote national agricultural water development strategies that recognize (a) the potential contribution of agricultural water to poverty reduction and growth, (b) the imperatives of farm level profitability and economic viability and (c) the need for a conducive institutional environment (i.e. policies, legal frameworks and organizations that foster profitable, sustainable water-managed farming by smallholders).

12. The strategies should be supported by analyses of institutions, identifying: (a) the respective roles of the public and private sectors, the organization and incentives for the public organizations involved, and ways to foster participation of the private sector; (b) the rules of engagement of the public sector – its role in investment and management, and the place of subsidies; and (c) the barriers to commercialization of agricultural water management by smallholders and specific ways to overcome them.

13. The new strategies should then be incorporated into wider sectoral strategies and reflected in PRSPs or similar national development strategies.

2. Invest in institutional reforms

14. The new sectoral strategies should then form the basis for sectoral programs, which should combine investment in infrastructure with investment in institutional reforms, including reforms to macro-economic policies, legal frameworks and organizations for agricultural water management. In some cases the changes may involve public sector reform: integrating or better coordinating the responsibilities of government organizations for infrastructure development (e.g. a ministry of water) with those for irrigated farming (e.g. a ministry of agriculture); developing the instruments needed for PPP; making transparent the role of farmers in cost sharing and in operation and maintenance; and building capacity and incentives for public agencies to adopt a new agricultural water development paradigm.

15. Responsibility for development should as far as possible be decentralized, based on the principle of subsidiarity. Therefore, in almost all cases, reforms will focus on empowering potential users of agricultural water to cope effectively with their new roles and responsibilities, and to deal effectively with service providers, including irrigation agencies (who should now become accountable to their farmer clients) and input supply and output markets. This should be accompanied by investment in capacity building for farmer organizations.

3. Invest in viable and sustainable projects and design for maximum profitability

16. **Avoid long-term subsidies and unviable investments for 'social' or 'strategic' purposes.** Future designs and investment decisions should be based solely on considerations of economic viability, farm level profitability and sustainability. Unviable investments for so-called 'social' or 'strategic' purposes should be avoided.

17. **Provide agricultural water as part of a comprehensive package, where possible market linked.** Agricultural water should only be provided when all necessary conditions for its sustainable, profitable use are in place, including: empowered farmer organizations; sustainable, efficient and accountable agricultural support services; and accessible, profitable markets. Where such conditions are not already in place, investment in agricultural water should be part of a comprehensive package that provides for them to be established on a sustainable basis (i.e. for at least the intended economic life of the investment and not just for the life of the project).

18. **Ensure that the proposed management arrangements are sustainable.** Where possible, farmers should own, finance, operate and maintain schemes. Capacity building and development of the needed cost recovery arrangements should be an integral part of project design. The management arrangements for large schemes should follow modern best practice by giving responsibility to water user associations for operation and maintenance below, for example, secondary canal level, and should wherever possible provide at some stage for transfer of management and financing of higher level operations, or even of the entire scheme. Major infrastructure that is clearly beyond the capacity of the users to operate and maintain (with or without a service provider) should be managed jointly by an agency and users, or by an agency accountable to the users.

4. Ensuring effective and successful implementation:

19. **Implementation needs to be efficiently directed towards the bottom line of increasing farmers' incomes sustainably**. Management arrangements – public, private, farmer organization, NGO – should be determined on the basis of the most cost effective approach. Monitoring and evaluation requires special attention: performance needs to be tracked and results fed back into design of future investments.

Annex 2: Implementing strategic approaches in irrigation in Africa

Issues	**Actions (by countries and World Bank)**	
	Country level	**Sub-regional or regional level**
1. Adopting a strategic vision		
Countries need effective strategies to develop irrigation	National irrigation strategy integrated into broader agricultural, environmental and water strategies and incorporated into macro policy and the PRSP	Basin-level integrated development strategies Knowledge, capacity building and development of regional networks.
World Bank strategies should reflect the potential of agricultural water development to reduce poverty and promote growth	Sector work and policy dialogue, CWRAS etc., all reflected in CAS	Irrigation Business Plan published, with regular monitoring and updating.
Donor assistance should be harmonized and aligned	Country level government/donor institutional mechanisms.	Region-wide SSA/donor coordination through NEPAD, Collaborative Program etc.
2. Promoting institutional reforms		
Macro-economic and sectoral policies, legal frameworks and organizations need to define and deliver an efficient role for government, and promote private sector and farmer investment, empowerment and cost sharing.	Analytic and advisory activities and technical assistance. Investment in institutional development and capacity building.	Best practice studies, workshops etc. Support to regional networks and institutions (ARID, NEPAD etc.)
3. Investing in viable and sustainable projects		
AW investments need to be commercially oriented, with empowered farmer organizations and efficient services and markets	Investments in economically viable and profitable irrigation, with private participation wherever possible.	Best practice studies, workshops etc.
O&M of investments needs to be managed efficiently, and paid for by farmers wherever possible.	Investment in institutions for private and farmer management and cost recovery.	*Idem*
Socio-economic benefits need to be maximized, and negative environmental and health impacts minimized.	Pro-poor and gender sensitive project designs. Investment in multi-purpose projects and in mitigation plans.	*Idem*
4. Translating design into effective development		
Implementation needs to be efficiently directed at increasing farmers' incomes sustainably.	Investment in decentralized programs where farmers are empowered.	Bank WUA/IMT report published and disseminated Bank PPP report published and disseminated
Management needs to be on cost-effective basis	Investment in third party management arrangements.	
Performance needs to be tracked and results fed back into design of future investments.	Investment in M&E	Bank M&E Sourcebook published and disseminated.

Annex 3: Priority Instruments

Lending instruments

The main lending instrument for the agricultural water sector is the Specific Investment Loan. Other lending instruments that may be used are the Adaptable Program Loan and Development Policy Lending.

- The *Specific Investment Loan (SIL)* is commonly used to finance specific investment projects. Some institutional and policy reforms can be also promoted under the SIL, such as in the Kenya Natural Resources Management Project. All the current portfolio of projects are SILs, and all the pipeline projects as well.

- The *Adaptable Program Loan (APL)* can support a long-term, phased, investment program. It involves a series of loans that build on the lessons learned from the previous loan(s) in the series. The APL instrument was used in the case of the Senegal River Basin Multi-purpose Water Resources Development Project.

- *Development Policy Lending (DPL)*, sometimes undertaken in the long term over several tranches, can be used to support policy and institutional reforms in the water or agricultural sectors.

Lending operations can be either dedicated – i.e. in which irrigation and drainage is the major component – or non-dedicated, where irrigation and drainage is a small component in a rural development or water resources management activity.

In all cases, project preparation will be particularly important to ensure that a careful review of investments options has been undertaken with the government; thorough pre-identification work will have to be considered.

Business development

Business development is necessary to prepare investments where the World Bank is entering new sectors. In the Group 2 countries where there is high potential but no interventions have yet focused on irrigation and drainage, the business development instrument establishes a partnership with the country government and ministries in charge of agricultural water and identifies possible business lines and project.

Analytic and Advisory Work

Analytical and advisory activities (AAA) includes Economic and Sector Work (ESW), analytical studies, and non-lending Technical Assistance (TA). In the agricultural water sector, AAA is proving to be an invaluable set of instruments to help countries to strategize agricultural water development. AAA can also be used to build capacity and to develop institutions, and it can help to build partnership. The AAA program is demand-driven – it is agreed between the Bank and

the country. In some cases the program can be a major structured set of interventions, as in the case of the "programmatic ESW" currently proposed for Niger.

- *ESW* involves original analytical work, and is undertaken with the intent of supporting the development of a country's policies and programs. For example, the *Zambezi River Basin - Sustainable Water Resources Development for Irrigated Agriculture ESW* currently under preparation identifies the potential and modalities for a major scaling up of economically sustainable and environmentally sound investment in water for agriculture and rural development in the whole Zambezi River basin. The current ESW in Niger - *Irrigation, Growth and Poverty Reduction: An Agenda for Action* - is supporting government and donors in reorienting the irrigation sector strategy and investment program.

- *Analytical studies* are undertaken on a smaller scale, usually with a more local focus than ESWs, and often tied to projects.

- Finally, the primary intent of *technical assistance and capacity building* activities is to help a country to implement reform and/or strengthen institutions. This could be a key instrument for engaging with countries where governments have expressed little interest in developing irrigation potential. Recent work with Sudan on the Gezira scheme is an example of the use of this instrument.

Integrating agricultural water into the PRSP and the CAS

A vital part of the Bank's work is to ensure that countries integrate their irrigation strategies into other sectoral strategies – for agriculture, the environment, water – and to see that the sectoral strategy is incorporated into the overall poverty reduction framework in the PRSP. The Bank also has the responsibility to make sure that the same integration takes place in the preparation of the CAS. Resources need to be allocated for the SD to work with the CDs on this integration process, both for the PRSPs and for the CAS.

A successful example of this process is in Niger, where the 2002 PRSP placed high priority on the development of irrigated agriculture for poverty reduction and economic growth. The 2003 CAS recognizes the importance assigned to irrigation in the PRSP and makes irrigation development one of the key measures to mitigate vulnerability and stimulate income generation. The AAA and investment programs approved in the CAS are designed to respond to these priorities.

Using the CWRAS

The 2004 WRSS introduced the CWRAS as a means of integrating Bank analysis and assistance proposals for all the water-related sub-sectors within an integrated water resource management approach. The CWRAS is thus a prime instrument for linking irrigation sector strategy and investment needs to the PRSP and the CAS. Initial experience in the region was disappointing in this respect. The first CWRAS developed in the region, in Kenya (2004), focused on water supply and sanitation issues and overlooked agricultural water. Since then however, agricultural

water has become a strong pillar of new CWRASs (Ethiopia, 2006; Tanzania, 2006; and Mozambique, under preparation). Over the Business Plan period, resources will be needed to ensure that agricultural water is adequately represented in CWRAS, and that CWRAS proposals link into the PRSP and CAS.

Annex 4: Agricultural water projects in Africa

Table 3.1: Agricultural water projects under supervision

Country	Approval FY	Title	Dedicated	Bank financing $ millions	% for I&D
Mali	FY00	National Rural Infrastructure Project	non dedicated	115.1	46
Madagascar	FY01	Rural Development Support Project	Non dedicated	89.1	21
Niger	FY02	Private Irrigation Promotion Project	Dedicated	38.7	60
Nigeria	FY04	Second National Fadama Development Project	Dedicated	100.0	30
Chad	FY04	Agricultural Services and Producer Organizations Project	Non dedicated	20.0	20
Ghana	FY05	Community-Based Rural Development	Non dedicated	60.0	20
Mauritania	FY05	Integrated Development Program for Irrigated Agriculture II	Non dedicated	39.0	25
Malawi	FY06	Irrigation, Rural Livelihoods and Agricultural Development Project	Dedicated	40.0	50
Africa	FY06	Senegal River Basin Multi-purpose Water Resources Development Project	Non dedicated	110.0	22
Burkina Faso	FY06	Agricultural diversification and market development project	Non dedicated	66.0	33
Senegal	FY06	Agricultural Markets and Agribusiness Development Project	Non dedicated	35.0	35
Tanzania	FY06	Agricultural Sector Development Project	Non dedicated	90.55	21
Madagascar	FY07	Irrigation and Watershed Management Project	dedicated	30	30
Ethiopia	FY07	Irrigation and drainage project	dedicated	100	65
Kenya	FY07	Natural resources management project	dedicated	68.5	58
Mali	FY07	First poverty reduction support credit	non dedicated	45	10
Mali	FY07	Agricultural Services and Producer Organizations Project	non dedicated	20	8

Source: World Bank Business Warehouse, 2007

Table 3.2: Pipeline agricultural water projects

Country	Approval FY	Title	Dedicated	Bank financing $ millions	% for I&D
Malawi	FY08	Agriculture Sector Development Project	dedicated	30	50
Angola	FY08	Market Oriented Smallholder Agriculture Project	non dedicated	30	33
Nigeria	FY08	Third Fadama National Development Project	non dedicated	200	20
Ethiopia	FY08	Tana Beles Integrated Water Resources Development	non dedicated	35	20

Mali	FY08	PRSC 2	non dedicated	40	10
Mozambique	FY09	Market Driven Irrigation Project	dedicated	20	10
Zambia	FY09	Commercial Agriculture	non dedicated	30	40
Rwanda	FY09	Rwanda Second Rural Sector Support Project	non dedicated	50	30

Source: World Bank Business Warehouse, 2007.

Annex 5: Country Fact Sheets

The following present country fact sheets, organized by groups, including:

- Irrigation potential
- Country interest and readiness
- World Bank involvement and readiness
- CAS/ PRSP

A paragraph at the end summarizes proposed actions in the country for group 1 and group 2 countries.

Burkina Faso – group 1

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
4840	13798	5747	205.00	906	5.10	63.37	5.52	**165**	25	15.15	0.53	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
>3.5	31		Y		**Y**	**Y**	**Y**	**high**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
yes	14	612.6	3	206.7	Pilot Private Irrigation Development Project; Second National Agricultural Services Development Project	Agricultural diversification and market development project	66	22		Niger River Basin Cooperation ESW		**high**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2004		*2007/05*	2005		

Burkina Faso has recently an irrigation policy, strategy, and action plan to realize its irrigation potential. Given the recently launched Agricultural diversification and market development project (2006-2013) by the World Bank, with a sizeable irrigation and drainage component, no immediate action is recommended. In the medium term the World Bank could help the country monitor achievement of its targets for the sector and revise as deemed necessary its policy, and prepare a new operation.

Recommendations

Short Term		Medium Term	
Activity	Cost	Activity	Cost
Project supervision	20,000$ annually	Project supervision	20,000$ annually
		Dedicated project preparation	500,000$
		Contribution to PRSP and CAS preparation	20,000$

Ethiopia – group 1

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
11056	74189	25553	936.40	1644	3.46	80.60	4.27	**2700**	289.53	10.72	2.46	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
3.3 to 3.5	41		*Y*		**Y**	**Y**	**N**	**high**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the	Bank projects under supervision	Agricultural projects (ARSB Sector	Recently closed projects with I&D components (projects	Projects under supervision with I&D components	Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components	**Bank involvement and**

country			Board)		from 1995 and after)							readiness (rating)
	#	$ million	#	$ million	Projects	Project	$ million	I&D $	#	Completed	Active	
yes	21	1,895.9	4	229.0	Social Rehabilitation and Development Fund	Irrigation and Drainage Project	100	65	Tana Beles Integrated Water Resources Development	CWRAS		high

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2002		2007/07	2003	2005	2007/10

With high potential for irrigation development and recent irrigation policies and strategies, Ethiopia is pro-actively engaging in irrigation and drainage development. The World Bank is supporting the country's efforts by funding a major Irrigation and Drainage Project, starting June 2007. Another project for FY08 pipeline, Tana Beles Integrated Water Resources Development, has a small I&D component.
In terms of analytical and advisory work during project implementation, irrigation specialists could contribute to the monitoring and update of the CWRAS. Over the medium-term, the focus should be on inclusion of I&D in CAS and PRSP preparation. In the high-case scenario, given the importance of the irrigation sector in the country, a major dedicated project would be prepared.

Recommendations

Short Term		Medium Term	
Activity	Cost	Activity	Cost
Projects supervision: - Dedicated - Non-dedicated (from FY09)	 70,000$ annually 20,000$ annually	Contribution to CAS and PRSP preparation	20,000$
		Major dedicated project preparation in high-case scenario	800,000$

Ghana – group 1

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	Irrigation potential (rating)
4 185	21833	6021	283.10	2437		47.97	1.23	**1900**	30.9	1.63	0.49	high

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
>3.5	35	Y	*Y*		**Y**	**Y**	**N**	**high**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	*#*	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	*#*	*Completed*	*Active*	
yes	14	844.7	1	60.0		Community based rural development Project	60	12				**medium**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2006	2009		2004	2007	2007/07

Ghana has developed yet only a very small share of its irrigation potential but the country is engaging in agricultural water. The World Bank has limited experience in irrigation and drainage in the country, with the 2004 launched Community based rural development Project. Only a small share of project activities however focus on agricultural water, and the project should run until 2009 only. It is recommended therefore to engage in project preparation that would include analytical and advisory work to identify opportunities for World Bank involvement in agricultural water.

Recommendations

Short Term		Medium Term	
Activity	Cost	Activity	Cost
Project supervision (until FY09)	20,000$ annually	Project supervision	70,000$ annually
Dedicated project preparation	500,000$	Contribution to CAS and PRSP preparation	20,000$

Kenya – group 1

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
4650	32849	12570	365.60	935	4.08	50.10	7.05	**539**	103.2	19.15	1.98	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
>3.5	24		2002		**ongoing**	**ongoing**	**N**	**medium**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
yes	15	884.7	4	314.5		Natural resources management project	68.5	40				**medium**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2003	2007		2004	2007	2007/12

Kenya has good potential to develop further its agricultural water sector, and is currently engaging in strategic reflections about the sector. The 2004 CWRAS focused on water supply and sanitation issues and overlooked agricultural water, but the country is now drafting its irrigation policy. The World Bank has limited experience in the country but a recently launched operation includes a sizeable irrigation and drainage components, and will help build knowledge of the sector. It is recommended that over the short term the Bank supports policy dialogue and engages over the medium term in project preparation for a second round dedicated agricultural water operation.

Recommendations

Short Term		Medium Term	
Activity	Cost	Activity	Cost
Dedicated project supervision	70,000$ annually	Dedicated project preparation	500,000$
		Dedicated project supervision	70,000$ annually
		Contribution to CAS and PRSP	20,000$

		preparation	

Madagascar – group 1

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
2950	18409	6220	888.20	18306	0.49	884.40	4.25	**1517**	1086	71.61	30.60	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
3.3 to 3.5	26		1999		**Y**	**Y**	**Y**	**high**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
yes	16	969.7	2	119.1	Regional Urban Works Project	Rural Development Support Project; Irrigation and Watershed Management Project	119.1	27			Madagascar: The Impact of Public Spending on Irrigation Perimeters, 1985–2004	**high**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2007	2012		2007	2011	

Madagascar is the country which has best developed its irrigation potential yet, and the government is placing high importance on agricultural water. The World Bank has a long history of assistance in the sector. A non dedicated project is coming to a close (Rural Development Support

Project), but a dedicated operation has been launched in 2006 and should run until 2011. The World Bank is also supporting an analytical study focused on reviewing twenty years of investment in the sector.
It is recommended that over the medium term the World Bank engages in a new dedicated project preparation, follow-up to the Irrigation and Watershed Management Project. In the high-case scenario, this project's total amount would be doubled.

Recommendations

Short Term		Medium Term	
Activity	Cost	Activity	Cost
Dedicated project supervision	70,000$ annually	Dedicated project preparation in the base-case scenario	500,000$
		Major dedicated project preparation in the high-case scenario	800,000$
		Contribution to CAS and PRSP preparation	20,000$

Malawi – group 1

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
2450	12572	4777	139.90	1374	0.04	85.08	4.69	**162**	55	33.97	2.25	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
3.3 to 3.5	34		Y		**2001**	**Y**	**N**	**high**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
yes	9	306.8	2	67.0		Irrigation, Rural Livelihoods and Agricultural Development Project	40	20	Agriculture Sector Development		Zambezi River Basin	**high**

										Project		ESW		

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2006	2011		2007		

Malawi has recently defined its irrigation policy and strategy. The World Bank has become involved in the irrigation and drainage sector since 1993 with an extension and research agricultural operation (Agricultural Services Project) and has one project currently under implementation that places a strong focus on irrigation and drainage. The Irrigation, Rural Livelihoods and Agricultural Development Project is expected to run until 2012, whilst the Agriculture Sector Development Project in the pipeline (for FY08) will also strongly feature agricultural water development. In terms of analytical work, the Zambezi river basin ESW provides the framework for understanding the importance of agricultural water in a sizeable part of the country, and .

Over the short and medium term, it is recommended to continue with implementation of the Irrigation, Rural Livelihoods and Agricultural Development Project and to finalize the preparation of the pipeline project.

Recommendations

Short Term		Medium Term	
Activity	Cost	Activity	Cost
Project supervision: - Dedicated - Non-dedicated (from FY09)	 70,000$ annually 20,000$ annually	Contribution to CAS and PRSP preparation	20,000$

Mali – group 1

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
4660	13829	4920	349.70	7231	13.62	518.60	5.90	**566**	235.8	41.66	5.02	**High**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**

>3.5	33		Y		**1999**	**Y**	**Y**	**high**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
yes	12	533.4	4	265.0	Pilot Private Irrigation Promotion Project	National Rural Infrastructure Project, First poverty reduction support credit; Agricultural Services and Producer Organizations Project	180.1	59	Second poverty reduction support credit	Niger River Basin Cooperation ESW		**High**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2002		2007/07	2004	2006	2007/09

Mali has developed almost half of its irrigation potential and continues to place high importance on the agricultural water sector, with recently developed policy, strategy, and action plan. The World Bank has long been engaged in the sector. However, the current major project under supervision - National Rural Infrastructure Project with a $52 million I&D component - is coming to a close in December 2007. Preparation of a follow-up operation will start soon. The First (2007-2008) and Second (2008-2009) poverty reduction support credits and the Agricultural Services and Producer Organizations Project (from 2007) dedicate only a small share of their funds to the irrigation and drainage sector.

It is recommended that the World Bank engages in new dedicated project preparation in the short term. Analytical and advisory assistance on irrigation strategy and action plan implementation and update could be included in the new operation.

In the medium-term, the focus would be on project supervision and contribution to CAS and PRSP preparation. In the high-case scenario, a major dedicated project would be prepared in addition.

Recommendations

Short Term		Medium Term	
Activity	Cost	Activity	Cost
Dedicated project preparation	500,000$	Project supervision: - Dedicated - Non-dedicated	 70,000$ annually 20,000$ annually
Project supervision	20,000$ annually	Contribution to CAS and PRSP	20,000$

		preparation	
		Major dedicated project preparation in the high-case scenario	800,000$

Mauritania – group 1

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
208	3069	689	94.35	3715		605.60	13.16	**250**	45.01	18.00	9.00	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
3.0 to 3.2	17		Y		**Y**	**Y**	**Y**	**high**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	*#*	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	*#*	*Completed*	*Active*	
yes	10	288.5	2	84.0	Integrated Development Project for Irrigated Agriculture	Integrated Development Program for Irrigated Agriculture II	39	9.75				**medium**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2006	2010		2003	2005	2007/07

Mauritania displays high interest in agricultural water and has good potential for further irrigation development. The World Bank has a long history of involvement in irrigation and drainage in the country. Most recently, the Integrated Development Program for Irrigated Agriculture II APL was launched in 2005 and should run until 2010.

It is recommended that the World Bank dedicates resources to a new project preparation. As part of that operation, the World Bank could usefully engage in analytical and advisory work, to support monitoring/ update of implementation of the irrigation strategy, or to take stocks of lessons from investments in the sector.

Recommendations

Short Term		Medium Term	
Activity	Cost	Activity	Cost
Project supervision (until FY10)	20,000$ annually	Project supervision	70,000$ annually
Dedicated project preparation	500,000$	Contribution to CAS and PRSP preparation	20,000$

Mozambique – group 1

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
4350	19495	8065	827.20	11137	64.47	33.99	0.25	**3072**	118.1	3.85	2.67	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
3.3 to 3.5	21	ongoing	1995		**ongoing**	**N**	**N**	**medium**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
yes	17	833.9	1	20.0	Agricultural Sector Public Expenditure Program				Market Driven Irrigation Project		Zambezi River Basin ESW, Zambezi Basin Multi-Sector Investment Opportunity Study, CWRAS	**high**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2006	2009		2004	2007	2007/05

With much of its irrigation potential yet to develop, Mozambique government is now placing high priority on the development of agricultural water. It is in the process of drafting an Irrigation Policy and Strategy, with assistance from FAO. The World Bank has limited operational experience in the sector, with a small component under the Agricultural Sector Public Expenditure Program dedicated to irrigation and drainage. Current analytical work however, both on the CWRAS and the Zambezi Basin ESWs, are building the basis for future interventions, and a pipeline operation is planned for FY09. That operation could provide technical and advisory assistance for irrigation strategy implementation monitoring and update.

Recommendations

Short Term		Medium Term	
Activity	Cost	Activity	Cost
Project supervision (FY10)	70,000$	Project supervision	70,000$ annually
Contribution to PRSP preparation	10,000$	Contribution to CAS preparation	10,000$

Niger – group 1

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
14483	12873	4928	191.30	2614		188.80	6.18	**270**	73.66	27.28	0.51	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
3.3 to 3.5			2001		**Y**	**N**	**N**	**medium**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
yes	7	246.5	1	38.7	Pilot Private Irrigation Promotion Project	Private Irrigation Promotion Project	38.7	23		Niger River Basin Cooperation ESW	Opportunities and constraints for the development of irrigated agriculture in Niger ESW	**high**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2002		2007/07	2003	2005	2007/09

Niger has good potential for further irrigation development and is interested in the sector. The 2002 PRSP placed high priority on the agro-pastoral sector for economic growth, including the development of irrigated agriculture. The World Bank has a long history of intervention in the sector. However, the current project under implementation (Private Irrigation Promotion Project) will close in December 2007. As an ESW study is currently undertaken to study irrigation development in Niger. Opportunities for new investment will be assessed upon delivery of the report.

Recommendations

Short Term		Medium Term	
Activity	Cost	Activity	Cost
ESW study completion		Contribution to CAS and PRSP preparation	20,000$
Dedicated project preparation	500,000$	Project supervision	70,000$ annually

Nigeria – group 1

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
30500	130236	15159	1062.00	2198	44.17	66.25	1.93	**2331**	293.1	12.58	0.88	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
3.0 to 3.2	16	Y	Y		**Y**	**Y**	**Y**	**high**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
yes	22	2,344.1	2	150.0		Second National Fadama Development Project	100	30	Third National Fadama Development Project	Niger River Basin Cooperation ESW		**high**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2004			2005	2009	

Nigeria's potential for irrigation is underdeveloped and the government is interested in the sector. World Bank experience in the country has mainly centered on the National Fadamas Development Projects.
As the Third National Fadama Development Project is in the pipeline for FY08, and includes an irrigation and drainage component, it is recommended that the World Bank supports some analytical and advisory work in the short term under the new project, with an option to prepare a new operation in the medium term. In the high-case scenario, this operation would become a major project.

Recommendations

Short Term		Medium Term	
Activity	Cost	Activity	Cost
Projects supervision (until FY09)	20,000$ * 2 annually	Dedicated project preparation in the base-case scenario	500,000$
Contribution to CAS and PRSP preparation	20,000$	Project supervision	20,000$
		Major dedicated project preparation in the high-case scenario	800,000$

Senegal – group 1

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
2460	10587	3369	134.90	3665		225.40	5.32	**409**	119.7	29.26	4.78	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
>3.5	17		1981		**N**	**N**	**N**	**medium****

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise
** Irrigation development is one of the measures in the 2002 PRSP

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
yes	16	711.7	4	85.0		Agricultural Markets and Agribusiness Development Project	35	12				**medium**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2002		2007/01	2003	2005	2007/05

Senegal has good potential for further developing its irrigation and drainage sector, and the 2002 PRSP included irrigation development as one of the key measures. The country however is lacking a strategic approach to the sector, though comprehensive and ambitious policies have been developed quite successfully at regional level (Senegal river valley, with for example the implementation of maintenance funds). The World Bank has intervened for over 30 years in the agricultural water sector in the country, most recently by launching the Agricultural Markets and Agribusiness Development Project (2006-2011). It is recommended that the World Bank supports preparation of a new operation in the short term, which would also include analytical and advisory work to support development of policy and strategy at nationwide level through analytical and advisory work.

Recommendations

Short Term		Medium Term	
Activity	Cost	Activity	Cost
Project supervision	20,000$ annually	Dedicated project supervision	70,000$ annually
Dedicated project preparation	500,000$	Contribution to CAS and PRSP preparation	20,000$

Tanzania – group 1

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
4000	38365	15214	1012	2509	4.20	142.90	4.81	**2132**	184.3	8.65	3.61	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
>3.5	42	ongoing	2002		**ongoing**	**ongoing**	**N**	**high**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	*#*	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	*#*	*Completed*	*Active*	
yes	23	1,893.6	3	177.7	River Basin Management & Smallholder Irrigation Improvements Project	Agricultural Sector Development Project	90.55	19		CWRAS		**high**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2005			2007	2010	

Tanzania is currently engaging strongly in the agricultural water sector, with the drafting of a policy and a strategy, with support by FAO. The World Bank began intervening in the sector in 1996, with the River Basin Management & Smallholder Irrigation Improvements Project. Currently, agricultural water has a low profile in the 2006-2011 Agricultural Sector Development Project. The recently completed CWRAS provides the framework for intervening further in the water sector in the country.
It is recommended that the World Bank prepares a new agricultural water operation in the short term.

Recommendations

Short Term		Medium Term	
Activity	Cost	Activity	Cost
Project supervision	20,000$ annually	Project supervision	70,000$ annually
Dedicated project preparation	500,000$		
Contribution to CAS and PRSP preparation	20,000$		

Zambia – group 1

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
5260	11043	3078	767.7	9526	106	162.60	1.26	**523**	155.9	29.81	2.95	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
3.3 to 3.5	19	Y	Y		**Y**	**Y**	**Y**	**high**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	*#*	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	*#*	*Completed*	*Active*	
yes	9	320.4	1	37.2	Agricultural Sector Investment Program				1		Zambezi River	**medium**

										Basin ESW	

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2002		2007/07	2004		2007/09

The country is placing high emphasis on agricultural growth, in particular through irrigation development. The 2004 National Agricultural Policy and the opening of farm blocks both aim at making agriculture a commercially-oriented and viable sector. The country adopted in 2004 its Irrigation Policy and Strategy, clearly stating its interest in developing irrigation, and identifying paths for realizing its potential. The World Bank has limited experience in agricultural water in the country, mostly through analytical work. The Agricultural Sector Investment Program (1995-2001), funded in collaboration with bilateral and multilateral agencies, had only 2% of funds allocated to irrigation and drainage activities. Irrigation development in Zambia on the other hand features in the current ESW *Zambezi River Basin - Sustainable Water Resources Development for Irrigated Agriculture*. This study identifies the potential and modalities for a major scaling up of economically sustainable and environmentally sound investment in water for agriculture and rural development in the Zambezi River basin.
It is recommended that the World Bank engages in a first agricultural lending operation with high focus on irrigation and drainage. The operation should align with the Government strategy for agriculture and irrigation development. A Commercial Agriculture Project worth $30 million is currently under preparation, scheduled for Board Approval in September 2008. The Project would combine support to irrigation development (40% of the loan amount), land administration and land development, and market development and information. The Project could also assist the government in strategy monitoring and update.

Recommendations

Short Term		Medium Term	
Activity	Cost	Activity	Cost
Pipeline project preparation		Project supervision	20,000$ annually
		Contribution to CAS and PRSP preparation	20,000$

Angola – group 2

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
3300	14533	4521	1259	10184	4.47	26.55	0.14	**3700**	80	2.16	2.23	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
2.6 to 2.9	8.5		2003		**N**	**N**	**N**	**medium****

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise
** The Government of Angola has given priority to the development of an irrigation program (FAO Bankable Investment Project Profiles)

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	*#*	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	*#*	*Completed*	*Active*	
yes	5	176.3	0	0					Market Oriented Smallholder Agriculture Project		Zambezi River Basin ESW	**low**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
		2007/10			2006/10

Angola has very high irrigation potential, as yet widely undeveloped. The country is displaying some interest for agricultural water, although no policy or strategy has been adopted as yet. The World Bank has not engaged in any agricultural-focused operation in the country. However, Bank operations have been carried out since the early 1990s, and the country is now stabilized and experienced high growth rates.
There is now opportunity for the World Bank to engage in an agricultural operation that would include an irrigation and drainage component. The Market Oriented Smallholder Agriculture Project in the pipeline is scheduled for approval in September 2007. The World Bank could also engage in analytical and advisory assistance with the government to help build a policy or strategy framework.

Recommendations

Short Term		Medium Term	
Activity	Cost	Activity	Cost
Project supervision	20,000$ annually	Project supervision	20,000$ annually
AAA work for policy and strategy definition	50,000$		

Cameroon – group 2

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
5960	16564	3728	762.6	17236	15.33	62.94	0.26	**290**	25.65	8.85	0.36	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
3.3 to 3.5	40		*Y*	Y			**ongoing**	**medium**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	*#*	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	*#*	*Completed*	*Active*	
yes	8	217.6	1	25.0						Niger River Basin Cooperation ESW		**low**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2003		2008/10	2006 (interim)		

Cameroon has good potential for further irrigation development, and the country is developing an action plan. The World Bank has a long history of intervention in the agricultural sector, but less so for agricultural water (only through Semry Rice Project over 1978 – 1984).
It is recommended that irrigation and drainage components be added to potential future agricultural interventions. Analytical work would be needed in the short term to identify options for possible large World Bank involvement in agricultural water in the country.

Recommendations

Short Term		Medium Term	
Activity	Cost	Activity	Cost
AAA work	50,000$	New agricultural project preparation with I&D component	80,000$
Business Development	50,000$		

Chad – group 2

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
3600	9117	2870	413.40	4716		27.55	0.44	**335**	30.27	9.04	0.83	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
2.6 to 2.9	23.5		1999/ 2003		**Y**	**N**	**N**	**medium**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	*#*	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	*#*	*Completed*	*Active*	
yes	6	191.9	1	20.0		Agricultural Services and Producer Organizations Project	20	4		Niger River Basin Cooperation ESW		**high**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2003			2004	2006	2007/08 (interim)

Chad has a good potential for developing further agricultural water, and the country has an irrigation policy but no accompanying strategy documents. Given its low CPIA rating, the country is assigned to the group 2.
Analytical and advisory work would be recommended to further strategize the approach to the sector. The World Bank's current project under supervision has a small irrigation and drainage component and will close in 2008. It is recommended that contribution to a new agricultural project is undertaken in the medium term, building on the lessons from the Agricultural Services and Producer Organizations Project, and on analytical and advisory work. Given the importance of irrigation for the country, PRSP and CAS contribution should also be considered in the medium term.

Recommendations

Short Term		Medium Term	
Activity	Cost	Activity	Cost
Project supervision in FY08	20,000$	New agricultural project preparation with I&D component	80,000$
AAA work	50,000$	Contribution to PRSP and CAS preparation	20,000$

Cote d'Ivoire – group 2

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
3300	17165	3107	434.7	4727		56.83	0.74	**475**	47.75	10.05	0.69	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
<2.6	22		1998		**2004**	**2005**	**2005**	**high**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
no										Niger River Basin Cooperation ESW		**no project**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2002 (Interim)		2008/05	2006 (interim)		2007/07

Cote d'Ivoire has good potential for further irrigation development, and has developed a sectoral policy and strategy. However, the recent civil strife has led the World Bank to close operations. As the situation is improving, Bank projects are under preparation, mostly for post conflict assistance. Agricultural projects should follow, as the World Bank has been a long-time lender for the agricultural sector in the country.
It is recommended that analytical work is carried out in the medium term to identify options for World Bank assistance to agricultural water development. The opportunity for new project preparation could then be assessed.

Recommendations

Short Term		Medium Term	
Activity	Cost	Activity	Cost
		AAA work	50,000$
		Assess opportunity for new project preparation	

Democratic Republic of Congo – group 2

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
6700	56079	13880	3 618	22878		7.031	0.01	**7000**	13.5	0.19	0.17	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
2.6 to 2.9	47		Y		**ongoing**	**N**	**N**	**medium**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
yes	9	1,587.0	1	102.0								**low**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
		2007/05	2004 (interim)	2006	2007/07

Democratic Republic of Congo's vast irrigation potential is untapped. As the country is slowly recovering, the government is bringing more attention to agricultural water, and is developing a policy. Although a long term lender to agricultural activities in the country, the World Bank hass not yet been involved in agricultural water.
It is recommended that over the short to medium term analytical work be conducted to identify options for World Bank involvement, and that over the long term an irrigation and drainage component be added to an agricultural project under preparation.

Recommendations

Short Term		Medium Term	
Activity	Cost	Activity	Cost
AAA work	50,000$	Assess opportunity for new project preparation	

Guinea – group 2

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
1100	8788	3497	405.9	25717	1.882	180.6	0.60	**520**	94.91	18.25	5.58	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
3.0 to 3.2	24		1994			**ongoing**	**ongoing**	**high**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	*#*	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	*#*	*Completed*	*Active*	
yes	7	186.8	1	29.0						Niger River Basin Cooperation ESW		**low**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2002			2004	2006	2007/10

Guinea has developed some of its irrigation potential, but more could be done. The country is displaying interest in agricultural water, as it is drafting an irrigation strategy and action plan. The World Bank, although a long time lender to agriculture, has not had irrigation and drainage activities in the country as yet.

It is recommended that the World Bank supports country's effort to draft its strategy and action plan. Based on their recommendations, an irrigation and drainage component should be added to a future agricultural operation.

Recommendations

Short Term		Medium Term	
Activity	Cost	Activity	Cost
AAA work: Support to strategy and action plan drafting	50,000$	New agricultural project preparation with I&D component	80,000$
Business Development	50,000$		

Namibia – group 2

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
815	2032	306	234.9	8718	0.709	153	1.20	**47**	7.573	16.01	0.92	**low**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
	9		2000		**Y**		**N**	**medium**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
no												**no projects**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
					2007/05

The Namibian Government has supported irrigation development in the recent past, in particular through the Green Scheme model promoted since 1994. As such, and despite the limited area with irrigation development potential, Namibia is categorized as a group 2 country.
The World Bank has not had any operations in the country and current involvement focuses on providing technical assistance. It is recommended that over the short term AAA work is provided to identify options for World Bank involvement in the sector and to support government's efforts. Business development activities can also be carried out to support preparation of a project in the medium term.

Recommendations

Short Term	Medium Term

Activity	Cost	Activity	Cost
AAA work	50,000$	New agricultural project preparation with I&D component	80,000$
Business development	50,000$		

Rwanda – group 2

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
1200	8607	4067	31.92	1104		18.13	1.07	**165**	8.5	5.15	0.61	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
3.3 to 3.5	41							**medium****

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

** The Government of Rwanda is placing high priority on agricultural development in its Economic Development and Poverty Reduction Strategy (2007-2011). Irrigation development is one of the key sub-sectors. (FAO Bankable Investment Project Profiles)

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
yes	11	302.6	1	48.0								**low**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2002		2007/09	2002	2006	2007/04

Rwanda has a good potential for further irrigation development. Despite the lack of an irrigation policy or strategy, the Government is recognizing the importance of the sector. The Rwanda Economic Development and Poverty Reduction Strategy (2007-2011) is placing a high priority on an agricultural development and investment program, which includes irrigation development as a sub-program. There is a specific target is to increase

the share of area under irrigation from 1 percent to about 5 percent, and to increase the area under hillside irrigation from 130 ha to 3,200 ha by 2011.
The World Bank lacks experience in the sector in the country, but has been involved for more than thirty years in agricultural development, most recently with the Rural Sector Support Project. In recognition of government's interest, the follow-up project Second Rural Sector Support Project, in the pipeline for FY09, is to include an irrigation component.
It is recommended also that the World Bank engages in AAA work in the short term in the country, to assist the government in developing a strategic approach to the sector.

Recommendations

Short Term		Medium Term	
Activity	Cost	Activity	Cost
Project supervision (from FY10)	20,000$	Project supervision	20,000$ annually
AAA work	50,000$		

Sudan – group 2

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
17000	35040	7925	1042	1841		1135	55.92	**2784**	1863	66.92	11.19	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
2.6 to 2.9	33		Y		**Y**	**Y**	**Y**	**high**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	

no													**no projects**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
		2009/06			2007/05 (interim)

Sudan is the country with the largest equipped irrigation area in sub Saharan Africa. The country is placing high priority on agricultural water development. The World Bank has historically been involved in irrigation and drainage there, but World Bank operations have been suspended since 1993.

It is recommended that the World Bank engages in analytical and advisory work in the country in the short term. As the situation evolves and the lending pipeline begins to develop, the World Bank should engage in the preparation of a new agricultural water operation. In the high-case scenario, the hypothesis is for the environment to be favorable to the preparation of a major dedicated operation over the medium-term.

Recommendations

Short Term		Medium Term	
Activity	Cost	Activity	Cost
AAA work	50,000$	Assess opportunity for new project preparation	
Contribution to PRSP preparation	10,000$	Major dedicated project preparation in high-case scenario	800,000$

Swaziland – group 2

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
178	1087	119	13.68	4149	0.585	974.7	22.31	**93**	49.84	53.47	25.96	**low**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
	7	Y	Y		**ongoing**	**N**	**N**	**medium**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
no												**no projects**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
					2007/05 (interim)

Swaziland is interested in agricultural water development, and is drafting its policy with support from FAO. As such, it is identified as a group 2 country. As of now, there are no active Bank projects in the country.
It is recommended to monitor the evolution of the portfolio in the country, and to add irrigation and drainage components to agricultural water operations that would be developed. Some AAA work could be undertaken in the medium-term to support government's efforts in the sector, and provide a knowledge base for future potential projects.

Recommendations

Short Term		Medium Term	
Activity	Resources	Activity	Resources
		AAA work	50,000$

Uganda – group 2

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
5200	27623	9953	284.4	2389	0.001	12	0.18	**90**	9.15	10.17	0.13	**low**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
>3.5	30		1999	2000	**ongoing**	**ongoing**	**N**	**medium**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
yes	19	1,417.8	2	71.0								**low**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2004	2007		2005	2009	

Uganda has some potential for irrigation development and is drafting its policy for the sector. As such, it is categorized as a group 2 country. Although the World Bank has a history of intervention in the agricultural sector – dating back to the 1960s, it has never been involved in the irrigation and drainage sector.

It is recommended that the Bank dialogues with the country to support its policy drafting efforts, develops analytical work to assess options for intervening in agricultural water, and adds agricultural water components to upcoming agricultural operations.

Recommendations

Short Term		Medium Term	
Activity	Cost	Activity	Cost
Business development	50,000$	New agricultural project preparation with I&D component	80,000$
AAA work	50,000$		

Benin – group 3

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
2650	7103	1583	117	3716	0.04	19.82	0.22	**322**	12.26	3.81	0.44	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
>3.5	32.1		Y		**N**	**N**	**N**	**low**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
yes	7	244.4	2	53.0						Niger River Basin Cooperation ESW		**low**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2003	2005	2007/06	2003		2007/08

Burundi – group 3

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
990	7319	3355	35.46	1713		43.62	1.77	**215**	21.43	9.97	1.59	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
3.0 to 3.2	36.1							**low**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
yes	9	372.0	1	35.0								**low**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2006			2005 (Interim)		2008

Central African Republic – group 3

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
1930	3962	1264	836.7	36446		6.546	0.00	**1900**	0.135	0.01	0.01	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
<2.6	57							**low**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
yes	2	99.0										**low**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
		2007/12			2007/01

Rep. of Congo – group 3

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
495	3921	576	562.9	232084	0.009	12.66	0.00	**340**	2	0.59	0.37	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
2.6 to 2.9	6		2003	2000				**low**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
yes	4	102.0										**low**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*

Eritrea – group 3

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
562	4456	1603	45.16	1414	0.094	130.6	8.73	**188**	4.1	2.19	0.73	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
<2.6	13		ongoing		**N**	**N**	**N**	**low**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
yes	6	214.3	0	0								**low**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
		2007/11			

Gabon – group 3

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
325	1375	201	490.1	119273		91.88	0.03	**440**	3.15	0.72	0.64	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
	8							**low**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
yes	2	40.0										**low**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
			2005		

Guinea Bissau – group 3

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
300	1584	540	56.96	19571		120.8	0.46	**281**	8.56	3.04	1.56	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
2.6 to 2.9	63		1992					**low**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
yes	5	66.7										**low**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2000 (Interim)		2007/05			2007/07

Liberia – group 3

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
382	3603	863	266.3	64391		33.96	0.03	**600**	0.1	0.02	0.02	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
	55							**low**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
yes	1	46.5										**low**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2007 (interim)					2007/06

Sierra Leone – group 3

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
570	5340	1153	181.2	29963		79.76	0.22	**807**	1	0.12	0.16	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
3.0 to 3.2	43							**low**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
yes	8	206.6								Agricultural sector review		**low**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2005	2007	2006/12	2006	2009	

Somalia – group 3

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
1045	10742	3028	179.8	1368	0	307	22.32	**240**	200	83.33	18.67	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
								low

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
no												**no projects**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
			2003		

Togo – group 3

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
2510	5129	1227	66.33	2866	1.711	35.2	0.52	**180**	2.3	1.28	0.09	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
<2.6	41							**low**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
no												**no projects**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
			2005	2006	

Zimbabwe – group 3

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
3220	12963	3555	256.7	1543	103	327.6	16.59	**366**	173.5	47.46	5.18	**high**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
<2.6	14							**low**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	*#*	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	*#*	*Completed*	*Active*	
no											Zambezi River Basin ESW	**no projects**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
			2007 (interim)	2009	

Botswana – group 4

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
377	1801	352	242	6796		109.6	0.65	**13**	1.439	11.07	0.38	**low**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
	2.3	Y	1991	Y	**N**	**N**	**N**	**low**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
no											Zambezi River Basin ESW	**no projects**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
					2007/09

Cape Verde – group 4

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
46	482	40	0.9188	622		48.46	6.67	**3**				**low**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
>3.5	6.8						**1998**	**medium**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
yes	5	68.0										**low**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2004			2005		2007/10

Comoros – group 4

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
80	812	270	2.007	1478		13.39	0.39	**0**				**low**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
<2.6	36							**low**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
yes	1	18.3										**low**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2005 (Interim)		2008/01	2006 (interim)		

Equatorial Guinea – group 4

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
130	521	143	60.48	49904		224.5	0.00	**30**	0	0.00	0.00	**low**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
								low

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
no												**no projects**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
					2007/12

Gambia – group 4

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
315	1499	577	9.447	5337		22.05	0.25	**80**	2.149	2.69	0.67	**low**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
3.0 to 3.2	30							**low**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
yes	4	51.0	1	12.0								**low**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2002		2007/07	2003		2007/10

Lesotho – group 4

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
330	1797	277	23.92	1682	2.82	27.78	0.33	**13**	2.637	21.10	0.79	**low**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
3.3 to 3.5	16		1978					**low**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
yes	7	106.8										**low**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2004	2007		2006	2009	

Mauritius – group 4

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
100	1244	56	4.164	2211	0.093	582.8	17.85	**33**	21.22	64.31	20.02	**low**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
	5							**low**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	*#*	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	*#*	*Completed*	*Active*	
no												**no projects**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
			2006 (interim)		

Sao Tome & Principe – group 4

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
8	169	47	3.072	12899				**11**				**low**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
3.0 to 3.2	19							**low**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
yes	2	11.5										**low**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*
2003			2005		

Seychelles – group 4

Agricultural water use and irrigation development

Arable land (1000 ha)	Population (1000 inhab)	Economically active population in agriculture (1000 inhab)	Average precipitation (10^9 m3/yr)	Water resources: total renewable per capita (m3/inhab/yr)	Total dam capacity (km3)	Total water withdrawal per capita (m3/inhab/yr)	Ag water withdrawal as % of total renewable water resources (%)	Irrigation potential (1000 ha)	Area equipped for irrigation: total (1000 ha)	Area equipped for irrigation as perc of irrigation potential (%)	Area equipped for irrigation as percentage of cultivated land (%)	**Irrigation potential (rating)**
1	82	30	1.072			150		**1**	0.26	26.00	3.71	**low**

Rating. High if potential above 100,000 ha. Low if potential under 100,000 ha

Country readiness and interest for developing agricultural water

CPIA cluster	Agriculture value added (% of GDP)	FAO Irrigation Sector Reviews	Water Law/ Policy/ Code/ Act	Rural Development Strategy	Irrigation Policy	Irrigation Strategy	Irrigation Action Plan/ Master Plan	**Country readiness and interest**
	3							**low**

Rating. High: irrigation strategy and policy or action plan/ master plan. Medium: irrigation strategy or policy or action plan/ master plan. Low: otherwise

World Bank experience in agricultural water

Bank projects in the country	Bank projects under supervision		Agricultural projects (ARSB Sector Board)		Recently closed projects with I&D components (projects from 1995 and after)	Projects under supervision with I&D components			Pipeline I&D project	Bank ESWs/ CWRAS / AAAs with I&D components		**Bank involvement and readiness (rating)**
	#	*$ million*	#	*$ million*	*Projects*	*Project*	*$ million*	*I&D $*	#	*Completed*	*Active*	
no												**no projects**

Rating. High: Project with I&D component (under supervision or recently closed) and CWRAS, ESW, or comprehensive study with I&D component. Medium: Project with I&D component (under supervision or recently closed). Low: No project with I&D components. No Projects: No World Bank projects in the country

PRSP/ CAS

Existing PRSP		*Upcoming PRSP*	Existing CAS		*Upcoming CAS*
From (year)	To (year)	*Year/month*	From (year)	To (year)	*Year/month*