REPUBULIKA Y'U RWANDA
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RWANDA

Long-Term Funding for Agricultural Growth, Poverty Reduction, and Food Security

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The level of funding required to achieve the different growth and poverty outcomes projected in Brochure 2 (Agricultural Growth, Poverty Reduction, and Food Security: Past Performance and Prospective Outcomes) is calculated on the basis of the estimated, historical relationships between the rate of agricultural GDP growth and the change in the poverty rate, and between the level of public agricultural funding and the rate of agricultural GDP growth. Estimates of the first relationship indicate that a 1 percent growth in agricultural GDP leads to a 1.16 and 1.18 percent reduction in national and rural poverty rates, respectively. On the other hand, estimates of the second relationship suggest that a 1 percent increase in agricultural spending raises the sector's growth rate by 0.17 percent. This is quite weak compared to the average value across Africa, which is twice as high at 0.366 percent.

The relatively low impact of agricultural spending on agricultural sector growth can be partly explained by the fact that the estimates are based on data obtained during the immediate post-genocide period (1995-2005). For most of this period, a large share of spending was allocated to recovery and reconstruction activities. At the same time, significant damage to the productive base seriously limited the supply responsiveness of the sector. The long-term projections discussed above are therefore carried out using both the estimated elasticity for Rwanda and the Africa average.

LONG-TERM FUNDING REQUIREMENTS TO MEET THE PSTA TARGETS AND THE POVERTY MDG IN RWANDA

Tables 1 and 2 summarise the results of the projections of long-term funding needs in the agricultural sector. The results focus on two scenarios: one based on the weak relationship between agricultural spending and agricultural growth (a low-elasticity scenario) and a second assuming the same level of responsiveness of agricultural growth to public spending as observed on average among African countries (a high-elasticity scenario). Successful implementation of the Strategic Plan for Agricultural Transformation (PSTA), which implies the realisation of the growth and poverty outcomes discussed in Brochure 2 (*Agricultural Growth, Poverty Reduction, and Food Security: Past Performance and Prospective Outcomes*), requires annual growth rates in agricultural spending of between 15 and 30 percent, depending on the level of responsiveness of agricultural growth to agricultural spending. These required rates are not just high, they also imply a reversal of the negative trends from 2001–2006, in which there was a growth rate of –6.5 percent. Achievement of the Millennium Development Goal that seeks to halve the rate of poverty by 2015 (MDG1), would require even higher increases in agricultural spending—46 and 23 percent, respectively—based on the low and high growth elasticity/responsiveness values. The projected agricultural spending growth rates needed to finance PSTA targets and achieve MDG1 may seem on the high side, in particular for the low-elasticity scenario. This is understandable, however, because of the low level of funding to the sector and the short time period that is covered by the projections. And the rates seem more realistic when looking at the overall increase in total government spending that would be involved. Assuming that the ratio between nonagricultural spending to nonagricultural GDP is held constant, the increase in total spending is estimated to range from 7 to 12 percent annually.

Financing the PSTA agenda to meet its growth and poverty-reduction targets by 2015 will require raising the share of agricultural spending in total government spending from a current average of 4 percent to between 7 percent and 18 percent, depending on the value of the growth elasticity. Sustaining the PSTA growth targets to 2020 would require the share of agricultural spending to continue to increase to between 10 percent and 41 percent, again based on the level of responsiveness of growth to public spending in the sector. This is similar to the share of agricultural spending that is required to achieve MDG1 as planned by 2015 (10-35 percent). The estimated shares of agricultural spending under the low-elasticity scenario may seem high, but are not uncommon in the history of many Asian countries. Nevertheless, it is safer to assume that a level of responsiveness closer to the high-elasticity scenario rather than the low-elasticity one would be more realistic, in particular when looking at the next decade and a half. The reason is that Rwanda has to a large extent emerged from the recovery process and the many changes and investments that are taking place in the sector are more productivity-enhancing and will thus tend to increase the level of future supply responsiveness to

Table 1– Economic Growth and Government Budget Allocation

	1999	2000	2001	2002	2003	2004 est.	2005 est.	growth rate (%)
AgGDP in constant (1999) billions FRw	270	283	295	330	333	339	359	4.2
NonAgGDP	375	400	434	468	473	499	532	4.8
GDP	645	684	730	798	805	838	890	4.6
Ag spending			11.1	12.6	8.7	10.5	8.9	-6.5
NonAg spending			168	134	215	249	250	11.8
Total spending	174	124	179	146	224	260	258	10.8
Percent (%)								
Ag spending/Total spending			6.2	8.6	3.9	4	3.4	
Ag spending/AgGDP			3.8	3.8	2.6	3.1	2.5	
Total spending/GDP	27.0	18.1	24.5	18.3	27.8	31	29	

Table 2 – Estimated Resource Allocation to the Agricultural Sector

		PSTA targets		MDG1	
		low-elasticity (2)	high-elasticity (3)	low-elasticity (4)	high-elasticity (5)
Growth rate (%)					
AgGDP		6.2	6.2	8.8	8.8
NonAgGDP		6.2	6.2	7.2	7.2
GDP		6.2	6.2	8.0	8.0
Ag spending		30.3	15.2	45.6	22.6
Total spending		8.2	6.7	12.2	8.3
Ag spending/Total spending (%)					
	2015	17.6	6.5	34.5	10.0
	2020	41.2	10.0		
Ag spending/AgGDP (%)					
	2015	14.1	4.6	30.7	6.5
	2020	46.7	7.4		
Total spending/GDP (%)					
	2015	32.1	28.3	38.3	27.9
	2020	45.1	29.5		

sector spending. Projections based on the lower-elasticity value yield estimated funding requirements that are three to four times larger.

INTERNAL AND EXTERNAL RESOURCE MOBILISATION TO ACHIEVE THE PSTA TARGETS AND MDG1

It appears from the above estimates that Rwanda would meet the Maputo commitment of a 10 percent share of agricultural spending at the latest by 2015. The higher estimates required to achieve MDG1 make clear the need to move even more quickly toward achieving the Maputo commitment. Figure 1 and Table 3 show the evolution of agricultural spending based on the scenario with higher agricultural growth responsiveness to public spending, as reflected in a growth elasticity value of 0.366 percent. Figure 1 shows the amount of predicted annual agricultural spending in constant (1999) FRw to 2020. The lighter bars represent annual spending required to achieve the growth and poverty-reduction targets implied by the PSTA agenda. The darker bars refer to annual spending levels that would be required for Rwanda to achieve MDG1 by 2015. As indicated, the amount of annual agricultural sector spending required to achieve the PSTA targets will need to increase from 8 billion FRw in constant terms in 2006 to 30 billion FRw in 2015. Continuation of the PSTA agenda beyond 2015 to 2020 would require annual agricultural spending to increase to 64 billion FRw by the end of the period, still in constant terms. Achieving MDG1, on the other hand, would require annual spending to increase to 52 billion FRw by 2015.

Tables 3 and 4 and Figures 2 and 3 show the sources of financing required to cover the above spending levels, assuming the same share of external development assistance funding in total spending for the sector as observed in 2006, that is, 5.4 billion FRw out of a total 8.3 billion in constant (1999) FRw. The amount of annual resources

Figure 1 –Required Funding Levels under PSTA and MDG1 Targets—in constant 1999 billion FRw (High-Elasticity Scenario)

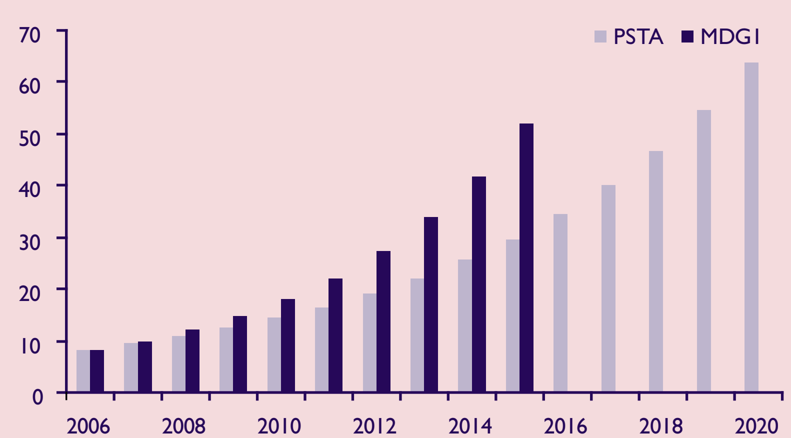


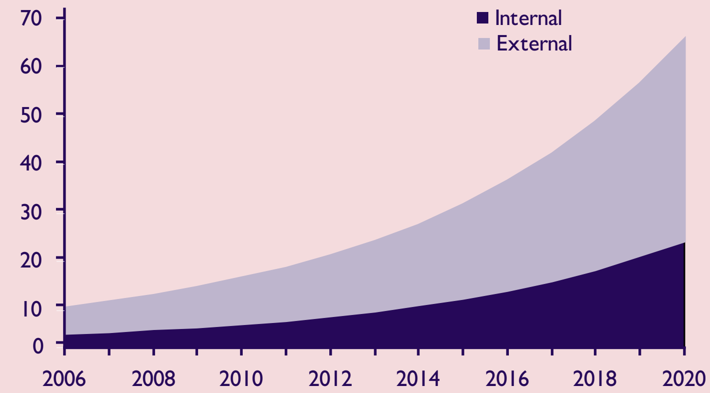
Table 3 – Projected Long-Term Funding Requirements and Funding Sources under PSTA Targets (in billions FRw)

	Total Funding	Internal Sources (GoR)	External Sources
2006	13.3	2.9	5.4
2007	15.2	3.3	6.2
2008	17.3	3.8	7.1
2009	19.9	4.3	8.1
2010	22.8	5.0	9.3
2011	26.35	5.7	10.8
2012	30.3	6.6	12.4
2013	35.2	7.6	14.4
2014	40.7	8.8	16.6
2015	47.3	10.3	19.3
2016	55.0	11.9	22.5
2017	64.1	13.9	26.2
2018	74.7	16.2	30.6
2019	87.4	18.9	35.7
2020	102.1	22.1	41.7

Table 4 – Projected Long-Term Funding Requirements and Funding Sources under MDG1 Targets (in billion FRw)

	Total Funding	Internal Sources (GoR)	External Sources
2006	13.27	2.9	5.4
2007	16.0	3.5	6.5
2008	19.3	4.2	7.9
2009	23.6	5.1	9.6
2010	28.8	6.2	11.8
2011	35.4	7.7	14.4
2012	43.5	9.4	17.8
2013	53.9	11.7	22.0
2014	66.7	14.5	27.3
2015	83.0	18.0	33.9

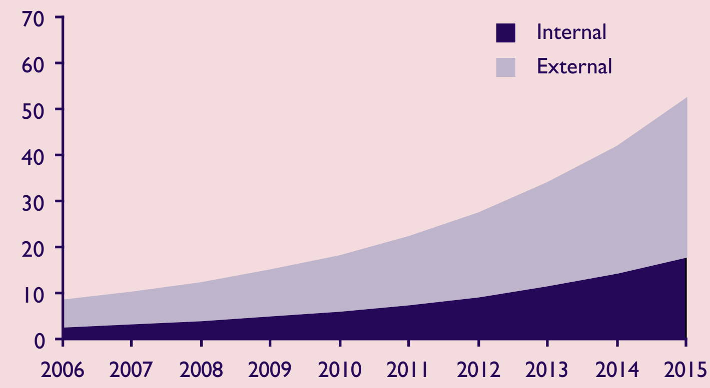
Figure 2 – Financing Sources under PSTA Targets—in constant 1999 billion FRw (High-Elasticity Scenario)



from internal sources that are required to finance the PSTA agenda is projected to grow from 2.9 billion FRw to 10 billion FRw in 2015 and 22 billion FRw in 2020 (see Table 3). The related annual level of external funding required from development partners will increase from 5.4 billion FRw to 19 billion FRw in 2015 and 42 billion FRw in 2020.

While successful implementation of the PSTA agenda would only help reduce Rwanda's poverty rate by about 25 percent by 2015, as shown in Brochure 2, it would almost be possible to achieve MDG1 by 2020, when the poverty rate is projected to drop to below 35 percent from the current 60 percent. Achieving MDG1 by 2015, on the other hand, would require annual spending from internal sources to jump to 18 billion FRw by 2015 and from external sources to jump to about 34 billion FRw (see Table 4).

Figure 3 – Financing Sources under MDG Targets—in constant 1999 billion FRw (High-Elasticity Scenario)



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