NIGERIA

LONG-TERM FUNDING FOR AGRICULTURAL GROWTH, POVERTY REDUCTION AND FOOD SECURITY

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LONG-TERM FUNDING FOR AGRICULTURAL GROWTH, POVERTY REDUCTION AND FOOD SECURITY

The amount of funding required for meeting both growth and poverty reduction targets as detailed in Brochure 2 (Agricultural Growth, Poverty Reduction and Food Security: Past Performance and Prospective Outcomes) is estimated based on historical relationships between the level of public agricultural funding and agricultural Total Factor Productivity (TFP). Estimates of this relationship suggest that a 1 percent increase in agricultural spending raises the sector's TFP growth by 0.24 percent. The long-term projections discussed below are therefore carried out using the estimated elasticity for Nigeria (.24) and an elasticity of .41 which is an increase of 75 percent of the estimated one. This is done to analyze the sensitivity of required funding with respect to the choice of elasticity and to simulate a more optimistic spending efficiency scenario.

LONG TERM
FUNDING REQUIREMENT TO MEET POLICY TARGETS AND THE POVERTY MDG IN NIGERIA

Table 1 presents the trend of economic growth and government budget allocations in Nigeria for the period 2002-2007. Although the agricultural sector accounts for about 40 percent of total GDP, the share of agricultural spending to total spending is 3.4 percent in average, less than 1/10 of the share of agriculture in total GDP. In recent years, actual agricultural spending (in real terms) has increased with an annual growth rate of 13.0 percent. Also, agricultural expenditures of the federal and state governments have both increased in this period, with annual growth rate of 13.9 and 11.0 percent, respectively. Under the CAADP framework, agricultural spending is targeted to be 10 percent of total government spending. Though the share of agriculture in actual total spending started to rise and fluctuated between 3.1 and 4.4 percent, except in 2004

when it dipped to 1.9 percent, Nigeria still lags behind the CAADP target which is threefold the current average share of the country in the same period. Similar percentages are also observed when budgeted expenditure is considered. However recent estimates indicate that the share of agriculture in the federal budget has increased in 2008 and 2009. Table 2 presents the projections of long-term funding needs for the agricultural sector. Apart from the base run scenario (Current Trends scenario), 4 other scenarios are used, combining different levels of elasticity and whether or not non-agricultural spending is taken into account. In the first two scenarios, it is assumed that the growth in nonagricultural spending is at its base-run level and the required agricultural spending is the only driver to support accelerated agricultural growth. This is referred to as GS-Ag only scenario which means Government Strategies with agricultural spending as the only driver of accelerated agricultural growth though non-agricultural spending is growing at the same rate as in the "Current Trends"scenario. Also, 2

Table 1: Economic Growth and Government Budget Allocation							
	2002	2003	2004	2005	2006	2007	Growth rate/ Average (%)
In current billion Naira							
GDP	5,439	6,999	11,411	14,562	18,565	23,281	6.6
Ag GDP	1,883	2,136	3,904	4,763	5,940	7,574	6.5
Total government expenditure	1,913	2,509	3,012	3,889	4,191	5,394	8.1
Agricultural expenditure	67	47	93	133	173	237	13
Federal	45	16	50	77	107	164	13.9
State	22	31	43	57	65	73	11
Share of ag in federal expd (%)	4.4	1.3	3.5	4.2	5.5	6.7	4.3
Share of ag in state expd (%)	3.1	3.3	3.8	3.8	4.1	3.4	3.6
Share of ag in total expd (%)	3.5	1.9	3.1	3.4	4.1	4.4	3.4
Ratio of ag expd to ag GDP (%)	3.6	2.2	2.4	2.8	2.9	3.1	2.8
Ratio of real ag GDP to real GDP (%)	42	41	41	41	42	42	41.5

Table 2: Estimated resource allocation to the agricultural sector					
		Agricultural TFP growth driven by agricultural expenditure only		Agricultural TFP growth driven by both agricultural and non agricultural expenditure	
Indicator	Current Trends	low elasticity	high elasticity	low elasticity	high elasticity
Annual growth rates in GDP (%)					
GDP	6.5	8	8	8	8
Ag GDP	5.7	9.5	9.5	9.5	9.5
Non-Ag GDP	6.7	7.5	7.5	7.5	7.5
Annual growth rates in expenditure (%)					
Total spending	7	8.6	7.4	9.1	8.5
Ag spending	4.7	23.8	13.6	17.5	8.5
Non-Ag spending	7.1	7.1	7.1	8.5	8.5
Estimated results					
Share of Ag spending in Total spending (%)					
2015	3.6	14.6	7.3	8.6	4.4
2017	3.5	18.6	8.1	9.9	4.4
Ratio of Ag spending to AgGDP (%)					
2015	2.7	9.1	4.2	5.7	2.8
2017	2.7	11.7	4.5	6.5	2.7
Ratio of Total spending to GDP (%)					
2015	22.1	21.6	19.9	22.8	21.8
2017	22.3	22.2	19.7	23.3	22

levels of elasticity are considered: one based on a weak relationship between agricultural spending and agricultural growth (a low elasticity scenario) and a second assuming that the level of responsiveness of agricultural TFP to public spending is increased by 75 percent from its estimated value for Nigeria (a high elasticity scenario).

In the third and fourth scenarios, additional growth in non-agricultural spending above the current trends as well as its indirect effect on agricultural growth is taken into consideration-GS+Non Ag scenarios.

Agriculture TFP Growth Driven By Agricultural Expenditure Only

Assuming that the growth rate of non-agricultural spending is the same as that of the current trends/base-run, together with an elasticity of 0.14 for non-agricultural spending, 23.8 percent annual growth in spending in the next 9 years (2009-17) is required in order to support the 9.5 percent agricultural growth under the low elasticity scenario. However, when

agricultural spending is assumed to be more efficient in the second scenario, i.e. the value of elasticity is increased from 0.24 to 0.41, required agricultural spending only needs to grow at 13.6 percent per year.

With the additional growth in agricultural spending and given the relatively lower growth in non-agricultural spending, the share of agricultural spending in the government total expenditure rises gradually. From 4.4 percent in 2007, the share of agricultural expenditure to total government expenditure will rise to 14.6 percent by 2015 and 18.6 percent by 2017 with the low elasticity scenario. Under the high elasticity scenario (with improved spending efficiency), the share of agricultural expenditure in total expenditure will be 7.3 percent in 2015 and 8.1 percent in 2017.

Translated into monetary terms (2006 constant prices), under the low elasticity scenario, the government will need to increase its investments in agriculture from 185 billion Naira in 2006 to 1,265 billion Naira and 1,940

Figure 1a: Required Ag Funding under different scenarios with low elasticity in billion Naira (2006 constant prices)
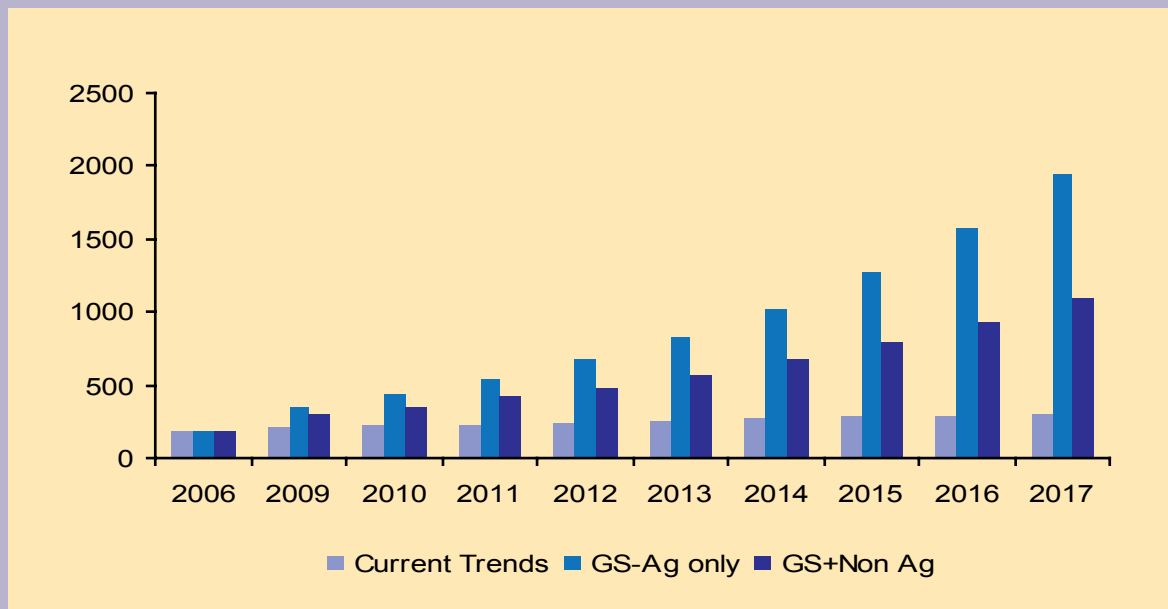
billion Naira by 2015 and 2017 respectively. On the other hand, in the base-run scenario which follows the current growth trend in government spending, additional agricultural spending will be much lower, i.e. only 278 billion Naira and 305 billion Naira in 2015 and 2017 (Figure 1a). When a more optimistic spending efficiency is assumed in the high elasticity scenario, agricultural spending will be 583 billion Naira by 2015 and reach 753 billion Naira by 2017, implying that the improvement in investment efficiency allows the government to save more than 3,000 billion Naira in total over a period of 9 years (between 2009 and 2017) or about 335 billion Naira per year on average. Improvement in agricultural spending efficiency also reduces the required total government spending. Under the scenario with the low elasticity, the annual growth in total government expenditure will rise to 8.6 percent incontrast with a 7.0 percent annual growth in the base-run and 7.4 percent with the high elasticity scenario.

Accounting For Indirect Effects Of Non Agriculture Expenditure On Agricultural TFP Growth

In the last two scenarios, the required agricultural spending under the low and high elasticity are re-estimated, taking into account increase in and indirect effects of non agricultural funding. Consistent with increased nonagricultural TFP growth, annual growth in non-agricultural spending needs to rise from 7.1 percent in the base-run to 8.5 percent in the GS scenario. Additional non-agricultural spending is not only necessary for growth in the nonagricultural economy, but also indirectly affects growth in agriculture. Therefore, part of agricultural growth can be indirectly supported by additional government spending on the economy as a whole. This lowers required annual growth in agricultural spending from23.8 percent to 17.5 percent in the low elasticity scenario, and from 13.6 percent to

Figure 1b: Required Ag Funding under different scenarios with high elasticity, in billion Naira (2006 constant prices)
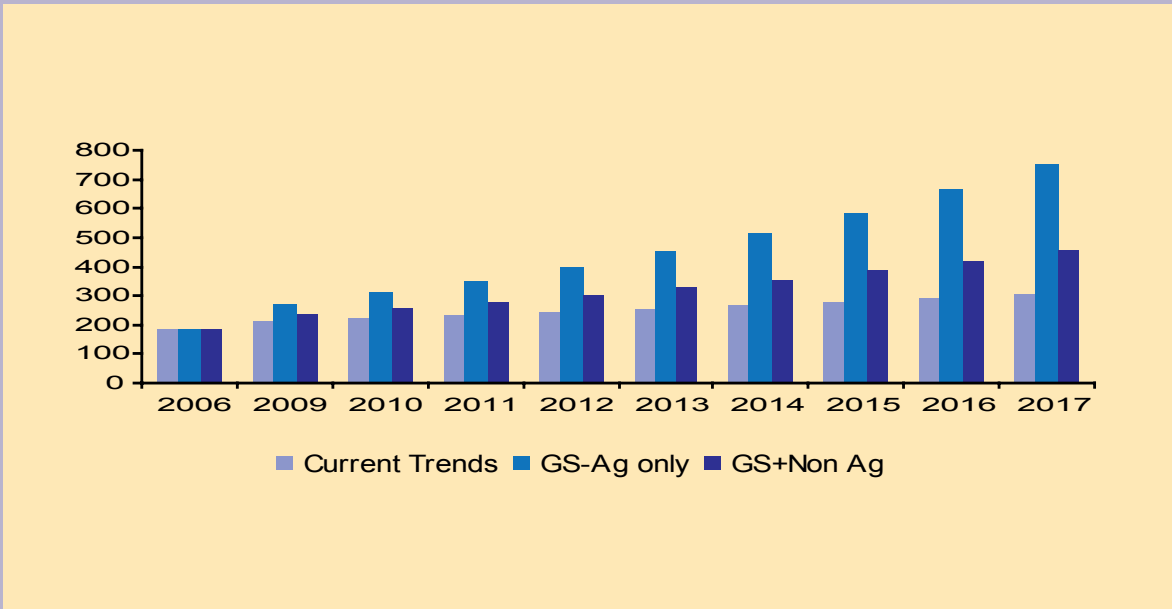
8.5 percent in the high elasticity scenario. Because of relatively slower growth in required agricultural spending, the share of agricultural spending in total government spending will rise at a slower pace than in the previous two scenarios. Agricultural spending will account for 8.6 percent and 9.9 percent of total spending by 2015 and 2017 with a low elasticity, and will stay at 4.4 percent in the simulated period of 2009-2017 with a high elasticity, a share similar to the current situation.

These results further emphasize the importance of taking into account the growth linkages between agriculture and non-agriculture sectors in both the overall economic activity and government spending when setting any target amount for agricultural spending. However, total spending will grow faster than in the previous "GS-Ag only" scenarios: 9.1 percent and 8.5 percent in contrast to 8.6 percent and 7.4 percent respectively in 2015 and 2017.

The relatively slow growth in required agricultural spending compared to the "GS-Ag only" scenarios implies a relatively lower level of required agricultural spending over time (cf. Figure 1b). With the low elasticity scenario, the value of agricultural spending will reach 788 billion Naira and 1,087 billion Naira by 2015 and 2017, respectively, while with the high elasticity in scenario, it will be 356 billion Naira and 455 billion Naira by 2015 and 2017, respectively.

2009, as targeted by the Government in the National Medium Term Investment Programme (NMTIP, 2006). With the "GSAg only" scenario, the annual external funding required to implement Government Strategies is projected to grow from 88 billion Naira and 68 billion Naira in 2009 to 485 billion Naira and 188 billion Naira in 2017 under low and high elasticity scenarios respectively. Figures 2 to 5 show that it is necessary in practice to emphasize how to improve the spending efficiency in order to better support agricultural growth with limited resources. If the government can significantly improve its efficiency in agricultural investment, much less spending is required to support a given level of agricultural and economic growth, and hence the share of agriculture in total spending does not necessarily need to be at 10 percent. For example, implementation of a well functioning evidence based monitoring and evaluation system should significantly increase the impact of agricultural spending on agricultural growth and therefore reduce the level of required agricultural funding to achieve targeted agricultural growth rates.
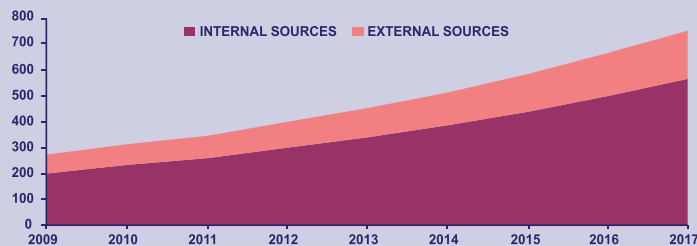
INTERNAL &

EXTERNAL RESOURCE MOBILIZATION FOR 5 POINT AGENDA, NFSP, CAADP AND POVERTY REDUCTION.

Figures 2 to 5 present the sources of financing required to meet the funding levels shown in Figures 1a and 1b. Estimated amounts of internal and external funding sources are based on the assumption that internal sources will cover 75 percent of the overall agricultural budget from
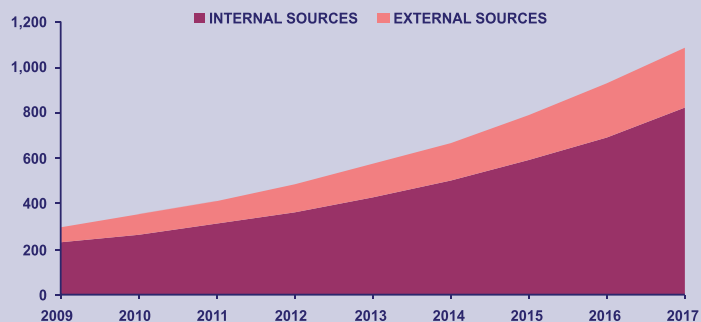
Figure 2: Required internal and external agricultural funding to implement "GS-Ag only" under low elasticity scenario, in billion Naira
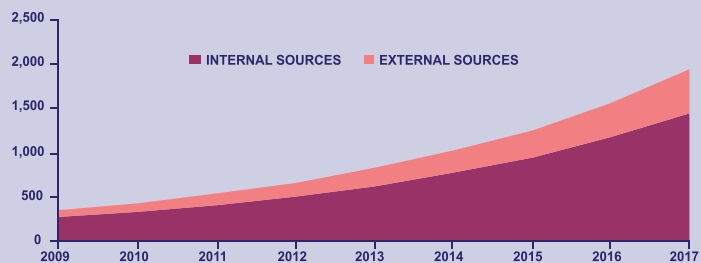

Figure 3: Required internal and external agricultural funding to implement "GS-Ag only" under high elasticity scenario, in billion Naira

Figure 4: Required internal and external agricultural funding to implement "GS+NonAg" under low elasticity scenario, in billion Naira

Figure 5: Required internal and external agricultural funding to implement "GS+NonAg" under high elasticity scenario, in billion Naira
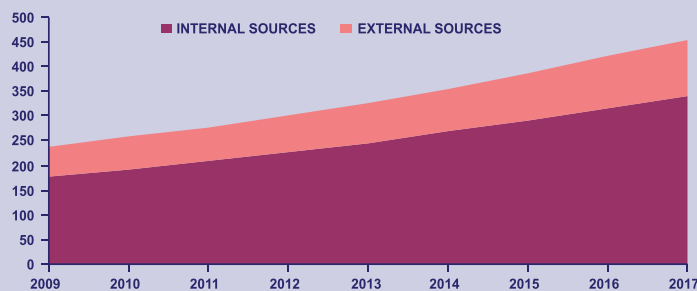
Table 3: Projected Agricultural Funding Requirements for different scenarios in billion Naira (2006 constant prices)

		Agricultural TFP growth driven by agricultural expenditure only (GS-Ag only)		Agricultural TFP growth driven by both agricultural expenditure and non agricultural expenditure (GS + non ag)	
	Current Trends	low elasticity	high elasticity	low elasticity	high elasticity
2006	185	185	185	185	185
2009	212	351	271	300	236
2010	222	435	308	352	257
2011	232	538	350	414	278
2012	243	667	398	486	302
2013	254	825	452	571	328
2014	266	1022	513	671	356
2015	278	1265	583	788	386
2016	291	1567	663	926	419
2017	305	1940	753	1087	455

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