

Sudan

Rapid Assessment of the Public Investment Portfolio in the Fiscal Adjustment Context

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ACRONYMS AND ABBREVIATIONS

CPA	Comprehensive Peace Agreement
GFS	Government Financial Statistics
GoS	Government of Sudan
GRP	Government Resource Planning
MDTF-N	National Sudan Multi-Donor Trust Fund
MoFNE	Ministry of Finance and National Economy
PER	Public Expenditure Review
PETS	Public Expenditure Tracking Survey
PIM	Public Investment Management
PIP	Public Investment Programs
WB	World Bank

Vice President:	Obiageli Katryn Ezekwesili
Country Director:	Debora (Bella) Bird
Sector Manager PREM:	J. Humberto Lopez
Task Manager:	Tae Hyun Lee

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Sudan - Rapid Assessment of the Public Investment Portfolio in the Fiscal Adjustment Context

- Executive Summary -

A. Introduction – The Fiscal Shock and Public Investment

1. **With the secession of the South, fiscal adjustment is now on the top of the policy agenda in Sudan.** While negotiations on new oil revenue division are still under way, likely substantial losses of oil revenues from southern oil wells call for an extensive fiscal adjustment in Sudan. The first wave of the fiscal shock was already felt by the 2011 amended budget approved by the National Assembly on July 21. Anticipating revenue losses by 12 percent in 2011, the amended budget plans to cut its total expenditure by 7 percent. In 2012, the revenue loss effect could reach around one third of total revenue as the full extent of fiscal shock will be felt throughout the whole year.

2. **The vulnerability of the public investment expenditure underscores the strong need for strategic preparation for the fiscal adjustment.** Past patterns of adjustments show, for instance in the aftermath of the global financial crisis, that revenue shortages have been largely translated into significant cuts of public investment while recurrent spending adjustments were kept at a minimum. The vulnerability of public investment became obvious again in the 2011 amended budget, where the federal capital expenditure cut of 26 percent far exceeded the extent of the overall expenditure cut of 7 percent. Given the importance of public investment in the economic and social development in the post-CPA era, there is a pressing need to re-prioritize public investment. Against this backdrop, this note intends to give an overview of the current status of the public investment portfolio based on a rapid assessment conducted by a World Bank task team in May-June 2011.

B. A Framework for the Public Investment Adjustment Decision

3. **The public investment adjustment as a part of the broad fiscal consolidation efforts will need decisions along the following lines:** (1) what is the new aggregate expenditure envelope from the perspective of medium-term fiscal sustainability? (2) within the aggregate envelope, how much can be allocated to the public investment spending? (3) Given the resource envelope available for development purpose, how will the existing portfolio of public investment projects need to be reprioritized? While the first two higher level decisions are made from a macro-fiscal policy perspective, the reprioritization of the public investment programs requires micro-level assessments on the existing investment portfolios; this would then support the decision-making about those projects that are to be prioritized over others.

4. **A technical approach is useful to provide an objective decision framework for prioritization.** Determining relative priorities for a large set of projects is a challenging task. But the technical evaluation of projects based on objective criteria can provide a useful lens to simplify complicated prioritization decisions. Without objective

criteria, subjective judgment, often based on political perspectives, could potentially lead to sub-optimal decisions, somewhat reflecting political.

5. **This note proposes a technical approach involving the three steps of decision-making.** Considering limited information and time for the authorities, detailed assessments on individual projects – e.g. through economic/financial feasibility re-assessments – cannot practically be carried out at this moment. However, re-assessments on feasibility of projects will still be needed at a minimum level, based on available project information and a good rule of thumb in order to filter bad projects with low returns; this would allow to sequence and prioritize competing projects.

Step 1 – Yes/No Decision: Projects without any justifiable ground for financing need to be dropped. Projects that pass the yes/no decision process should prove that: (i) they have clearly identified practical demands; (ii) envisioned social/economic benefits are sufficient to justify estimate project cost.

Step 2 – Problematic Projects: The increasingly tightened resource envelope underscores the pressing need for minimizing waste of resources by addressing problematic projects. Usual signs of problems include such as cost increase in excess of planned project cost (i.e. cost overrun) or significant delays in project completion. For cost-overrun projects, financial feasibility needs to be re-assessed including the validity of cost estimates. For delayed projects, the authorities need to identify causes of delays and determine whether the projects in question have concrete plans for completion. Problematic projects that are not deemed viable should be considered to be terminated.

Step 3 – Prioritization Decision: Projects that pass through the first and second steps could then be ranked on a multi-criteria basis. For this, a list of prioritized projects needs to be made. The prioritization decision involves scoring a set of objective criteria and ranking projects using weighted sums of scores from applied criteria. Useful criteria would include – but are not limited to – the following:

- **Policy impact assessment through a pro-poor lens.** The policy contribution of projects is the most important criteria in prioritization. Through a pro-poor lens, key consideration will be on the vulnerable population and on marginalized regions that are most likely to be negatively affected during the political and fiscal transition period. Another important policy impact to be considered is the contribution to long-term growth effects – so giving priority to construction/rehabilitation of infrastructure and basic service facilities.
- **Financial and completion criteria:** (i) foreign financing impact - projects with a high leveraging effect for foreign financing need to be prioritized; (ii) financial self-sustainability - projects with an expected financial return sufficient to cover operation and maintenance expenses may be prioritized over others; (iii) closeness to completion – well-advanced projects that are sure to be completed in a given fiscal year may be considered as high priority.

C. Key Findings of the Rapid Assessment of the 2011 Public Investment Portfolio

6. **The government financial database system developed under the Government Resource Planning (GRP) System provides project-level information for 175 national development projects.** Available data includes project life cycle (project starting and closing years), project cost estimates and the sources of financing. While limited in the depth of the analysis, the rapid assessment provides useful diagnostic results on the current status of the public investment portfolio. The key findings include:

- i. **Agriculture and energy sectors have been priority areas of investment while public investment in key pro-poor areas has been weak.** In particular, federal investment in basic service deliveries (health, education and water) has been significantly low. While relatively larger investment has been made in the key pro-poor spending at the state-level with the support of federal capital transfers, state-level development spending in the basic service sectors still remains weak due to limited own revenue capacities of the state governments.
- ii. **Development resources are highly concentrated in a few mega projects.** The thirteen largest projects accounted for over 60 percent of the total fiscal burden imposed by 175 national public investment projects. Considering the weak public investment management system of Sudan, it is likely that some of the large projects did not undergo adequate project appraisal process. Given their significant fiscal impacts, it needs to be ensured that large projects have sufficient ground for the large fiscal burden through a rigorous feasibility re-assessment.
- iii. **The overall development resource envelope relies heavily on external financing but it remains unclear to what extent the planned foreign financing is actually guaranteed.** In the 2011 budget, 75 percent of national development spending was planned to come from foreign sources, especially foreign loans from China. But past patterns suggest that foreign financing for 2011 may be significantly overstated. In fact, over the years, poor credibility of foreign financing plans has caused significant under-execution of budgets for many projects. To enhance the credibility of the proposed prioritization plan, fiscal planners need to ensure that prioritized projects have reliable sources of funding – including guaranteed foreign financing.
- iv. **Many projects show cost-overrun status and/or significant delays of implementation.** Among the 175 national projects, the actual cost expenditures already exceeded estimated project cost for 34 projects. Moreover, 17 projects have been implemented for over ten years since they were first approved for budget and 45 projects have been in the annual budget plans for over five years. Problematic projects with cost overruns or significant delays over certain thresholds need to be re-assessed for their feasibility.
- v. **A significant number of projects shows very poor budget execution status including 21 on-going projects with zero budget execution.** The 21 projects (12 percent of the entire portfolio) received budget allocations in the approved budget (for many successive years in many cases) but no actual funding was ever disbursed from the treasury. There were also 57 projects (32 percent) whose

budget execution rates were below 10 percent. The poor budget execution performance may be due to short funding of projects under a tight budget situation but it could also indicate issues in the project design phase or dysfunctional contractors.

- vi. **The current development portfolio is a mix of recurrent and capital expenditure programs, but the distinction is not clear-cut.** Separating recurrent programs from those of primarily capital expenditure nature could increase efficiency in the management of public investment and help to identify areas to tackle the context of the fiscal adjustment. Preliminary re-classification points to 110 projects found as capital spending, which is just over half of the 175 national development projects. Yet, due to limited information available, any re-classification at this stage has to rely largely on a subjective assessment; further refinement may only be possible after the collection of detailed project profiles, which are often located at the line ministries.

7. **The fiscal authorities' capability to accurately review public investment projects is likely to be limited by significant gaps in key project level information.** Critical information are currently missing to decide upon the economic or financial feasibility of projects; this includes project objectives and demand assessment results, expected benefits from a project, future operation and maintenance cost information, and a time schedule for completion. The gap raises serious concern for the quality of the prioritization decision; due consideration will have to be placed to avoid misled assessments due to insufficient information underlying the exercise.

D. The Immediate Task – What Can Be Done During the Coming Months?

Preparing and Implementing Prioritization

8. **Given the tight time frame, the next few months are critical for preparing the public investment adjustment.** As the six-month emergency budget for 2011 was announced on July 21, the fiscal authorities now need to prepare for the likely even larger fiscal adjustments over the next year and beyond. The following gives an indication of necessary next steps over the coming months.

- i. **Key information for the prioritization decision need to be collected.** Given the tight time frame, the MoFNE needs to actively encourage line ministries to collect critical information essential for the prioritization decision. A standardized profile template would be helpful to facilitate the information gathering process – it would provide a list of project-level information deemed necessary by the central fiscal authorities to be filled by line ministries.
- ii. **Once the relevant information is collected, both the MoFNE and line ministries need to start reviewing public investment projects.** To facilitate the reviewing process, a central guideline needs to be established and sent out to line ministries including objective criteria as standard basis for review. Based on their review outcomes, line ministries need to prepare preliminary lists of prioritized projects. The MoFNE needs to conduct separate assessments of the feasibility of

selected projects – e.g., large size projects with significant fiscal impact, projects with significant cost overrun or delays.

- iii. **The MoFNE makes a final prioritization decision on which projects to be included in the budget and how much resources they will receive.** The final decision of the MoFNE will be based on the prioritization lists submitted by line ministries and the own assessment of the MoFNE on selected projects of importance. Prioritization lists submitted by line ministries may have to be modified to properly reflect higher-level national development needs, but this requires close consultation across all line ministries.

Making Strategic Decisions on Priority Development Areas

9. **Priority development areas need to be identified and an announcement of a national development strategy is urgent to anchor the strategic decisions.** Given the increasingly tightened resource constraint, proper targeting of the available development resource envelope is a key to efficient public investment during the post-CPA fiscal environment. The national development strategy should stipulate development goals over the planned horizon (e.g., five years). Specific intermediate development targets and action plans need to be clearly set as a road map to the mid-term development goals with core public investment projects identified.

10. **Key consideration needs to be given to public investment with significant pro-poor impact, particularly in basic service areas.** Development demands for these basic service areas are enormous especially in rural and marginalized areas; yet, actual development investment in these areas at the state level remains low despite growing federal transfer trends to state governments. Due to the limited capacities for own revenue mobilization of states, most of federal transfers to Northern States have been used to cover re-current spending, including wages and salaries; this leaves minimal resources for investment spending at the state level. Continuous investment in the critical basic service areas need to be made through direct development expenditures from the federal budget as well as federal support to the states' development budgets.

11. **The development demand in the infrastructure area is huge and the marginal benefits from infrastructure investments are potentially immense.** A recent World Bank study¹ suggested Sudan's most pressing infrastructure challenges lie in water and transport sectors. In the water and sanitation areas, while 40 percent of the population uses improved sanitation technologies, around 40 percent are confronted with serious access challenges which have been compounded by large inefficiencies in the water utilities. In the transport sector, while there are a few well-developed internal corridors, rural connectivity is still widely non-existent and the poor quality of roads drastically undermines the efficiency of transport services. According to the study, improvement in

¹ Sudan's infrastructure – A continental perspective (World Bank, 2011, forthcoming)

roads could have a positive impact on development prospects and increase GDP growth by up to 1.5 percentage points.

D. Mid- and Long-term Tasks - Building Efficient Public Investment Management

12. **In the mid-term, the fiscal authorities need to start addressing the problems in the current public investment management practice found in the process of preparing for prioritization.** The following outlines areas of improvement in the public investment portfolio database and monitoring and evaluation practice:

- **The central fiscal authorities need to build a project data management system that can keep track of project performance throughout the project life cycle.** Despite the recent development of the GRP database, the current project management practice still relies largely on non-electronic paper documents, which are hard to manage. Project information available in non-electronic sources of the MoFNE and line ministries should be integrated into the GRP database, which is already equipped with some basic project profiles. Improving capabilities of staff through training to properly use the database is an additional urgent task.
- **The lack of relevant project performance indicators underscores the strong need for adequate monitoring and evaluation (M&E).** Enhancing M&E requires a fully-committed central monitoring unit within the MoFNE as well as strengthened monitoring activities of project management teams at the line ministries. A central monitoring unit needs to provide specific guidelines for M&E activities of project management teams and supervise the quality of M&E. Project management teams should monitor and evaluate the progress of projects against a work plan and guidelines provided by the central monitoring unit, which will regularly be reported to the central monitoring unit.

13. **In the longer-term, improving the overall public investment management system is important.** While further work is needed for a full assessment, problems in the project management practice and information gaps found during the rapid assessment all point to the weakness of the current public investment management system. First, a well-organized public investment management would allow project information to be systematically collected and reviewed through continuous appraisal/screening and the monitoring process during the entire project life cycle. Second, proper feasibility tests and project demand assessments – essential elements of any efficient public investment management system – would allow filtering bad projects; with this, wasting scarce fiscal resources could be minimized. Third, continuous monitoring on the project progress and adjusting projects for changes in project circumstances would allow the authorities to engage in constant re-prioritization exercises of the public investment portfolio.

14. **A diagnostic assessment is needed on the institutional settings of the public investment management system.** The diagnostic study would focus on identifying gaps of the current system against institutional features of well-functioning PIM system. This note outlines the eight must-have features that are internationally considered core

elements of efficient PIM system (Box 6), which could be used as a benchmark for identifying weak public investment decision nodes. In fact, many countries already conducted diagnostic assessments on their public investment system with the cooperation of the World Bank, including Angola, Republic of Congo, Nigeria, and Uganda. Diagnostic assessments build the foundation for policy actions to address weaknesses.

I. Introduction

1. **Public investment to facilitate growth and poverty reduction is paramount to Sudan's development challenge.** The acute need for rebuilding the country's deteriorated infrastructure and service delivery framework underscores the importance of more active and effective public investment. Moreover, with the secession of the South, the importance of public investment is gaining prominence as the oil sector-driven economy of the past needs to find a new driver of growth. Public investment is now expected to play a critical role to support the economic challenges facing Sudan during the post CPA period and to maintain economic and social development in the new environment without oil revenue windfalls.

2. **With the secession of the South, fiscal adjustment is now on top of the policy agenda in Sudan.** While the details of the new oil revenue division are still subject to ongoing negotiations, substantial losses of oil revenues from southern oil wells – which have contributed to around half of the total revenue during the CPA period – call for an extensive fiscal adjustment to Sudan. The harsh reality was first reflected in the 2011 amended budget that was passed on July 21 by the National Assembly. Anticipating revenue cuts of twelve percent in 2011, the amended budget announced to reduce federal government spending envelope (which excludes transfers to South Sudan since July 9, 2011) by 7 percent, most of which are planned to be absorbed by transfers to the state governments and public investment expenditures. The key features of the amended budget for 2011 are summarized in Annex 5².

3. **The disproportional composition of the spending adjustment raises particular concern on pro-poor and public investment spending during the subsequent fiscal adjustment period expected to follow.** Under the growing fiscal decentralization trend, the state governments have taken up the primary responsibility to provide basic public service deliveries to the poor; in such a decentralized constellation, reduced support from the federal budget could seriously jeopardize the provision of basic services at the state and locality level. At the same time, reduced public investment expenditure would limit the government's capability to address reconstruction and development challenges of the post-CPA Sudan. Mitigating the potentially significant impact on these key spending areas will be an important task for the fiscal authorities during the fiscal adjustment period.

4. **In particular, public investment expenditure now has to effectively address service delivery needs and the broader development agenda, while at the same time the overall resource envelope is declining.** This underscores the importance of a strategic approach to addressing the public investment adjustment – and to do more with less. Fiscal planners need to re-prioritize public investment programs in order to maximize their contribution to the economic and social development agenda while minimizing wastage of scarce resources. Against this backdrop, the MoFNE and the

² Annex 5 summarizes of the 2011 Amended Budget Note (November) prepared by the PREM, the World Bank. The note is available upon request.

World Bank agreed to the importance of reviewing the status of the public investment portfolio using currently available information. As a result, this rapid assessment study on public investment portfolio was launched, in close coordination with counterparts in the MoFNE. As part of the study, a World Bank task team, supported by the MoFNE, collected available data on the current public investment programs in May 2011.

5. **This note is the result of a rapid assessment of Sudan’s public investment portfolio in the context of the anticipated fiscal adjustment.** It is not a full-fledged review on public investment projects or the public investment management system. Given the tight time frame and limited data availability, the primary purpose of the work is to help the authorities to better understand the overall status of the public investment portfolio by providing a bird’s eye view on the portfolio. The main scope of the assessment is:

- To quickly identify available information on public investment projects from existing sources;
- To provide an contextual overview of the overall public investment portfolio in light of the imminent needs for rationalizing the public investment portfolio; and
- To outline conceptual guidelines for public investment adjustments and to propose longer-term tasks to improve public investment management.

II. Anticipated Fiscal Shock and Public Investment

6. **While South Sudan formally seceded from Sudan on July 9, 2011, negotiations between the CPA parties on post-CPA arrangements are still underway.** At center stage of the post-period arrangement is how to deal with oil revenue generated from southern wells – which accounted for around 75 percent of Sudan’s total oil production during the CPA period. Then the parties have equally split the rents from oil wells in the South, which have accounted for almost half of total revenue envelope of GoS. Consequently, a loss of those oil revenues would mean a significant and “permanent” fiscal shock to the Government of Sudan (GoS).

7. **An extensive fiscal adjustment is inevitable and a large part of the burden is expected to fall on the expenditure side.** Efforts to boost other sources of revenue may have limited impact in the near term. This may come from the protracted nature of on-going reforms, combined with possibly declining economic activity from the loss of oil sector rents and a weakening multiplier effect throughout the economy. Thus, substantial adjustment pressure will have to be absorbed on the expenditure side, which would affect every major spending area and including the public investment category.

8. **The first wave of the fiscal shock was already felt by the 2011 amended budget approved by the National Assembly on July 21.** Anticipating revenue losses by 12 percent in 2011, the amended budget plan for Sudan cuts total expenditure by 7 percent – indicating that the spending adjustment will absorb most of the fiscal shock. However, actual revenues for 2011 are potentially higher than the amended budget projects, but are subject to the overall negotiations. For instance, GoS may be able to collect revenue shares in the form of various fees.

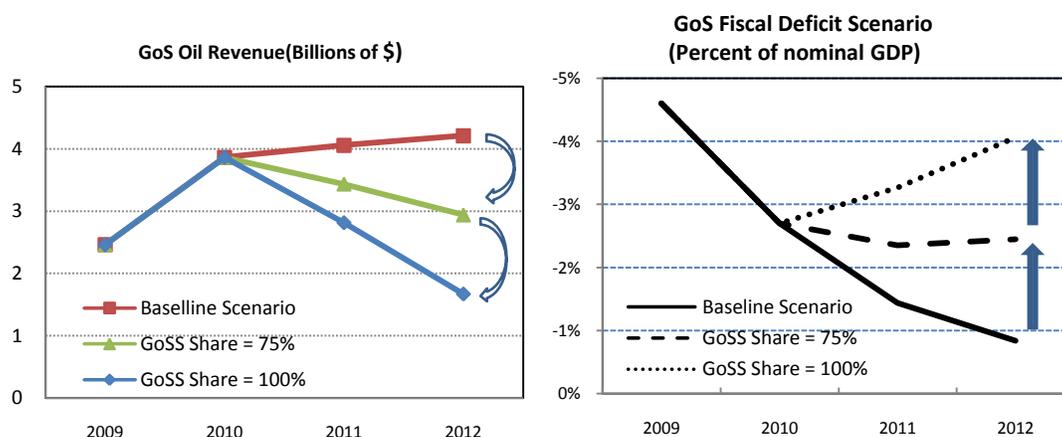
9. **In 2012, the extent of the fiscal shock will be fully felt throughout the whole year and the revenue loss effect would be doubled compared to that of 2011.** A World Bank staff analysis, carried out in support of this study, suggests the full extent of oil revenue losses could reach around one third of total revenue in 2012. This is based on a worst case scenario where GoS would not receive any revenues from the marketing of South Sudanese oil, effective on July 21, 2011 (See Box 1).

Box 1. 2011 Fiscal Shock Simulation Results

A World Bank study conducted fiscal scenario work to present an indicative idea on the magnitude of fiscal impact in a range of oil revenue sharing scenarios. Against the baseline scenario which assumes GoS continues receiving half the Southern oil revenues (i.e., The South share = 50%), the two following hypothetical scenarios were simulated to measure the extent of revenue losses compared to the baseline scenario: (i) GoS receives only half the current share (The South share = 75%); (ii) worst case scenario – The South takes all the southern revenue (The South share = 100%).

The simulation suggested GoS’s oil revenue losses could be roughly around US\$ 1.3-2.5 billion in 2012, equivalent to around 14-27% of reduction of total revenue envelope, indicating the revenue losses could reach a third of total revenue in the worst case scenario. Accordingly, fiscal deficits are expected to deteriorate by around 1.6-3.2 percent in 2012. For 2011, the simulation suggested around 14 percent of revenue losses in 2011 in the worst case scenario – it is close to the revised revenue outlook (12% reduction) of the 2011 amended budget.

Figure 1. GoS Fiscal Scenario – Oil Revenues and Fiscal Deficits



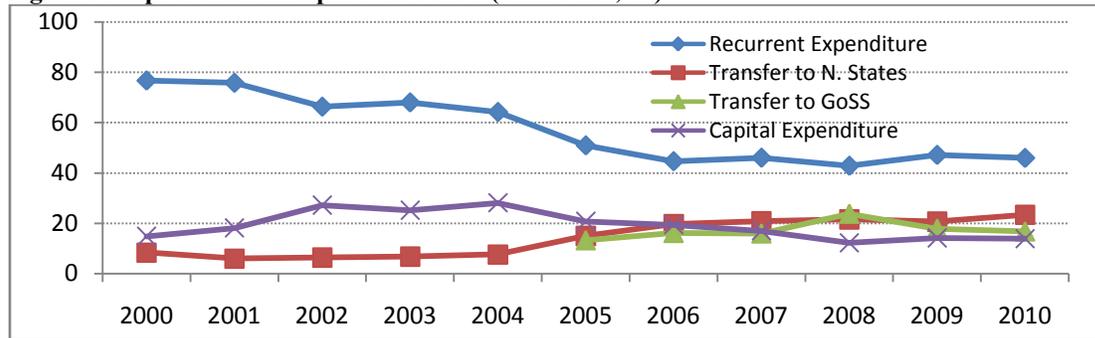
1. GoS oil revenues are World Bank staff estimates.
2. Government oil revenue in this note is larger than the government figures because it reflects the market value of oil sales before any accounting adjustment related with the Oil Revenue Stabilization Account.
3. Historical data for fiscal deficit to GDP ratios are World Bank estimates based on the estimates on market value of oil sales. Nominal GDP for 2011 is from the IMF and the 2012 nominal GDP was assumed to grow at the same rate as the 2011 nominal growth rate forecast by the IMF (2011).

Source : Sudan - Fiscal Policy Note (World Bank, April 2011)

10. **Adjustments of the public investment expenditure will be part of the broad fiscal adjustment efforts.** In fact, public investment expenditures (measured by capital expenditure) have always exhibited vulnerability to fiscal adjustment pressures. During the 2005-2006 periods, both recurrent and capital expenditures gradually declined as the

transfers to both Northern States and South Sudan increased under the growing fiscal decentralization obligated in the CPA. Then, the global financial crisis highlighted the vulnerability of capital expenditures to revenue fluctuation. While recurrent expenditure shares were stable at around 45 percent during the 2006-10 period, the share of capital expenditure plummeted from 19.4 percent in 2006 to 12.3 percent in 2008 and did not show signs of substantive recovery until 2010 (See Figure 2).

Figure 2. Expenditure Composition Trend (2000-2010, %)



Source: World Bank Calculation based on MoFNE (2000-2009); World Bank Staff estimates (2010)

11. **In particular, fiscal adjustment pressures have been largely absorbed by under-execution of public investment budget.** During the 2008-2010 periods, under-execution of capital expenditure accounted for significant portion of mid-year expenditure adjustment (measured by under-executed amount of budget) in response to revenue shortfalls. Figure 3 shows that mid-year adjustment of capital expenditure absorbed the most of the fiscal adjustment pressure since 2008 – under-execution of capital expenditures accounted for 78 percent and 90 percent of total expenditure adjustments in 2009 and 2010 respectively.

12. **The vulnerability of public investment expenditures was signified again by the disproportional adjustment of the recent 2011 amended budget – as depicted by Figure 4.** Against the 2011 original budget, federal public investment expenditure was cut by 26 percent and capital transfer to states (important pipeline for state-level public investment) was reduced by 46 percent. The extent of adjustment in development spending is clearly contrasted with recurrent component adjustment: employment compensations of the federal government non-capital transfers to states both increased by 8 percent and 2 percent respectively.

13. **Given the past patterns of fiscal adjustment, public investment expenditure is likely to be hit harder next year as larger fiscal adjustment is anticipated.** The high vulnerability of public investment to fiscal shock underscores the pressing needs to start preparing for likely intensifying adjustment pressures on the development budget. Considering the increasing importance of development resources, extensive adjustment on public investment would have far reaching consequences beyond the fiscal consolidation dimension. Despite the importance, there had been no strategic assessment on Sudan’s public investment portfolio so far. Better understanding the current status of public investment portfolio is an important in light of harsh fiscal adjustment ahead.

Figure 3. Mid-Year Adjustment (2006-2010): Capital vs. Total Expenditure (M SDGs)

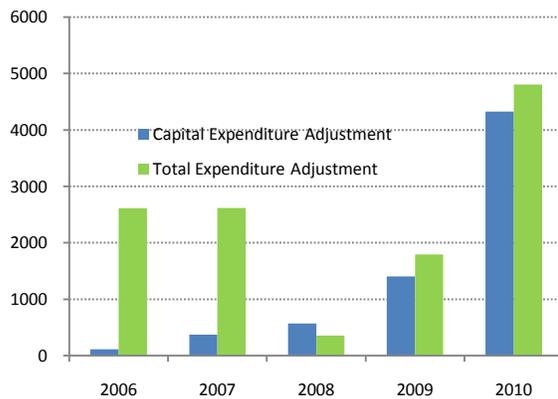
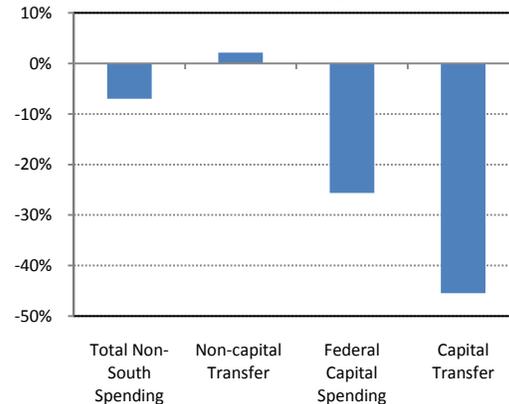


Figure 4. 2011 Spending Adjustment Composition: Amended Budget vs. Original Budget



Source: World Bank Estimates based on MoFNE budget execution data (2000-2010) and the 2011 amended budget

III. A Framework for the Public Investment Adjustment Decision

A. Flow of Decision-Making

14. **Based on the scope of adjustment, a strategic decision-making framework for the public investment adjustment usually evolves along the following lines:** (1) what is the new aggregate expenditure envelope from the perspective of medium-term fiscal sustainability?; (2) within this envelope, what adjustments are required to the size of major expenditure areas including public investment spending to effectively address policy priorities?; (3) within available resources for development purpose, how will the existing portfolio of public investment projects be reviewed and reprioritized?

Box 2. Flow of Decision Making

Scope	What to Adjust?	Decision Making
Macro-level fiscal adjustment	Aggregate expenditure envelope	What is the new oil revenue outlook? What level of spending is fiscally sustainable? What is the optimal speed of fiscal adjustment?
Mid-level resource allocation	The size of development resource envelope	How much to allocate to federal versus sub-national levels? How much to allocate to public investment spending?
Sector/project level reprioritization	Resource allocation for individual spending units	What programs/projects should be protected? Which should be reduced or eliminated?

15. **A new aggregate expenditure envelope will depend on the planned size and the speed of the fiscal adjustment within a mid-term fiscal sustainability framework.** This will heavily depend on the oil revenue outlook. Fiscal planners should determine a credible medium-term timeframe for fiscal consolidation to regain fiscal sustainability based on a conservative oil revenue outlook; this would need to be followed by

determining the size of the necessary expenditure adjustment over the planned time horizon. The expected increases of revenues due to the parallel revenue-side adjustment efforts needs to get close attention to ensure proper accounting for the size of the expenditure adjustment.

16. **Once the expenditure envelope (or aggregate spending cut objective) is set, subsequent decisions need to be made on the total public investment spending envelope.** The authorities need to decide how to allocate given fiscal resources across major expenditure envelopes (e.g., pro-poor spending, public investment, state-level transfer), which should be anchored to the policy priorities set within the overall national development agenda. Even though the adjustment on public investment is inevitable, the total resource envelope for public investment has to be determined with due consideration of its increasing role in the post-CPA era economic and social development.

17. **Down at sector/project level, the government needs to determine how much to allocate for competing sectors and projects through re-prioritization within a given expenditure envelope.** First, inter-sectoral resource allocation decisions need to be made which consider the demand for the development agenda and balance resource allocations across sectors. Then, within the determined sectoral envelopes, project level decisions are needed as to which projects to be prioritized over others or to be closed/delayed based on the relative importance and feasibility of projects

B. Prioritizing the Public Investment Portfolio

18. **Sectoral/project level decisions to adjust public investment projects need to involve the re-prioritization framework.** First, given the significance of public investment in the post-oil revenue economy, effective prioritization would ensure to make the best out of scarce resources. Second, without the prioritization framework, resource allocation across development projects is likely to be determined in an ad-hoc manner through political negotiation or across-the-board type solutions. This may lead to counter-productive outcomes and is often seen in low-income developing countries where efficient public investment management systems are yet to be developed. Third, even when every development objective seems critical, not all sectors or individual programs can have the same social or economic impact. The prioritization framework would allow a sequencing of competing development objectives based on their strategic alignments with the national policy agenda.

19. **The key objective of the public investment prioritization is to draw the maximum benefit of development programs out of limited resources.** Given this, the authorities should consider to re-allocate the development budget envelope across development sectors as well as individual projects within sectors based on their relative importance and performance. Yet, determining relative priorities for a large set of projects is a challenging task. There is no “golden rule” for determining which projects should be prioritized over others. But in fact, clear principles and objective criteria are essential; this would allow anchoring the public investment adjustment.

20. **Political judgment by the authorities from the national policy perspective is important in the prioritization decision.** Political judgment is particularly important in identifying key projects with significant contributions to the national development strategy or with significant political importance. And political determination of the portfolio is even more important when technical approaches to assessment are highly limited due to imperfect project-level information and the nature of public goods. In fact, systematic use of cost and benefit analysis and/or feasibility studies are often not enshrined into public investment project management settings of developing countries. Moreover, expected benefits of public projects often cannot be easily measured in a quantitative manner.

21. **A technical approach is useful to provide policy makers an objective decision framework.** Technical evaluation of individual projects based on objective criteria can provide a useful lens to simplify complicated prioritization decisions. It could also allow the fiscal authorities to identify high priority projects or problematic projects as well as to rank existing projects in a transparent manner. Without objective criteria, subjective judgment, often from political perspectives, could potentially lead to imperfect assessments influenced by political backgrounds of individual projects.

C. A Technical Approach for the Prioritization Decision

22. **Prioritization of public investment projects as a part of broader fiscal adjustment would be similar to project adjustment stage³ of the project life cycle.** In an ideal setting of public investment management system, de-facto re-assessment on economic and financial feasibility would be required for effective prioritization. The re-assessment process would involve detailed cost/benefit analysis and economic analysis (including social benefit and cost). For example, prioritization process could be based on a financial value such as return on investment, internal rate of return or some other valuation approach that considers the cost and benefits undertaking a project. However, the values derived depend critically on the assumptions about costs and prices. Furthermore, in many public investment projects, it is often difficult to estimate project benefits, which limits the usefulness of detailed cost/benefit or economic analysis.⁴

23. **In fact, a simpler approach may be more practical in Sudan's case given the lack of relevant information on cost/benefit analysis of projects.** Currently, no detailed information on costs and benefits of projects are available; in fact, the assessment team did not find any physical evidence of sufficient feasibility analysis at the project proposal stage. A simplified prioritization process would entail the three minimum requirements to assess the project feasibility and priority.

³ Project Adjustment stage refers to the project review process to allow changes in the disbursement profile to take account of changes in project circumstances. Once a project is included in budget, the government needs to monitor project implementation progress and has to decide whether to stop or adjustment certain projects with significant problem including when newly estimated costs exceed expected benefit due to changes in circumstances. For more details, see Rajaram, Minh et al (August, 2010).

⁴ Mongolia – Improving Public Investment Planning and Budgeting, World Bank, September 2010

Step 1 - Yes/No Decision

24. **The first stage of the prioritization process is a “yes/no” decision that can be used to stop underperforming on-going or new projects.** This simple yes/no decision would allow the authorities to not waste scarce time on any time-consuming evaluation of these “bad” projects. The “yes/no” decision would include re-assessment on:

- **Project Demand.** There should be clearly identified practical demand for the projects and the services they will provide. Line ministries are responsible for providing credible evidence of practical use of projects. The demand assessment should, for example, include traffic volume projections for road projects, clear needs for infrastructure services including power, water and communications. The central fiscal authorities also need to determine whether proposed projects are aligned with the broader national development agenda. The current work on the Interim Poverty Reduction Strategy, may provide such a framework of the national development agenda. Any projects without sufficient ground for project demand would then consequently have to be terminated. However, the assessment team was not able to collect any qualitative information of projects including project objectives and demand, which raises concern about the actual demand for many of the projects reviewed.
- **Cost/Benefit Aspect.** While a detailed assessment of cost/benefit information may not be available, the fiscal authorities need to assess whether the expected cost of a project are justifiable with expected benefits. In the absence of quantitative measurement of expected social benefit, however, the authorities largely need to rely on qualitative judgment on whether there is sufficient social or economic benefit expected from a project. It must be noted that any such qualitative judgment on cost/benefit aspects bears the risk of understating costs, especially in the absence of future recurrent cost estimates. In principle, project cost need to include both capital expenditure costs (needed for completing projects) and recurrent expenses (including operation and maintenance costs expected after the completion of projects). Yet, the assessment team was not able to find future recurrent cost information expected after completion of projects.

Step 2 – Restructuring Problematic Projects

25. **In light of inevitable fiscal adjustment needs, one of the urgent tasks is to minimize wastage of fiscal resources by addressing problematic projects.** In general, potential problematic projects are usually associated with high cost overrun and significant delays of project implementation. For cost-overrun projects, financial feasibility needs to be re-assessed including the validity of cost estimates. For delayed projects, the authorities need to identify causes of delays and determine whether the projects have concrete plans for completion. Problematic projects that are not deemed viable should be terminated. The following definitions for cost overrun and delays of projects could be used:

Cost Overrun

- **Cost overrun is defined as an unexpected cost increase in excess of planned project cost that cannot be accounted for by reasonable factors including price escalation due to inflation.** Cost overrun could occur due to: unintended forecasting errors or deliberate efforts to make projects more appealing in the design phase; or excessive increase of maintenance costs during the implementation period due to significant delays of completion.
- **Projects with cost overrun symptoms can be identified through cost indicators.** These include the originally estimated project cost size, actual cost expenditure and prospective cost expected to be incurred until completion.

Delays of Completion

- **Significant delays (or time overrun⁵) in project completion increase the capital-output ratio and lower the efficiency of the investment.** Project delays may occur due to frequent changes of project design, short-funding of projects or capacity constraints of contractors and/or implementing agencies. Long-dragged projects are often accompanied by significant cost overruns as costs of inputs are likely to increase over time.
- **Old projects, which have already exceeded their ‘shelf life’, may also indicate potential problems.** Underperformance of projects can be measured by physical completion status or past budget execution performance as a proxy indicator. These poorly performing old projects may signal the presence of significant design flaws including invalid project demand or dysfunctional contracts. In particular, project demand envisioned at the project planning stage tends to decline significantly with long delays. Old projects beyond certain thresholds (e.g., 5 years) should be reviewed with a view on their adequacy of the initial project demand assessment..

Step 3 – Multi-Criteria Prioritization Decision

26. **Projects that pass through the first and second steps could then be ranked on a multi-criteria basis.** Multi-criteria prioritization decision involves scoring of a set of objective criteria for each project and rank projects using weighted sums of scores from each criteria.

27. **Public Investment Prioritization Criteria.** The following outlines a set of criteria useful for public investment prioritization.⁶

⁵ Time overrun is defined as project delays over planned completion schedule.

⁶ This section benefitted from the discussion on public investment adjustment criteria of Kai Kaiser et al. (2010)

1) Policy Impact Assessment as Pro-poor and Growth-Impact Lens

28. **Contribution of projects to the national policy goals is the most important decision criteria in determining the public investment portfolio.** Strategic alignment of public investment programs with national policy goals is critical to ensure that public expenditure can effectively support economic growth with limited resources. Key programs or sectors need to be identified based on their impact on national policy goals and should be given top priorities in resource allocation. Policy impact assessment is also important for inter-sectoral prioritization decision. But the authorities need a comprehensive national development strategy to provide policy anchors for the prioritization decisions. The Interim Poverty Reduction Strategy, the 3-year Emergency plan and/or the 5-year strategic plan currently being formulated by the authorities, and which ideally are all linked closely together, could all provide the strategic guidance needed. To inform the policy discussion, the following areas usually call for attention through high policy priority areas.

Impact for Poor Population and Marginalized Regions

29. **Fiscal planners should be particularly concerned with distributional effect of individual projects in terms of main beneficiaries and targeted regions.** In particular, projects with large impact on basic public service delivery (e.g., primary health, basic education and very basic infrastructure) should be given priority. The impact on regional imbalances should also be fully considered. According to the World Bank Poverty Profiles (2011) based on the National Household Budget Survey (2009), regional disparities in poverty level across states are significant. Accordingly, the poverty incidence varies from 26 percent in Khartoum state to 57.7 percent in Red Sea and 69.4 percent in North Darfur. In this light, those development projects that contribute to the rehabilitation of basic service and infrastructure in disadvantaged areas should be given high priority. Considering the distributional impact also has important implications for solidifying social cohesion during the political transition period.

Impact for Long-term Broad-Based Growth

30. **Projects with potentially large growth effects should receive high priority.** Given the economic challenge to support broad-based economic growth during the post-CPA era, any new development strategy should emphasize the need to support diversification and economic growth. To this end, constructing and rehabilitating infrastructure for non-oil sectors and basic public service facilities should be at the center of attention.

2) Financial and Completion Criteria

Foreign Financing

31. **Projects with the potential to leverage foreign financing need to be prioritized.** Projects where federal government financing helps to leverage higher amounts of financing from foreign sources should be given priority by considering that: (i) co-financing is available (e.g. comfort letters signed, a credit line agreed on); (ii) treasury procedures for co-financing of investment projects from external sources are developed; and (iii) foreign financing is within the limits prescribed by the IMF Staff Monitored Program (SMP) to avoid any negative impacts on future prospects to enter the HIPC process. In fact, the authorities need to be cautious about drawing foreign loans since the impact of the development spending on the cost of debt service could have adverse implication in long-term fiscal sustainability issue. In this regard, the focus of foreign financing criteria needs to be on the leveraging effect of drawing concessional financing from external sources. In particular, foreign-grant funded projects including the Sudanese National Multi Donor Trust Fund (MDTF-N) need to be prioritized over others. To target the funding source criteria, the fiscal authorities need to know source and type of funding (concessional vs. non concessional) and the terms of funding contracts.

Financial Self-sustainability

32. **Projects that are expected to generate significant amounts of financial return may be considered priority projects.** In particular, projects which are relatively close to completion and also expected to be financially self-sustainable after completion could be considered for high priority projects. This criterion requires estimating future recurrent costs (e.g. operation and maintenance costs) expected after the completion of projects. In fact, governments in developing countries tend to undertake new investment projects without adequately considering their future stream of recurrent costs. The forward cost of investment projects (including their recurrent costs) must be systematically reviewed when preparing the budget by relevant line ministries and the finance ministry. Causes of arrears and/or project implementation problems often come from the fact that the annual budget includes only a small share of the total costs of a new project, which may run over several years.⁷ However, existing sources of information for Sudan's public investment projects do not include any estimates of future recurrent costs, which makes the financial sustainability criteria difficult to apply.

Closeness to Completion

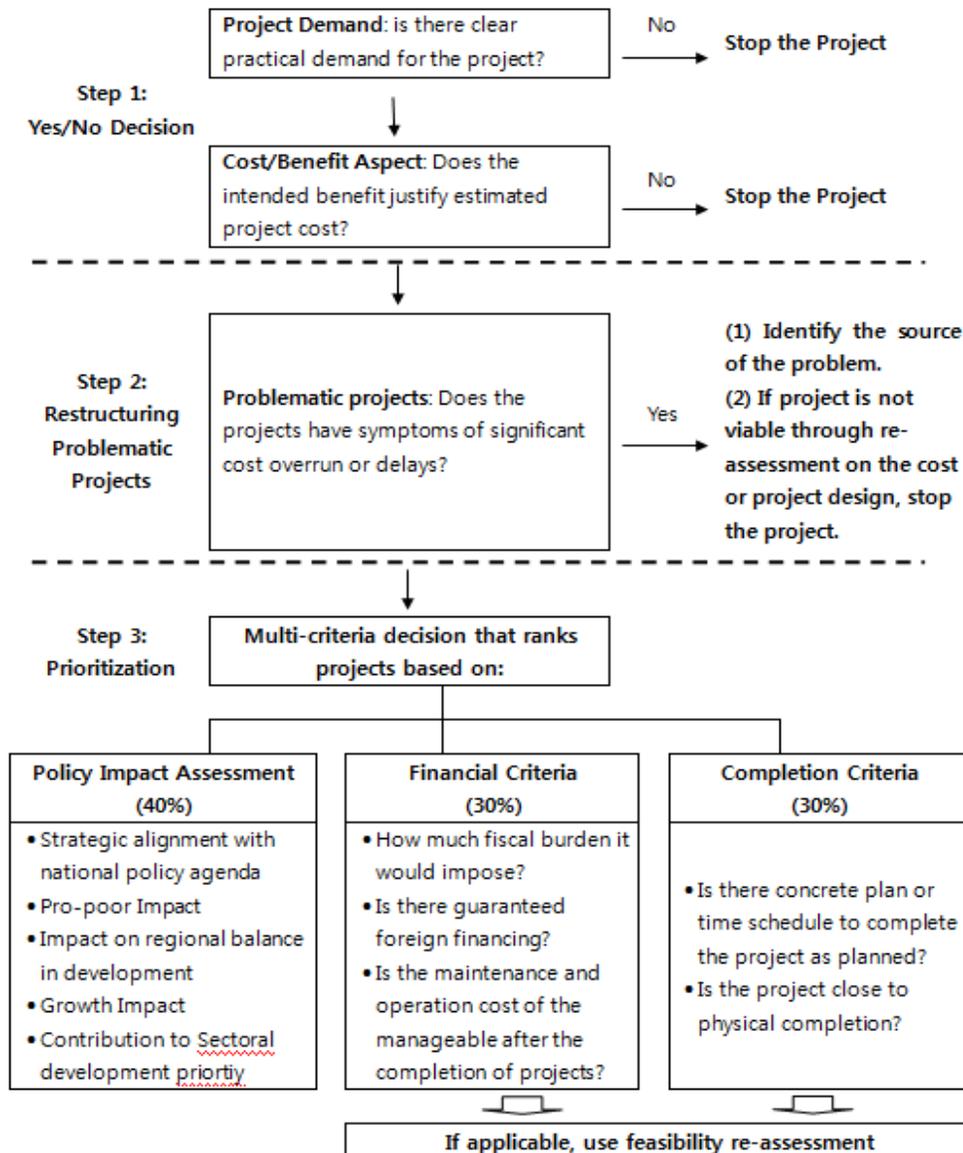
33. **Nearly finished or well-advanced projects may be given high priority for resource allocation.** For example, multi-year projects to be completed in a given fiscal year (or next year, if necessary) need to be ensured of their completion since they are expected to provide envisioned benefits with relatively low additional investment cost. In the same context, projects that have concrete implementation plans (e.g. clearly defined phases of construction) and have shown good progress according to envisioned plans, should be given priority over those without clear action plan for completion.

⁷ Managing Public Expenditure – A reference book for transition economies (OECD, 2001)

34. Box 3 illustrates a decision making framework for prioritizing public investment projects.

Box 3. Flow of Public Investment Project Prioritization

A decision making framework for prioritizing public investment projects could be depicted as the following diagram. Note that multi-criteria and weights assigned to each criterion illustrated are for purely indicative purpose and need to be modified to properly reflect practical needs and decisions of the authorities.



Source: World Bank staff visualization, based on past World Bank project appraisals.

IV. Review of the 2011 Public Investment Portfolio

35. **This section briefly reviews Sudan’s current public investment portfolio through the portfolio indicators developed in the previous chapters.** This rapid assessment does not intend to provide detailed project-level reviews given the limited time and data available for the work. Yet, the quick review intends to illustrate the current status of the development portfolio and to discuss implications of applying some of the beforehand proposed criteria. This could then serve as a basis for refining to be conducted by the authorities to come up with a clear prioritization list of the public investment projects.

A. Development Project Profile Availability

36. **The current budget document (original or amended) does not explicitly list public investment programs (PIP).** Instead, the budget document lists national development projects that correspond to net acquisition of non-financial assets of the government financial account while other spending programs are included in the recurrent expenditure category. The budget document also lists state-level development projects financed by federal capital transfers to Northern States. In principle, the state-level development projects directly financed by federal budget could also be included in PIP, as the authorities suggested to the task team. However, due to limited data availability of state-level development projects, the scope of the review in this note primarily focuses on the national development projects except for available indicators for both categories of projects.

37. **According to the 2011 original budget, there are 175 national development projects with budget allocation of SDG 6.1 billion, accounting for 20.1 percent of the total national budget expenditure envelope.** In addition, there are 101 state-level development projects (SDG 3.5 billion) directly funded by federal capital transfers to Northern States. Capital transfer state-level projects account for 46 percent of total transfers to Northern States. In total, there are 286 development projects (SDG 9.6 billion) funded by either the national development budget or capital transfers; this is equivalent to 31.7 percent of the total national budget envelope.

38. **The government financial database system developed under the Government Resource Planning system (GRP database) provides project-level information of the 175 national development projects.**⁸ The team found that some of the basic project profiles were available in the database for 175 federal development projects of the 2011 original national budget. Available project profiles included information on the sector of

⁸ The public investment project information is managed by the General Directorate of Development. The General Directorate of Development plays an important role in development budget preparation and execution, in particular in the evaluation and selection of projects prepared and submitted to the MoFNE by line ministries (IMF, March 2010).

the project, project life cycle (starting year and completion year), total project cost estimates and source of financing.

39. **Yet, there were significant gaps in the existing database to assess individual projects in the prioritization context.** First, the GRP database lacks key information essential to assess policy impacts of individual projects and their strategic alignment to the national policy agenda.⁹ The team did also not find any evidence of adequate project appraisals, including feasibility or cost/benefit assessment. Second, no information was available that would allow monitoring and evaluating the progress of projects in terms of financial and physical implementation. However, the team constructed time series data (2000-2010) for budget allocation/execution of projects using past budget documents. Lastly, it remains unclear whether the information on project completion schedule and cost estimate in the current database reflects initial plans or recently revised plans, which makes it difficult to measure cost overrun or time overrun status of projects against originally envisioned project proposals.

40. **Some of the missing information appears to be present in the form of paper documents for some projects submitted at the annual budget proposal stage.** The team was able to identify project development objectives/activities and descriptive information on financial/completion progress from some project documents. However, project paper documents are separately stored in individual sector units and the information of the documents is not systematically integrated into the overall PIP organization system. As a result, this review primarily is based on the information available in the GRP database.

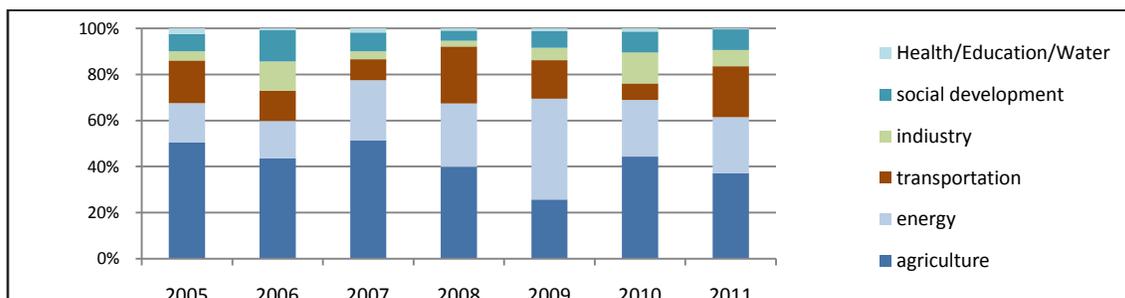
B. Rapid Assessment of the 2011 Public Investment Portfolio

Sectoral Portfolio Composition – Intersectoral Prioritization

41. **The priority in national development resource allocation has been on agriculture and energy sectors with relatively low investments made in basic service areas during most of the CPA period.** Figure 5 shows trends of the sectoral distribution of the national development portfolio during 2000-2010 and the 2011 original budget. The agricultural sector which includes irrigation, livestock and rain-fed areas accounted for 42.9 percent of all development spending during the 2000-10 period where irrigation projects occupy an almost 70 percent expenditure share. Energy (electricity) was the second largest development spending area where most of programs were related to the construction of power stations and distribution networks. The development spending share on basic service areas (including health, education and water supply) has been very low with the total spending share of the three sectors about 1 percent only throughout the CPA period.

⁹ Essential information would include development objectives, main activities, and targeted benefits of individual projects.

Figure 5. Sectoral Composition Trend of National Development Spending



Source: MoFNE (2005-2010 Budget Execution Data, 2011 Original Budget)

42. **At the state-level, large investments were made in basic service areas including health, education and water supply through the support of federal transfer.** Figure 6 shows the sectoral composition of 101 state-level development programs financed by federal capital transfers. Contrary to the just 0.1 percentage point share in the national development envelope, water supply accounted for 27 percent of federal capital transfers. This includes 15 state-level water supply projects. Health and education sector projects accounted for 10 percent (20 projects) of total capital transfers while the same sectors accounted for only 2.3 percent of national development spending. Many foreign-aided basic service projects were separately classified as basic service sectors, including programs funded by UNICEP, UNDP and the World Food Program.

43. **Despite the larger investment in health and education at the state-level, development spending in these key pro-poor sectors needs more attention from the federal budget.** While federal transfers to states has been increasing over the interim-post CPA period, development spending in both sectors still remains weak. Due to limited capacity of own revenue mobilization, most of federal transfers to Northern States are being used to cover re-current spending, which includes wages and salaries. In the education sector, the share of development spending in total education expenditure (comprising both federal and state-level) stood at only 9 percent in 2009 (See Figure 7). In fact, even current spending on basic education is not enough to cover running costs of schools, putting significant burden on the household in the poorer areas of Sudan.

Figure 6. Sectoral Share of Capital Transfer to States

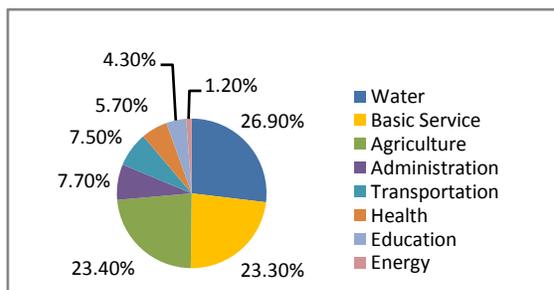
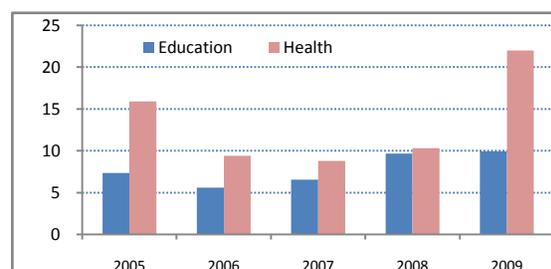


Figure 7. Health and Education Development Spending Share (%): Federal + States



Source: MoFNE (2011 Original Budget), World Bank - PETS (2011) and Educational Sector Report (2011)

Portfolio Distribution by Size – Fiscal Burden of Projects

44. **Development resources are largely concentrated in several large projects.** Table 1 shows the distribution of projects in terms of total estimated project size – a few mega projects are consuming the lion’s share of total fiscal burden expected to be needed to complete all the development projects of the current portfolio. Nine largest projects with their project sizes reaching over SDG 1 billion account for 60.8 percent of aggregate estimated cost of all projects. Remaining 166 projects (94.8 percents) below SDG 1 billion in project size accounted for less than 40 percent of total fiscal burden.

45. **In light of fiscal adjustment ahead, the fiscal authorities need to pay particular attention to these mega projects.** Given weak public investment management system in Sudan, it is likely that some of these large projects did not undergo adequate project appraisal and minimal cost-benefit analysis during project planning stages. It raises concern that some of large projects might turn into “white elephants” and could drain significant fiscal resources without enough justification for their expensive cost. (For more discussion on white elephant projects, see Annex 1.) Considering their significant fiscal burden, the authorities need to ensure that large projects have sufficient ground for continued financing through thorough re-assessment on their feasibility and project demand.

Table 1. Project Size Distribution of National Development Projects

Projects Size (million SDG)	Total Number of Projects	% Share by the number of projects	Size (million SDG)	% Share by Size
< 100	135	77.1%	3655.4	9.7%
< 1000	31	17.7%	11153.8	29.5%
< 3000	6	3.4%	7029.2	18.6%
Above 3000	3	1.7%	15941.8	42.2%
Total	175	100.0%	37780.2	100.0%

Source: 2011 GoS Budget (MoFNE), GRP Database and World Bank Staff Estimates

Source of Funding – Foreign-financed Projects

46. **2011 public investment portfolio heavily relies on foreign funding sources, particularly on foreign loans.** Table 2 shows that foreign sources accounted for over 72 percent of total national development spending envelope while domestic funding is expected to finance only 28 percent. Foreign financing plan also heavily relies on foreign loans largely from China (68.8 percent of total foreign loans) while foreign grant accounted for only around 5 percent of total funding financing for national development.

Table 2. Funding Composition of the 2011 National Development Budget (millions of SDG)

Domestic Source	Foreign Source			Development Budget
	Foreign Loans	Foreign Grant	Sub-Total	
1,700.0 (27.7%)	4191.9 (68.2%)	249.2 (4.0%)	4,441.0 (72.3%)	6,141.1 (100%)

Source: 2011 GoS Budget (MoFNE) and World Bank Staff Estimates

47. **Foreign funding is highly concentrated on a small group of large size projects.** Table 3 shows the funding source distribution of the national development portfolio. While only 36 projects among 175 projects are funded by foreign sources, they account for 82 percent of the total national development budget allocation. Among the 36 projects, 6 projects are financed by foreign grants while 26 projects were financed by foreign loans and 4 projects by a combination of both foreign grants and loans. In particular, projects financed by foreign loans accounted for 71.7 percent of the total national development spending envelope. Projects financed by foreign loans also showed the largest average project sizes (SDG 161.5 million) in the 2011 budget allocation while average budget allocation for projects financed solely by domestic resources were a mere SDG 7.5 million.

Table 3. Funding Source Distribution of National Development Projects (# of projects)

Sector	Domestic funding only	Domestic + Foreign Sources			
		Loan	Grant	Loan+Grant	Sub-Total
Irrigation	13	4	1	0	5
Agriculture	23	4	0	1	5
Livestock	18	1	0	0	1
Industry	5	2	0	0	2
Transportation	29	7	4	0	11
Energy	19	7	0	0	7
Social Development	30	1	1	3	4
Water	2	0	0	0	0
Total # of Projects	139	26	6	4	36
Total Budget Size (million SDG) (% share in size)	1,046.8 (17.9%)	4,200 (71.7%)	267.1 (4.6%)	343.0 (5.9%)	4810.3 (82.1%)
Average Budget Size (million SDG)	7.5	161.5	44.5	85.7	133.6

Source: 2011 GoS Budget (MoFNE) and World Bank Staff Estimates

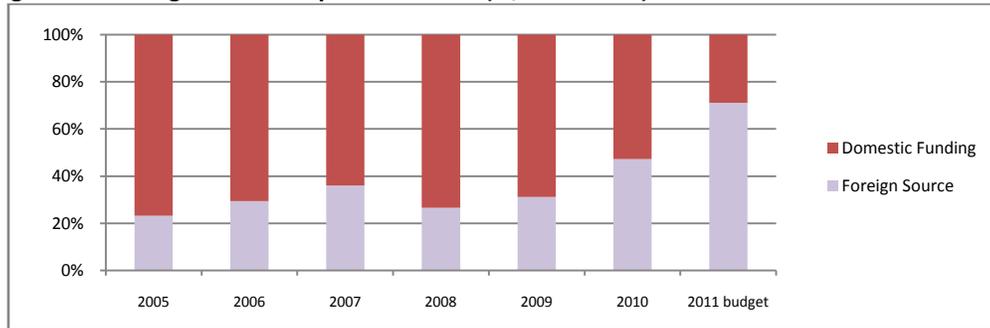
48. **It is not clear how much of the planned foreign financing is actually guaranteed by contract or simply relies on forecast values from side of the government.**¹⁰ Poor budget credibility of foreign financing in the past raises significant concern on the possibility of over-estimation of foreign financing of the 2011 budget. Besides, foreign loans are do come with strings attached and add to the fiscal burden of future generations.

49. **In fact, the 2011 national budget may significantly over-estimate foreign source funding considering the past patterns of foreign financing.** Figure 8 shows

¹⁰ The IMF also underscored the need for reviewing the methodology for estimating external financing needs. For the 2009 budget, for example, half of the proposed foreign disbursements underpinning the capital expenditure budget were unidentified (IMF, Sudan: Staff-Monitoring Program for 2009-10, July 2009).

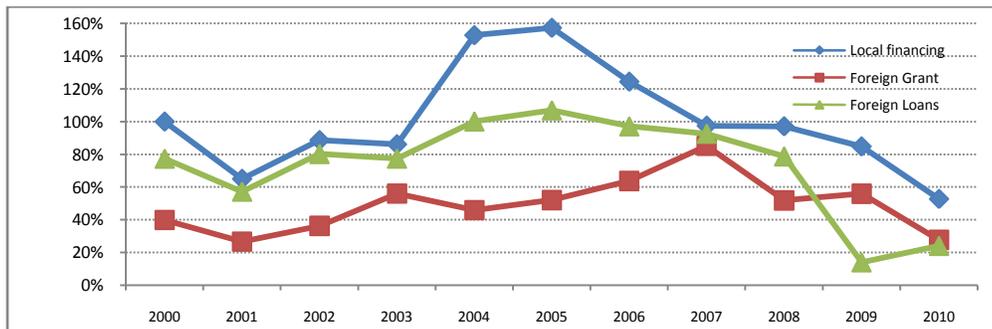
past trend of funding source composition based on budget execution data. In 2008, the share of foreign financing fell to around 26 percent from 36.1 percent from the previous year in the midst of global crisis. Foreign funding has been gradually recovering since 2009 and its percentage share reached almost 50 percent in 2010. Given this, the estimated share - 72 percent! - of foreign financing in the 2011 development budget clearly seems too optimistic.

Figure 8. Funding Source Composition Trend (% , 2005-2010)



50. **Past budget execution data suggests that foreign financing in the past typically had to be downward adjusted during budget planning stages.** Figure 9 shows that the foreign funding plans of the development budget usually is significantly under-executed compared to the domestic financing portion. In particular, the budget execution rate of foreign development funding sharply dropped in 2008 amidst the global credit crunch and still remained around only 20 percent in 2010. Budget planning needs to be based on more realistic revenue forecast. In the prioritization context, it indicates that only projects with guaranteed financing need to be considered for higher priority.

Figure 9. Budget Execution Rate Trend by Funding Sources (2000-2010)



Source: GoS Budget (MoFNE, 2000-2010) and World Bank Staff Estimates

Project Cost Profile – Symptom of Cost Overrun

51. **The GRP database provides a set of estimated project size data.** The team also calculated actual cost expenditure (executed budget from the project starting year through 2010) of each development project from the past budget execution data. Then, the cost expenditure ratio was measured as a percentage share of actual cost expenditures against the originally estimated project cost - cost expenditure ratio over 100 percent indicates

symptoms of cost overrun. The lack of proper data does not allow to account for unexpected price escalation factors.

52. **In principle, identifying cost overrun projects requires investigating not only the actual cost expenditure status but also prospective costs expected to be incurred until project completion.** The latter can inform of whether total cost expenditure is expected to exceed planned cost size when completed. Yet, prospective cost information is not available in the current project database and the scope of this cost profile analysis includes only the actual cost overrun status through 2010; in short, this analysis only investigates if actual cost expenditure as of 2010 exceeded estimated total project cost. However, to effectively plan a medium-term development budget envelope, the authorities would need to have line ministries provide estimates of further funding needs for all projects.

53. **There were 34 national development projects (20.5 percent of the portfolio) with actual cost expenditure already in excess of planned project cost.** Table 4 shows the distribution of cost indicators for the national development portfolio. Social development sectors showed the largest number of cost-overrun projects followed by energy, transportation. The live stock and agriculture sector showed smaller numbers of cost overrun projects (For a detailed list of cost overrun projects, see Box 3). However, due to a lack of information, the analysis was not able to identify the sources of cost overruns for these projects and further assessment is needed to identify what caused the excessive cost increase for these projects.

Table 4. Cost Profiles: 2011 National Development Portfolio¹

	# of Projects	Average Project Cost Size (millions SDG)	Average Cost Expenditure Ratio ² (%)	# of Projects with Cost overrun ³
Agriculture	19	93	22.9%	2
Irrigation	16	674.6	95.6%	4
Energy	25	349.7	139.4%	7
Transportation	35	336.7	55.6%	5
Social Development	33	47.7	121.1%	11
Industry	7	120.7	221.8%	3
Livestock	17	14.6	15.1%	1
Water	2	2.2	1145.1%	1
Total	154	213.6	83.1%	34

Source: GoS Budget (MoFNE), GRP Database and World Bank Staff Estimates

1. 21 projects that were newly introduced in 2011 are excluded.

2. Cost expenditure ratios of projects were calculated by dividing estimated project cost by the sum of budget execution amount during the project life-span through 2010.

3. Projects with the cost expenditure ratio over 100% were counted as cost-overrun projects.

54. **Some projects showed extremely high cost overrun status with actual cost expenditure ratios reaching over 200 or even 400 percent.** Table 5 shows the distribution of cost overrun projects by the extent of cost overrun. Even within projects with cost overrun there was wide variance in the extent of cost overruns. 19 projects showed cost expenditure ratios below 300 percent and 6 projects showed even higher cost

overrun status – their cost expenditures were 5 times larger than the original project cost. In particular, for one water sector project (Improvement of water supply in semi-drought area), the cost expenditure ratio was 1,075 percent, indicating a likely significant forecast error in the original project cost estimation.

55. **Table 5 also highlights that excessive cost expenditure could be largely associated with delays of projects.** The average project age (measured by the number of years since the starting year of projects) was only 4.1 years for projects with no cost overrun symptoms while cost-overrun projects were 7.4 years old on average. Higher cost overrun status of older projects could mean that excessive cost increases in these projects could have been caused by unnecessary increases of operating and maintenance expenses due to long delays in project implementation. Annex 2 lists the 10 largest cost-overrun projects and the 10 largest projects over 10 years in the 2011 budget.

Table 5. Distribution of Cost Expenditure Ratios: Cost Overrun Projects

Cost Expenditure Ratio ¹	<100%	100-300%	300-500%	Over 500%
# of projects	119	19	9	6
Average Project Age ²	4.1	7.2	7.0	9

Source: GoS Budget (MoFNE), GRP Database and World Bank Staff Estimates

1. Cost expenditure ratios of projects were calculated by dividing estimated project cost by the sum of budget execution amount during the project life-span through 2010.
2. Project age is the number of years since a project first appeared in budget.

Project Life Cycle Profile – Is the project too old?

56. **The project life cycle profile includes a project’s starting year, the planned closing year and scheduled phases of completion.** Table 6 shows the sectoral distribution of project life cycles in terms of project ages and planned completion years as of 2011. Data comes from the GRP database and past budget documents. Project ages are defined as the number of years since a project first appeared in a budget document. It is noteworthy that planned closing years in the current database seem to reflect updated project schedules as of the current fiscal year and initial completion schedules envisioned at the project planning stage were not available.

57. **Signs of significant project delays were found in many projects.** While there were 21 projects that were newly introduced in 2011, 17 projects were identified as more than 10 year old since they first appeared in budget. Considering that the past budget data set the World Bank constructed does not include information before 2000, it is highly likely that many of these projects might have even started before 2000. The team also identified 45 on-going projects (a quarter of the total portfolio) that are older than 5 years since their commencement (these projects started at least in 2006). Due to the lack of original completion schedules, it cannot be stated whether whether these projects were delayed beyond original schedule. However, significant time elapse within project implementation indicates that development demand may have declined since the last demand forecast was established; this may come from various factors, among them due to

changes in the project's surrounding economic and social environment. A re-assessment of project demand forecasts is strongly recommended for these old projects.

Table 6. Sectoral Distribution by Project Ages: 2011 National Development Portfolio

	# of Projects	New Projects	Project Age		
			1- 5 Years	6-9 years	10 years & above
Agriculture	28	9	15	3	1
Irrigation	18	2	9	3	4
Energy	26	1	18	6	1
Transportation	40	5	30	5	0
Social Development	35	2	20	7	6
Industry	7	0	3	3	1
Livestock	19	2	14	1	2
Water	2	0	0	0	2
Total	175	21	109	28	17

Source: GoS Budget (MoFNE, 2000-2010), GRP Database and World Bank Staff Estimates

Note: Project age is defined as the number of years since a project first appeared in budget.

Projects that newly appeared in budget in 2011 are zero years old and counted as new projects.

58. **The information available on planned completion years appears to have data accuracy issues.** Table 7 shows the sectoral distribution of the development portfolio by planned completion years. Among the 175 national development projects, 143 projects (over 80 percent of the total number of projects!) are planned to be completed in 2011 with only 52 remaining projects planned for completion beyond 2011. It is important to note that even the projects that were newly launched in 2011 are labeled to be finished this current year. Considering that many on-going projects have been implemented for over 5 years, excessively high concentration of project closing years in 2011 raises concern on the accuracy of the data.

59. **One possible explanation could be that most of the projects for 2011 completion are on-going projects without a clearly envisioned project completion schedule.** If this were the case, there is serious concern on current project management practice: many of these projects might have been approved for another year's extension during past budget planning stages simply because they had already been in the previous budget. Proper information on the project completion schedule is critical in assessing the project implementation progress, especially in the absence of indicators to measure physical implementation progress of projects. The central fiscal authorities need to demand line ministries to submit estimated project completion schedules.

Table 7. Portfolio Distribution by Project Ages and Planned Closing Years

Project Age		Planned Closing years			
		2011	2012	Over 2013	Total
New Projects		21	0	0	21
On-going Projects	1-5 years	84	17	8	109
	Over 5 years	38	4	3	45
Total # of Projects		143	21	11	175

Source: World Bank staff calculation based on GRP Database

Box 4. Project Cost Management and Demand Re-assessment – Korea’s Case

Korea’s TPCM (Total Project Cost Management System) could provide a useful guideline for how to conduct mid-year adjustment on projects with cost overrun and delayed projects.

Purpose and Scope of TPCM. The System is used as a tool for the finance ministry of Korea to monitor expenditure on public investment and check project cost increases throughout the project cycle. TPCM monitors the cost status of the following projects:

- Projects whose construction period exceeds two years; and
- Civil engineering works whose total project cost exceeds USD 50 million.

Principles of TPCM System. For projects under TPCM monitoring, the following principles are enforced:

- Increase in construction size through design modification is not allowed except for inevitable events.
- The construction costs are not arbitrarily inter-changeable between project phases or between construction units.
- Line ministries are to consult with the central fiscal authorities on adjusting total cost of projects they are responsible for, if total cost adjustment is inevitable.
- Line ministries are allowed to set construction contingencies for up to 8 percent of the contract price of a project to cope with inevitable design modification.

RSF (Re-assessment Study of Feasibility)

Under TPCM, a feasibility study on economic/financial/policy aspects is to be conducted **if the total cost of a project monitored by the TPCM system increased by more than 20 percent** (excluding price escalation and increase in land acquisition cost) over the cost initially endorsed by the Ministry of Finance at the previous phase of the project.

Based on the feasibility study outcome, the RSF team makes a judgment whether to stop or continue the project through scaling down or restructuring the project.

RDF (Re-assessment of Demand Forecast)

RDF(Re-assessment of Project Demand Forecast) is also required as a part of TPCM to verify the adequacy of the project demand forecast when:

- A substantial decrease of demand is anticipated due to material changes in the premises on which demand forecast has been made or errors have been found in demand forecast; or
- More than five years have passed since the latest demand forecast.

RDF can be conducted at any phase throughout the project cycle from planning to construction completed when the above conditions are met. **If the demand forecast for a project has decreased by 30 percent or more according to the re-assessment, the fiscal authorities conduct a re-assessment study of feasibility (RSF) and decide whether to continue or to stop the project.**

Source: Ministry of Strategy and Finance, Korea

Budget Execution Profile

60. **The past budget execution patterns show poor credibility of the development budget as evidenced by highly volatile and erratic trends of budget execution in development programs.** Table 8 shows average budget execution trends of each sector during 2005-2010. In general, irrigation, industry and transportation sectors have shown historically higher budget execution rates as compared to other sectors during most of the interim-CPA period. However, the overall budget execution trend throughout the CPA period showed sharp ups and downs as the government revenue stream fluctuated along the oil revenue cycle. But in 2010, some changes in the execution pattern became evident; for instance in agriculture and social development sectors, where there were historically weak budget execution records, the 2010 records display a relatively strong budget execution performance.

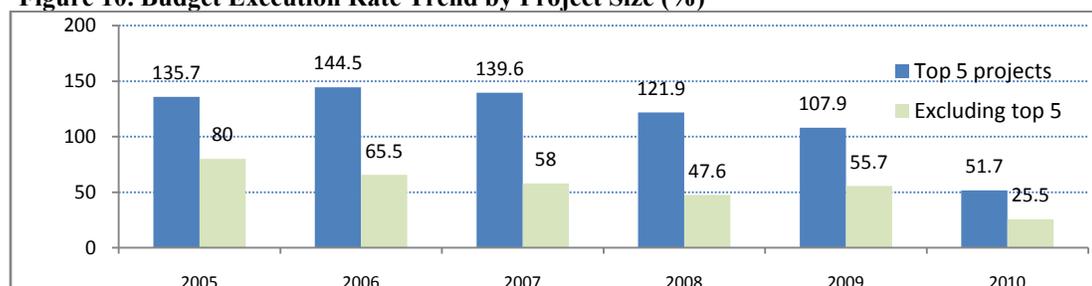
Table 8. PIP Execution Rate by Sector during the CPA period (%)

Sector	2005	2006	2007	2008	2009	2010
Irrigation	131.1	107.1	132.8	86.4	58.1	36.9
Agriculture	167.1	121.9	48.5	5.3	23.5	57.5
Livestock	12.0	30.4	9.8	19.6	19.5	21.7
Industry	99.6	424.7	85.0	45.2	125.2	92.0
Transportation, Roads & Bridges	111.8	77.7	53.3	107.1	53.3	15.1
Energy	154.8	111.4	136.8	114.1	131.8	40.7
Social Development	37.4	50.2	44.3	32.7	48.4	41.1
Water	31.8	0.7	15.0	2.7	8.4	11.0
Average	93.2	115.5	65.7	51.6	58.5	39.5

Source: GoS Budget (MoFNE, 2000-2010) and World Bank Staff Estimates

61. **In fact, the concentration of development resources in a few large projects is highly associated with volatile year-to-year changes in budget execution rates and weak performance of the remaining portfolio.** Figure 10 displays the annual trend of budget execution rates for the five largest projects and the remaining portfolio. It shows that spending beyond budget allocation has been common for the largest projects and the remaining portfolio was continuously under-funded during most of the CPA period. This indicates a strong possibility that budget executions for the largest projects might have crowded out funding for the rest of the portfolio.

Figure 10. Budget Execution Rate Trend by Project Size (%)



Source: GoS Budget (MoFNE, 2000-2010), GRP Database and World Bank Staff Estimates

62. **Looking at the past budget execution trend of 2011 national development projects, there were 21 on-going projects that had not been financed at all since they were first included in budget.** (See Table 9.) These projects were slated for funding in approved budget but they did not actually receive any disbursement from treasury. We are not sure of how many of the zero-executed projects could get actual financing in 2011, which is likely to depend on the overall funding situation. There were also 57 projects that showed budget execution rate below 10 percent, indicating these projects received only minimal level of funding. Many of the poorly executed projects were seen to have not been financed or dropped during certain period and then re-entered the portfolio.

Table 9. Portfolio Distribution by Budget Execution (# of projects) : 154 on-going Projects

Sector	Budget Execution Rate (% , start year - 2010)						Sub-total
	Zero	<10%	<30%	<50%	<100%	Above 100%	
Transportation	5	8	7	4	7	4	35
Industry	2	1	1	1	1	1	7
Social	3	7	8	6	8	1	33
Agriculture	3	7	5	2	2	0	19
Livestock	5	9	3	0	0	0	17
Irrigation	3	2	1	6	1	3	16
Energy	0	2	5	2	8	8	25
water	0	0	2	0	0	0	2
Total	21	36	32	21	27	17	154

Source: GoS Budget (MoFNE), GRP Database and World Bank Staff Estimates

63. **Poor budget execution performance may be due to short funding of projects under tight budget situation but it could also indicate serious flaws in project design or dysfunctional contractors.** The authorities need to re-evaluate the feasibility of significantly poorly-executed projects, especially multi-year projects with long presence in budget. For example, there are currently 11 projects over 5 years old whose budget execution rate fell short of even 10 percent. Table 10 lists these old and poorly executed projects.

Table 10. Old Projects (Over 5 Years Old) with Budget Execution below 10 Percent

Sector	Project Name	Budget allocation (M SDG)	Budget Execution (M SDG)	Execution rate(%)	First Year in Budget
Social Development	Atomic Energy Corporation	31.8	1.3	4.1	2002
Irrigation	Ground-cistern of the Nubian's sandy basin	4.6	0.2	4.2	2000
Agriculture	Basic infrastructure for plants protection	31.5	1.6	5.1	2005
Livestock	Information database and strategic statistical data	14.6	0.8	5.6	2001
Social Development	Central Laboratory - Ministry of Sciences and Technology	30.5	1.7	5.7	2004
Social Development	Labor Market Surveys	7.7	0.5	6.5	2005
Social Development	Solar energy cells factory	45.7	3.0	6.5	2003
Energy	Emergency Projects for Darfur States	13.5	1.0	7.5	2005
Social Development	Projects of Forest National Corporation	28.0	2.4	8.5	2002
Industry	Rehabilitation of textile sector projects	275.2	23.7	8.6	2003
Transportation	Road's studies and execution	16.1	1.4	8.8	2002

Source: GoS Budget (MoFNE), World Bank Staff Calculations

C. Further Issues – Recurrent vs. Capital Spending?

64. **In principle, public investment projects (PIP) are associated with capital investment related expenditures.** Capital expenditure projects can be defined as projects contributing to the accumulation of fixed assets and they usually require more than one year for completion. In Sudan's case, these capital projects may include development projects involving construction of various infrastructures (e.g., energy, transportation and irrigation), buildings or basic service facilities. Once a physical asset is created, operational and maintenance expenses need to be classified as recurrent expenditures and are excluded from public investment portfolio.

65. **Contrary to investment projects, recurrent programs usually include various activities that do not involve creation or acquisition of fixed assets.** These include wages, salaries and purchases of goods and services and consumption of fixed capital (depreciation) as well as operating and maintenance expenses of existing fixed assets. Financial activities (e.g., subsidies) or technical services to promote certain sectors should also be included as recurrent programs.

66. **The current national development portfolio of Sudan is a mix of recurrent programs and capital expenditures projects.** Many of projects classified as national development projects are related to financial activities and technical assistance as well as maintenance of existing facilities.¹¹ In principle, these projects should be recorded as recurrent expenditures according to the IMF Government Financial Statistics Manual 2011 methodologies. It is important to identify clearly which categories are capital investments, and which ones are technical assistance or of a service delivery nature:

- Intended benefits of public investment projects are not usually realized before their completion while benefits of recurrent programs can be continuously obtained during the implementation process. In this regard, different frameworks of monitoring and evaluation are needed for the two different types of programs. Moreover, the usual setting for an efficient public management system may not be appropriate to appraise recurrent spending programs.
- In light of the fiscal adjustment, two types of programs have different implication in the portfolio reprioritization. Given the large growth and development impact of physical investment in the long-term, the fiscal authorities may want to put more emphasis on construction/rehabilitation of fixed assets as well as operation/maintenance expenses of existing infrastructure or facilities. Recurrent programs that could be delayed without foregoing significant economic/social benefit may be first considered for being stalled.

¹¹ For example, the National program for Wheat, Monitoring and Evaluation of Agricultural Sector (both under the Ministry of Agriculture); Providing Vaccines and Animal Statistics (both under the Ministry of Animal Resource); Civil Service Reform and Labor Market Survey Project (both under the Ministry of Labor), Laboratories and hospitals equipment (Ministry of Health) are included in national development budget as "acquisition of non-financial assets".

67. **The team conducted a preliminary re-classification of the current national development portfolio with the cooperation of the MoFNE staff.** Yet, due to limited data availability on project profile, the re-classification work largely relied on the names of projects and past experiences. Therefore, the outcome of this re-classification is purely indicative and will have to be further refined once more detailed project profiles are collected. The re-classification used the following simple criteria:

- Despite the risk of overstating the number of capital expenditure programs, the rehabilitation of existing infrastructure (e.g., dams, road and facilities) was counted as falling under capital expenditure programs, and so assuming the extent of rehabilitation would likely be of a larger scale than simple maintenance or reparation.
- Projects that are likely to involve financial or technical assistance (research, survey, promotion activities) were counted as recurrent programs.

68. **Table 11 shows the distribution of recurrent programs and capital expenditure programs in the current national development portfolio.** After the re-classification, public investment projects with capital expenditure nature accounted for 94 projects (53.7 percent) while recurrent programs accounted for 81 projects. Most recurrent projects were found in social development, agriculture and livestock sectors, whose main activities are more likely to involve the provision of goods and services to promote economic and social development through financial or technical assistance. On the contrary, capital investment projects were more concentrated in sectors related to the construction of large infrastructure or facilities such as transportation, energy sectors.

69. **Public investment projects occupy a large share in the 2011 budget allocation.** Recurrent programs accounted for only SDG 809.5 million (16 percent) of 2011 development budget while capital investment programs accounted for 84 percent of total development budget envelope. This reflects that most capital investment projects would involve physical construction and therefore require larger cost expenditure. In light of imminent fiscal adjustment, it implies that the main challenge of adjusting the current national development portfolio would lie in prioritizing large-sized capital expenditure programs while mothballing some recurrent programs that are less urgent.

Table 11. Public Investment Portfolio Reclassification

Sector	# of Projects			Size of 2011 Budget (SDG, million)		
	Recurrent	Investment	Total	Recurrent	Investment	Total
Irrigation	9	9	18	10.7	1519.9	1530.6
Agriculture	22	6	28	352.9	206.5	559.4
Livestock	18	1	19	45.4	22.7	68.1
Industry	2	5	7	11	398.5	409.5
Transportation	2	38	40	6	1279.6	1,285.6
Energy	2	24	26	0.5	1411	1,411.5
Social Development	26	9	35	383.0	205.6	588.6
Water	0	2	2	0	2.8	2.8
Total	81	94	175	809.5	5046.6	5856.1

Source: GoS Budget (MoFNE), World Bank Staff Estimation

D. Key Implications of the Rapid Assessment of the Portfolio

70. **While limited in the depth of the analysis, the rapid assessment provides useful diagnostic results on the current status of the public investment portfolio.** The key findings include:

- i. **Agriculture and energy sectors have been priority areas of investment while public investment in key pro-poor areas has been low.** Federal investment in basic service deliveries (health, education and water) has been particularly low. While relatively large investments have been made in key pro-poor spending areas at the state-level with the support of federal capital transfer, state-level development spending in the basic service sectors still remains weak due to limited own revenue capacity of state governments.
- ii. **Development resources are highly concentrated in a few mega projects.** The 13 largest projects accounted for over 60 percent of total fiscal burden to be imposed by 175 national public investment projects. Considering the weak public investment management system of Sudan, it is likely that some of the large projects did not undergo adequate project appraisal process. Given their significant fiscal impact, it needs to be ensured that large projects have sufficient ground for the large fiscal burden through rigorous feasibility re-assessment.
- iii. **The development resource envelope relies heavily on external financing but it is not clear how much of the planned foreign financing is actually guaranteed.** In the 2011 budget, 75 percent of national development spending was planned to come from foreign sources, especially foreign loans from China. But past patterns of foreign financing assessments suggest the total value for 2011 may be significantly overstated. In fact, over past years, poor credibility of foreign financing plan has caused significant under-execution of budget for many projects. To enhance the credibility of the prioritization plan, the government needs to ensure that prioritized projects have reliable sources of funding including guaranteed foreign financing.
- iv. **Many projects show cost-overflow status and/or significant delays of implementation.** Among the 175 national projects, actual cost expenditure already exceeded the estimated project cost in 34 projects. Moreover, 17 projects have been implemented for over 10 years and 45 projects have been in the budget for over five years. Problematic projects with cost overrun or significant delays over certain threshold – e.g. cost overrun over 20 percent of original project cost excluding inflation factor or projects over 5 years old – need to be re-assessed for their feasibility.
- v. **A significant number of projects shows very poor budget execution status including 21 on-going projects with zero budget execution.** The 21 projects (12 percent of the entire portfolio) were included for funding in the approved budget (for many years and in many cases) but no actual funding was disbursed from the treasury. There were also 57 projects (32 percent) whose budget

execution rates were below 10 percent. Poor budget execution performance may be due to short funding of projects under tight budget situation but it could also indicate serious flaws in project design or dysfunctional contractors.

- vi. **The current development portfolio is a mix of recurrent and capital expenditure programs, but the distinction is not clear-cut.** Separating recurrent programs from those with primarily capital expenditure nature could increase efficiency in the management of public investment and help to identify areas to tackle in the context of the fiscal adjustment. Preliminary re-classification points that 94 projects are found to fall under the category of capital spending, which is just over half of the 175 national development projects. Yet, due to limited information available, any re-classification at this stage relies largely on subjective assessment; further refinement may only be possible after the collection of detailed project profiles, which are often located at the line ministries.

71. **However, the fiscal authorities' capability to accurately review public investment projects is likely to be seriously limited by significant gaps in key project level information.** Critical information to decide economic or financial feasibility of projects are currently missing – they include project objective and demand assessment results, expected benefit from a project, future operation and maintenance cost information, and time schedule of completion. This raises serious concern that the prioritization decision may actually lead to sub-optimal or counter-productive outcomes due to insufficient information on the project profile or implementation status. Moreover, some available information has data accuracy issues. The project completion schedule data is not reliable; for example, too many projects are planned to be finished this year. Available information in the current database needs to be reviewed for accuracy.

V. Immediate Task – What can be done during the coming months?

A. Preparing and Implementing Prioritization

72. **Given the tight time frame, the next few months are critical for preparing the public investment adjustment.** As the six-month emergency budget for 2011 was announced on July 21, the fiscal authorities need to start preparing for likely larger fiscal adjustment expected to follow next year. Unlike normal budget process in previous years, the next budget preparation needs to involve intensive assessment on on-going development projects and subsequent decisions on prioritization. It would require time and efforts as well as close cooperation between the MoFNE and line ministries at unprecedented level. The following discussion outlines the next steps needed during the coming months.

73. **Accurate understanding on the status of the public investment portfolio and individual projects is most urgent.** Without sufficiently deep project profiles in use as basis for the prioritization decision, effective adjustment of the portfolio is not possible.

Given the tight time frame, the MoFNE needs to actively encourage line ministries to collect critical information essential for the prioritization decision. In this regard, a standardized profile template would be helpful to facilitate the information gathering process. The template needs to provide a list of project-level information deemed necessary by the central fiscal authorities, which should be filled and submitted by project management teams at the line ministries (For an indicative example of project profile template, see Annex 3).

74. **Once the relevant information is collected, both the MoFNE and line ministries need to start reviewing public investment projects.** Given limited time and resources, it would be cumbersome for the central fiscal authorities to re-assess all on-going public investment projects as well as new projects, but a set of actions is urgently need on the side of the MoFNE and the line ministries:

- i. **To facilitate the reviewing of development projects at the line ministries, the MoFNE needs to send out a central guideline for prioritization.** It would officially request line ministries to collect and review their development projects as an official pre-requisite condition for development budget submission. It needs to specify how each line ministry prioritize their projects within given development portfolio. Based on prioritization process discussed in Section III, it may include the following:
 - (i) Each project in the prioritization list needs to provide present physical evidences for practical needs/demand for projects and sufficiently ground in envisioned benefits to justify estimated project cost.
 - (ii) For projects with cost overrun or significant delays (e.g. over five years' implementation), the source of the problems needs to be identified. If the project is deemed viable through restructuring, concrete plans to fix the problem need to be established.
 - (iii) A preliminary prioritization list needs to be prepared and submitted for projects with practical demand and financial feasibility evaluated in steps (i) and (ii). The list needs to provide sufficient grounds for priority levels (or ranks) given to individual projects. For multi-criteria prioritization, the guideline needs to propose standardized framework including objective criteria, weights and scoring scale. Actual scope of criteria needs to be decided based on available project information and the authorities' judgment.
- ii. **Based on guidelines, line ministries review investment projects of their own development portfolio.** Line ministries need to be required to follow the central guideline and to provide physical evidences or assessment results demanded by the MoFNE with budget proposal.
- iii. **Aside from reviews of line ministries, the MoFNE needs to re-assess the feasibility of selected projects – e.g., large size projects with significant fiscal impact, projects with significant cost overrun or delays.** The separate review

by the central fiscal authorities is important since the incentives of line ministries may differ from broader strategic perspectives of the central fiscal planners – for example, line ministries may be more interested in safeguarding large projects (and project managers) in their own portfolio.

75. **Based on the prioritization list submitted by line ministries and independent assessment on selected projects, the MoFNE may make a final prioritization decision.** It needs to be ensured that the prioritization list of line ministries are properly aligned with development priorities of national development strategies and individual projects are justified by sufficient evidences. The prioritization list submitted by line ministries may have to be modified to properly reflect higher-level national development goals and this needs to be done through close consultation with line ministries. The current work on the Interim Poverty Reduction Strategy would provide a good background for the overall prioritization approach.

76. **Concerted efforts of the MoFNE and line ministries are critical for effective prioritization.** Prioritization proposals from line ministries and final decisions of the MoFNE need to be fully discussed with the line ministries. Close communication between the MoFNE and line ministries are essential to build a consensus on public investment expenditure priorities from a national perspective. In this regard, a central prioritization guideline need to be established and sent out with sufficient preparation time allowed to line ministries before resource ceilings for line ministries are determined by the MoFNE.

B. Making Strategic Decisions on Priority Development Areas

77. **The authorities need to decide key development areas and an announcement of a national development strategy is urgent to anchor the strategic decisions.** Ongoing work on the I-PRSP as well as the 3 year and 5 year plans would be suitable instruments to provide the overall strategic background. Given the increasingly tightened resource constraint, proper targeting of available development resource envelope is a key to efficient public investment during the post-CPA fiscal environment. The national development strategy should stipulate development goals over the planned horizon (e.g., five years). Specific intermediate development targets and action plans need to be clearly set as a road map to the long-term development goals with core public investment projects to pursue the national development goals identified.

78. **Determining the sectoral priorities requires a consolidated view on the broader resource allocation comprising both national and sub-national expenditures.** Under the growing decentralization trend, looking at only national level development spending could lead to misleading conclusion on resource gaps across sectors. Inter-sector resource allocation strategy needs to identify priority spending needs both at the national and state level and ensure adequate spending is provided within affordable aggregate envelope through various financing channels including national development envelope and/or transfers to the sub-national governments.

79. **Proper mapping of key spending areas could also help effectively align resource allocation with national development strategy.** Some key development objectives of a national strategy comprise development projects from different sectors - for example, pro-poor spending or infrastructure expenditures are likely to extend beyond sectoral classification but the national budget does not provide the classification of development projects for these key development areas. Proper alignment of development projects with key spending areas beyond the classification by sectors or ministries would enable effective monitoring and evaluating the performance of the public investment portfolio in order to achieve national development goals.

80. **Key consideration needs to be given to public investment with significant pro-poor impact – particularly in education, health and water supply.** Development demands for these basic service areas are enormous especially in rural and marginalized areas but actual development investment in these areas at the state level remains low despite growing federal transfer trends to state governments. Due to limited capacities of own revenue mobilization, most of the federal transfers to Northern States have been used to cover re-current spending including wages and salaries – leaving minimal resources for investment spending at the state level. As a result, continuous investment in the critical basic service areas need to be made through direct development expenditure from the federal budget as well as federal support to state’s development budget.

Box 5. Priority Development Areas for Education: School Infrastructure

While the average for Sudan as a proportion of total education spending was 9 percent in 2009, there was substantial variation in the amounts financed by states. These range from 2 percent development spending for education in River Nile to 32 percent in the Red Sea.

The GoS/UNICEF baseline survey conducted in 2008, indicated that 42 percent of classrooms in basic schools in Northern States were in need of repairs and 9 percent required replacement. In addition, the growing number of students enrolling in the education system (basic education student enrollments grew by 1.6 million in eight years), compounded with substantial infrastructure backlogs in many states affected by conflict, requires additional investment in school infrastructure.

The Darfur states as well as those on the border to the South require substantial catch-up in terms of school infrastructure. The Kuwait Fund announced financing for school infrastructure for these three Eastern states (\$50 million) is a good start, but more is needed. In addition, if the government is considering increasing the number of years of schooling from 3 to 4 for secondary education, there are infrastructure and other cost implications which need to be accounted for within the upcoming budget.

Source: Sudan- Budgeting for Education in the context of fiscal shock (World Bank Policy Memorandum, May 2011)

81. **Pro-poor investment gains more significance in light of urgent needs for external financing for which development partner support is critical.** Given increasing concerns on poverty reduction rigorous efforts of the federal government to promote pro-poor investment could increase the opportunities to leverage foreign financing. In the same vein, mitigating negative effects on the poor and vulnerable expected from the broader fiscal adjustment, through for instance strengthening of social safety measures, could equally leverage funding.

82. **Development demand in infrastructure area is potentially huge and the marginal benefit from infrastructure investment is immense.** A recent World Bank study¹² suggested that infrastructure development contributed to all parts of Sudan's per capita growth over 1.75 percentage points with the largest impact from information and communication development between the 1990s and early 2000s. It estimated that Sudan's infrastructure were to be developed to the level of the best-performing country in Africa (Mauritius), the impact on per capital economic growth would be on the order of 3.5 percentage points. Sudan's most pressing infrastructure challenges lie in water and transport sectors. In the water and sanitation areas, while 40 percent of the population uses improved sanitation technologies, around 40 percent defecates in the open and access challenges have been compounded by large inefficiency at the water utilities. In the transport sector, while there are a few well-developed internal corridors, rural connectivity is still non-existent and the poor quality roads drastically undermine the efficiency of transport services. According a World Bank simulation, improvement in roads could solely impact the growth by around 1.5 percentage points.

VI. Going Forward – Strengthening Public Investment Management

A. Medium-term Task - Improving Management Practice

83. **In the mid-term, the fiscal authorities need to start addressing the problems in the current public investment management practice found in the process of preparing for prioritization.** The following outlines areas of improvement in the public investment portfolio database and monitoring and evaluation practice

Strengthening Central Database of the public investment portfolio

84. **Despite the recent development of the GRP financial database, current project information management practice largely relies on paper documents.** Non-electronic information management has many drawbacks in terms of efficient project monitoring and evaluation: (i) Paper documents are hard to manage and are likely to be lost; (ii) It is not easy to keep track of project information collected during the implementation period of previous years unless past information has been properly tracked by time series data continuously.

85. **The central fiscal authorities need to build a project data management system that can keep track of project performance throughout the project life cycle.** Centre stage of attention in data management could be on the recently developed GRP financial database, which is already equipped with some basic project profiles. Including the coded individual project information would allow analytic queries useful for reviewing and monitoring portfolio status. Yet, the GRP database system is highly limited in the width of data and its capability to track project implementation

¹² Sudan's infrastructure – A continental perspective (World Bank, 2011, forthcoming)

performance. Suggestions to further improve the usefulness of the GRP database include the followings:

- **Project profiles available in the paper project documents and the line ministries need to be integrated into the database system.** In particular, the current GRP database lacks critical information to determine whether a project is really needed and financially feasible. This would need to include project objectives, main activities as well as project demand and expected benefit. It is also recommended that original project documents submitted by line ministries be electronically linked to the database.
- **Capabilities of the relevant staff to properly use the database need to be improved through technical training.** The task team found that the number of the staff who are actually able to use the database when needed within the Development Directorate is very small. Given that the primary responsibility of data entry falls on the staff responsible for development projects, proper capacity building is as important a task as improving the database system itself.
- **Monitoring function for multi-year projects should be strengthened.** Current system does not allow reviewing original project profiles (e.g. planned schedule of completion) that were envisioned at the project planning stage as well project implementation progress (e.g. budget execution or physical progress). Most of the information in the database seems to have come from the latest project documents that were available at the time of data entry.

Strengthening Project Monitoring Function

86. **Systematic monitoring and evaluation (M&E) of projects is a key element in efficient public investment management.** Project monitoring allows the systematic collection of project information on the implementation progress and achievement of project objectives as well as financial status. Systematic evaluation of projects would allow an objective assessment of projects to determine the relevance and fulfillment of objectives and development efficiency. Strong M&E would not only enable the fiscal authorities to better understand their development portfolio but also allow public investment adjustment to be implemented in a well-prepared and timely manner in times of need.

87. **Lack of relevant information on project performance underscores the strong need for enhancing monitoring and evaluation of development projects.** Enhancing the M&E function requires a well-functioning central monitoring unit within the fiscal authorities as well as strengthened monitoring activities of project management teams at the line ministries and project implementing agencies.

- **A central monitoring unit needs to be fully committed to M&E activities.** It provides specific guidelines of M&E activities of individual project management teams and conducts regular supervisions on their implementation quality. It also assesses the M&E results of project management teams and may demand

necessary corrective actions for problems identified through M&E process. A central monitoring unit also needs to conduct on-site inspections on selected projects to examine issues related with the achievement of the project objectives and to review problems in physical progress and financial status of projects.

- **Project management teams at the line ministries or implementing agencies shall be primarily responsible for M&E of projects.** Each project management team needs to be required to collect objective project performance indicators that were developed during the project planning stage through regular on-site inspections. Progress of projects needs to be monitored and evaluated against a work plan and guidelines provided by the central monitoring unit, which should be reported to the central monitoring unit on a regular basis.

88. **The monitoring and evaluation framework of the Sudan National Multi-Donor Trust Fund (MDTF –N) provides useful guidelines and insights.**¹³ Annex 4 outlines the responsibilities in the monitoring and evaluation of project management teams and may provide crucial insights for strengthening M&E activities in the public investment area.

B. Long-term Task – Building Efficient Public Investment Management System

15. **In the longer-term, it is important to improving the overall public investment management system.** While further insights are needed for a full-fledged assessment, problems in the project management practice and information gaps found during the rapid assessment all point to the weakness of the current public investment management system. First, a well-organized public investment management system would allow project information to be systematically collected and reviewed through continuous appraisal/screening and monitoring processes along the entire project life cycle. Second, proper feasibility test and project demand assessments – essential elements of any efficient public investment management – would enable filtering bad projects and therefore minimizing wastage of scarce fiscal resources. Third, continuous monitoring on the project progress and adjusting projects for changes in project circumstances would allow the authorities to engage in constant re-prioritization exercises of the public investment portfolio.

89. **Promoting the efficiency of the public management system gains more importance in light of the long-term fiscal adjustment challenges ahead.** Considering that the fiscal sustainability problem is largely due to the excessive fiscal reliance on oil

¹³ The National Multi Donor Trust Fund (MDTF-N) was set up in 2005 as part of Sudan’s Comprehensive Peace Agreement (CPA) to finance development and reconstruction activities in the North Sudan. As of the end-2010, there are fifteen projects approved for the MDTF-N. The World Bank administers the MDTF-N and the operations manual provided by the World Bank stipulates the responsibilities of recipients of the fund in detail.

revenue in the past, fundamental solutions to the structural fiscal imbalances have to be found so to enhance economic growth and to widen the non-oil revenue base. Efficient and well-targeted public investment system would raise the productivity and the value for money of development projects, eventually leading to greater permanent government revenue. Promoting efficiency of public investment management is therefore a critical policy prescription that needs to accompany other fiscal adjustment measures confronting the long-term fiscal sustainability problem.

90. **There are eight must-have features that are considered core elements of well-functioning public investment management system¹⁴.** The core elements put emphasis on the basic processes and controls that are likely to yield the greatest assurance of efficiency in public investment decisions. They also identify back-bone institutional settings that would minimize major risks and provide an effective systemic process for managing public investment. The must-have features provide an objective bench-mark for identifying public investment decision nodes that may be weak or in need of attention. The eight must-have features are outlined in Box 6.

91. **It is important to conduct a diagnostic assessment on the institutional settings of the public investment management system.** The diagnostic assessment could focus on identifying gaps of the current system against desirable institutional arrangements of well-functioning public investment management system. It would allow the authorities to have a clear idea of which particular areas need to be improved in order to build more efficient public investment management framework. In fact, many countries in the region - including Angola, Republic of Congo, Nigeria, and Uganda - already conducted diagnostic assessments on their public investment management system in cooperation with the World Bank. Those diagnostic assessments build the foundation for policy actions to address weaknesses.

¹⁴ For a more detailed information, see Rajaram, Minh, Biletska and Brumby (2010)

Box 6. Eight Must-have Features of Efficient PIM System

1. Guidance and preliminary screening	National development strategy; sectoral strategies
	First level screening to ensure strategic alignment
2. Formal project appraisal	Clarity of roles in planning process / Formal technical guidance
	Sound project appraisal/ Proportionality of appraisal
	Effective coordination and scrutiny of donor-funded projects
	Capacity in central agencies and line ministries.
3. Independent review of appraisals	Independent reality/quality checks
4. Project selection and budgeting	Budget calendar with sufficient time to prepare capital budgets.
	Comprehensive guidance and capital spending ceilings
	Projects developed before submission to MOF in budget
	Integration of capital and current spending
	MOFPED checking of projects
	Legislature has sufficient time to consider projects.
	Legislature passes budget in a timely manner.
5. Project implementation	Published guidelines
	Detailed implementation plan with clear accountabilities
	Open competition for procurement
	Effective procurement complaints mechanism
	Commitment controls
	Predictability of funding / Regular Process Reporting
	Active monitoring of progress / Sound internal Control
	Formal project completion
6. Adjustment for changes in project circumstances	Constant project adjustments
	Explanation required for variances from budget and plan.
	Mechanisms for project adjustment
	Periodic review of costs compared to benefits for major projects
	Mechanism to stop projects
7. Facility operation	Effective handover of assets
	Assets fit for purpose / Asset registers
	Sufficient O&M funding
8. Ex-post assessment (evaluation)	Comparison of costs, timelines, and deliverables against plans
	Formal arrangements for project evaluation
	Effectiveness or value for money audits.
	Proportionality of evaluation / Response to evaluation findings

Source: Uganda Public Expenditure Review (World Bank, December, 2010)

Annex 1. Mega Size Projects – White Elephants?

White elephant projects usually refer to large projects of no practical use. White elephant projects could occur due to political opportunism to win public popularity and significantly misjudged project demand forecast. In some developing countries, investment projects of a significant amount are only roughly estimated and not debated within government, especially when these projects are deemed to be of “political importance”. (OECD, 2011) Some white elephant projects could also impose significant fiscal burden after completion due to large cost of upkeep. To decide whether certain project is a white elephant, the fiscal authorities need to re-assess if there is enough economic and social benefit to justify the large fiscal burden.

Table 12 lists projects whose total project cost is expected to be over SDG 0.5 billion according to the GRP database. It shows estimated project costs of individual projects and their total budget execution through 2010 and 2011 budget allocation. Cost expenditure ratio (measured by the percentage share of budget execution in total project cost estimates) is calculated to show the cost expenditure status against estimated project cost.

Most of the large projects were found in transportation, energy and irrigation sectors, many of which involve construction of infrastructure. Given the importance of enhancing infrastructure for future economic growth, these projects are likely to have enough justification for their large cost size at first glance. However, given their large expected costs amidst increasingly limited fiscal space, the authorities need to ensure: (i) if these large projects are urgently needed; (ii) if there is no cheaper alternatives to achieve intended benefits; and (iii) if some projects could be restructured or delayed without foregoing significant benefit. To this purpose, collecting the key profiles of projects is urgent.

Table 12. Projects with total project size over SDG 0.5 billion

Sector	Project Name	Estimated project cost (SDG, millions)	Actual Cost Incurred (SDG, millions)		2011 Budget (SDG, millions)			Project Life Span	
			Budget Execution (-2010)	Cost Expenditure Ratio(%)	Domestic	Foreign Loan	Total	Starting Year	Project Age
Irrigation	Merawi dam and accompanied projects	9,250.3	1,139.5	12.3%	90.0	0.0	90.0	2009	2
Transportation	Strengthening railways with new railroad cars and Locomotives	3,691.6	356.0	9.6%	15.0	0.0	15.0	2006	5
Energy	High Pressure Lines - Dongola - Wadi halfa	3,000.0	301.2	10.0%	15.0	9.5	24.5	2009	2
Energy	Alfoula Electricity	1,700.8	750.7	44.1%	20.0	339.1	359.1	2008	3
Irrigation	Elevation of El-Rosairise Dam	1,130.4	367.1	32.5%	40.0	341.7	381.7	2000	11
Transportation	Karagon - Hameshkoreib road	1,094.0	0.0	0.0%	5.0	0.0	5.0	2009	2
Transportation	Alnihoad- Eddaein - Nyala road	1,075.5	0.1	0.0%	10.0	54.0	64.0	2009	2
Transportation	Omdurman - Bara road	1,016.3	0.0	0.0%	15.0	0.0	15.0	2009	2
Transportation	El-ingaze El-gharby Road	1,012.3	311.1	30.7%	12.0	108.8	120.8	2002	9
Energy	Kosti Power Station	936.6	831.3	88.8%	15.0	170.1	185.1	2007	4
Energy	El Jaili Garri Electricity (1-2-4)	744.0	553.9	74.4%	30.0	0.0	30.0	2004	7
Energy	South Koprdufan network	651.0	1.7	0.3%	10.0	405.0	415.0	2010	1
Transportation	Khartoum new international airport	638.5	202.1	31.7%	5.0	521.9	526.9	2007	4
Social Development	Rehabilitation of Ministry of Defense Buildings	580.0	240.0	41.4%	100.0	0.0	100.0	2009	2
Industry	Blue Nile (Sinnar) sugar factory	568.8	0.0	0.0%	0.0	270.0	270.0	2009	2
Transportation	El-Salam Road (Al-Rank-Malkal sector)	555.9	87.3	15.7%	5.0	59.9	64.9	2006	5
Irrigation	Merawi two canals	550.0	0.0	0.0%	10.0	540.0	550.0	2011	0
Transportation	Rehabilitation of Khartoum - Port-Sudan new railway line	547.0	0.0	0.0%	3.0	0.0	3.0	2011	0
Transportation	Rehabilitation of Khartoum - Port-Sudan railway line	546.0	6.3	1.2%	2.0	0.0	2.0	2010	1

Source : 2011 GoS Budget (MoFNE), GRP Database and World Bank Staff Calculation

Annex 2. Ten Largest Projects with Cost and Time Overrun Symptoms

Table 13 lists ten largest projects with cost overrun status and Table 14 shows ten largest projects that are over ten years old. These projects could be considered the first group to be subject to re-assessment of feasibility including cost-benefit aspect and project demand forecast. Two tables show that significantly delayed projects are more likely to be cost overrun projects: (i) all ten largest cost-overrun projects were five years old and above; (ii) similarly, seven among the ten largest projects over 10 years old showed cost increases in excess of planned project cost.

Table 13. Ten Largest Projects with Cost Overrun Symptoms

Project Name	Project Age	Budget performance (-2010)			Cost Status		Sector
		Allocated Budget	Executed Cost	Budget Execution (%)	Estimated Project cost	Cost Expenditure Ratio	
National programme for wheat settlement	11	965.4	827.7	85.7%	808.6	102%	Agriculture
Rehabilitation of Khartoum Distribution Network	9	218.6	268.5	122.8%	222.0	121%	Energy
Strategic industries	11	706.6	1450.8	205.3%	190.0	764%	Industry
Extension of Bahri El Harariya Station	5	365.4	440.9	120.7%	130.7	337%	Energy
Rehabilitation of specialized hospitals	11	291.6	129.5	44.4%	112.6	115%	Social Development
Rehabilitation of basic infrastructure of irrigation entities (El-Gazira Scheme)	8	184.6	76.1	41.2%	60.0	127%	Irrigation
Capacity building and human resources development	5	337.4	81.0	24.0%	59.0	137%	Social Development
Promotion & rehabilitation of revenue units	10	141.0	98.2	69.6%	52.7	186%	Social Development
Project of 10 Distribution Stations	5	73.1	170.4	233.1%	52.1	327%	Energy
Rehabilitation of Babanusa - Waw Line	5	137.8	277.5	201.4%	51.8	535%	Transportation

Table 14. Ten Largest Projects over 10 Years Old

Project Name	Project Age	Budget performance (-2010)			Cost Status		Sector
		Allocated Budget	Executed Cost	Budget Execution	Estimated Project cost	Cost Expenditure Ratio	
Elevation of El-Rosairise Dam	11	902.5	367.1	40.7%	1130.4	32%	Irrigation
National programme for wheat settlement	11	965.38	827.7	85.7%	808.6	102%	Agriculture
Strategic industries	11	706.6	1450.8	205.3%	190.0	764%	Industry
Rehabilitation of specialized hospitals	11	291.6	129.5	44.4%	112.6	115%	Social Development
Completion of Universities' lecture rooms and labs	11	184.87	73.3	39.6%	106.2	69%	Social Development
Construction of veterinary quarantines	11	108.114	34.9	32.3%	54.0	65%	Livestock
Promotion and rehabilitation of revenue units	10	140.96	98.2	69.7%	52.7	186%	Social Development
Rehabilitation of irrigation basic infrastructure(Halfa)	11	277.322	301.2	108.6%	36.0	837%	Irrigation
Promoting Radio and TV Broadcasting	11	120.8	90.7	75.1%	28.0	324%	Social Development
Rehabilitation of Sudan News Agency (SUNA)	11	61.65	21.8	35.3%	18.0	121%	Social Development

Source: GoS Budget (MoFNE), GRP Database and World Bank Staff Estimates

Annex 3. Example of Project Profile Template

Category	Data
Basic Profiles	Name
	Sector
	Location(State, locality)
Project Life cycle	Starting Year
	Completion Year
Objective/ Benefit	Objective (Describe the practical need for the project)
	Main activities
	Expected outcome (Any quantified amount or indicator if possible, otherwise descriptive)
	Realized benefit (Describe if any benefit is being realized currently from on-going project)
Financial Return	Any financial revenue expected after completion such as user fees
Source of Funding	Composition of Funding (domestic vs foreign, grant vs lending if foreign)
	Source of Foreign Funding(Nationality, donor name)
	Describe if government financing is the condition of foreign financing.
Cost & Completion Status	Total Project Cost Estimation
	Executed amount so far
	Remaining cost expected till completion (prospective cost)
	Completion Progress (use any indicator available if possible, otherwise provide description)
Expected Cost of Delay or closure	Cost of delay if delayed by 1 year (Quantify the cost if possible, otherwise descriptive)
	Impact of closure (Describe the effect of project closure in a quantified or descriptive way)
Policy Impact	Any job creation effect (# of workers)
	Growth Effect
	Mark if basic service delivery (Describe the type of public service)
	Other policy priority (Describe the reason if this project is high priority projects)

Annex 4. Overview of MDTF-N Recipient's Monitoring and Evaluation Activities

1. Project Designing Stage

At the FPP(final project proposal) stage, project design teams are expected to develop a framework for conducting M&E. The FPP contains a simplified results framework setting out the expected linkages between project interventions and the Project Development Objective (PDO).

The result framework should delineate outcome and output indicators for each PDO and associated intermediate outcomes, as a basis for collecting evidence to determine whether or not a project is achieving its PDO. The indicators need to be composed of a manageable set of measures. The indicators should:

- Correspond to the PDO/intermediate outcome/output
- Be credible and straightforward
- Be derived from reliable data that is currently or can be easily collected

Each indicator is linked to baseline and target values. A baseline value represents the value of the indicator at the outset of implementation of a project. Target values provide a basis for monitoring, evaluating, and reporting performance over time through the collection of trend data.

2. Project Implementation Stage

During implementation, each project implementation unit monitors and evaluates progress and results against a work plan and results framework. At least once a month, the project implementation team members meet to discuss progress of projects including:

- The proportion of scheduled activities that commenced and were completed on time.
- Planned against actual duration of activities
- Cost of implementation
- Any problems that they have experienced or anticipate, including proposed remedial activities
- Major activities planned for the next month

The project implementation unit is expected to prepare quarterly reports which specify the activities completed, and outputs and outcomes delivered by the projects highlighting successes, constraints, and an assessment of whether planned targets will be achieved. The report also presents actual against planned output targets for the quarter on a component by component basis.

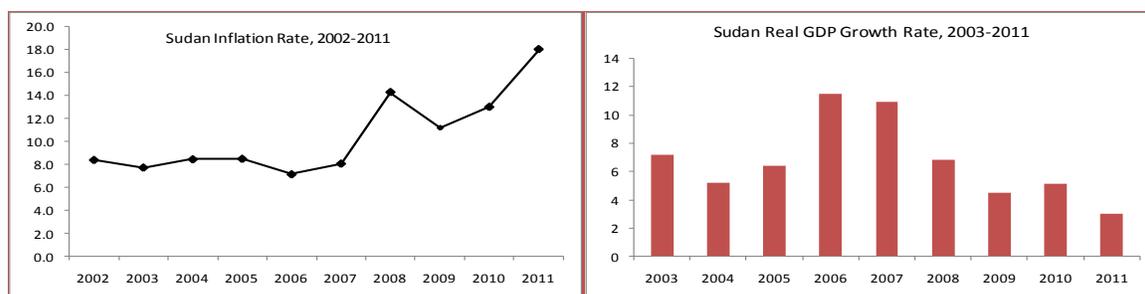
Source: The World Bank Sudan Multi Donor Trust Funds Operations Manual

Annex 5. Key features of the 2011 Amended Budget

Key Macro-economic Assumptions of the 2011 Amended Budget

- i. **The 2011 amended budget was prepared under the reality of the secession of South Sudan.** As a result, the anticipated oil revenue shock strongly affects Sudan's 2011 amended budget projections (both the revenue and expenditure sides), where a large part of the fiscal adjustment burden falls on pro-poor expenditure components. Given the high uncertainty surrounding on-going negotiations of the CPA parties, the Government relies on very conservative economic assumptions ('worst case'), reflecting the highly likely significant revenue shortage from decreasing oil flows from South Sudan.
- ii. **Real GDP growth is projected to slowdown to 3.0 percent from the previous projection of 5.0 percent in the 2011 original budget.** (See Figure 1.) This mainly comes at the background of Sudan's lower domestic oil production due to the loss of Southern oil wells. With an anticipated decline in the oil sector's contribution to the economic growth, revitalizing the non-oil sectors becomes an urgent task in the search for a new driver of growth. This is consistent with the call for a new growth strategy in the World Bank's Country Economic Memorandum (2010). The government's considerations are anchored around a strategy to recover the agricultural sector as a new source of economic growth.

Figure 11: Sudan Real GDP Growth Rate and Overall Inflation Rate, 2002-2011



Source: MOFNE, IMF Staff estimates

- iii. **Inflation is expected at two-digit levels (18 percent), more than 6 percentage points higher than the projection in the original budget.** The increase is largely attributed to the surge in food price inflation (cereals, rice, oils food, meat, vegetables and fruits). The food price shocks were driven by domestic factors, i.e. supply-side uncertainty including weather-related production shortfalls and global factors, i.e. higher and more volatile world grain prices. As global food prices have risen by 47 percent since June 2010, the pass-through exchange rate effect has a significant impact on imported consumer goods and also moderately affected the cost of local goods (through higher cost of imported raw materials).
- iv. **With the underlying macro-economic assumptions, the amended budget projects large external imbalances and exchange rate depreciations.** And in fact, the considerable drop in foreign exchange inflows - in light of the adjustments on oil assets as a major source for hard currency - has put pressure on reserves and the exchange rate

(IMF, 2011). A significant premium has opened up in the parallel markets widening the gap between the official and black-market rates despite intervention by the Central Bank to protect the local currency. This has presented tremendous challenges for policymakers, though the foreign exchange market situation has slightly eased in recent months (partly) owed to the introduction of the exchange rate premium. Foreign exchange pressures underscore downsides of an inflexible exchange rate that tries to insulate the exchange rate from market developments and insufficient foreign exchange earnings from non-oil exports.

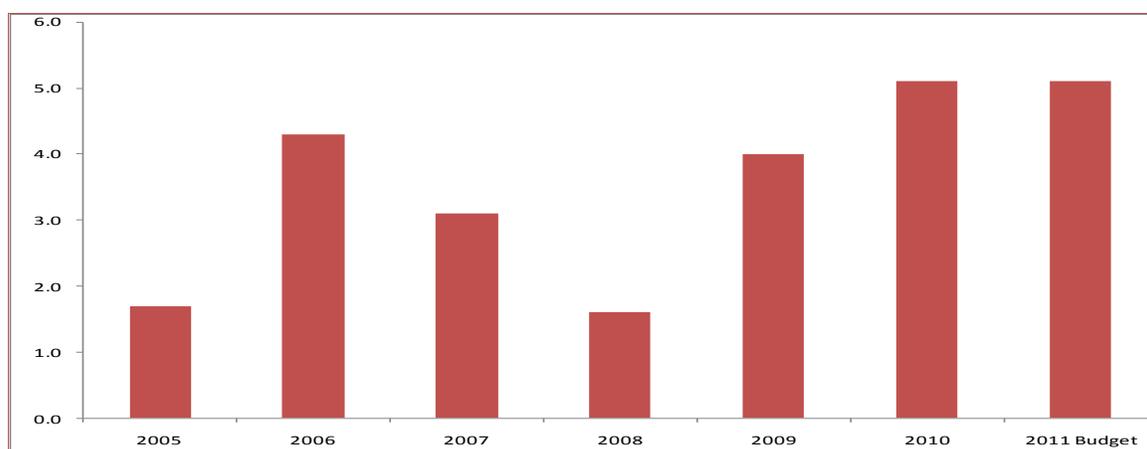
The Impact of the Secession on the 2011 Amended Budget

Overall Fiscal Balance Impact

v. **The aggregate fiscal picture of the amended budget reflects a significant drop in total revenue.** The overall fiscal deficit is projected to increase to 5.0 percent of GDP from 3.2 percent of GDP in the original 2011 budget. (See Figure 2 for the fiscal deficit trend.) This is in line with recent World Bank estimates, which anticipated an impact of 1-2 percentage points in 2011 (and 1.6-3.2 percentage points in 2012).¹⁵

vi. **Limited access to external financing causes means that the bulk of the fiscal deficit in 2011 has to be domestically financed, especially through bond sales in the domestic non-bank sector.** Domestic borrowing accounts for 75 percent, including domestic banknote financing, while 25 percent of the deficit is planned to be financed by external borrowing. The bulk of domestic financing will be non-bank sector borrowing (e.g. Government Musharka Certificates, GMCs, and Government Investment Certificates, GICs, and Sukuk).

Figure 12: Sudan’s Fiscal Deficit (% of GDP), 2005-2011



Source: Ministry of Finance & National Economy, and World Bank Staff Estimates

¹⁵ Sudan - Fiscal Adjustment in the Post-CPA Period, Policy Note (April 2011).

Revenue Projections

vii. **Total revenue is projected to significantly decline by 12 percent compared to the original 2011 budgeted level, mainly driven by the rapid drop in oil revenues.** Negotiations are still on-going; a conservative scenario was chosen as an underlying assumption – oil revenues are projected to decline by 43 percent. As a result, oil revenues account – for the first time since 2000 – for less than 30 percent of total revenue (26 percent). Previously, oil revenue has accounted for more than half of total revenue. However, the new oil revenue projection is highly likely to be revised again once the negotiations of the post-CPA arrangements are finalized. Table 1 shows projections for major revenue components in the 2011 amended budget.

Table 15: Impact of the Secession on Sudan 2011 Revenues Projections (in billion SDG)

ITEM	2011 Budget (Original)		2011 Budget (Amended)		
	Budget	% Contribution	Budget	% Contribution	% Change
Overall Total Revenue	26.3	100	23.3	100	-12
Non-Oil Revenue	15.6	59	17.2	74	10
<i>Tax Revenue</i>	10.3	39	10.3	44	0
<i>Direct Tax</i>	1.2	4	1.2	5	5
<i>Indirect tax</i>	9.2	35	9.1	39	-1
<i>Non-Tax Revenue</i>	4.1	16	5.7	24	38
<i>Grants</i>	1.2	4	1.2	5	0
Oil Revenue	10.7	41	6.1	26	-43

Source: Ministry of Finance & National Economy, and World Bank Staff Estimates

Note: non-tax revenue includes reduced subsidies on petroleum products and the levy of 20 SDG excise tax on each sack of sugar (i.e. 50 kg.). In January 2011 the authorities increased the price of diesel to 6.5 SDG (per gallon), the price of benzene to 8.5 SDG per gallon, the price of cooking gas to 13 SDG (per container), and the price of fuel jet to 6.5 SDG per gallon.

viii. **To offset the expected oil revenue shortfalls, the amended budget provides a mix of counter-measures including enhancing non-oil revenues and cutting expenditures.** Non-oil revenue collections are projected to increase by 11 percent, raising its total revenue share from 34 percent in 2008 to 69 percent in 2011. The increase in non-oil revenue is expected to be achieved mainly through non-oil tax revenue increases including a higher VAT rate on communication services (from 20 percent to 30 percent) and non-tax revenue collections especially from higher oil transit and oil services fees. In this regard, Sudan's National Assembly has passed the Oil Transit and Oil Services Fees Act on July 20, 2011, which allows fees on transition through Sudanese oil infrastructure and the port. The Act embraces three categories of fees, i.e. territory transit, use of central pipeline processing units, and port services.¹⁶ Foreign grants are

¹⁶ For instance, Sudan announced its intention to impose US\$32 per barrel as new fees on transition and oil services, following the new Act of July 20, 2011.

projected to remain at the same level as that of the original budget and will account for 5 percent of total revenue.

ix. **Despite the measures for improved revenue mobilization, there is urgent need to strengthen non-oil revenues, improving budget credibility and expenditure management.** The following further measures could help enhancing non-oil mobilization of revenues (IMF, 2010)¹⁷:

- prudent efforts to broaden the tax base and strengthen tax compliance;
- reforming the personal income tax, including the removal of tax exemptions to persons above the age of 50;
- removing VAT exemptions and rationalization of business tax incentives; and
- implementing structural measures on non-oil revenue administration including upgrading infrastructure required for better tax collection.

Adjustment of Expenditure

Overview of Expenditure Adjustment

x. **The anticipated financing shortage due to reduced oil revenue led to spending adjustments in the amended budget.** It must be noted that the relatively small size of the expenditure compared to the larger magnitude of revenue loss cut can only be realized against the backdrop of the higher fiscal deficit. Expenditure adjustments come through disproportionate cuts in pro-poor spending items, such as federal transfers and development transfers. Federal transfers to Northern States are projected to decline by 20 percent, mainly due to a 45 percent cut in development transfers. Federal development spending is projected to decline by 26 percent, much exceeding the extent of the total spending cut. The disproportional adjustment pattern suggests that heavier cuts are highly likely in the public investment expenditure and the federal development transfers to states through the fiscal adjustment process; this raises concerns on the vulnerability of pro-poor and public investment expenditures.

xi. **The proposed level of pro-poor expenditure items - particularly on development transfers to sub-national governments – could even further decline on the event of further revenue shortfalls.** A medium-term outlook strategy is needed to effectively address regional disparities and support decentralized delivery of basic services by allocating adequate resources for priority poverty reduction purposes within affordable budget envelope.

xii. **The vulnerability of public pro-poor expenditure items also underscores the strong need for strategic preparation for fiscal adjustment.** An effective expenditure adjustment needs to involve the following phases of strategic decision-makings: (i)

¹⁷ Fiscal Adjustment in Sudan (IMF Working Paper, 2010)

macro-scope fiscal decision looking at fiscal sustainability, (ii) sector-level resource allocation decision based on national policy priorities, and (iii) micro/unit level decision to prioritize individual spending units or programs.

Table 16: Impact of the Secession on Sudan 2011 Expenditures Projections (in billion SDG)

ITEM	2011 Budget (Original)		2011 Budget (Amended)		
	Budget	% Contribution	Budget	% Contribution	% Change
Overall Total Expenditure	32.5	100	31.3	100	-3.6
Non-South Total Expenditure	27.6	85	25.8	82	-7
<i>Of which</i>					
<i>Federal Government</i>	20	62	19.7	63	-2
<i>Transfers to Northern States</i>	7.6	24	6.1	19	-20
Transfers to South Sudan	4.8	15	5.5	18	14

Source: Ministry of Finance & National Economy, and World Bank Staff Estimates

Federal Government Operations

xiii. **Federal government expenditure (excluding transfers to Northern States and South Sudan) is projected to decline by 2 percent compared to the original 2011 budget;** the relative small size of the federal expenditure cut reflects the fact that the spending adjustment is heavily concentrated in transfers to Northern States. Among federal government expenditure items, national development spending and purchase of goods and services will absorb most of the burden while wages and salaries will be barely affected by spending cuts. Table 3 shows the major expenditure composition of the amended budget in comparison with the original budget.

xiv. **Compensation of employees is projected to increase by 8 percent;** this is largely driven by increased cash transfers due to a monthly increase in the salary of civil service employees by 100 SDG and pensions introduced in January 2011 as a part of a series of safety net measures announced by the Minister of Finance and National Economy to the parliament. Back then, a number of safety net and social protection programs were officially announced and included cash transfers, school feeding, free health support, and agriculture and industry support funds (please see the [Sudan Country Economic Brief of February 2011](#) for further details). Yet, the implementation status of the measures remains largely unclear.

xv. **While the compensation of employees will continue to increase, the purchase of goods and services will be cut by 23 percent.** This decline is largely in line with the fiscal tightening measures announced in January that included reduced public expenditures on goods and services – focusing on salaries of senior ministerial positions, travelling abroad, diplomatic mission budgets, purchases of new government cars and furniture. Reduced expenditures on goods and service are expected to lower the federal

expenditure share of operations spending from 12 percent of the original budget to 9 percent.

xvi. **Federal development spending is projected to decline by 26 percent, taking the hardest hit among the federal government spending items.** The heavier spending cuts in the development area will significantly reduce its total expenditure share from 31 percent in the original budget to 23 percent. This will likely confound the critical role of federal development spending to smooth the transition into the new post-secession era and to support the re-orientation of the economic growth framework towards a non-oil broad-based growth model through for instance infrastructure development in rural areas.

Table 17: Sudan Federal expenditures projections for 2011 (in billion SDG)

ITEM	2011 (Original)		2011 (Amended)		
	Budget	% Share	Budget	% Share	% Change
Overall Total Federal Government	20.0	100	19.7	100	-2
Compensation of Employees	9.5	48	10.3	52	8
<i>Wages and salaries</i>	7.5	38	7.6	39	1
<i>Employees Compensation Reserve</i>	0.1	1	0.4	2	209
<i>Social Contributions(incl. pensions)</i>	0.3	2	0.3	2	0
<i>Cash transfers</i>	1.6	8	2.0	10	27
Purchase of Goods and services	2.4	12	1.8	9	-23
Subsides on Strategic Goods	-	-	1.5	8	100
Financing Cost	1.4	7	1.1	5	-25
Other expense	0.6	3	0.4	2	-29
Net Acquisition of Non-Financial Assets	6.1	31	4.6	23	-26

Source: Ministry of Finance & National Economy, and World Bank Staff Estimates

Note: subsidies on strategic goods include subsidies on petroleum products, wheat, and sugar.

xvii. **Yet, the magnitude of how the shock to federal development spending would translate into individual projects remains unclear.** A lack of detailed information on project-level adjustment undermines any insight analysis to understand the nature of these cuts. To this end, the World Bank's Rapid Assessment of the 2011 Public Investment Portfolio, which is part of this package of fiscal notes, reviews the national development portfolio based on available information on 175 federal development projects of the original 2011 budget.

xviii. **The rapid assessment found that the agriculture and energy sectors are priority areas of federal investment while development spending in key basic service areas (e.g. education, health, water) is generally weak.** It also found that development resources are heavily concentrated in a few mega projects – the 13 largest projects account for over 60 percent of the total fiscal burden of all 175 national development projects over their life cycle. This raises concern that a lack of proper feasibility studies

in the project design phases of large projects could likely lead to an overall low efficiency of public investment spending. For a more detailed analysis, see within this package of notes, “Sudan - Rapid Assessment of the Public Investment Portfolio in the Fiscal Adjustment Context (World Bank, September 2011)”.

Transfers to the Northern States

xix. **The 2011 amended budget confirms the vulnerability of federal transfers to state governments during the fiscal adjustment.** Table 4 shows the breakdown of transfers to Northern States in the amended budget. Transfers to states - the main financing source for most basic services to the poor under the decentralized fiscal system - is projected to be significantly cut by 20 percent. This reduction of transfers to Northern States is largely driven by a decline in development transfers of 45 percent; the overall share it share cut back from 46 percent of federal transfers in the original budget to 31 percent. This indicates that the brunt of weak revenue collections is more likely borne by Northern State transfers especially through reduced development transfers. This raises significant concern on the adverse impact on basic service delivery at the state level since improving service delivery to the poor in the longer term will require continuous investments, for instance, in schools, clinics, roads. Despite the wide variance of the state-level dependency on federal support, it remains unclear at this stage how the vertical shock in transfers will translate into spending patterns of individual states.

xx. **In contrast to the significant downward shock to the development transfers, current transfers to states are projected to increase by 2 percent;** this can be mainly attributed to the increased cash transfers as a result of the monthly increase in the salary of civil service employees by 100 SDG and other social support announced in January 2011. To assist the government in the assessment of the state-level impact, a World Bank task team in June 2011 conducted field visits to three states - Red Sea, North Kordofan and White Nile - to identify the vulnerability and preparedness of states to cope with a fiscal shock at the state level; the visits allowed extensive interviews with state government officials for the assessment.

Table 18: Federal Transfers to Northern States Projections for 2011 (in billion SDG)

ITEM	2011 (Original)		2011 (Amended)		
	Budget	% Share	Budget	% Share	% Change
Transfers to Northern States	7.6	100	6.1	100	-20
Current Transfers	4.1	54	4.2	69	2
Capital transfer	3.5	46	1.9	31	-45
<i>Of which:</i>					
<i>Local financing</i>	1.2	16	0.7	12	-41
<i>Foreign financing</i>	2.3	30	1.2	19	-48
Transfers to Abeye	0.008	0	0.004	0	-54

Source: Ministry of Finance & National Economy, and World Bank Staff Estimates

xxi. **The field visits revealed that the state governments were not prepared for the anticipated fiscal shock;** in such a scenario the extent of the fiscal shock at the state level is likely to be felt abruptly. Visits also underscored the need to avoid across-the-board type cuts uniformly applied to all states, but rather to base any cuts on factors such as the degrees of fiscal dependency of individual states and each state's own revenue capacities.¹⁸ The assessment also found that state development spending is likely to be most vulnerable to the fiscal shock; this insight adds serious concern that development spending on basic services at the state level – which are already at critical levels in many states - is likely to be heavily affected by reduced federal support. For more detailed results of the field visits, see within this package of notes the “Sudan – State-level Implication of the Fiscal Adjustment (World Bank, September 2011)”. The assessment underscores the need for further studies on how to facilitate state-level development in light of the deep fiscal adjustment ahead.

¹⁸ For example, Red Sea has high own revenue capacity and low dependence on fiscal transfer (34-43% of revenues during 2005-10). As a result, 70 percent of state development spending is financed by own revenues and the development share is over 56 percent, significantly larger than in other states. Consequently, the magnitude of the fiscal shock from reduced transfer is likely to be much smaller in Red Sea than in the other two states; this is due to the larger capacity to absorb the shock with its own revenues.

Annex 6. Statistical Appendix for Public Investment Project Data – 2011 National Development Portfolio

- Source: GoS Budget Data (2000-2011), GRP Database and World Bank Staff Calculation

Agriculture Sector

Project Name	2011 budget (millions of SDG)				Cost (millions of SDG)		Budget performance (millions of SDG)			Project Life Cycle	
	Local	Foreign Loan	Foreign Grant	Total	Estimated project cost	Cost Expenditure Ratio	Budget allocation (-2010)	Budget Execution (-2010)	Budget Execution rate(%)	Start Year	Closing Year
Program of rehabilitation and rebuilding of productive capacities	2.0	0.0	0.0	2.0	83.1	0.0%	8.0	0.0	0.0	2009	2013
Institutional and human capacity building	1.0	0.0	0.0	1.0	6.0	0.0%	4.0	0.0	0.0	2009	2011
Monitoring and evaluation of agricultural sector activities	1.0	0.0	0.0	1.0	6.0	0.0%	5.0	0.0	0.0	2009	2011
Food security information systems	3.0	0.0	0.0	3.0	45.0	0.5%	33.6	0.2	0.7	2008	2011
Infrastructure and services in Southern Sudan	5.0	0.0	0.0	5.0	175.0	2.6%	168.8	4.5	2.7	2008	2011
Maps preparation for agricultural arable land	4.0	0.0	0.0	4.0	14.0	2.9%	14.1	0.4	2.8	2006	2011
Rehabilitation of cotton ginneries	1.0	0.0	0.0	1.0	6.2	38.7%	55.0	2.4	4.3	2007	2011
Basic infrastructure for plants protection	4.0	0.0	0.0	4.0	14.0	11.5%	31.5	1.6	5.1	2005	2011
The National Project of rice	5.0	0.0	0.0	5.0	55.0	1.4%	10.0	0.8	7.8	2008	2013
Preparing the agricultural sector to cope with the accession to the WTO	0.4	0.0	0.0	0.4	1.9	6.7%	1.5	0.1	8.3	2009	2012
Planning, agricultural economic and agricultural statistical surveys	2.0	0.0	0.0	2.0	6.0	14.8%	7.5	0.9	11.8	2007	2011
Investment Promotion Center, Ministry of Agriculture	1.5	0.0	0.0	1.5	6.5	8.3%	3.9	0.5	13.7	2008	2011
Promoting the center of technology transmission	5.0	0.0	0.0	5.0	25.0	36.9%	57.3	9.2	16.1	2002	2011
Rehabilitation of horticulture sector and promising crops	3.0	0.0	0.0	3.0	20.0	36.3%	25.3	7.3	28.7	2002	2011
The special program for food security	1.0	0.0	0.0	1.0	21.7	105.3%	79.0	22.9	28.9	2006	2013
Grain Silos	4.0	0.0	0.0	4.0	161.5	17.0%	83.1	27.5	33.1	2007	2011
Parrying of agricultural risks' effects and agricultural insurance	20.0	0.0	0.0	20.0	264.0	5.9%	44.3	15.5	35.0	2006	2013
Wheat production in the Northern State project	8.0	87.8	0.0	95.8	97.8	0.0%	0.0	0.0	0.0	2011	2011
Wad-alfadul sugar production and marketing project	8.0	87.8	0.0	95.8	96.8	0.0%	0.0	0.0	0.0	2011	2011
Alsoki sugar production and marketing project	8.0	87.8	0.0	95.8	95.8	0.0%	0.0	0.0	0.0	2011	2011
Producing Animal food in the existing sugar factories	4.0	47.3	0.0	51.3	51.3	0.0%	0.0	0.0	0.0	2011	2011
The national programme for producing seeds in states	8.0	0.0	0.0	8.0	8.0	0.0%	0.0	0.0	0.0	2011	2011
Agricultural survey	3.0	0.0	0.0	3.0	3.0	0.0%	0.0	0.0	0.0	2011	2011
Rehabilitation of Halfa El-Gadida (New Halfa)	3.0	0.0	0.0	3.0	48.0	43.1%	29.0	20.7	71.4	2006	2012
Capacity building to cooperate with Japanese cooperation agency	0.5	0.0	0.0	0.5	0.5	0.0%	0.0	0.0	0.0	2011	2011
National programme for wheat settlement	50.0	87.8	1.4	139.1	808.6	102.4%	965.4	827.7	85.7	2000	2017
Establishment of pioneering projects (projects affected with drought)	0.2	0.0	0.0	0.2	0.2	0.0%	0.0	0.0	0.0	2011	2011
Agricultural Research Corporation	4.2	0.0	0.0	4.2	4.2	0.0%	0.0	0.0	0.0	2011	2011

Energy Sector

Project Name	2011 budget (millions of SDG)				Cost (millions of SDG)		Budget performance (millions of SDG)			Project Life Cycle	
	Local	Foreign Loan	Foreign Grant	Total	Estimated project cost	Cost Expenditure Ratio	Budget allocation (-2010)	Budget Execution (-2010)	Budget Execution rate(%)	Start Year	Closing Year
South Koprdufan network	10.0	405.0	0.0	415.0	651.0	0.3%	195.0	1.7	0.9	2010	2011
Emergency Projects for Darfur States	3.2	0.0	0.0	3.2	5.2	19.6%	13.5	1.0	7.5	2005	2011
Lighting (6) cities	3.7	0.0	0.0	3.7	24.0	10.9%	19.3	2.6	13.5	2005	2011
High Pressure Lines - Atbara - Abu-hamad	10.0	162.0	0.0	172.0	312.0	0.3%	5.0	0.8	16.8	2010	2011
Local khjar electricity - Almanaseer	7.9	0.0	0.0	7.9	95.0	0.9%	5.0	0.8	16.8	2010	2011
Rehabilitation of White Nile Electricity	15.0	0.0	0.0	15.0	25.0	6.8%	10.0	1.7	16.9	2010	2011
Completion river crossings (sub-stations)	8.4	0.0	0.0	8.4	16.2	13.5%	10.8	2.2	20.2	2009	2011
High Pressure Lines - Alhessahisa - Algeineid	10.0	0.0	0.0	10.0	30.0	28.2%	25.0	8.5	33.8	2009	2011
High Pressure Lines around Khartoum	6.8	0.0	0.0	6.8	29.8	37.8%	30.1	11.2	37.3	2009	2011
Sudan-Ethiopia Electricity link line	10.0	0.0	0.0	10.0	91.5	18.4%	29.9	16.8	56.3	2008	2011
Rehabilitation of Alrosaris power stations	3.8	0.0	0.0	3.8	17.1	508.7%	141.3	87.2	61.8	2000	2012
Kosti Power Station	15.0	170.1	0.0	185.1	936.6	88.8%	1,132.3	831.3	73.4	2007	2011
Darfur Cities HQ Electricity	2.7	0.0	0.0	2.7	92.0	66.8%	83.4	61.5	73.7	2005	2011
Monitoring and technical studies	0.5	0.0	0.0	0.5	0.5	0.0%	0.0	0.0	0.0	2011	2011
Port Sudan Electricity (High pressure line)	4.8	0.0	0.0	4.8	220.0	20.8%	52.9	45.8	86.6	2006	2011
Pre-Pay Meters	15.0	0.0	0.0	15.0	35.0	204.9%	76.8	71.7	93.4	2003	2011
Alfoula Electricity	20.0	339.1	0.0	359.1	1,700.8	44.1%	787.6	750.7	95.3	2008	2011
El Jaili Garri Electricity (1-2-4)	30.0	0.0	0.0	30.0	744.0	74.4%	556.1	553.9	99.6	2004	2011
High Pressure Lines - Algamoia - Banat	8.4	0.0	0.0	8.4	42.0	26.5%	9.3	11.1	119.8	2009	2011
Extension of Bahri El Harariya Station (2 & 3)	25.0	9.5	0.0	34.5	130.7	337.2%	365.4	440.9	120.6	2006	2011
Rehabilitation of Khartoum Distribution Network	5.2	0.0	0.0	5.2	222.0	121.0%	218.6	268.5	122.8	2002	2012
Third Circle (El-Rosairise - El Rank - Rabak - Khartoum)	15.0	0.0	0.0	15.0	46.0	476.5%	150.5	219.2	145.6	2006	2011
Rural Area Electricity High Pressure Lines	10.0	0.0	0.0	10.0	21.6	989.1%	126.0	213.7	169.6	2006	2011
High Pressure Lines - Dongola - Wadi halfa	15.0	9.5	0.0	24.5	3,000.0	10.0%	166.0	301.2	181.4	2009	2011
Project of 10 Distribution Stations	15.0	0.0	0.0	15.0	52.1	326.9%	73.1	170.4	233.1	2006	2011
Estern network project (Gadarif - Kassala - Arowma)	10.9	35.1	0.0	46.0	204.0	51.9%	40.0	105.9	264.7	2009	2011

Irrigation Sector

Project Name	2011 budget (millions of SDG)				Cost (millions of SDG)		Budget performance (millions of SDG)			Project Life Cycle	
	Local	Foreign Loan	Foreign Grant	Total	Estimated project cost	Cost Expenditure Ratio	Budget allocation (-2010)	Budget Execution (-2010)	Budget Execution rate(%)	Start Year	Closing Year
Establishment of water monitoring stations	1.0	0.0	0.0	1.0	1.1	0.0%	1.1	0.0	0.0	2009	2011
Water Researches	0.5	0.0	0.0	0.5	1.0	0.0%	1.0	0.0	0.0	2009	2011
Radioactive isotopes use in groundwater development	0.2	0.0	0.0	0.2	0.4	0.0%	1.9	0.0	0.0	2010	2011
Ground-cistern of the Nubian's sandy basin	0.5	0.0	0.0	0.5	2.6	7.5%	4.6	0.2	4.2	2000	2011
Rehabilitation of El-Soki Agricultural Corporation (Pumps)	0.0	0.0	0.0	0.0	20.8	27.8%	60.4	5.8	9.6	2007	2011
Rehabilitation of irrigation basic infrastructure (El-Rahad Scheme - OPEC)	5.0	34.0	0.0	39.0	67.8	12.5%	41.7	8.5	20.4	2009	2012
Rehabilitaion of El-Rosairise Dam's upper doors	5.5	0.0	0.0	5.5	11.1	49.5%	16.7	5.5	32.9	2006	2011
Rehabilitation of compensatory pumps in Khashim El-Gireba Basin	3.5	0.0	0.0	3.5	49.7	23.6%	35.0	11.7	33.5	2005	2011
Merawi two cannals	10.0	540.0	0.0	550.0	550.0	0.0%	0.0	0.0	0.0	2011	2011
Upper Atbara and Alsiteit	20.0	371.3	0.0	391.3	391.3	0.0%	0.0	0.0	0.0	2011	2011
Elevation of El-Rosairise Dam	40.0	341.7	0.0	381.7	1,130.4	32.5%	902.5	367.1	40.7	2000	2011
Rehabilitation of basic infrastructure of irrigation entities (El-Gazira Scheme)	15.0	0.0	0.0	15.0	60.0	126.9%	184.6	76.1	41.2	2002	2011
Merawi dam and accompanied projects	90.0	0.0	0.0	90.0	9,250.3	12.3%	2,605.2	1,139.5	43.7	2009	2011
The Tenth Inspection (El-Rahad Agricultural Scheme)	10.0	0.0	0.0	10.0	13.3	134.7%	40.6	17.9	44.2	2003	2011
Eastern Nile Basin Projects	6.0	0.0	5.4	11.4	83.5	6.6%	10.5	5.5	52.7	2008	2011
Rehabilitation of irrigation basic infrastructure facilities (Halfa)	6.0	0.0	0.0	6.0	36.0	836.8%	277.3	301.2	108.6	2000	2011
Rehabilitation of Sinnar Dam	10.0	0.0	0.0	10.0	40.0	47.3%	4.2	18.9	450.9	2008	2011
Local Cucumber Project	15.0	0.0	0.0	15.0	25.0	211.8%	10.0	53.0	529.5	2010	2011

Industry Sector

Project Name	2011 budget (millions of SDG)				Cost (millions of SDG)		Budget performance (millions of SDG)			Project Life Cycle	
	Local	Foreign Loan	Foreign Grant	Total	Estimated project cost	Cost Expenditure Ratio	Budget allocation (-2010)	Budget Execution (-2010)	Budget Execution rate(%)	Start Year	Closing Year
Blue Nile (Sinnar) sugar factory	0.0	270.0	0.0	270.0	568.8	0.0%	223.9	0.0	0.0	2009	2011
Modernization of Al-Hisahisa textile factory	0.0	0.0	0.0	0.0	2.0	0.0%	4.3	0.0	0.0	2009	2011
Rehabilitation of textile sector projects	10.0	0.0	0.0	10.0	57.9	41.0%	275.2	23.7	8.6	2003	2011
Technical assistance for livestock leather	1.0	0.0	0.0	1.0	2.0	412.1%	39.1	8.2	21.1	2004	2011
Small-Industries complexes	1.0	0.0	0.0	1.0	2.0	304.1%	18.2	6.1	33.5	2004	2011
Mashkour sugar factory	0.0	67.5	0.0	67.5	92.5	31.9%	42.0	29.5	70.2	2010	2011
Strategic industries	60.0	0.0	0.0	60.0	190.0	763.6%	706.6	1,450.8	205.3	2000	2011

Livestock

Project Name	2011 budget (millions of SDG)				Cost (millions of SDG)		Budget performance (millions of SDG)			Project Life Cycle	
	Local	Foreign Loan	Foreign Grant	Total	Estimated project cost	Cost Expenditure Ratio	Budget allocation (-2010)	Budget Execution (-2010)	Budget Execution rate(%)	Start Year	Closing Year
Improving livestock production	3.0	0.0	0.0	3.0	22.0	0.0%	5.0	0.0	0.0	2008	2011
Transmission of technology and Veterinary guidance	2.5	0.0	0.0	2.5	17.5	0.0%	5.2	0.0	0.0	2010	2011
Rehabilitation of the training center and the model farm	2.0	0.0	0.0	2.0	13.8	0.0%	4.3	0.0	0.0	2008	2011
Rehabilitation of Quality control laboratories	4.0	0.0	0.0	4.0	8.7	0.0%	7.5	0.0	0.0	2008	2011
Animal Definition	3.0	0.0	0.0	3.0	7.5	0.0%	4.2	0.0	0.0	2010	2011
Strategic Belt of the Export	0.7	0.0	0.0	0.7	14.3	0.2%	5.5	0.0	0.6	2009	2012
Livestock statistics	2.0	0.0	0.0	2.0	8.5	0.5%	6.0	0.0	0.8	2010	2011
Rehabilitation of the training center of animal production	1.0	0.0	0.0	1.0	2.3	1.9%	3.4	0.0	1.3	2009	2011
Promoting production for export	2.0	0.0	0.0	2.0	17.0	1.8%	12.0	0.3	2.5	2010	2011
Institutional Support to the Ministry of Livestock	2.0	2.7	0.0	4.7	11.5	6.3%	18.1	0.7	4.0	2009	2011
Rehabilitation of Drug control laboratories	2.5	0.0	0.0	2.5	6.7	5.3%	8.8	0.4	4.0	2007	2011
Protection of fishing farm	1.0	0.0	0.0	1.0	3.0	2.8%	2.0	0.1	4.3	2009	2013
Information database and strategic statistical data	2.0	0.0	0.0	2.0	7.3	11.2%	14.6	0.8	5.6	2001	2011
Improving Leather production	1.0	0.0	0.0	1.0	2.8	14.6%	4.7	0.4	8.6	2007	2011
Construction & rehabilitation of veterinary quarantines (El-Kadaro, Port Sudan, El-Rahad)	20.0	0.0	0.0	20.0	54.0	64.7%	108.1	34.9	32.3	2000	2011
Providing eugenics and vaccination	2.5	0.0	0.0	2.5	27.5	15.1%	12.5	4.1	33.2	2007	2011
Project of parrying of epidemic diseases	8.0	0.0	0.0	8.0	23.0	132.3%	91.4	30.4	33.3	2002	2011
Animal Resource Research Corporation	4.2	0.0	0.0	4.2	4.2	0.0%	0.0	0.0	0.0	2011	2011
National Programme for pastures seeds dispersal	2.0	0.0	0.0	2.0	6.5	0.0%	0.0	0.0	0.0	2011	2011

Water

Project Name	2011 budget (millions of SDG)				Cost (millions of SDG)		Budget performance (millions of SDG)			Project Life Cycle	
	Local	Foreign Loan	Foreign Grant	Total	Estimated project cost	Cost Expenditure Ratio	Budget allocation (-2010)	Budget Execution (-2010)	Budget Execution rate(%)	Start Year	Closing Year
Quality control laboratories for water - (water strategies)	1.5	0.0	0.0	1.5	3.0	70.0%	14.1	2.1	15.0	2001	2011
Improvement of water supply in semi-drought area	1.3	0.0	0.0	1.3	1.4	1075.1%	59.0	14.6	24.8	2000	2011

Social Development

Project Name	2011 budget (millions of SDG)				Cost (millions of SDG)		Budget performance (millions of SDG)			Project Life Cycle	
	Local	Foreign Loan	Foreign Grant	Total	Estimated project cost	Cost Expenditure Ratio	Budget allocation (-2010)	Budget Execution (-2010)	Budget Execution rate(%)	Start Year	Closing Year
Presidential Palace	5.0	0.0	0.0	5.0	117.5	0.0%	49.1	0.0	0.0	2006	2014
Rational Governance (Judiciary Corporation)	10.0	0.0	0.0	10.0	13.0	0.0%	30.0	0.0	0.0	2007	2012
National NGO's	1.5	0.0	0.0	1.5	3.0	0.0%	1.5	0.0	0.0	2010	2012
Government Resource Programme (GRP)	10.0	0.0	0.0	10.0	80.0	3.6%	80.0	2.9	3.6	2010	2011
Africa Technological City	3.0	0.0	0.0	3.0	8.0	3.0%	6.0	0.2	4.0	2009	2011
Atomic Energy Corporation	2.1	0.0	0.0	2.1	6.7	19.4%	31.8	1.3	4.1	2002	2011
Central Laboratory - Ministry of Sciences and Technology	3.6	0.0	0.0	3.6	7.2	24.3%	30.5	1.7	5.7	2004	2011
Labor Market Surveys	0.9	0.0	0.0	0.9	1.8	27.8%	7.7	0.5	6.5	2005	2011
Solar energy cells factory	1.5	0.0	0.0	1.5	3.0	98.9%	45.7	3.0	6.5	2003	2011
Projects of Forest National Corporation	3.0	0.0	0.0	3.0	3.0	79.2%	28.0	2.4	8.5	2002	2011
Establishment of National Library	2.4	0.0	0.0	2.4	5.4	19.4%	10.1	1.1	10.4	2007	2011
Microfinance	0.0	33.2	25.1	58.3	85.0	8.9%	47.7	7.6	15.9	2008	2011
Islamic Museum	2.4	0.0	0.0	2.4	4.8	37.7%	11.1	1.8	16.3	2007	2011
Establishment of Sport City	4.0	0.0	0.0	4.0	57.6	30.8%	99.5	17.8	17.8	2006	2012
Development of Nomadic groups	8.0	0.0	0.0	8.0	32.0	10.7%	14.4	3.4	23.8	2010	2012
Capacity building and human resources development	5.0	50.5	3.5	59.0	59.0	137.2%	337.4	81.0	24.0	2006	2012
Early warranting and Medical aids	2.0	0.0	0.0	2.0	3.5	114.3%	15.7	4.0	25.5	2007	2011
Central House for Records	2.6	0.0	0.0	2.6	14.2	52.3%	25.7	7.4	28.8	2003	2013
Rehabilitation of National health laboratory	1.0	0.0	0.0	1.0	2.1	302.9%	19.8	6.4	32.1	2000	2011
Rehabilitation of Sudan News Agency (SUNA)	5.0	0.0	0.0	5.0	18.0	120.9%	61.7	21.8	35.3	2000	2011
Informational Capacity building (GRP project)	15.0	0.0	0.0	15.0	60.0	27.0%	45.0	16.2	36.0	2010	2011
Completion of Universities' lecture rooms and laboratories	15.0	69.7	1.9	86.6	106.2	69.0%	184.9	73.3	39.6	2000	2013
National Centre for De-mining	6.5	0.0	0.0	6.5	12.5	248.0%	73.0	31.0	42.5	2007	2011
Technical and Technological Education	1.0	67.5	0.0	68.5	68.5	0.0%	0.0	0.0	0.0	2011	2011
Rehabilitation of specialized hospitals	47.8	0.0	0.0	47.8	112.6	115.0%	291.6	129.5	44.4	2000	2011

Re-hiring military retirees in civil service	20.8	0.0	0.0	20.8	41.2	436.8%	324.8	179.9	55.4	2006	2011
IDPS Voluntary Return	2.0	0.0	0.0	2.0	3.5	198.4%	12.0	6.9	57.9	2007	2011
Alhuda City	5.0	0.0	0.0	5.0	35.5	14.1%	8.0	5.0	62.5	2009	2011
Reforms of Civil Service	1.0	0.0	6.2	7.2	7.2	0.0%	0.0	0.0	0.0	2011	2011
Media and community awareness projects	1.0	0.0	0.0	1.0	3.0	38.3%	1.7	1.2	67.6	2009	2011
University hospital's and laboratories equipment	2.4	0.0	0.0	2.4	10.9	193.0%	30.9	21.0	68.0	2002	2011
Promotion and rehabilitation of revenue units	30.0	0.0	0.0	30.0	52.7	186.3%	141.0	98.2	69.7	2001	2011
Promoting Radio and TV Broadcasting	10.0	0.0	0.0	10.0	28.0	324.0%	120.8	90.7	75.1	2000	2011
Rehabilitation of Ministry of Defense Buildings	100.0	0.0	0.0	100.0	580.0	41.4%	241.0	240.0	99.6	2009	2011
Endowment Complex	0.5	0.0	0.0	0.5	2.4	0.0%	23.1	23.9	103.3	2007	2011

Transport, Road and Bridges

Project Name	2011 budget (millions of SDG)				Cost (millions of SDG)		Budget performance (millions of SDG)			Project Life Cycle	
	Local	Foreign Loan	Foreign Grant	Total	Estimated project cost	Cost Expenditure Ratio	Budget allocation (-2010)	Budget Execution (-2010)	Budget Execution rate(%)	Start Year	Closing Year
Karagon - Hameshkoreib road	5.0	0.0	0.0	5.0	1,094.0	0.0%	24.0	0.0	0.0	2009	2012
Omdurman - Bara road	15.0	0.0	0.0	15.0	1,016.3	0.0%	31.5	0.0	0.0	2009	2012
Establishment of railway line barralle to (Babanusa-Aldien-Nyala) line	5.0	0.0	0.0	5.0	350.0	0.0%	11.0	0.0	0.0	2009	2011
Singga - Aldindir Road	10.0	0.0	0.0	10.0	197.8	0.0%	24.0	0.0	0.0	2009	2012
Establishment of a line to link Kosti river port with the railway network	7.0	0.0	0.0	7.0	21.3	0.0%	17.8	0.0	0.0	2009	2011
Kassala - Allaffaa road	2.0	0.0	0.0	2.0	20.4	0.5%	33.1	0.1	0.3	2008	2011
Alnihoad- Eddaein - Nyala road	10.0	54.0	0.0	64.0	1,075.5	0.0%	27.0	0.1	0.5	2009	2013
West Nile road (Omdurman - Alhogna -Um-Al-tiour)	5.0	0.0	0.0	5.0	12.0	4.2%	14.3	0.5	3.5	2007	2011
Strengthening and Improving of river transportation infrastructure	5.5	0.0	0.0	5.5	11.5	6.8%	14.7	0.8	5.3	2009	2011
Kadugli -Lagawa - El Fula road	1.5	0.0	0.0	1.5	69.9	0.4%	4.6	0.3	6.1	2009	2011
Kadugli - Kaouda road	3.0	0.0	68.6	71.6	82.7	3.0%	37.0	2.5	6.6	2008	2011
Road's studies and execution	0.5	0.0	0.0	0.5	1.0	142.6%	16.1	1.4	8.8	2002	2011

Al Shoak - Allkdy - Al homra Road	10.0	0.0	0.0	10.0	20.0	7.9%	17.4	1.6	9.1	2009	2012
Damazin - Kurmuk - Osossa Road	15.0	0.0	117.3	132.3	185.6	3.9%	70.6	7.2	10.1	2007	2011
Dalange-Shole-Kadougli Road	5.0	0.0	0.0	5.0	35.6	4.2%	10.6	1.5	14.2	2009	2011
Establishment of Nyala - Alginneina - Fourbranga railway line	5.0	0.0	0.0	5.0	12.7	13.2%	10.7	1.7	15.6	2009	2011
Completion of Almangel - 24 Qurashi road	15.0	0.0	0.0	15.0	47.9	5.3%	14.0	2.5	18.1	2009	2012
El-Salam Road (Al-Rank-Malkal sector)	5.0	59.9	0.0	64.9	555.9	15.7%	451.7	87.3	19.3	2006	2013
Al Shahid Sbeira Airport (Alginneina)	2.0	0.0	0.0	2.0	77.0	2.6%	10.0	2.0	20.0	2008	2012
Aldwaium bridge	11.0	0.0	0.0	11.0	108.7	23.4%	88.7	25.4	28.6	2005	2011
Sinnar bridge	1.6	21.3	0.0	22.9	166.6	18.4%	95.0	30.6	32.2	2009	2012
Al_dibiabat-Abu-Zabad Road	2.5	32.4	0.0	34.9	252.5	21.8%	169.9	55.0	32.4	2008	2012
Rehabilitation of Khartoum - Port-Sudan new railway line	3.0	0.0	0.0	3.0	547.0	0.0%	0.0	0.0	0.0	2011	2011
El-ingaze El-gharby Road	12.0	108.8	0.0	120.8	1,012.3	30.7%	807.6	311.1	38.5	2002	2011
Gadamai - Hameshkoreib Road	14.7	0.0	14.5	29.2	66.6	29.2%	42.0	19.4	46.2	2008	2011
Port Sudan - Gabbanit road	5.0	0.0	0.0	5.0	71.0	22.3%	29.0	15.8	54.5	2006	2011
Circular Road (Um-Rowaba-Abu-Gibaiha)	1.5	17.0	0.0	18.5	159.5	70.7%	195.7	112.7	57.6	2002	2012
Rehabilitation of Khartoum - Almousalmayia new railway line	17.0	0.0	0.0	17.0	17.0	0.0%	0.0	0.0	0.0	2011	2011
Expansion and modernization of railway infrastructure	15.0	0.0	0.0	15.0	35.0	231.3%	134.3	80.9	60.3	2008	2011
Establishment of a line to link Dma-Dma with the railway network	5.0	0.0	0.0	5.0	20.9	62.2%	20.5	13.0	63.4	2009	2011
Suakin-Tokar Road	2.0	0.0	0.0	2.0	4.1	494.9%	27.9	20.3	72.6	2004	2012
Madani Algardarif Road	10.0	0.0	0.0	10.0	25.0	24.5%	8.4	6.1	73.2	2007	2011
Enlargement of Altahadi Road	2.0	0.0	0.0	2.0	2.0	0.0%	0.0	0.0	0.0	2011	2011
Aldwaium - Tandalti Road	0.5	0.0	0.0	0.5	0.5	0.0%	0.0	0.0	0.0	2011	2011
Alshoor - Kosti Road	0.5	0.0	0.0	0.5	0.5	0.0%	0.0	0.0	0.0	2011	2011
Strengthening railways with new railroad cars and Locomotives	15.0	0.0	0.0	15.0	3,691.6	9.6%	358.6	356.0	99.3	2006	2011
Khartoum new international airport	5.0	521.9	0.0	526.9	638.5	31.7%	175.7	202.1	115.0	2007	2011
Rehabilitation of Khartoum - Port-Sudan railway line	2.0	0.0	0.0	2.0	546.0	1.2%	5.0	6.3	126.7	2010	2011
Rehabilitation of Babanusa - Waw Line (railway)	10.0	0.0	5.4	15.4	51.8	535.4%	137.8	277.5	201.4	2006	2011
Kassala - Al-degein Road	2.7	0.0	0.0	2.7	46.7	129.3%	24.2	60.4	249.0	2006	2011

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