



AFRICAN DEVELOPMENT
BANK GROUP

SUDAN: INFORMATION NOTE – RESOURCE APPORTIONMENT

July 2011

Sudan
Core Team

Mr. Steve KAYIZZI-MUGERWA, Director, OREB

Mr. Solomane KONE, Lead Economist, OREB

Mr. Godfred PENN, Lead Legal Counsel, GECL.0

Mr. James WAHOME, Lead Economist, OSFU

Mr. Abdul KAMARA, Resident Representative, SDFO

Mr. Suwareh DARBO, Principal Economist, OREB

Ms. Senait ASSEFA, Principal Resource Mobilization Officer, ORMU

Mr. Andoh MENSAH, Principal Country Program Officer, SDFO

Mr. Girma B. BEZABEH, Principal Transport Engineer, OITC.2

Mr. Boniface ALEOBUA, Principal Sanitation Engineer, OWAS.2

Mr. Engedasew NEGASH, Chief Power Engineer, ONEC.2

Mr. Lawal UMAR, Principal Livestock Expert, OSAN.1

Mr. Shimeles ABEBE, Principal Research Economist, EDRE.0

Ms. Audrey CHOUCANE, Principal Research Economist, EDRE.2

Ms. Nana-Efua SPIO-GARBRAH, Young Professional, ORVP

Ms. Faith KAMAU, Consultant, GECL.1

I Introduction

- 1.1 Following the approval of Sudan's eligibility to the Fragile States Facility (FSF) supplemental support window (Pillar I) on 29 June 2011 (ADB/BD/WP/2010/179/Add.1 – ADF/BD/WP/2010/128/Add.1), this Information Note seeks to update the Boards of Directors on the outcome of the work regarding the approach that will guide the apportionment of resources between the continuing state of the Republic of Sudan and the new state of South Sudan after 9 July 2011. The resources to be apportioned are made up of FSF Pillar I (UA 40 million) and Sudan's 2011 African Development Fund (ADF)-12 country performance-based allocation (UA 23.51 million).
- 1.2 Consistent with the spirit and principles that guide the Bank Group's engagement in post-conflict and fragile states, one of the key considerations Management has taken into account in exploring different apportionment options was the need to prioritize the allocation of Bank Group's resources to support recovery and transition, taking into account the relative needs and development challenges faced by the two regions/countries.
- 1.3 The information provided in this note pertains only to the apportionment approach and underlying methodology based on the following **general notes and assumptions**:
 - The new state of South Sudan will be eligible for resources from the ADF Performance Based Allocation (PBA) system and the Supplemental Window (Pillar I) of the Fragile States Facility (FSF).
 - The 'Zero Option'¹ on apportionment of debt, whereby the continuing state of Sudan (North) will take all the outstanding debt and arrears to the Bank Group, will be formally agreed between the two Parties.
 - The total amount of resources to be apportioned is UA 63.51 million, comprising of UA 23.51 from Sudan's 2011 PBA allocation (ADF-12) and UA 40 million from FSF Pillar I allocation.
 - The apportionment calculations are based on current data and do not take a view on potential impact of population movement between the two countries after separation.
 - The apportionment analysis does not take a view, or make assumptions or linkages, on post-referendum macroeconomic data for North and South.
 - Consumption per capita (from 2009 National Baseline Household Survey), is used in place of Gross National Income (GNI) per capita due to uncertainty about the immediate availability of macroeconomic data post-separation.
 - **Data source:** 2009 Sudan National Household Survey (segregated for North and South)²; *Status of Millennium Development Goals in Sudan 2010* (http://www.sd.undp.org/mdg_fact.htm#1); 2011 Country Allocations under ADF-12 (ADF/BD/IF/2011/13).

¹ In the context of the currently ongoing negotiations facilitated by the African Union High-Level Implementation Panel (AUHIP), the Parties have agreed, in principle, to pursue the so-called "zero option" whereby the North would assume all debts subject to (i) firm commitment by the international community to provide comprehensive debt relief within a two year period during which Sudan aims to reach the Decision Point; and (ii) a joint creditor outreach strategy in which both sides would participate actively.

² The 2009 National Baseline Household Survey, supported by the Bank, was conducted for the South and North, and a report produced for the respective region.

II Development-needs Based Resource Apportionment

- 2.1 The underlying objective of this apportionment approach is to use poverty and development indicators as proxy for: (i) the relative differences in needs and development challenges between the two regions; (ii) prioritization of resources for basic service delivery; and, (iii) the mapping of these region/country-specific needs against the ADF’s strategic priorities and results Measurement Framework.
- 2.2 The parameters that have been incorporated in this apportionment methodology include:
- *Population*: 30.85 million in the North and 8.25 million in the South;
 - *Consumption per capita*: 148 SDG/month in the North and 100 SDG/month in the South;
 - *Poverty incidence*: the estimated poverty incidence (proportion of population that lives below the poverty line) is 46.5 percent in the North and 50.6 percent in the South; and
 - *Weighted MDG Composite Index*: five Millennium Development Goal (MDG) indicators are used based on relevance to Bank Group’s strategic orientation and ADF-12 Results Measurement Framework, and data availability for each region. The MDG Index is composed of two indicators for infrastructure (water and sanitation); one indicator for primary education (gross primary enrollment ratio); and two indicators for health (maternal and under-five mortality).
- 2.3 Formula and calculation methodology: The formula takes into consideration the identification of country needs as it is in the current ADF PBA formula (i.e. through population and GNI pc) and adds two factors to better align the split to the current specific needs of North and South Sudan in terms of poverty reduction and achievement of MDGs. The formula for calculating the share of each country is then the following:

$$Share_i = \frac{A_i}{A_{North} + A_{South}}$$

Where *i* indicates North or South and:

$$A_i = Pop \times Consumption\ pc^{-0.125} \times Poverty\ Incidence \times MDG\ Index$$

- as it is the case in the current PBA formula, Population has an exponent of 1 (share increases with population) ; and Consumption per Capita (a proxy of GNI pc) has an exponent of -0.125 (share decreases with Consumption per capita);
- Poverty Incidence is measured by the percent of population living below the respective region’s poverty line and enters into the formula with an exponent of 1 (share increases with poverty incidence);
- the MDG composite Index takes into consideration five MDG indicators which are also included in the Results Framework of the Bank. The index enters the formula with an exponent of 1 (share increases with needs in terms of MDG indicators). These indicators are:
 - Gross Primary Enrolment Ratio (%)
 - Under-5 mortality Rate (per 1,000)
 - Maternal Mortality Ratio (per 100,000 live births)
 - Access to Improved Water (%)
 - Access to Improved Sanitation (%)
- To improve alignment of resource allocation with ADF strategic pillars, the weights in the MDG Index follow the average ADF-11 portfolio composition; i.e. water and sanitation

(infrastructure) have a combined weight of 74 percent relative to the other three social development indicators. Based on this approach, the ratio of North-to-South MDG composite Index (i.e. a measure of their relative needs in terms of MDG indicators) is 1: 2.42

2.4 **Results:** this methodology results in resource apportionment of approximately 57 percent for the North and 43 percent for the South. Table 1 below shows the breakdown of the apportionment results.

Table 1: Resource Apportionment Based on Development Needs

Exponent	1	-0.125	1	1	A	Apportionment Results			
	Population	Per Capita Consumption	Poverty Incidence	MDG Composite Index		Relative Allocation (%)	2011 PBA (UA million)	FSF Pillar I (UA million)	Total (UA million)
Sudan (North)	30.85	148.00	46.50	1.00	768.11	57.41%	13.50	22.97	36.47
South Sudan	8.26	100.00	50.60	2.42	569.76	42.59%	10.01	17.03	27.04
					1337.87		23.51	40.00	63.51

Source: African Development Bank Staff calculation

Notes: $A_i = Pop \times Consumption^{pc^{-0.125}} \times Poverty\ Incidence \times MDG\ Index$

III Other Apportionment Approaches

3.1 In addition to the above-discussed apportionment methodology, Management had explored two other options: (i) population-based apportionment; and (ii) infrastructure needs-based apportionment.

- **Population-based apportionment:** This approach would use a simple non-weighted proportional split of resources between the North and South. This would result in 79 percent, UA 50.17 million, of the allocable resources (i.e. 2011 ADF country allocation and total Pillar I) going to the North while 21 percent, UA 13.34 million, would go to the South.
- While this approach has the benefit of simplicity, it has serious drawbacks: (i) it does not take into account the relative differences in development needs and challenges faced by the two regions/countries; and (ii) it is built on the implicit assumption that performance is given the same consideration in allocating resources between the two regions/countries, and that South Sudan's Country Performance Assessment (CPA, which is made up of CPIA, Governance and Portfolio ratings) is at par with that of the North. In reality, neither of these two considerations is practical – i.e. in the absence of a baseline, or rule of thumb of minimum CPA score for new PBA-entrants, it would be unrealistic to place emphasis on performance for South Sudan given that the country is starting from scratch. Furthermore, keeping constant the 2010 CPA rating for Sudan as a whole (2.8) would result in an over-estimation of performance to the South and likely underestimation for the North.
- **Physical Infrastructure-based apportionment:** The objective of this approach would be to use physical infrastructure needs as the primary driver of resource apportionment. The rationale is simply to maximize the allocation of the Bank Group's resources towards infrastructure priorities, especially in light of the huge infrastructure needs in both regions/countries.

- The apportionment analysis is done using an established in-house methodology for assessing infrastructure gaps, the African Infrastructure Development Index. The Index is modified to align better with data availability and includes the following variables: (i) paved roads (in kilometers); (ii) sanitation (proportion of populations with access to improved sanitation); (iii) water (proportion of population with access to improved drinking water); (iv) electricity (proportion of population with access to public or private electricity for lighting); and (v) telephone lines (proportion of population with mobile or fixed line subscription). Each of the above variables is given a differentiated weight mirroring the ADF-11 infrastructure portfolio composition (54 percent transport, 25 percent energy, 21 percent water and sanitation, 0 percent for communication).³ Based on this approach, the ratio of North-to-South Modified Infrastructure Index (i.e. a measure of the relative difference in terms of infrastructure gaps) is 1:20.76.
- The formula for apportioning the resources remains the same as the one used in the development needs-based apportionment (paragraph 2.3), with the only difference being the Infrastructure Index replacing the MDG Index. Based upon these parameters, the resource apportionment result would be approximately 13.6 percent for the North and 86.4 percent for the South. The main drawbacks with this methodology include: (i) it limits the assessment of development needs to infrastructure at the expense of other sectors; and (ii) it is difficult to obtain region-disaggregated and up-to-date data on the relative infrastructure needs/gaps for the two regions.

IV Conclusion

- 4.1 Management has made efforts to explore apportionment options that are best suited to address the unique challenge of apportioning FSF and PBA resources between the continuing state of Sudan and the new state of South Sudan. Efforts have also been made to ensure the apportionment approach is methodologically grounded, even within the constraints of data limitation, and aligned with the Bank Group's commitment to provide expeditious and meaningful support to post-conflict and fragile states.
- 4.2 Having considered the merits and drawbacks of the three approaches discussed above, Management's conclusion is that the development needs-based apportionment approach would be most appropriate given that it captures better the relative differences in needs and development challenges faced by the two countries.

³ Source: AfDB Group Annual Reports 2008, 2009 and 2010