

Madagascar

Systematic Country Diagnostic

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The World Bank Group

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ABBREVIATIONS

AGOA	African Growth and Opportunity Act
BIANCO	Bureau Indépendant Anti-corruption
CAADP	Comprehensive Africa Agriculture Development Programme
CPF	Country Partnership Framework
CPIA	Country Policy and Institutional Assessment
CSBF	Commission de Supervision Bancaire et Financière
CSAs	Centres de Services Agricoles
CSOs	Civil Society Organizations
CRED	Centre for Research on the Epidemiology of Disasters
EDBM	Economic Development Board of Madagascar
	Enquête Nationale du Suivi des Objectifs du Millénaire pour le
ENSOMD	Développement
EPM	Enquête auprès des ménages
EPZ	Export Processing Zones
FFKM	Council of Christian Churches of Madagascar
FRAM	Fikambananan'ny Ray Amandrenin'ny Mpinatra (Pupils' parents association)
GDP	Gross Domestic Product
IDA	International Development Association
IMF	International Monetary Fund
INSTAT	Institut National de la Statistique
ITU	International Telecommunication Union
JIRAMA	Jiro Sy Rano Malagasy
MDGs	Millenium Development Goals
MFB	Minister of Finance and Budget
MFI	Microfinance Institutions
MICS	Multiple Indicator Cluster Survey
MSME	Micro, Small and Medium Enterprises
NRM	Natural Resource Management
NTD	Neglected Tropical Diseases
ODA	Official Development Assistance
OFDA	Office of Foreign Disaster Assistance
PASEC	Programme d'Analyse des Systèmes Educatifs de la CONFEMEN
PEFA	Public Expenditure and Financial Accountability
PER	Public Expenditure Review
PICOM	Projet d'Infrastructure de Communications pour Madagascar
PPP	Purchasing Power Parity
PPPs	Public-Private Partnership
QMM	QIT Madagascar Minerals
SADC	Southern African Development Community
SMEs	Small and Medium Enterprises
SSA	Sub Saharan Africa
TIAVO	Tahiry Ifamonjena Amin'ny Vola
UNICEF	United Nations International Children's Emergency Fund
VAT	Value Added Tax
WDI	World Development Indicators

Madagascar

Systematic Country Diagnostic (SCD)

OVERVIEW

i. Madagascar is an island nation with unparalleled biodiversity and many natural assets, a vast majority of whose 22 million people are poor. It is a country with a great potential, but is prone to weather-related disasters and recurrent political crises. It is one of eight countries in the world, for which data are available, which have lower per capita income in 2010 than in 1960. Its economy is dualistic with large subsistence agriculture and informal sectors, where a vast majority of the population work, and a small but relatively diversified formal sector. The end of the most recent political crisis and drafting of the National Development Strategy by the new, duly-elected government mark an opportunity for the country to turn the corner and embark on a path of inclusive, sustainable and accelerated growth.

ii. The poor are disconnected from developments in the urban, formal economy and political tensions – minimizing the benefits from growth but also somewhat sheltering them from frequent turbulences. This document seeks to identify the most critical constraints and opportunities facing Madagascar in accelerating progress toward the goal of ending extreme poverty in a sustainable manner. The focus is primarily on poverty reduction as opposed to the theme of “shared prosperity” of the bottom forty percent of the population, as the share of the population who are extremely poor vastly exceeds 40 percent. The context of examining poverty is that of general stagnation of the rural economy, substantial disconnectedness of the rural economy from that of urban areas, and political instability that causes severe cyclicity in urban and formal sector development. The welfare of the rural population is held back by the lack of articulation with the urban sector, but this disarticulation also buffers the rural sector from downturns in the formal and urban sectors.

iii. Increasing labor productivity in agriculture and informal sectors would contribute the most to more inclusive growth through *in situ* welfare improvements as well as triggering a structural transformation observed in other countries. Currently, Madagascar’s labor productivity in the agriculture and informal sectors is low compared to other countries. Moreover, the rural population is increasing, partly due to rapid population growth, compounded by migration from urban areas due to formal/manufacturing sector job losses that resulted from the most recent political crises. Higher labor productivity in the sectors where the poor work will not only contribute to faster growth, but also attenuate the divide between the richest 10 percent of the population and the rest, who are either poor or vulnerable to becoming poor.

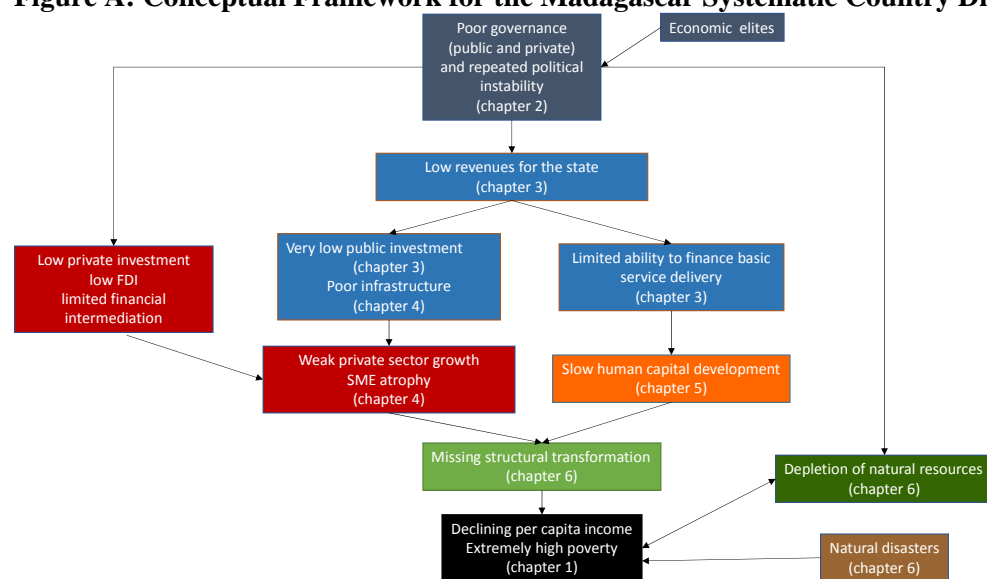
iv. Political stability and improved management of the country’s natural capital would contribute the most to more sustainable growth. Sustainability of development in Madagascar is a challenge in two dimensions. First, its economy has never experienced stable and continued growth, as all past growth spurts have been punctured by recurrent political crises. Subsequent recoveries have not been sufficient to regain the lost ground. Second, Madagascar has been depleting its natural resources to achieve economic growth. Depletion happens through formal

extractive industries, illegal trafficking of natural resources, excessive access to common resources (e.g., forests and fisheries) as well as through the coping mechanisms of the poor (e.g., slash and burn farming, cutting down timber for fuel, etc.). Over the long run, development will be sustainable only if the drawing down of exhaustible natural capital is accompanied by accelerated accumulation of physical and human capital and if renewable natural resources are sustainably managed.

v. **Higher investment will be necessary to accelerate growth, which will need higher government revenues to finance public investment and an improved business environment to attract private investment.** Madagascar's government has too few own resources to increase investments substantially, and external aid, on which it has relied traditionally, fluctuates with external events and political crises. Increasing the government's revenues as well as enhancing the government's capacity to manage investments will be key for accelerating growth. The private sector has made the bulk of investments in the past, and they too are affected negatively by political instability through general uncertainties as well as its impacts on the economy. Madagascar's business environment also acts as a drag on investments.

vi. **The challenges to inclusiveness, sustainability and accelerated growth are inter-related to an unusual extent in Madagascar.** This document is hence organized not around the three types of challenges, but around five themes of governance, public finance issues, private sector-led economy, poverty and environment, and human capital – all crucial to achieving faster, more inclusive and sustainable growth (see Figure A for the organizing framework). Chapter 1 provides the country context. Chapter 2 discusses the quality of governance, an overarching issue in Madagascar. It has a direct bearing on the pace, the inclusiveness and sustainability of growth. While acknowledging the importance of improving governance for Madagascar, which is a difficult, medium term undertaking, this Systematic Country Diagnostic argues that progress is also possible. Chapter 3 discusses how amelioration in managing public finances, and increasing revenue in particular, could be used as a lens for improved governance. Chapter 4 discusses the role and challenges of the private sector, the main driver of growth. Chapter 5 discusses the challenges for achieving higher human capital in a country with a very young population and some of the highest infant stunting and malnourishment rates in the world. Chapter 6 discusses the faces of poverty, which are predominantly rural, agricultural and informal. A structural transformation has not started in Madagascar and poverty and environment are closely intertwined. The chapter also discusses the challenges to enhancing the management of natural resources and protecting the poor from natural disasters and impacts of climate change. Chapter 7 summarizes the challenges and prioritizes the reforms.

Figure A: Conceptual Framework for the Madagascar Systematic Country Diagnostic

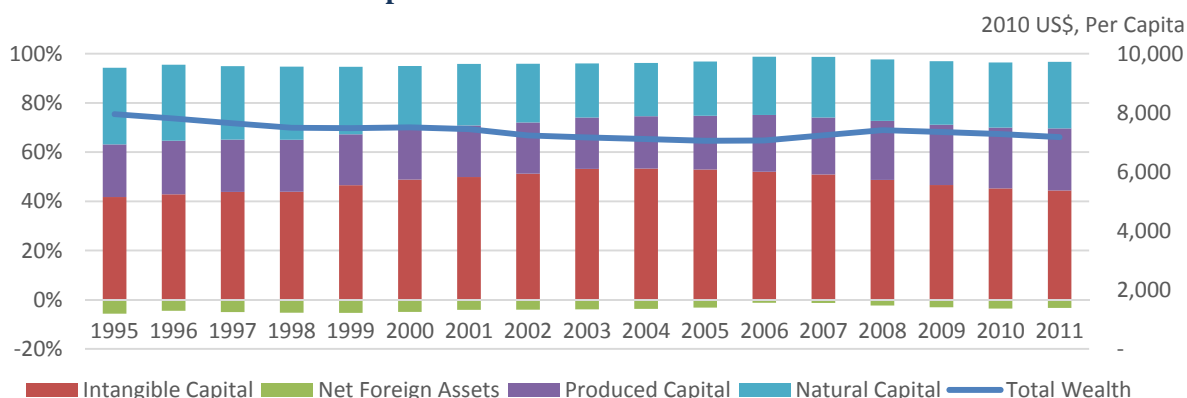


Chapter 1. A Nation of many opportunities, unrealized

A NATION OF MANY OPPORTUNITIES

1. **Madagascar is an island nation with unparalleled biodiversity¹ and much natural wealth, which are its greatest assets for development.** Between 1995 and 2011, Madagascar's natural capital accounted for about one quarter to one third of its total wealth² (see Figure 1). This share is similar to that of Sub-Saharan Africa as a whole, where natural capital represented about 30 percent of total wealth. Human and social (referred in the figure as 'intangible') capital is also important (48 percent), but below the average for Sub-Saharan African countries (56 percent) because the majority of the workforce is not qualified. Meanwhile, physical assets (i.e. infrastructure, etc.) are sparse and poorly maintained (e.g., the country has one of the lowest densities of roads per capita in the world).

Figure 1: Total wealth and its components



Source: World Bank 2015. WDI

2. **Agricultural land (cropland) accounts for 40 percent of natural capital, followed by forest products (timber and non-timber), protected areas (32 percent), and pasture land (26 percent).** Energy and minerals, still in exploration phase, account for 2 percent of total wealth. The number is bound to increase as new reserves are discovered and data availability improves. These figures do not take into account the values of the country's biodiversity in its contribution in advancing scientific research.

3. **Macroeconomic stability in recent years despite political turbulence has also been an asset to the country.** Inflation hovered around 6-7 percent, the fiscal deficit has been less than 2 percent of GDP and the current account deficit declined during the crisis, reaching -0.3 percent of

¹ Ninety-eight percent of Madagascar's land mammals, 92% of its reptiles, 68% of its plants and 41% of its breeding bird species exist nowhere else on earth according to *Atlas of Population and the Environment*. American Association for the Advancement of Science/University of California Press (2001). Madagascar is also one of a dozen countries in which 70% of the world's species is found (Global Environment Outlook 3, 2003).

² Discounted present value of future consumption, measured in 2010 constant dollars.

GDP in 2014. Credit, particularly to the micro and small and medium enterprise (SME) sector, is scarce and expensive, standing only at 12 percent of GDP at end-2014, well below the Sub-Saharan Africa average. Madagascar has a relatively low public debt to GDP ratio (37.3 percent in 2014), with external debt representing two thirds of the total. There are two main risks to macroeconomic stability. First is the low tax revenue, representing only 9.7 percent of GDP in 2014, and well below the low income countries average of 15.6 percent of GDP (2005-2012 average). This level of revenue does not support public investments necessary for development nor adequate provision of public services. The second is low international reserves, stemming from the dwindling external aid inflows due to the political crisis, and the government's policy of subsidizing imported fuel, which was instituted during the crisis. The Ariary, the local currency, has been depreciating.

4. During periods of political stability, Madagascar has experienced stronger growth. In addition to its abundant natural resources, its work force is inexpensive and relatively literate, and its formal private sector is small but diversified. Madagascar has taken advantage of these assets during periods of political stability. Average growth between 2003 and 2008 reached 7.4 percent, led by large mining investments and the vibrant export processing zone. This period also coincided with introduction of important reforms in a number of areas including investment climate. The country's track record during political stability suggests that Madagascar is capable of growth when its assets are deployed effectively.

5. Madagascar's comparative advantage lies in sectors which use its unique biodiversity, rich natural resources and abundant (unskilled) labor intensively. A non-exhaustive list of promising sectors include tourism, agribusiness, industrial fisheries, extractive industries and garments (see Chapter 4 for detailed discussions). The tourism sector is sensitive to political instability, but tends to bounce back quickly. It recorded close to 200,000 visitors in 2013, who are attracted to the country's unique fauna and flora. Both the average length of stay and return rates among leisure tourists are exceptional, at 21 days and 40 percent according to the latest statistics available.³ The fisheries sector, if the challenges of managing common resources can be overcome, is promising as the industrial branch offers significant growth prospects and the artisanal branch provides livelihoods for some of the country's poor. The extractive industries, be it industrial mining, artisanal mining or timber, require adequate oversight and rule-based operations to ensure that rents are shared equitably. Industrial mining is nascent and offers significant growth prospects, but also presents risks of unequitable sharing of dividends, environmental concerns, and possibly Dutch disease, if not managed properly. The country's recent reinstitution of membership to the Extractive Industries Transparency Initiative is a good start. The country's export processing zone hosts successful entrepreneurs, particularly in the garment business. The garment sector took a hit when the US market became unavailable due to the suspension of the African Growth and Opportunity Act (AGOA) benefits in 2009, but proved fairly resilient by finding alternative markets. It is poised for a rebound with the reinstitution of the AGOA benefits.

³ Office National de Tourisme de Madagascar (2012). Réalisation des Enquêtes Visiteurs aux Frontières « Secteur Tourisme » : Etude et Analyse des Résultats.

6. **There is also a large potential to be exploited in the country's large informal sector, such as agriculture, artisanal fisheries and artisanal mining.** These subsectors are far from marginal, and provide livelihoods to a large share of the population. Reorienting these subsectors on a sustainable path, and developing value-chains is a promising avenue for improved income generation.

MADAGASCAR HAS MADE LITTLE HEADWAY IN REDUCING POVERTY

7. **Despite Madagascar's promising potential, a vast majority of the Malagasy are poor, and most of them extremely so.** Extreme poverty (per capita consumption under \$1.25 2005 purchasing power parity – PPP – per day) has hovered around four fifths of the population between 2001 and 2012. Over the same timeframe, absolute poverty (\$2 PPP per capital per day) rose from an estimated 88.9 in 2001 to 92.7 percent of the population in 2005, then declined slightly, but stayed above 90 percent until 2012 (See Table 1). Strong overall growth between 2003 and 2008 coincides with strong consumption growth, particularly for the poorer segments of the population (Figure 2), although it does not seem to have affected poverty head count rates much, possibly because of the depth of poverty of the poorer segments of the population.

Table 1: World Bank Revised Headcount Poverty Estimates

Year	2001	2005	2010	2012
National re-estimated poverty line				
Extreme poverty	60.5	59.8	58.3	58.2
Absolute poverty	70.8	73.2	71.7	70.7
Of which Urban	34.1	40.8	29.8	35.5
Rural	77.7	79.6	80.1	77.9
International poverty line				
Poverty rate at \$1.25 PPP	77.5	80.7	79.1	78.2
Poverty rate at \$2.00 PPP	88.9	92.7	90.8	91.2
Poverty gap (\$1.25 PPP)	41.5	39.2	46.2	45.9

Source: INSTAT, EPM 2001-2010 and ENSOMD 2012

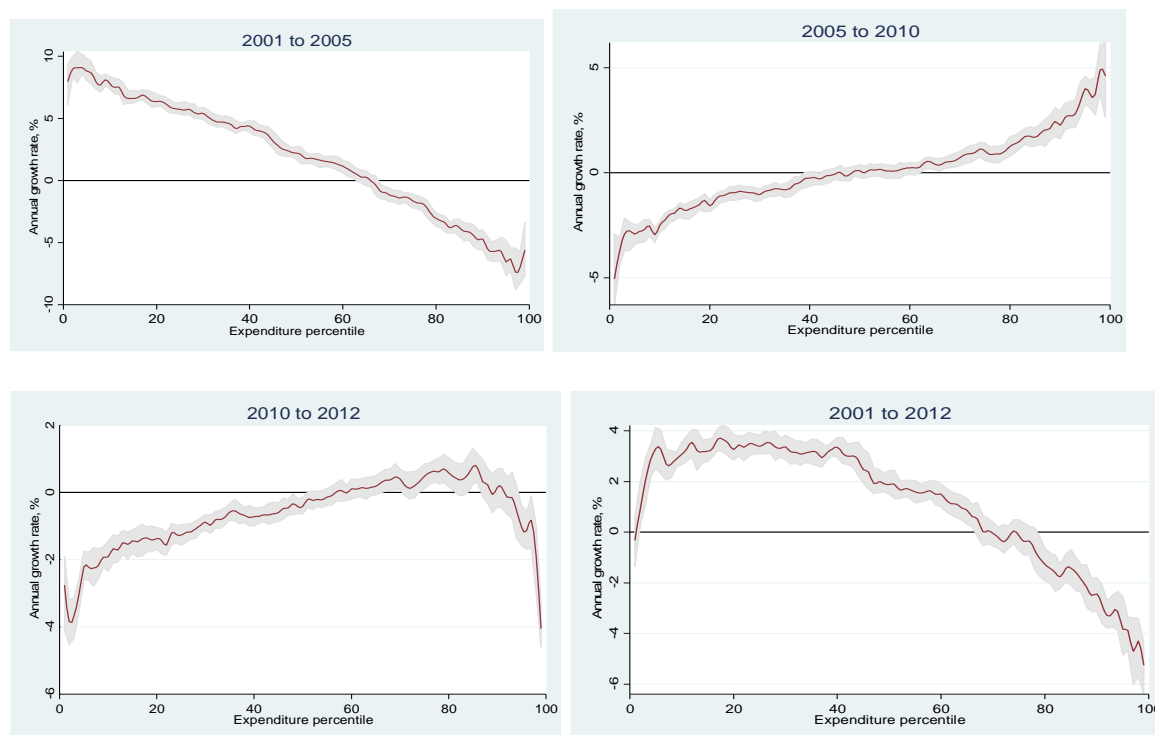
Note: Figures differ slightly due primarily to corrections to the sampling weights (see World Bank 2015 forthcoming).

8. **Madagascar is not expected to meet any of the Millennium Development Goals (MDGs).** Progress had been made in the 2000s towards meeting a few of the MDGs, but the sharp economic contraction in 2009 and the subsequent sluggishness of the recovery have reversed this trend. Deteriorating health and education outcomes since 2009 have dropped Madagascar's rank on the 2014 UN's Human Development Index to 155th in the world.

9. **Yet, the poor have experienced consumption growth over the past decade and a half, with most benefits accruing in the first half of the past decade.** Based on an analysis of the incidence of growth, inequality has declined from 2001 to 2012, primarily because it declined dramatically in the first half of 2000s when consumption growth accrued disproportionately to the

poor (Figure 2). This trend reversed in the second half of the decade.⁴ Between 2010 and 2012, as with 2005-2010, growth was primarily regressive, although consumption among the richer segments of the population also fell after the crisis as firms in the formal sector closed, employment in manufacturing fell and entrepreneurs felt the effect of the crisis. Nonetheless, over the period 2001-2012 taken as a whole, consumption gains have been progressive, as the large consumption growth among the poorest between 2001 and 2005 is dominant.

Figure 2: Growth in Consumption by Expenditure Percentile



Source: INSTAT, EPM 2001-2010 and ENSOMD 2012

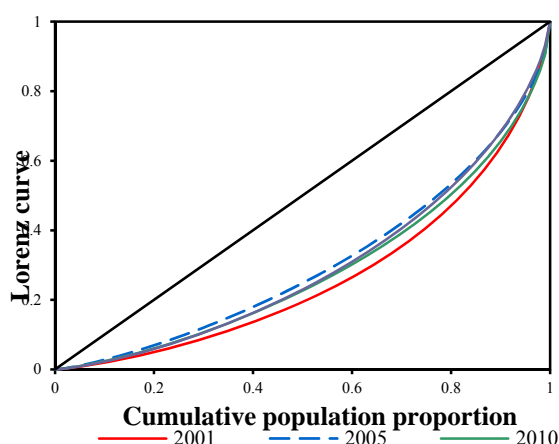
10. Changes in producer and consumer prices favoring farmers explain much of the pro-poor nature of growth until 2005. The progressive pattern of consumption growth between 2001 and 2005 is explained by a variety of factors, including the loss of employment in urban areas due to changes in the international trading environment (discussed in detail below), and the effect of increased consumer prices (induced by a spike in the international price of fuel) in 2005. A general

⁴ The growth in consumption of the poor was nonetheless low and insufficient to move them out of poverty, thus the stable or rising poverty headcount ratios. On average, the net change in consumption was negative, even though there was a period of rebound beginning in 2002. It was not until 2006 that per capita income caught up with 2001 (pre-crisis) levels.

rise in consumer prices was reported as a shock by 36 percent of households, and the fall in real consumption in 2005 affected disproportionately those in urban areas working outside of agriculture. At the same time, as agricultural prices for the products that are produced by the poor increased, so did their income.⁵

11. Inequality in Madagascar is similar to that of other low-income countries. The Gini coefficient was 0.41 in 2012, similar to the low income average at 0.40 (Source: World Development Indicators WDI). The poverty gap, hovering around 40-45 range, is also similar to the low income average, and its evolution mirrors the consumption growth pattern per period. Madagascar's inequality, however, is not due to a steep welfare increase at the top: as shown in Figure 3, the average consumption ratio for the top decile to the bottom decile in Madagascar is consistently lower than the low income country average over 2007-2011 of 13.4 (Source: WDI). This suggests relatively higher inequality among the bottom 90 percent than in other poor countries – that is, different levels of deprivation.

Figure 3: Inequality diminished strongly between 2000 and 2005 before falling back slightly



Source: INSTAT, EPM 2001-2010 and ENSOMD 2012

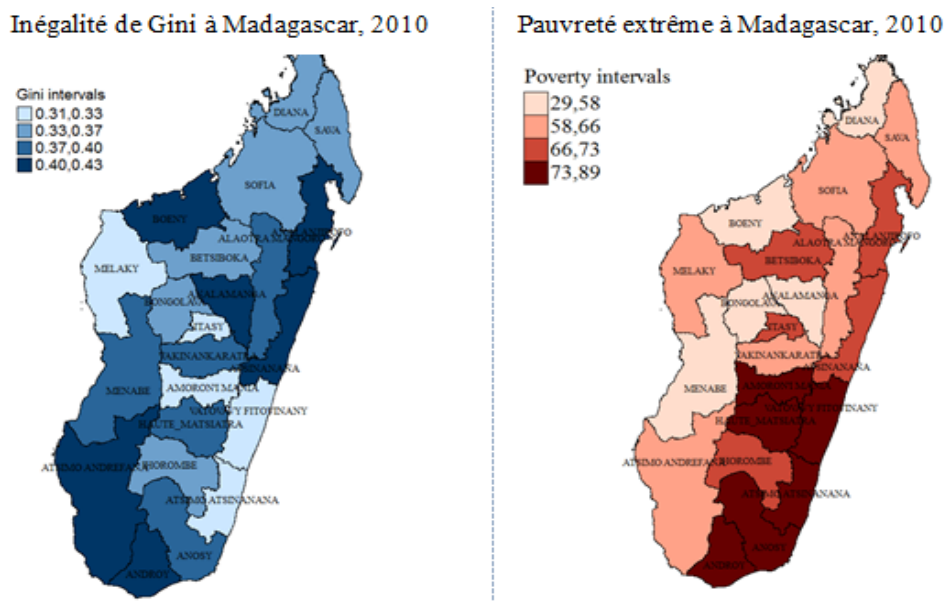
12. Poverty is significantly higher in rural areas and in the southeast of Madagascar. Close to 80 percent of Madagascar's population lives in rural areas, and rural poverty rates are nearly twice as high as in urban areas. Extreme poverty is more pronounced in the southeast of the country, whereas the capital region had a notably lower incidence of extreme poverty (Figure 4, right map, darker indicates higher incidence of poverty, using the national threshold). Moreover, on the whole, regions have tended to retain their poverty incidence rankings over time.⁶

⁵ The mean annual producer price of rice paddy, the country's main crop, declined (in nominal terms) from 788 Ariary per kilogram in 2005 to 723 Ariary in 2010.

⁶ Poverty rates tend to show mean reversion: There is no intra-regional correlation between headcount poverty rates and subsequent changes in this rate, whether between 2005 and 2010 or between 2010 and 2012. Moreover, changes in poverty rates are negatively and statistically significantly correlated. It is therefore suggested that further detailed measures of short term changes within and across regions is unlikely to be useful for diagnosing the primarily impediments to accelerating broad based increases in income.

Improvements may be short-lived, and with a high level of random weather-related shocks one would not expect short run movements in consumption to necessarily indicate long term trends.

Figure 4: Poverty and Inequality in Madagascar, 2010



Source: World Bank (2014) *Face of poverty*

13. **Inequality is higher in regions with lower poverty rates.** This higher inequality is not due to higher inequality within cities in these regions, but rather due to the higher percentage of people who have escaped poverty in these regions (Figure 4, left map, darker indicates higher inequality). Whereas inter-regional inequality has increased from 2005 to 2010 and 2012, it accounts for only about 13-21 percent of total inequality, depending on the inequality measure used (See Table 2). Similarly, only a small proportion of inequality can be explained by differences across rural and urban areas – only 13-19 percent in 2012, depending upon the inequality measure used. Moreover, inequality within rural zones of the country is greater than inequality within urban areas. Spatial factors are undoubtedly very important as constraints to reducing poverty in the country; however, the relative degrees of deprivation that the population faces – in particular, lack of access to infrastructure, markets, and social services – need to be analyzed at a more disaggregated level primarily with the aim of assessing their impacts on incomes and poverty.⁷

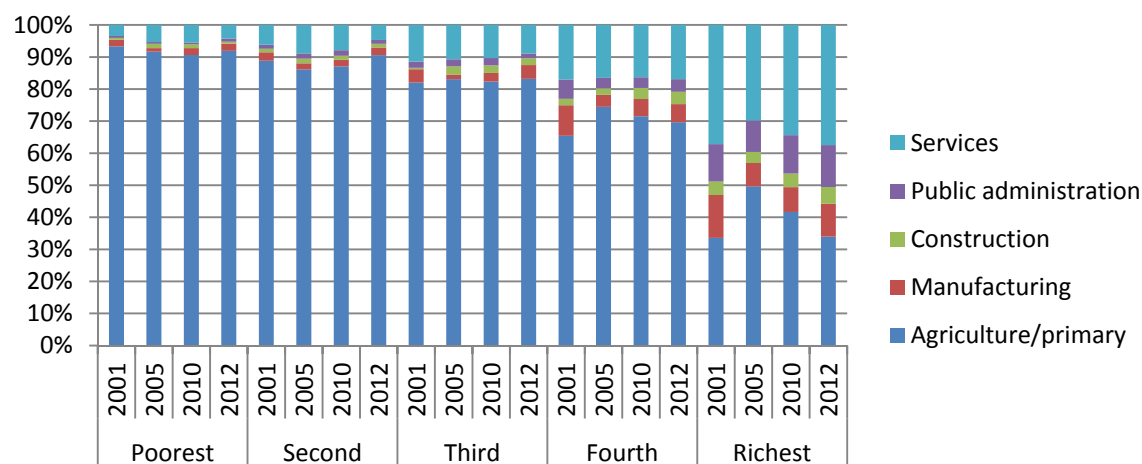
⁷Inequality per se in Madagascar is mainly an issue insofar as it reflects extreme forms of poverty, and reducing poverty may at least initially lead to increased inequality of outcomes.

Table 2: Generalized Entropy Indices / Theil Inequality Measures of Between versus Within-Regions

	20005		2010		2012	
	GE(0)	GE(2)	GE(0)	GE(2)	GE(0)	GE(2)
Total Inequality	25.4	67.6	30.7	98.0	28.6	47.6
Within-group inequality	21.5	63.1	24.6	91.1	22.5	41.3
Between-group inequality	3.9	4.5	6.1	7.0	6.1	6.3
Between as a share of total	15.4%	6.6%	20.0%	7.1%	21.4%	13.1%

14. **A large majority of households in the poorer segments of the population are employed in the agricultural sector.** As shown in Figure 5, agriculture is the main sector of employment of the household head for the bottom 80 percent of the country, with only the fourth and fifth consumption quintiles engaged in large numbers in services, manufacturing, and public administration. A similar pattern can be observed when analyzing employment of spouses. Secondary sectors of employment are important additional sources of income, particularly in services, which employ significant shares of the top quintile.

Figure 5: Sector of Main Employment of Household Head by Quintile and Year (percent)



Source: INSTAT, EPM 2001-2010 and ENSOMD 2012

15. **Cropping patterns are very similar across the income distribution with the exception of paddy – primarily grown by the richer quintiles and cassava – primarily grown by poorer quintiles.** Cropping patterns in Madagascar are somewhat similar across the distribution. As shown in Table 3, the richer quintiles are more concentrated in the production of rice paddy and less concentrated in cassava and other crops in both 2005 and 2010, but production patterns do not shift dramatically across quintiles. In 2010, the proportion of rice in total production fell across quintiles relative to 2005, with an increase in fruits, and for upper quintiles in vegetables, cash crops, and industrial cultures.

Table 3: Share of Each Product in Total Production by Consumption Quintile

	2005					2010				
Quintiles of consumption (1 is poorest, 5 is richest)										
Group of products	1	2	3	4	5	1	2	3	4	5
Paddy	39.9	46.0	49.3	54.6	59.9	35.8	40.0	44.9	45.0	47.2
Maize and others cereals	2.2	2.4	2.7	2.2	2.1	3.8	3.8	3.7	3.8	5.4
Cassava	28.4	26.7	22.4	21.2	17.3	33.6	24.6	23.1	18.5	16.7
Sweet potatoes	6.4	7.1	6.3	5.5	4.1	8.0	6.7	4.5	5.9	3.8
Others tubers	2.6	4.1	5.4	4.0	4.0	1.4	2.2	2.0	2.7	1.9
Leguminous	2.1	2.2	2.3	2.2	2.0	2.2	2.3	2.9	2.6	2.8
Vegetable	3.0	1.9	1.9	2.2	1.8	1.9	3.1	2.9	4.5	4.2
Fruit	7.8	5.2	5.2	4.2	4.5	7.0	10.4	8.5	10.1	9.1
Industrial culture	6.1	3.5	3.6	3.2	3.3	4.5	5.5	6.3	5.6	7.5
Cash crops	1.4	1.0	0.9	0.8	0.9	1.8	1.3	1.2	1.1	1.3

Source: INSTAT, EPM 2005-2010

16. Most farmers across the income distribution consume the majority of their production with a relatively small share of production being marketed. The level of engagement in crop marketing changes continuously over the income distribution, with no abrupt distinction in this regard between the bottom 40th and the 40-80th consumption percentile (Table 4). With the exception of cash crops, vegetables and fruits, on average, households in all quintiles consume a majority of their production themselves. They are responding to what appear to be high transactions costs of buying and selling food in Madagascar, as well as relative price changes in deciding which crops to consume themselves and which to sell.

Table 4: Share of Crop Sold by Consumption Quintile

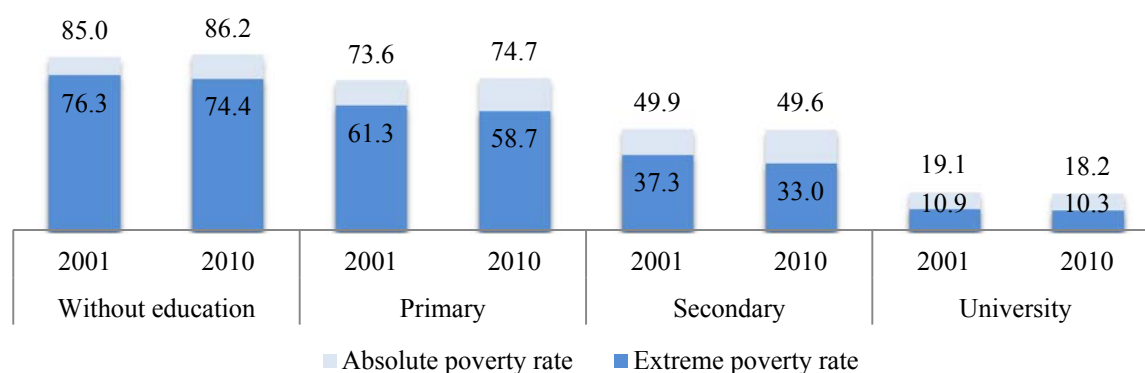
	2005					2010				
Quintiles of consumption (1 is poorest, 5 is richest)										
Group of products	1	2	3	4	5	1	2	3	4	5
Paddy	30.8	28.4	27.8	28.1	23.7	24.8	24.0	26.5	27.2	33.2
Maize and others cereals	37.3	37.6	30.6	38.0	36.6	38.0	42.4	42.5	47.8	62.3
Cassava	29.2	31.7	30.2	28.2	32.6	31.5	36.6	42.2	39.6	47.8
Sweet potatoes	27.6	22.0	20.2	21.8	28.6	25.2	23.0	18.5	24.8	32.3
Others tubers	35.7	36.3	35.7	42.8	36.9	17.1	26.6	33.9	38.1	37.0
Leguminous	47.5	49.6	48.6	52.3	50.4	53.8	57.9	61.0	59.1	65.3
Vegetable	73.3	54.4	58.1	53.1	56.1	60.4	75.8	69.5	75.3	84.1
Fruit	57.6	58.2	58.7	57.1	52.7	60.6	76.5	67.8	64.3	73.4
Industrial culture	25.7	41.8	46.9	48.3	44.9	31.9	39.8	37.3	40.4	62.8
Cash crops	81.2	87.5	83.5	75.5	79.5	82.2	86.8	83.8	83.6	84.5

Source: INSTAT, EPM 2005-2010

17. The main household characteristics associated with poverty are agricultural employment, low education levels and less access to productive assets. The circumstances and characteristics that are associated with more severe poverty are similar to those in other Sub-Saharan African countries: a greater concentration of household income and employment in

agriculture, possession of less land, lower educational attainment (see Figure 6), and lesser access to markets and public services. While the bottom 40 percent tend to have less of these productive assets and opportunities, the main story is one of continuity of deprivation. Recent analysis by Stifel et al. (2010) argues that persistently poor households have less land, live in more remote areas, and are headed by uneducated individuals. Moreover, apparent disparities associated with ethnicity were largely due to intergroup differences in asset holdings. About a third of the population in Madagascar is deprived on multiple dimensions, including consumption, access to education, usage of electricity, and possession of basic household assets (World Bank, 2014). As has been seen in other countries, these population groups can also suffer from depleted cognitive functioning, some symptoms of which are limited decision making capability and a reduced capacity to focus on future prospects in the face of overwhelming present need. When individuals suffer from such cognitive constraints, this compounds the challenge that they face in trying to better their own circumstances and those of their families, thus perpetuating the cycle of extreme poverty⁸. Although more extreme poverty is a more serious welfare issue, the qualitative conditions, and possibly the primary causes, of poverty are similar across the consumption distribution, but are present to different degrees within the population.

Figure 6: Education attainment and poverty, 2001 and 2010



Source: World Bank (2014) *Face of poverty*

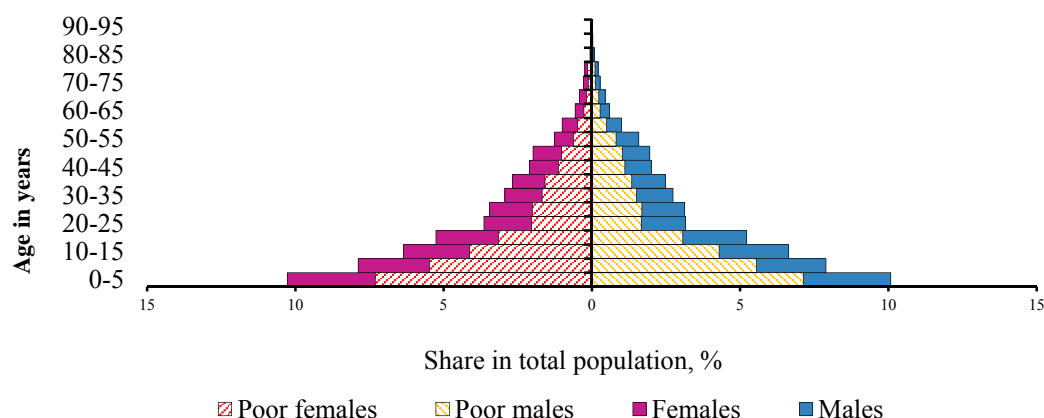
18. Female-headed households and families with more children are associated with higher poverty levels. In addition, the marital status of female household heads is associated with differences in consumption.⁹ The incidence of extreme poverty is higher among female-headed households, which make up a fifth of all households. These households are particularly vulnerable as they tend to own less productive assets: on average, they have one year less schooling, they cultivate just over half the acres of land that male heads cultivate, and have 3 to 4 times fewer large livestock and almost 2 times fewer small livestock. Moreover, whereas men who separate from

⁸ See World Bank (2015), “Mind, Society, and Behavior”, World Development Report.

⁹ The World Economic Forum’s Global Gender Gap report (2014) ranked Madagascar 41st among the 142 countries assessed, just below Kenya, Portugal and Namibia, but ahead of Lithuania, Peru and Tanzania.

their spouses tend to remarry (whether customarily or legally), a much higher share of females remains separated or widowed. Female headed households with all types of marital status except “married” (but including customarily married, in a free union, separated, or divorced) tend to have lower consumption per capita even when controlling for education, land, and other assets (World Bank 2014 Face of poverty). Households with more children show up as disproportionately poor with young children coming out as the poorest segment of Madagascar’s population (see Figure 7).¹⁰

Figure 7: Age-gender pyramid and absolute and extreme poverty



Source: World Bank (2014) *Face of poverty*

19. Households in Madagascar are subject to an unusual degree of weather-related and other risks which can push households deeper into poverty in any given year (Table 5). When assets are lost, households may have difficulty recovering economically, and may be forced to sacrifice long run investments in education and health. Effective social protection of the most vulnerable and poor population in Madagascar is largely absent: social protection expenditures as a share of GDP declined from 1.9 percent in 2008 to 1.1 percent in 2010, and this largely excludes the poor as it funds primarily expenses for public sector pensions. It is unclear to what extent informal risk mitigation instruments are used in Madagascar, but even if present, these are unlikely to adequately address spatially correlated risks such as cyclones or drought.

¹⁰ This result is based on per capita consumption and so tends to be true by construction. Adult equivalency scales should be applied to assess how robust this is to household economies of scale.

Table 5: Top 10 Negative Shocks Reported by Households, 2005 and 2010

2005		2010	
Shocks	%	Shocks	%
General rise in consumer prices	35.9	Drought	14.6
Rise in price of production	6.0	Flooding	10.5
Cyclone	5.4	Cyclone	9.7
Crop diseases	5.2	Crop diseases	6.8
Livestock disease	5.1	Late rains	6.4
Flooding	5.0	Illness or loss of livestock	6.3
Late rains	4.1	General rise in consumer prices	4.5
Theft of production on foot	3.9	Illness of an adult household member	3.8
Increase in input prices	3.4	Increase in input prices	3.7
Drought	3.2	Other climatic or environmental shocks	3.6

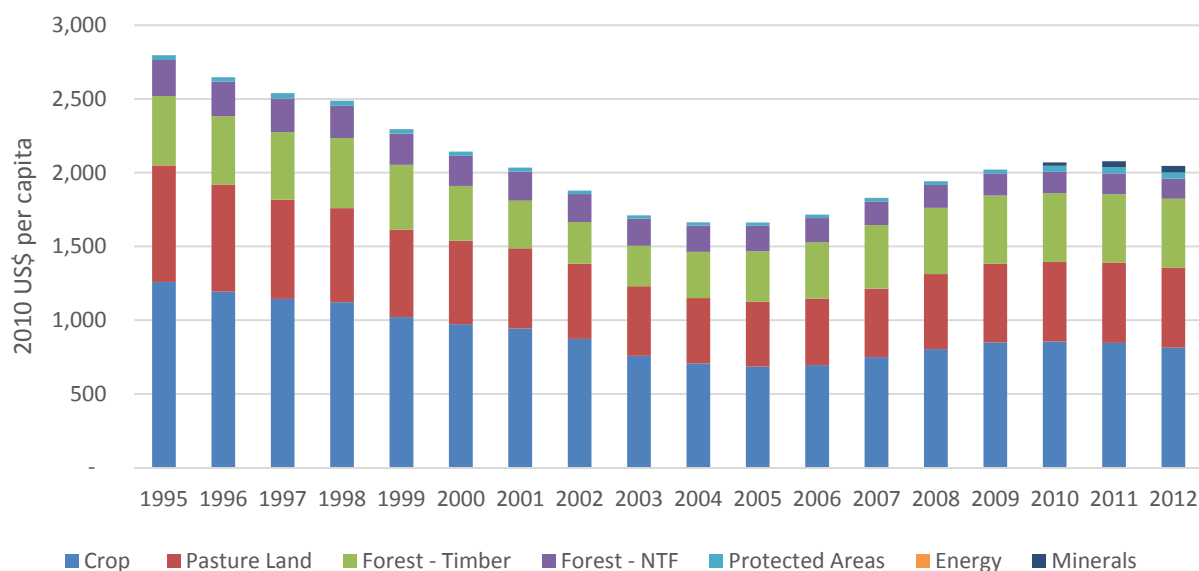
Source: INSTAT, EPM 2005-2010

EXCEPTIONAL NATURAL CAPITAL NOT TRANSFORMED INTO OTHER FORMS OF CAPITAL FOR PRODUCTIVE USE

20. **The balance between natural resources and livelihoods is extremely fragile.** Local, often isolated, rural populations depend upon the country's natural resources to ensure basic livelihood. Generally, the further away from urban centers, the more precarious living conditions are. Livelihoods heavily depend on subsistence agriculture, fragile pasture lands, timber and fuel wood, small scale fisheries, each rarely in connection to markets and often in direct or indirect relationship with forests and other natural resources. Population growth has increased demand for agricultural land both for subsistence production and for cash crops and has consequently increased the pressure on forests. Poor soil management in areas outside of forests reinforces expansive land clearing and incursions into forest areas where the soil is more fertile.

21. **Madagascar's total wealth has been declining over time, and natural capital more sharply.** Madagascar had US\$7,955 in per capita wealth in 1995, but by 2011 the value had dropped to US\$7,176 (a 10 percent decline in real terms) (Figure 1). The drop in the real value of natural capital has been even more important: 26 percent, from US\$2,796 per capita in 1995 to US\$2,078 in 2011 (see Figure 8). This drop has been associated by and large with a drop in cropland (minus 33 percent), pasture land (minus 31 percent) and non-timber forest value (minus 42 percent). While the drop in natural capital values has been halted and reversed during the period 2003-2010, the trend reversed again more recently.

Figure 8: Composition and change in natural capital in Madagascar



Source: World Bank 2015. WDI.

22. Madagascar is not using rents from its natural resources to invest in accumulating other productive assets. Recent research argues that successful natural resource rich countries (both developed and developing) have invested the rents from their natural capital into other forms of capital, human, physical and institutional. Transforming nonrenewable natural capital into productive assets contributes to the sustainability of growth, along with using renewable assets sustainably. Madagascar has not been on the sustainable path, judged from the negative adjusted net savings¹¹ since the 1980s: the country is depleting its natural capital at a faster pace than it is investing in other forms of capital, as discussed in chapters 3 (with respect to public investment) and 6 (with respect to human capital). Mineral depletion is likely to accelerate in the future with large mining operations.

23. The country's fame for its biodiversity, a renewable asset, is under threat, which is putting at risk the industries that are potential drivers of growth. For example, tourism, which relies heavily on the country's biodiversity, is estimated to have brought some US\$0.6 billion of revenue and employed 230,000 people¹² (2 percent of the total job market) in 2013. The viability of the tourism industry, however, is being threatened by the high rate of degradation, including high rates of deforestation,¹³ poaching of precious timbers and other endemic species, and the

¹¹ World Bank, 2013: Madagascar Country Environmental Analysis.

¹² World Travel and Tourism council website : www.wttc.org

¹³ The rate of deforestation is estimated to be nearly 1 percent per year between 2010 and 2013 while it was 0.53 percent between 2000 and 2010. Source: Analysis carried out under the Additional Financing for the third Environment Program by a consortium including MEESF, WCS, ONE, EtcTerra and Madagascar National Parks. Results were presented on 5-6 August, 2014 and publication is anticipated for 2015.

degradation of coastal environments. The cost of environmental degradation is estimated¹⁴ to amount to US\$450 - 500 million per year (approximately 4.7 percent of the GDP in 2013).

24. The pillage of precious woods is symbolic of how poor governance can erode the country's asset base with virtually no development return to the country as a whole and to the local communities in affected areas. Over the last 20 years, illegal logging of precious wood, which includes rosewood and ebony species, has emerged as a recurrent issue in Madagascar, severely threatening Madagascar's ecosystems and unique biodiversity- an irreplaceable public good. Though not as immediately devastating as large-scale clear-cutting, the selective logging linked to precious woods, now taking place mostly in Madagascar's protected areas, creates secondary effects that can be just as harmful, if not more so, to both the local environment (e.g. introduction of invasive species, increased susceptibility to fire, impaired habitat), global biodiversity (through species and possibly ecosystem loss), and local communities (cheap and dangerous labor exploitation, violation of traditional codes and local taboos, increase of prostitution and drug trafficking). In addition to destroying a world heritage site and plundering natural resources, in particular endemic rare species, illegal logging is consolidating a trafficking culture that spans from the local administrations, law enforcement agencies, and to the judicial, parliamentary and political systems. It also deprives the government of millions of dollars of tax revenues a sustainable timber industry could generate, and robs Malagasy people of development opportunities. Finally, by destroying an important component of wealth, the country is destroying an important poverty reduction lever, and banking on the livelihoods of future generations. Of the estimated US\$220 million of sale revenues in 2009, the largest portion was captured by a handful of exporters. Local communities benefited only marginally through remuneration for logging (US\$5/log) and transport.

THE MALAGASY ECONOMY HAS STRUGGLED TO ACHIEVE ITS POTENTIAL

25. Insufficient investments in productive assets partly explain the underperformance of Madagascar's economy, which failed to keep pace with population growth. Per capita GDP in 2014 was only US\$271 (in constant 2005 dollars), approximately half of what it was in 1971 when it reached the post-independence peak of US\$501. As a consequence, Madagascar has one of the lowest GDPs per capita in the world. Madagascar's growth averaged only 1 percent per year between 2009 and 2014 (including the contraction in 2009), inferior to both the Sub-Saharan region's average of 4.7 percent in 2013, as well as to its high population growth (estimated to be around 2.8 percent). The population doubled¹⁵ between 1990 and 2013, with half of this increase taking place since 2003. Between now and 2030, the latest United Nations population projection¹⁶

¹⁴ These costs were calculated from costs of natural capital depleted from deforestation, soil degradation and human health impacts of pollution (Minnesota Center for Environmental Advocacy, 2013).

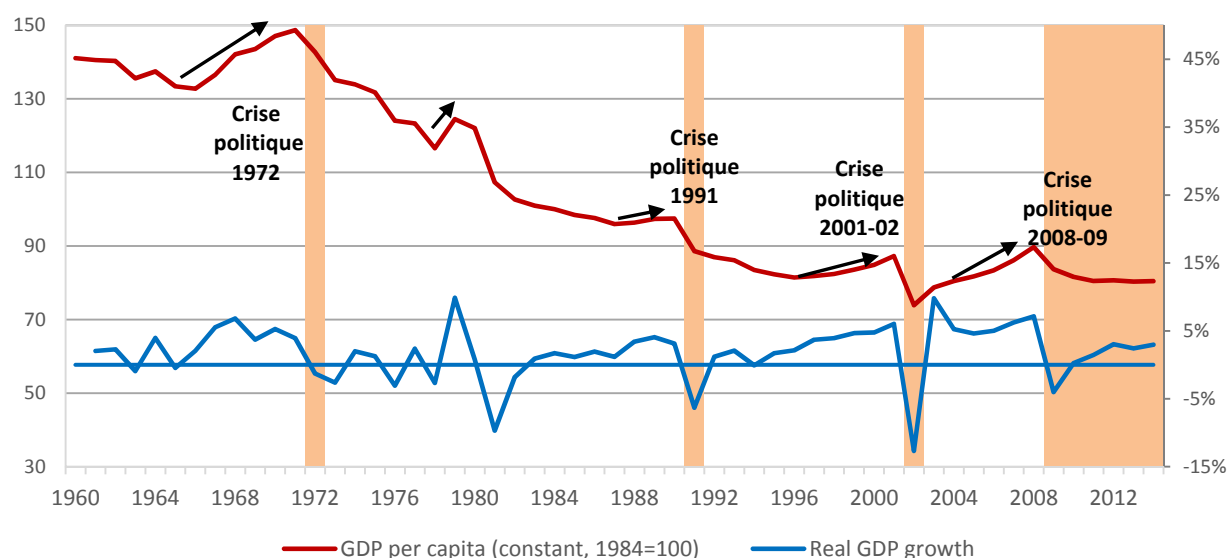
¹⁵ Source: HNP Statistics, World DataBank, accessed June 13, 2015.

¹⁶ Source: United Nations Population Projection, 2012, medium variant, accessed June 13, 2015.

suggests that the population of Madagascar will increase by around 50 percent to 36 million people, while the population aged 15-24 will increase by approximately 2 million.

26. Recurrent political crises are also an impediment for Madagascar to achieve sustained growth. Political crises have disrupted all multi-year growth spurts since independence¹⁷ (see Figure 9). Some research has found that the crises are manifestations of conflicts among the ruling elites jockeying to gain control of the country's resources,¹⁸ and that they occur precisely because the multi-year growth renders the economic prize irresistible. The last crisis between 2009 and 2014 was exceptionally long, and had devastating economic and social impacts, and were intensified by the global financial crisis that halted growth across the world. The suspension of many donor activities due to the crisis also led to significant cuts in investments and a sharp decline in the delivery of services; international aid represented 40 percent of the pre-crisis government budget.

Figure 9: Do growth spurts trigger political crises?



Source: Razafindrakoto et al. 2013

27. In non-crisis years, real GDP growth has generally been positive and led by consumption, except for 2003-08 when two large mining investments led (see the blue line in Figure 9). To investigate the drivers of growth in “normal times,” the last two decades can be divided into three periods, prior to the 2002 crisis (1994-2001), between the two crises (2003-2008), and after the last crisis (2010-2013). The average real growth rate was 3.8 percent, 7.4

¹⁷ The growth spurt in 1979 was artificially driven by massive public investments and lasted only one year unlike the other four spurt episodes. Investment rate went from 9.2% in 1978 to 15.3% in 1979 (Razafindrakoto et al. 2013), mostly invested in new state-owned enterprises and financed through external debt.

¹⁸ For example, Razafindrakoto et al. “*Institutions, gouvernance et croissance de long terme à Madagascar : l’énigme et le paradoxe*, ” IRD/DIAL - Université Paris Dauphine, 2013.

percent and 1.8 percent, respectively in the three periods (Figure 10). Growth accelerated in the period 2003-08, primarily as a result of two large mining investments (US\$8.3 billion or averaging 10.6 percent of GDP between 2005 and 2013). Investments fell sharply and the contribution from consumption to growth was also significantly lower during the last period. It is also notable that the government consumption contracted sharply during the third period.

28. The tertiary sector led growth between 1994 and 2008, and the mining sector took over since 2010. On the production side, the tertiary sector drove growth during the first two periods: transport, public works (mainly financed by development partners), information and communications technology and banking sectors contributed the most. The contribution of the secondary sector to growth increased in 2003-2008 compared to the previous period, reflecting efforts to liberalize markets and the introduction of export processing zones towards the end of the period. The primary sector grew at 6.1 and 5.3 percent respectively in the first two periods, but contracted sharply in the third, as 2010 and 2013 were particularly bad years for agriculture (locusts, cyclones and droughts). The third period was also lackluster for the tertiary sector, and its contribution to growth fell below that of the secondary sector. The performance of the secondary sector was helped greatly by the explosive growth of the extractive industry, which contributed to 42 percent of growth from 2009 to 2014.

Figure 10: Growth decomposition by demand

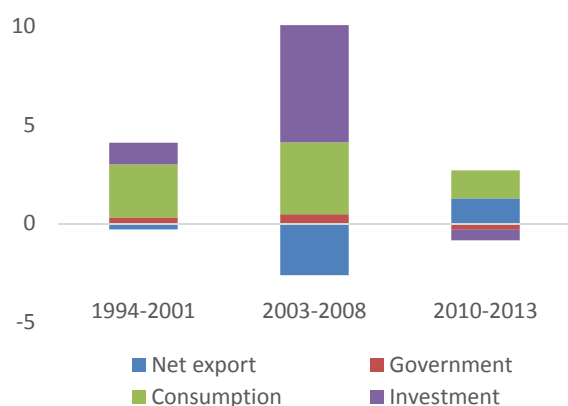
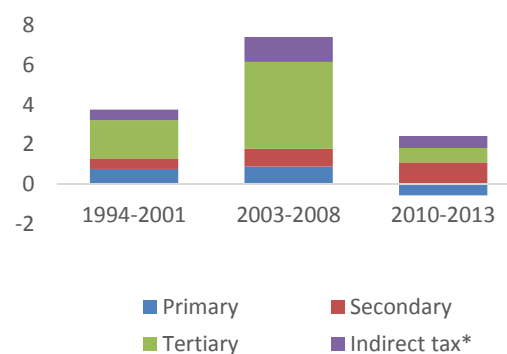


Figure 11: Growth decomposition by sector



Source: Institut National de la Statistique (INSTAT)

*Non-imputed residual is included in the indirect tax column

29. Growth was lower in the third period than the previous two because many companies reduced investments and adopted a defensive strategy since the onset of the 2009 crisis. Because the last crisis was much longer than the previous episodes, many firms postponed investments, reduced the level of operations or stopped operating altogether whilst others opted to increase the level of informal activities, resulting in a decrease in formal employment.¹⁹ Even after the return to constitutional order in early 2014, an economic rebound has not happened, as

¹⁹ According to a national survey conducted by ILO/PNUD, an estimated 335,636 jobs were lost in 2009-11, with “industry” (126,211), “services” (111,234), “infrastructure” (46,688), “tourism” (16,739), “mining” (12,945), “crafts” (11,587) and “fisheries” (10,232) the most affected.

local and foreign private investors appear to be waiting for the prevailing economic and political uncertainty to clear up. Most productive sectors were adversely affected, but some sectors such as the extractive industry, agribusiness and the banking sector have shown resilience. An analysis of the top 100 enterprises in Madagascar reveals that the largest formal enterprises are found in the mining and energy sectors followed by retail, the construction and fisheries sectors and then agro-industry and textile (see Box 1 for details). Agriculture, tourism, and construction are the main employment-generating sectors.

Box 1: The small but diversified landscape of the private sector in Madagascar

- (1) Multinationals (Rio Tinto, Sheritt, Total, Orange, Airtel, Exxon, Bouygues, Tozzi Group, etc.)
- (2) Regional transnational companies (Shoprite, Harel Mallac, Vitol, Galana. etc)
- (3) Local large companies (Groupe Fraises, Sipromad, Groupe Basan, Groupe Ramanandraibe, Groupe SILAC, Filatex, SMTP Group, Groupe Rajabally, etc)
- (4) Micro and small and medium enterprises (industry and services)
- (5) Financial institutions, banking and non-banking
- (6) State-owned enterprises, which should operate like private companies according to the Law 2014-014 on companies with State participation (Air Madagascar, JIRAMA, and Aro are the best known).

30. Shoring up an environment conducive to private investments is critical in achieving the country's growth potential. Half of the enterprises surveyed by the 2014 Enterprise Survey identified political instability as the main obstacle to business. Energy availability is a serious bottleneck for the manufacturing sector, particularly those outside the capital, and is lowering investments in other productive sectors such as fisheries, tourism and agro-processing. In addition, the private sector suffers from a noncompetitive behavior of well-connected incumbents, with corporate governance problems exacerbated by a defective judicial system. For example, Air Madagascar and JIRAMA, state-owned airline and public utility enterprises, are loss-making, have opaque corporate governance structures, and do not publish audited financial statements stipulated by the law. Some large private firms also do not make standard disclosures stipulated by the law. For example, only about half of the companies enjoying the benefits of the EPZ regime had filed the activity report for 2014 by the legal deadline.

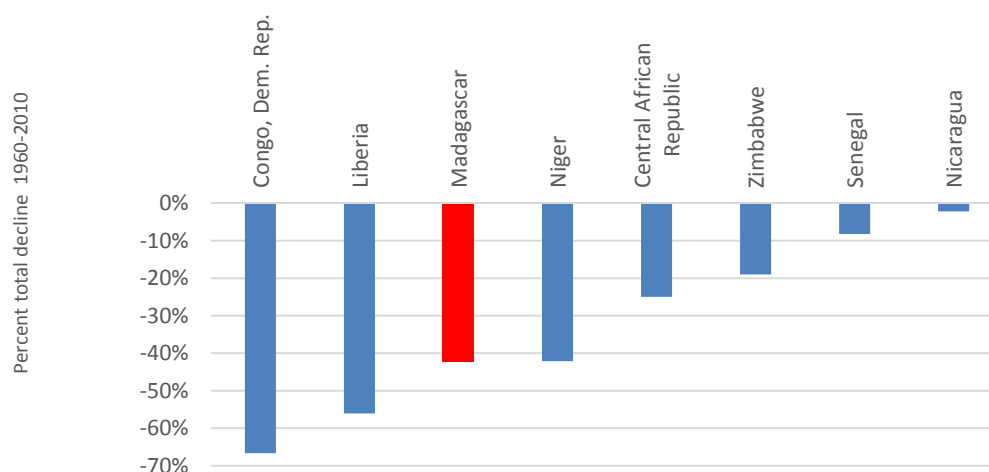
A NATION HELD BACK BY CYCLES OF POLITICAL INSTABILITY

31. Madagascar is the only country in the world²⁰ whose real per capita income declined vastly between 1960 and 2010 without experiencing civil wars or violent conflicts. The average Malagasy is 42 percent poorer in 2010 than she was in 1960 (Figure 12). Among the other countries whose real per capita income also declined, all but one experienced violent conflicts or even wars at least at one point during this fifty-year period. In Madagascar, the reason for the poor performance lies elsewhere. In the 50 years of its post-independence history, Madagascar has suffered from frequent political crises; all former heads of state have either gained or lost power as the result of unconstitutional events. The most recent episode ended with the presidential and parliamentary elections of December 2013, which were recognized as fair by the international

²⁰ For which data are available.

community. A first government was appointed in April 2014 and was re-shuffled in January 2015. A process of national reconciliation was initiated under the leadership of President Hery Rajaonarimampianina with the support of the Council of Christian Churches (FFKM). A conference organized by the FFKM developed a set of recommendations, including a call for the dissolution of some of the state institutions. These proposals fueled further tensions between the executive and legislative branches, leading the National Assembly to call for the impeachment of the President and the dismissal of the Government. Both motions failed but tensions remain. Municipal elections took place on July 31, 2015.

Figure 12: Countries with lower real GDP per capita in 2010 than 1960



Source: WDI

32. **The country's score in the annual Country Policy and Institutional Assessment (CPIA) declined after the onset of the last crisis, falling below the threshold to be classified as a fragile country²¹ since 2012.** After peaking in 2007-08, Madagascar's CPIA scores have declined across all dimensions, but particularly in public sector management. The evolution of Madagascar's scores contrasts with average scores of comparator countries where scores have been generally stable (see

²¹ According to the Country Policy and Institutional Assessment (CPIA) methodology.

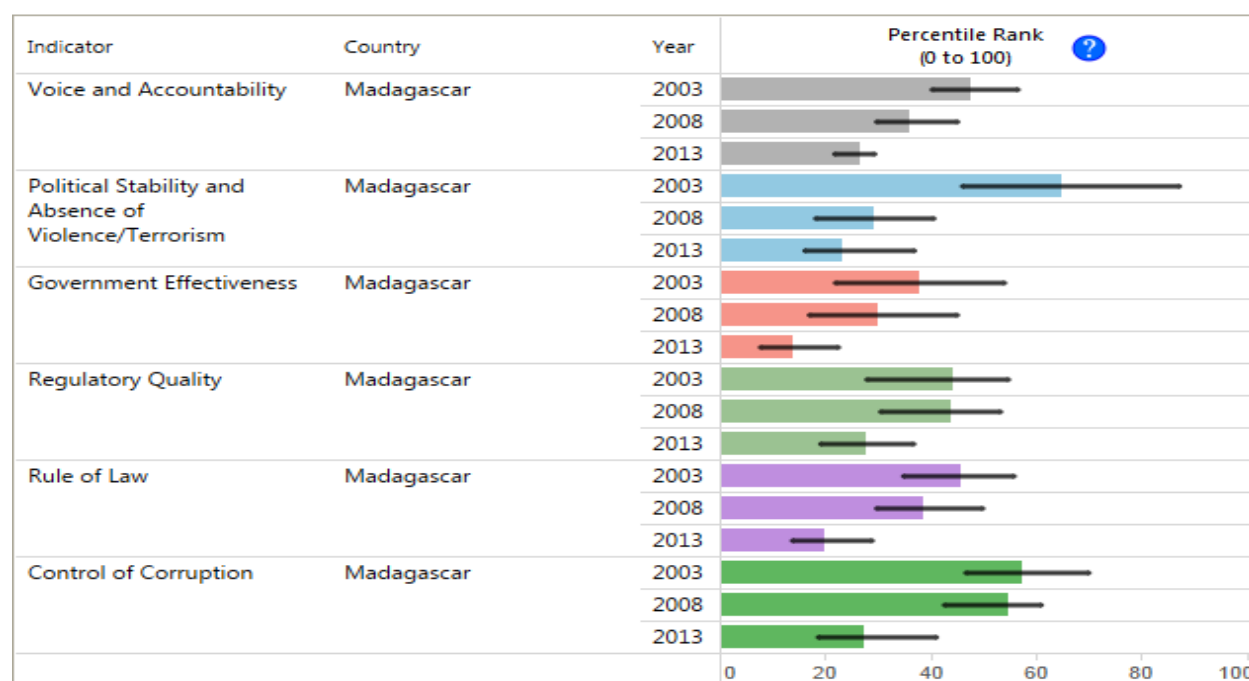
33. **Table 6).** In 2014, the public sector management score recovered slightly, and with it the overall score.

Table 6: Evolution of the CPIA scores

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Economic Management	3.3	3.5	3.7	3.8	3.7	3.5	3.5	3.5	3.5	3.7
Structural Policies	3.8	3.8	3.8	3.5	3.5	3.3	3.3	3.2	3.2	3.2
Social inclusion	3.6	3.6	3.7	3.7	3.6	3.6	3.3	2.9	2.9	3.1
Public sector management	3.4	3.4	3.5	3.6	3.3	3.0	2.8	2.6	2.5	2.6
Overall Rating Madagascar	3.5	3.6	3.7	3.7	3.5	3.4	3.2	3.0	3.0	3.1
Fragile countries (IDA-eligible)	2.8	2.8	2.8	2.8	2.9	2.9	2.9	2.8	2.8	2.9
SSA average (IDA eligible)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
All IDA-eligible countries	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3

Source: IDA

34. **Madagascar's governance ratings are low because of the discrepancies between the formal rules and implementation in practice.** The country's legal and regulatory framework, for example, public financial management apparatus and tax laws (discussed in chapter 3), and the competition law (discussed in chapter 4), is deemed broadly adequate. Despite this adequacy, the country receives low and declining ratings for governance, for example, in the World Governance Indicators (WGI) indicators (see Figure 13) and the Transparency International Corruption Perception Index,²² because implementation is lacking.

Figure 13: Evolution of the World Governance Indicators 2003-2013

Source: World Bank, World Development Indicators (WDI)

²² In the Transparency International Corruption Perception Index, Madagascar's ranking has declined progressively, from a ranking of 84 (2006) to 133 (2014) out of 176 countries.

35. **Governance emerges as a key constraint for the country's sustained, inclusive and high economic growth.** Madagascar's fragility stems from the fact that the rule of law is not respected systematically and that the justice system is unable to enforce the laws effectively. There are several structural and historical elements driving this fragility according to a recent analysis.²³ They include i) the State and a political system that serves the elites; ii) the persistent role of the army in political dynamics; iii) a fragmented society (geographically and socially); iv) an unrealized decentralization process; and v) tensions to capture the rents from the country's natural resources (land and extractives). Moreover, the report highlights that the country's fragility increased in recent years due to: 1) growing criminality and insecurity, 2) the rapid growth of a trafficking economy, 3) the criminalization of a significant part of the country's security forces, and 4) a weak justice system that is absent from large areas of the territory pushing people to take justice into their own hands. The governance challenges are discussed in detail in the next chapter.

²³ *Madagascar Assessment of the Drivers of Fragility and Resilience* produced by the Fragility, Conflict, and Violence Group of the World Bank

Chapter 2. Governance challenges

Summary:

- *State institutions in Madagascar often serve the interests of the elites instead of those of the broader population. Partly as a result, the State is not providing appropriate public goods and services.*
- *Madagascar has one of the lowest revenue-to-GDP ratios in the world and spends the bulk of its revenue on public sector wages and recurrent spending, including regressive fuel subsidies, with very little left for social services or investment.*
- *Malagasy citizens are dissatisfied with government and have come to expect very little of it. Capacity of stakeholders that could demand government accountability (civil society organizations, the press) is weak.*
- *Investment (both public and private) is much lower in Madagascar than most of its peers – constraining growth. The private sector has identified political instability as the main constraint for their activity. Other constraints include inadequate infrastructure, especially electricity, and governance problems.*
- *Weak governance also affects the government’s ability to manage the country’s vast natural resources. Weak governance and natural resources wealth can lead to a degradation of law and order as has been seen in Madagascar over the past 5 years.*
- *Recommendations to strengthen governance include investments on demand-side accountability, strengthening of the anti-corruption agency and continuing with the decentralization process.*
- *As governance issues are key in a number of specific sectors, they are covered in some cases in subsequent chapters.*

2.1 Diagnosis

36. The government has identified improving governance as the first priority in its National Development Plan for 2015-2019, diagnosing poor governance as a major constraint to achieving the country’s development objectives. Based on the available evidence, this chapter discusses governance constraints to inclusiveness, sustainability and accelerated growth. These constraints are not unique to Madagascar, but their magnitudes are more acute than in other countries and their combined effects have resulted in one of the lowest per capita incomes in the world and a long-lasting decline in welfare levels.

THE IMPACT OF GOVERNANCE CHALLENGES ON INCLUSIVENESS

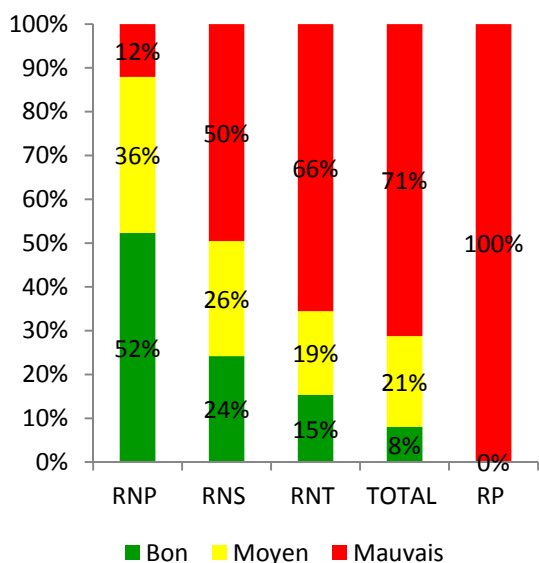
37. State institutions in Madagascar often serve the interests of the elites instead of those of the broader population. The Malagasy State can be characterized as neo-patrimonial,²⁴ to distinguish from other forms of clientelistic rule. Madagascar has not suffered from kleptocracy or shadow states where leaders exist in lieu of state institutions, and it does not have a history of “big men.” Rather, in neo-patrimonial Madagascar, there are formal institutional structures, but they are captured by personalized networks of powerful leaders. Decisions concerning property rights, law enforcement and access to resources are governed by an unwritten common understanding among elites called the ‘elite bargain’ which is distinct from and weakens the formal institutions and mechanisms described in laws. The boundary between political and economic powers is blurred under neo-patrimonial rule, and the resources are tied up by the individual leader to maintain his/her office. Parties are controlled by patronage, and do not serve as a conduit for political participation, nor as a mechanism for providing public goods.

38. The central government is not providing adequate public goods and services to serve the needs of the population due to an acute lack of resources. Madagascar has one of the lowest revenue-to-GDP ratios in the world (see chapter 3), and spends the bulk of it on civil service wages and functioning of the central administration, with little left for social services and public investment. The isolation of the poor from the central government is true both physically and figuratively. In 2012, 71 percent of the national roads were in poor condition (Figure 14), and the time it takes to reach an urban center increased between 2007 and 2010 for everyone, and particularly for the poor (Figure 15). Access to electricity in Madagascar at 14 percent of the population in 2010 is among the lowest in the world. Moreover, the country expanded the coverage by only 3 percentage points between 2000 and 2010, one of the slowest levels of progress among the comparator countries (Figure 16). There was a progress in virtual connection, as measured by teledensity,²⁵ between 2007 and 2013, but only 6 million of the country’s 22 million population (or 27 percent) had access to a telephone.

²⁴ Following Erdman and Engel (2007), neo-patrimonialism is a hybrid political regime between authoritarianism and democracy. It is understood as a mix of patrimonial and legal-rational bureaucratic domination in Max Weber’s classical sense (Weber, 1978). “The distinction between private and public interests is purposely blurred.” (Bratton and Van de Walle 1994).

²⁵ It is important, however, to take into account that the accurate count of the number of subscribers is complicated by the different methods of counting used by the various operators (for the active prepaid subscribers), which have been moreover modified in certain cases during these last few years. The figures provided in this chart come from the estimates of TeleGeography. The reduction observed in the last couple of years can be explained partly by the changes in the counting of the subscribers, and by the retail tariff increase implemented in 2013.

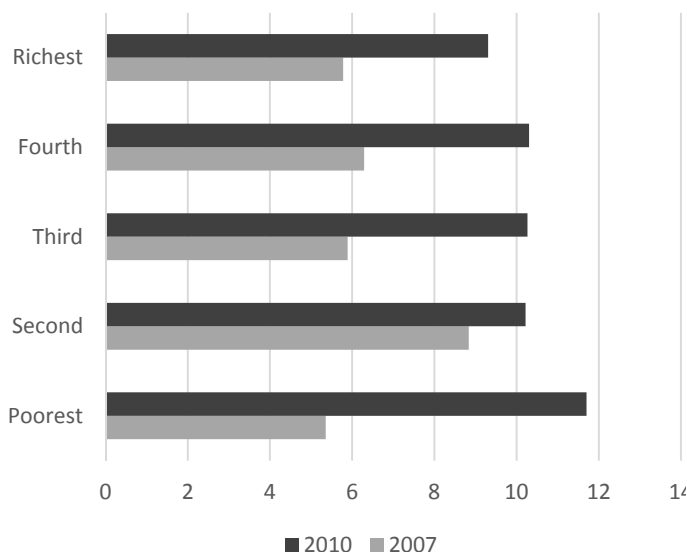
Figure 14: Proportion of roads in good, average or poor condition (2012)



Source: Autorité Routière de Madagascar and Directeurs Régionaux des Travaux Publics (Public Works Regional Directorates).

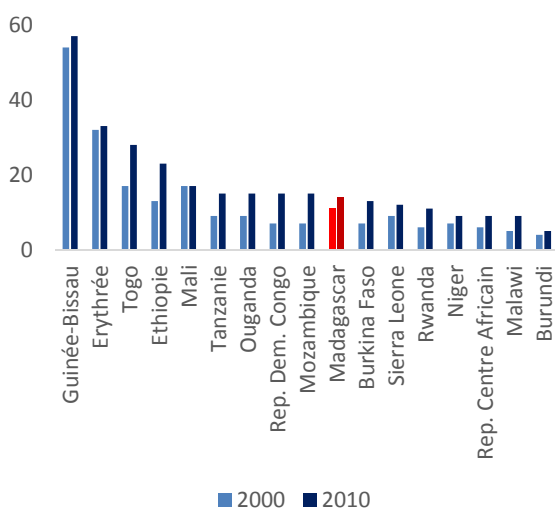
Note: RNP: Primary National roads; RNS: Secondary National roads; RNT: Temporary National roads; RP: Provincial Roads.

Figure 15: Time Spent to Urban Center in Dry Season (Hours) by Household Consumption Quintile



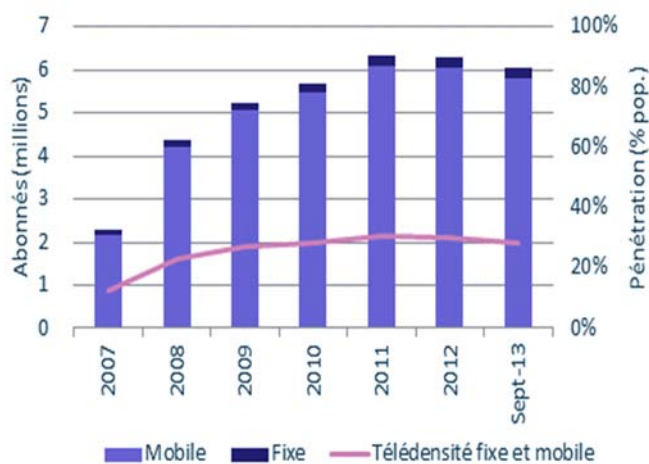
Source: INSTAT, EPM 2010-2010

Figure 16: Progress in access to electricity in Africa



Source: SE4All – Global tracking framework: Data Annex – Energy Access

Figure 17: Evolution of the number of subscribers to the services of fixed and mobile telephony and of the penetration (in % of the population)



Source: Office Malagasy d'Etude et de Régulation des Télécommunication (OMERT)

39. Malagasy citizens and the private sector are dissatisfied with the government according to surveys. For example, Afrobarometer *Origines et sortie de crise à Madagascar: que dissente les citoyens ordinaires?* 2013, reports that 47 percent of respondents said the mismanagement of the public sector by successive governments is the main factor of Madagascar's failure in reaching its development objectives. A survey of the informal sector found that operators do not see any benefit in formalizing, an indication that the public sector is failing to offer useful services responding to their needs. Enterprise surveys report the formal sector's dissatisfaction with the business environment provided by the government (see more discussion below and in Chapter 4). This sentiment has not (yet) become a driver for change, as there are few channels available for the ordinary Malagasy to influence public policies.

40. Civil society organizations do not yet fully play the role for voice and accountability. Civil society organizations (CSOs) are nascent in Madagascar, and they have limited presence beyond the capital. They have struggled to play the role of an arbiter between the state and the society, and a watchdog of public policies. The main barrier for the active participation of CSOs to public decision making is the lack of capacity and stable source of financing.²⁶ Legislation defining the roles of CSOs, associations and unions are unclear and outdated, although freedom of association and information is upheld by the law. The 2013 Civicus Enabling Environment Index²⁷ ranked Madagascar 97 out of 109 (19th among 26 African countries) with a score of 0.39.

41. Access to information is a challenge, and the ability of the press to report freely is limited due to inadequate protection by the law. In particular, the absence of a communications code protecting the freedom of the press allows authorities to prosecute journalists under the libel law and the criminal code whenever the content of their reporting is not in line with their political agenda. Journalists tend to practice self-censorship. Access to information more generally is also a challenge. The Freedom House Index for press freedom rated Madagascar 63 in 2014 (0 = best, 100 = worst) compared to 66 in 2013. Madagascar is one of the few countries in Africa without legislation ensuring the citizens' rights to access to information. However, a recent initiative from civil society led to the development of an Access to Information Charter signed by a broad range of stakeholders.

THE IMPACT OF GOVERNANCE CHALLENGES ON ACCELERATING GROWTH

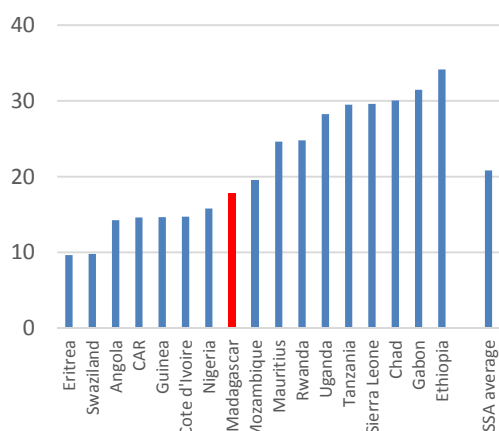
42. Madagascar has relatively low investment levels when compared to most of its peers in Africa. Investment represents only around 17.6 percent of GDP (2010-13 average) in Madagascar, lower than many other low-income countries (see Figure 18). Even this low ratio has been temporarily boosted by two large mining investments of around US\$8.3 billion over the 2005-2013 period (averaging 10.6 percent of GDP). Non-mining private investments averaged 5.3 percent of GDP between 2010 and 2013. Domestically-financed public investments averaged only 0.6 percent of GDP (2010-2013 average). They are augmented by external aid, which averaged

²⁶ *Civil Society and Social Accountability in Madagascar*, World Bank, 2009.

²⁷ The indicator evaluates the ability of the government to create an environment that allows citizen to mobilize and participate in civil society.

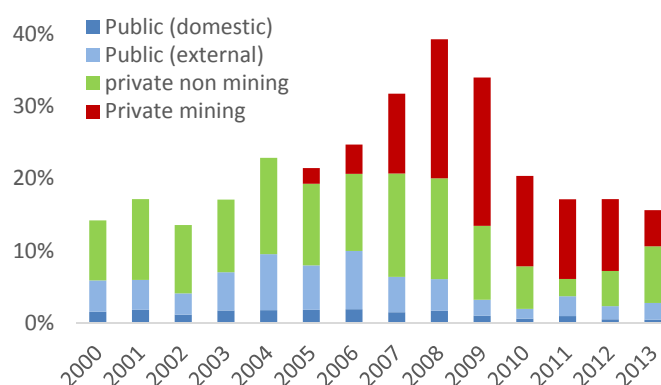
2.1 percent of GDP over the same period but fluctuated between 1.8 percent and 8.1 percent of GDP and fell sharply during the crisis due to the suspension of most external aid (Figure 19).

Figure 18: Investment-to-GDP ratio in Madagascar is lower than those of its peers in Africa (2010-13 average)...



Source: World Bank, WDI

Figure 19: ... even more so, had there not been large mining investments in recent years



Source: INSTAT, MFB, IMF and staff estimates

43. Low investment levels are partly the result of weak governance. Political instability is reported as the top impediment to doing business by firms (48 percent of the respondents) according to the Enterprise Survey (2013-2014). Manufacturing firms reported corruption as a major constraint less frequently in 2013 than in 2009, and also less than the average of other countries sampled in the Enterprise Surveys (2013-2014), but reported sharply higher incidence of bribery and gifts in 2013 than 2009, and higher than the comparators (Table 7). Access to electricity is the second most cited impediment in the same survey (16 percent of the respondents). Inadequate infrastructure, including electricity, roads, ports, railroads and reliable air service, is often the result of poor performance of partially or wholly state-owned companies, such as JIRAMA, Air Madagascar and Madarail. Very low government revenues, mainly caused by poor tax administration, prevent the government from increasing public investment – which also affects growth.

Table 7: Corruption in the manufacturing sector

Indicator (% of firms)	Madagascar 2009	Madagascar 2013	SSA average 2013-2014	All countries surveyed in 2013-14
Identify corruption as a major constraint	55.5	33.0	43.4	35.2
Bribery incidence	18.1	37.7	23.5	18.1
Expected to give gifts to government officials	7.6	31.4	17.4	13.0

Source: World Bank, Enterprise Survey (2009, 2013-2014)

THE IMPACT OF GOVERNANCE CHALLENGES ON SUSTAINED GROWTH

44. Frequent political crises disrupt growth and discourage longer term investments. The recurrent political crises are detrimental to sustained growth, as business activities are interrupted while the economic landscape is reconfigured to be aligned with the new political power structure

because the boundaries between political and economic powers is blurred. This process adds to the effects of the disruption to economic activities in general, and the sanctions and other adverse reactions from trading and diplomatic partners which the political crises often trigger. Razafindrakoto et al. (2013) argues that when the benefits of growth are concentrated in a small group of people, a skillful politician is able to take advantage of mounting discontent to trigger a political crisis. Limited information and general disenfranchisement mean that a large share of the population feels it has nothing to lose from reversing the constitutional order. Frequent crises also create disincentives for longer term investments and increases incentives for behavior that favors the extraction of short term rents (e.g. from natural resources).

45. Weak governance can also affect the government's ability for improved natural resources management. Governance problems are also a constraint to inclusive and sustainable growth, as they heighten the risk that the rents derived from concentrated natural resources be captured by a few individuals. For example, the rents from precious woods are captured entirely by a network of illegal operators and their political allies owing to a prohibition on exploitation and quasi-absence of law enforcement. Equitable sharing of the rents among all current and future Malagasy requires that the State captures an adequate share of the economic rents through an appropriate fiscal regime and the judicious use of these rents in providing improved public goods and services (the so called extractive industries value chain)²⁸. Governance problems can prevent this value chain from working properly.

46. The nexus between weak governance and natural resources can also lead to a degradation of law and order. A salient illustration is a vicious circle between precious woods traffic and corruption. Traffickers' networks have expanded exponentially under the combined effects of the suspension of international aid and erosion of public institutions. The networks promote corruption in the political and security forces, while depleting the country's natural resources and depriving the State of public revenues. Pellerin (2014) estimates the value of the illegal logging of rosewood from protected forests (North-East) since 2009 to be US\$1 billion, and the trafficking of gold since 2009, estimated at 400 kg/month, to reach a similar magnitude, although less than 200 kg is reported annually to the Ministry of Mining.²⁹ The involvement of security forces, including senior officials, in the trafficking is often reported in the media, but no prominent actor has been apprehended to date. The judiciary system is incapable of upholding justice because the law enforcement side lacks financial and human resources while the traffickers enjoy significant protection thanks to their financial prowess. This situation also makes collusion with the traffickers more attractive to various actors, including public officials at all levels and the poor people who live near the places where natural resources are located. The partiality of justice and security forces undermines the confidence of the population, which explains episodes of mob justice with reported casualties such as the cattle rustling phenomenon in the South.

²⁸ For more information on the EI Value Chain visit www.eisourcebook.org

²⁹ Pellerin 2014. *Madagascar: Gérer l'héritage de la transition*.

2.2 Opportunities and recommendations

47. **Political tensions over the years contrast with relative peace among the population, and natural insulation from international conflicts.** Despite its fragility, Madagascar also has many strengths: it does not have a history of mass violence or civil war. Even though the society is fragmented geographically and socially, there are few conspicuous grievances held by disenfranchised groups that have led to violent conflicts. It is also naturally insulated from regional conflicts that could result in flow of refugees or massive inflow of arms. These strengths should be exploited as a stepping stone to a better equilibrium.

48. **Investments in human capital can lead to stronger demand for accountability.** According to the literature (for example, Glaeser et al 2004), the demand for better governance increases with the level of human capital in the society. This element is another consideration for prioritizing investments in human capital among the competing needs. The private sector, in particular, the financial services sector, may also be a promising ground for searching for demand for good governance, as is discussed in the fourth chapter.

49. **Ongoing efforts to strengthen the anti-corruption agency are promising.** Steps that are already taken to enhance the independence and capacity of the anti-corruption agency (BIANCO) are an encouraging start, and should be pursued vigorously. For example, the compliance in 2014 by all cabinet ministers with the Constitutional requirement for filing asset declaration is a useful start, and the compliance should be expanded to cover all those who are required to file. More active use should also be made of the filed declarations, through random checking and disclosure of information while protecting privacy adequately.

50. **Decisive measures to tackle the trafficking of precious woods would send a strong signal that Madagascar intends to put an end to impunity that prevailed during the years of transition.** A legal study conducted by Ministry of Environment and Forests (No. 07/13/IDA/PE3/FinAdd/UCP/C 2014) with the support from the World Bank recommends, among other things, setting up a special jurisdiction, as provided by ordinance 2011-001 to deal with this issue decisively. As the issue is quite specialized with international ramifications, making use of magistrates and lawyers with the relevant expertise and independent credentials is recommended.

51. **Madagascar should renew efforts to improve governance in all its dimensions, including decentralization and local governance processes, reestablish law and order and fight the sense of impunity, strengthen civil society and other stakeholders that can hold the government accountable, forge a better business environment and improve performance of state-owned enterprises tasked with providing essential public services** (the last two are discussed in Chapter 4). Policies should aim at addressing the main binding constraints. Improving governance should be at the center of Madagascar's development strategy and inform other interventions. By and large, sound policies are in place, capacity is not low and institutions are in place (but not functioning). The following recommendations should be part of Madagascar's strategy to improve governance:

- Improve the center-periphery relations through decentralization (e.g., implementation of the existing law on decentralization), and engage directly communities in local economic, environmental and social development processes (as discussed in chapters 3 and 5)

- Understand the dynamic of degradation of law and order, and seek to reverse the trend by strengthening the relevant entities (such as anti-corruption bureau, organs tasked to fight traffickers, police and security force) by providing adequate resources and enhancing their professionalism.
- Weaken the “elite bargain” by cultivating counter-powers, such as civil society, press and national assembly, by empowering them with access to information and protecting the freedom of press. For example, the Ministry of Finance and Budget and the National Assembly could have more sustained exchanges on budget preparation and execution. See discussion in the next chapter on those dealing with public finance.

Chapter 3. Public finance issues

Summary:

- *The main priority in public finance for Madagascar is to increase government revenue, which is a precondition for improved public service delivery. Per capita Official Development Assistance (ODA) that Madagascar receives is also lower than comparators based on the quality of policies and institutions or on development outcomes.*
- *Weak tax administration – related to capacity constraints and governance issues - seems to be behind the relatively poor revenue performance, while tax policy seems generally sound. Tax expenditures are relatively high at 3 percent.*
- *On the expenditure side, a large share of the government's budget is allocated to public sector wages and regressive subsidies on fuel and electricity, leaving little to allocate to social services or public investment.*
- *The wage bill is relatively low as a share of GDP when compared with peer countries. The capacity of the civil service has been weakened through patronage-based appointments and limited capacity building. A more competent civil service will be required for improved services delivery.*
- *There has been progress in the regulatory framework for budgeting, transparency and accountability, but implementation remains weak, as illustrated by worsening Public Expenditure and Financial Accountability (PEFA) scores from 2008 to 2014. Reinstating oversight mechanisms that were weakened during the crisis is a priority.*
- *Decentralization has been discussed for a long time without being implemented. Financing and decision-making are still concentrated in the central government.*
- *Public private partnerships (PPPs) are an opportunity for Madagascar to increase infrastructure investments in a resource-constrained environment, but it will be important to manage risks. The country is currently revising the regulatory framework for PPPs.*
- *Natural resources offer an opportunity for Madagascar to increase government revenue and derive a number of benefits. But it will be necessary to improve transparency in regulating the sector. An open discussion involving all stakeholders on how to share the dividends from the natural resources among the citizens will be important.*

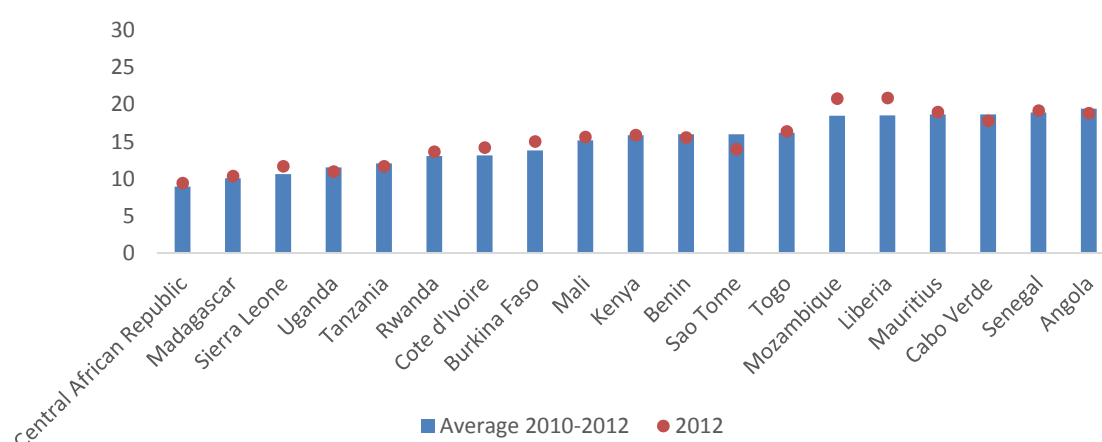
3.1 Diagnosis

52. **The main priority in public finance** for Madagascar is to increase tax revenue, which is among the lowest in the world as a share of GDP. Madagascar's revenues are not adequate for supporting the ambitious strategy outlined in the National Development Plan (PND) 2015-2019. There is scope for improving the efficiency of expenditure as well, but the bulk of the challenges and constraints lies with the revenue side. On the plus side, the authorities have a track record of maintaining macroeconomic stability and conducting prudent debt management. One of the potential sources of future revenue is the mining sector, which is not yet a large contributor to the Treasury. Managing the potential exponential growth of the extractive sector is a challenge for the country, and also an immense opportunity. Another potential area of opportunity for increasing investments in the near future is public-private partnerships (PPPs).

GOVERNMENT COLLECTS VERY LITTLE REVENUE

53. **Madagascar has one of the lowest tax to GDP ratios in the world.** Tax revenue in Madagascar has been chronically low, and has been less than 10 percent of GDP since 2009. Its 2005-2012 average at 10.6 percent of GDP is well below the Sub Saharan Africa average of 16.8 percent of GDP. The average collection rate between 2010 and 2012 is among the lowest in the region (see Figure 20). According to literature, tax performance is associated positively with higher income per capita, trade openness, financial sector depth and better institutions. By contrast, larger shares of agriculture in total value-added and higher inflation are associated negatively with tax revenues (IMF 2011).

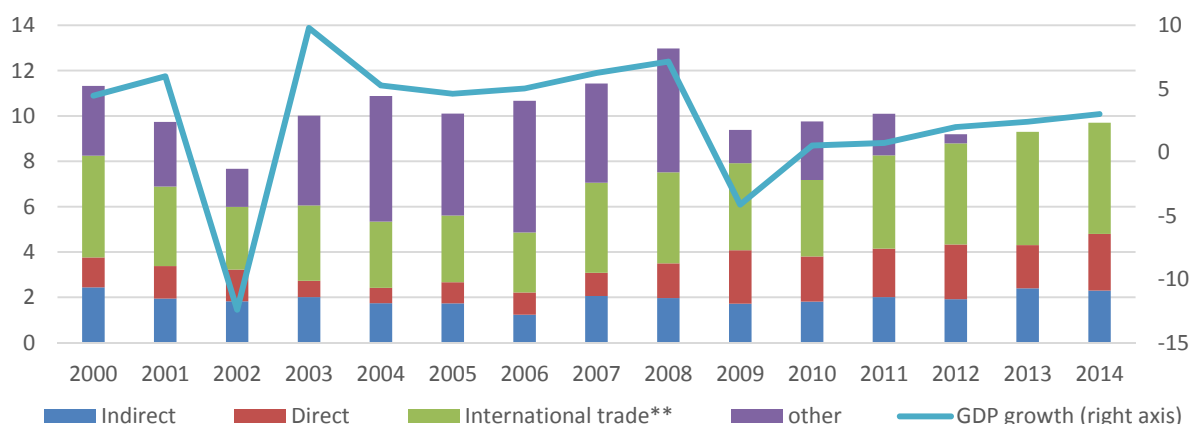
Figure 20: Tax revenue as a share of GDP, SSA countries



Source: WDI

54. **Madagascar's tax potential based on its characteristics is estimated to be 15-17 percent of GDP (IMF 2015).** The tangible progress that was being made before 2009 indicates that it is possible for the authorities to collect more taxes: in the five years leading up to the crisis, tax revenues had increased by almost 3 percentage points from 10.1 percent in 2005 to 13.0 percent in 2008 (see Figure 21).

Figure 21: Decomposition of tax revenues



Source: IMF

55. Weak tax administration seems to be behind the relatively poor revenue performance.

Tax policies are generally sound, with the simplifications and modernization introduced in 2008 (see Box 2), though mining and petroleum taxation could possibly be enhanced. Administration (i.e., human resources, financial and technical means, and procedures), on the other hand, is where the challenge lies. Madagascar has a low and flat personal and corporate income tax rate of 20 percent, which is at the lower end of SSA economies. The tax base is narrow due to the small size of the formal sector, and compliance appears to be an issue: in 2013, less than half of all enterprises filing returns declared a taxable profit. The value-added tax (VAT) is the main tax earner, accounting for about half of all taxes during 2004-2013. Madagascar's VAT rate is among the highest in SSA (see Table 8), but its productivity, defined as the ratio of revenue collected to the standard rate, is very low. Thus, VAT underperformance appears to be linked to implementation issues, such as those related to the handling of VAT refunds, and to compliance gaps. Available data suggests that about a fifth of enterprises with turnover of between Ariary 50 and 200 million are not complying with their obligations to file VAT returns. Moreover, the share of these non-compliant enterprises has been increasing since 2010. Another indicator of weakness is the high share of enterprises submitting nil VAT obligations or requesting VAT credits. This share was 65 percent for large enterprises in 2013 (Source: IMF 2015).

Box 2: Madagascar's 2008 Tax Reform

In 2008, Madagascar implemented a wide-ranging domestic tax reform. The reform's objectives were to increase the tax yield and improve the business environment. It included the following elements:

- Reduction in the number of taxes from 28 to 14;
- Harmonization of taxes on income and consolidation into a single tax rate of 25 percent;
- Elimination of excise duties on several items;
- Increase of the VAT rate from 18 to 20 percent and of the VAT threshold;
- Announcement of the elimination of the Export Processing Zone regime for new firms, with 'grand-fathering' of existing firms. No firm date had however been announced for this measure and it was never applied.

In parallel, tax administration procedures were overhauled, resulting in the revitalization of the directorate for large enterprises, the restructuring of several regional service centers, and the modernization of procedures for tax filing and payment.

Source: IMF (2015)

56. **Capacity constraints and governance are affecting the collection of taxes on internationally traded goods.** Customs administration also has issues of exemptions, evasion and challenges. Current procedures do not allow for adequate tracking of the activities of importers despite the fact that a few large importers account for the bulk of all imports. Many of these importers benefit from accelerated customs procedures, but are not followed by ex-post verification. There are concerns regarding false declarations regarding the content of imported containers, to benefit from lower duties and tariffs and exemptions, and the declared values of imports which appear too low: about 70 percent of all imported containers have a declared value of less than US\$20,000, which is abnormally low, as it translates into less than US\$1/kg. Special procedures for customs clearance also give rise to opportunities for fraud. Derogations introduced during the transition years have weakened the purview of the customs administration. Export processing zones (EPZ) companies, for example, are no longer required to declare to customs the value of their sales in local market. Consequently, the risk of unauthorized duty free sales on the domestic market has increased. A relatively high share of imports (16 percent) is granted temporary admission. Temporary admission is often granted on an ad hoc basis, and for relatively long periods of time. Last, but not least, there is anecdotal evidence of governance issues at customs³⁰.

Table 8: Comparison Tax Rates Madagascar with other countries in Africa

	Personal Income Tax	Corporate Income Tax	Value Added Tax
Cameroon	35.0	38.5	19.3
Cote d'Ivoire	36.0	25.0	25.0
Ghana	25.0	25.0	12.5
Kenya	30.0	30.0	16.0
Lesotho	35.0	25.0	14.0
Madagascar	20.0	20.0	20.0
Mauritius	15.0	15.0	15.0
Mozambique	32.0	32.0	17.0
Tanzania	30.0	30.0	18.0
Togo	35.0	29.0	18.0
Uganda	40.0	30.0	18.0

Source: International Bureau of Fiscal Documentation 2013 (www.ibfd.org)

57. **There is no effective mechanism to sanction tax and customs agents who engage in corruption.** There is no effective mechanism to sanction tax and customs agents for bribe-taking or harassing tax-payers. This administrative weakness became more pronounced during the crisis, because formal institutions are not operational (e.g., *Conseil de discipline budgétaire et financière*)

³⁰An example of governance issues at customs is reflected in the fact that some 20 individuals with connection to international markets through illegal activities made gains of US\$220 million from precious wood trafficking while the government gained US\$21.7 million (through the temporary export permits and the auction of confiscated logs) and the communities US\$9.6 million through logging and transporting the logs out of the forest in 2009 (Ballet et al)

or lacked resources (e.g., BIANCO). Even when enough evidence of wrongdoing exists, culprits are not prosecuted because the judiciary system is hampered with graft.

58. **Madagascar’s royalty rates for nickel and other base metals are relatively low, which may be needed to compensate the private sector for the relatively weak infrastructure and business environment.** Madagascar, at 2 percent, has relatively low royalty rates according to a recent study on mining tax regimes among African countries (World Bank 2014) (Table 9). Indeed, revenue from the existing three industrial mining operations, two of which are considered world-class,³¹ is forecast to provide the central government with an annual revenue of less than 1 percent of GDP (Table 10). Taxes and royalties that operators are able to pay are determined by the profitability of the investments, which in turn is a function of the quality of the mineral deposit and the ease with which it can be extracted and exported. The latter depends on both physical and business environments, including the location of the deposit and access infrastructure, predictability of obtaining operating permits, timeliness of VAT refunds, stability of political regime and so forth. It follows that for the same quality of deposit, Madagascar would be able to retain higher share of the proceeds if the second factor can be made less constraining.

Table 9: Fixed Rate Mineral Royalties in Selected African Countries

Country	Copper/Base Metals	Gold
Burkina Faso	4	3
Botswana (N)	3	5
Central African Republic	2.5	2.5
Cameroon	3	3
Congo	4	5
Congo DR (N)	2	2.5
Gabon	5	5
Ghana (N)	5	5
Guinea	3	5
Liberia (N)	3	3
Madagascar	2	
Malawi	5	5
Mauritania	4	4
Mozambique	5.5	5
Namibia	5	3
Niger	5.5	5.5
Senegal	3	3
Sierra Leone (N)	4	5
Tanzania	4	4
Uganda	3	3
Zambia	6	6
Zimbabwe (N)	2	7

Source: Adam Smith International, African Development Bank, IMF Reports, and PricewaterhouseCoopers

Note: The royalty base is gross sales with the exception of countries with (N) after their name where the base is net sales and Zambia were the base in the norm value.

³¹ The third operation is Kroama, a State-owned chromium production company. Its turnover was approximately US\$20 million in 2014 and had 578 employees. The mine could reach the end of its life in 2022.

Table 10:. Total fiscal income from large scale mining (US\$ mn)

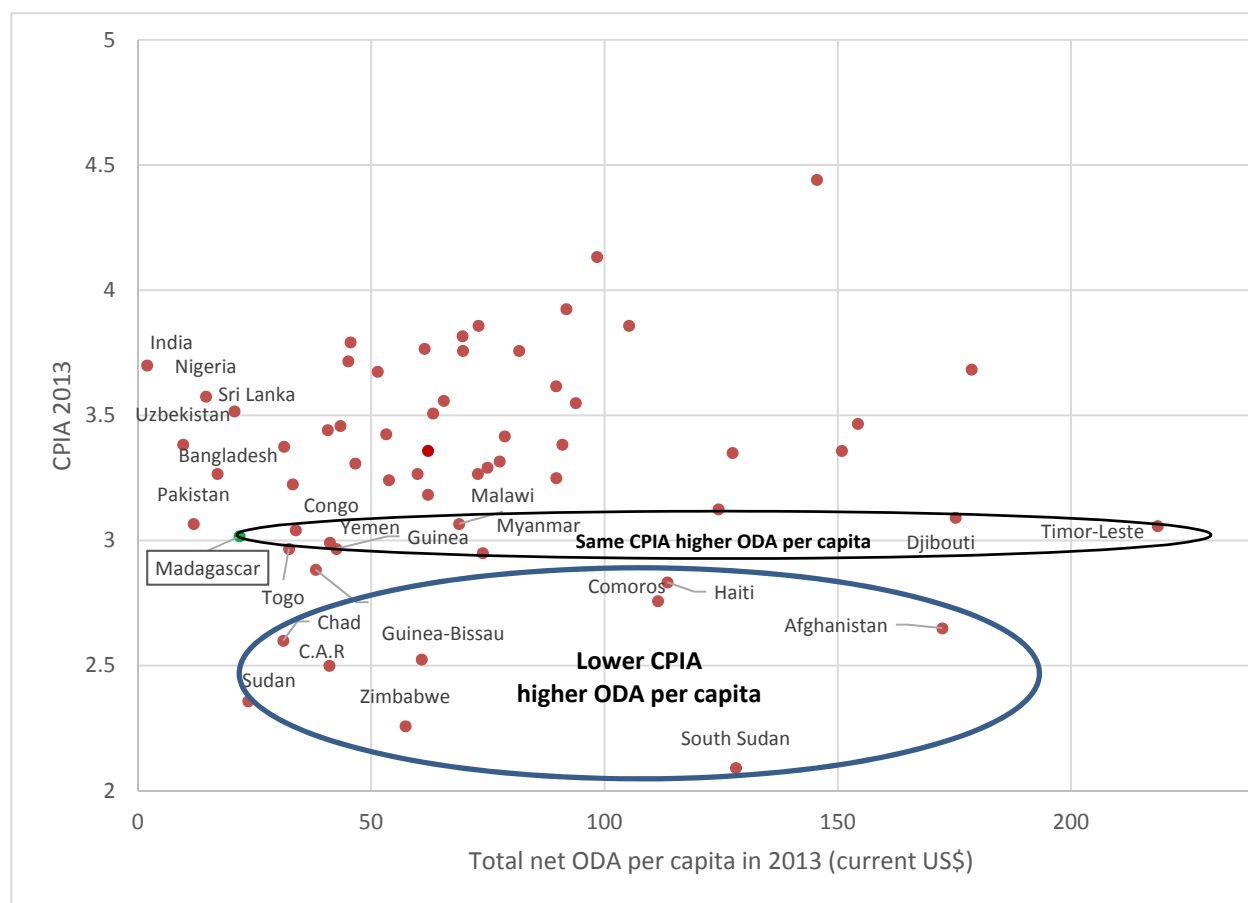
	2012	2025p	2035p
Royalties	3.4	15.7	15.7
Corporate Taxes (less investment tax credit)	2.9	0	0
Minimum Corporate Taxes	0	2.45	2.84
Withholding Taxes on Dividends	0.73	0	0
Non-refundable VAT(food and mobile fuels)	0	9.2	8.2
Professional Taxes	2.4	8	8
Customs Duties and Import Taxes	0	1.8	1
Foreign Transfer Taxes	2	2.4	2.4
Total revenue from mining (in US\$ million)	11.5	39.5	38.1
Central Government revenue from mining (in US\$ million)	9.1	28.6	27.1
Total revenue from mining (as a percentage of tax revenue)	0.9%	0.9%	0.4%
Total revenue from mining (as a percentage of GDP)	0.09%	0.13%	0.07%

Source: Mining revenue forecasts from Economic contributions from industrial mining in Madagascar (World Bank 2015) and staff estimates.

Note: The projection scenario includes the existing projects QMM, Ambatovy and Kroama

59. Tax expenditures are estimated to be large at 3 percent of GDP. Tax expenditures proliferated during the crisis. The EPZ is legal, but since the application decree to implement the Law establishing the zone (adopted in 2007) has not yet been issued, its implementation in practice has been haphazard. For example, the list of EPZ firms are kept by several entities for different purposes, such as the Customs Administration and Large Enterprise Department of Ministry of Finance, Economic Development Board of Madagascar (EDBM), and Ministry of Commerce, and the lists do not match. More than 50 firms operating under the EPZ regime in 2013 according to the EDBM list, did not have a tax identification number, even though EPZ firms do have tax obligations, such as corporate income tax after the initial tax haven period is over, social security tax and VAT on the portion of their merchandize sold domestically. Other types of exonerations were also granted on a case by case basis, rather than based on a systematic application of a set of well-defined and transparent criteria. This practice can be open to abuse, and be used as a mechanism to grant favorable status to those who are well-connected. The magnitude of tax expenditures is not assessed systematically by the authorities, but they have been estimated at 3 percent of GDP in 2014.

Figure 22: Madagascar's ODA per capita is the second lowest among countries with CPIA around 3 in 2013*

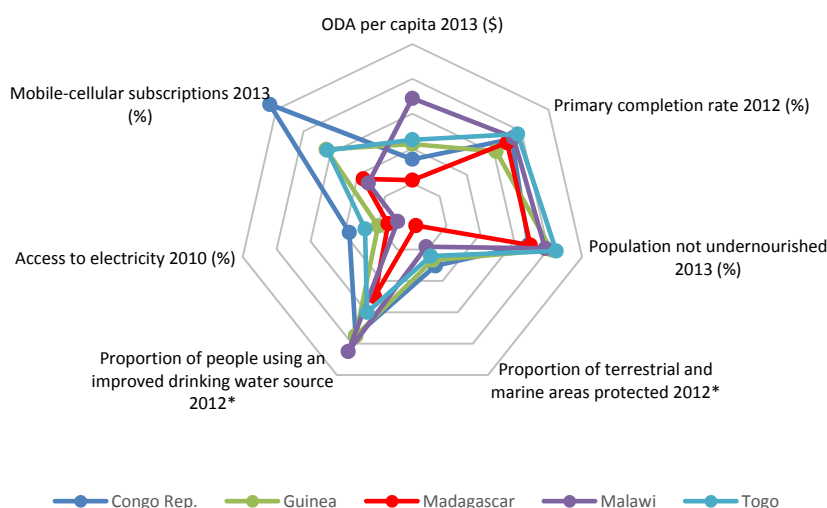


Source: WDI, World Bank.

*Country Policy and Institutional Assessment (CPIA) covers most of IDA countries (low income and lower-middle income countries). Sao Tome y Principe, Solomon Islands, Kiribati, Samoa and Cabo Verde are out of the graph.

60. **Madagascar also receives relatively little financing from development partners, much lower than its Country Policy and Institutional Assessment (CPIA) and development level would suggest.** At US\$21.8 per capita, Madagascar receives much less Official Development Assistance (ODA) per capita than other countries with similar CPIA ratings (see Figure 22). There are 10 countries with CPIA ratings similar to Madagascar's, but only one country (Pakistan) has lower ODA per capita, possibly a result of very large population. In fact, there is a large number of countries that have lower CPIA ratings but have higher ODA per capita. This cannot be explained by better development outcomes, as can be seen in Figure 23, which shows that Madagascar has some of the lowest development outcomes among countries with similar CPIA scores, but also lower ODA per capita.

Figure 23: Overall, lower development indicators than countries with similar CPIA, but lower ODA per capita in Madagascar

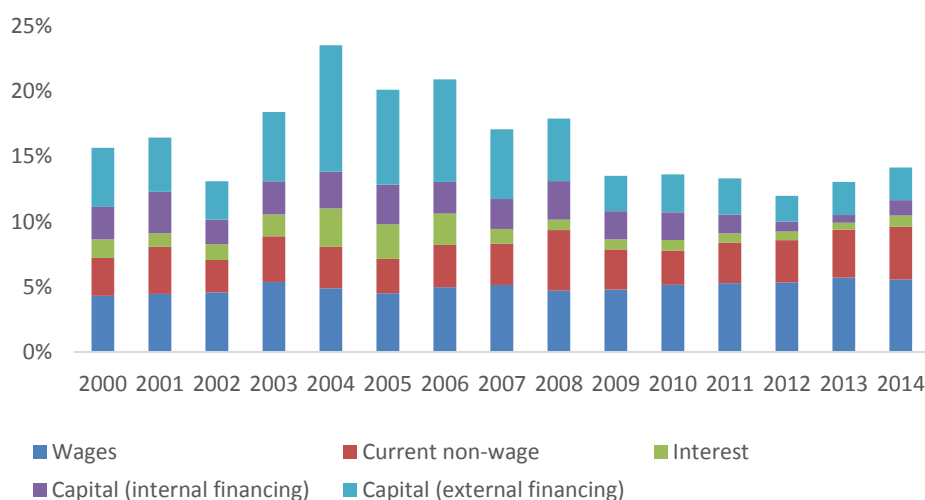


Source: WDI, World Bank. *Source: UNSTAT Millennium indicators, UN.

UNDER-PROVISIONS OF SERVICES BY THE PUBLIC SECTOR

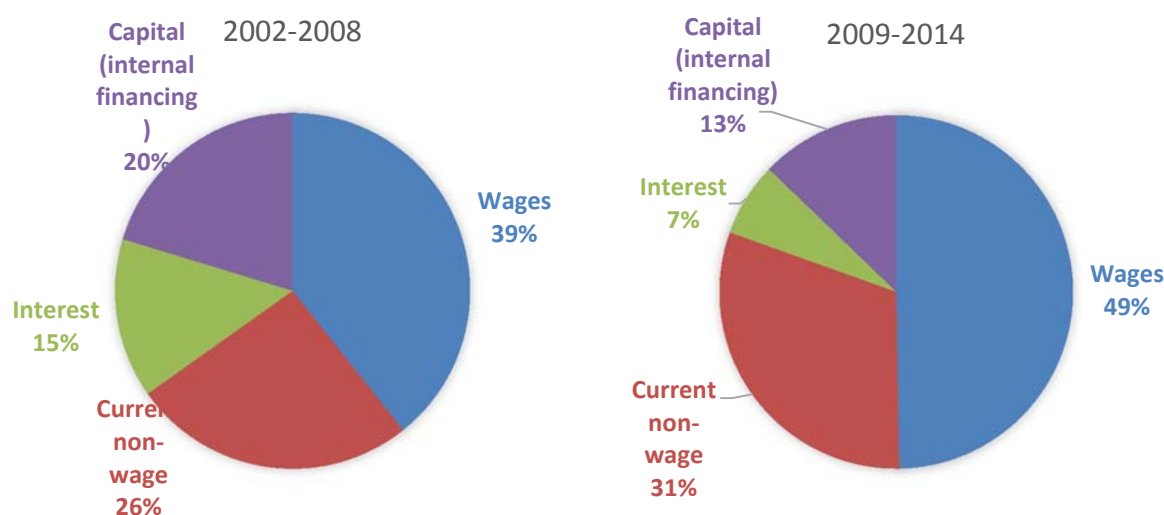
61. **During the crisis Madagascar cut spending on social services and investment to maintain macroeconomic stability.** Maintenance of macroeconomic stability throughout the last crisis has been a remarkable achievement. The fiscal authorities maintained it by drastically cutting social spending and capital investments to cope with low tax revenue: expenditure declined from the peak of 23.5 percent of GDP in 2004 to the trough of 12 percent in 2012. The country has traditionally relied on aid inflows, but this source fluctuates with political stability as well as external factors: externally-financed public investments accounted for the bulk of the decline in expenditure (Figure 24).

Figure 24: Expenditure breakdown (% of GDP)



Source: Ministry of Finance and Budget (MFB)

Figure 25: Breakdown of domestically-financed expenditure (period average)



Source: Ministry of Finance and Budget (MFB)

62. **A large share of the government's budget is allocated to public sector wages, and a substantial part of discretionary spending is allocated to highly regressive subsidies on fuel and electricity.** Over 40 percent of public resources are allocated to the civil service wage bill, including pensions. Yet, the wage bill as a share of GDP is relatively low, and Madagascar has fewer public employees per 1,000 population compared to the SSA average (Table 11). In 2012 and 2013, about a third of current discretionary spending (total expenditure excluding wages, debt service and investments) was allocated to subsidies on fuel and electricity. This share is estimated to have increased to almost a half in 2014. These subsidies are regressive, as 97 percent of the direct fuel subsidies accrue to the richest 10 percent of the population, and only 14 percent of the population has access to electricity.³²

Table 11: Comparison of wage bill (2013)

	Wage bill ratios			Public employees per 1000 population
	% of GDP	% of Revenues	% of Expenditures	
Average - Southern Africa	6.4%	33.5%	26.1%	10
Madagascar	5.7%	54.5%	42.5%	6

Source: Ministry of Finance and Budget, and staff estimates

³² The 14% of the population with access to electricity is not necessarily the richest 14%, but analysis shows that electricity subsidies are highly regressive (World Bank 2014 Program Document for Reengagement Development Policy Operations (DPO), Report No. 90809-MG).

63. The capacity of central government administration is not low, although it has been weakened through a combination of patronage-based appointments and limited capacity building. During the crisis, retirees were not replaced systemically, appointments were made through patronage and training to maintain capacity was not provided. Establishing a clear strategic orientation for managing public administration would help restore its performance. In an indication of poor management, the exact number of civil servants remains unknown; there is a significant discrepancy between the number reported by the Ministry of Finance and Budget (MFB) and that by the Ministry of Public Administration.³³ Its civil service is over-concentrated (nearly 29 percent of total) in the Analamanga region where the capital city is located, where 15 percent of the population lives.

64. The Government has managed public debt well, although little is known about contingent liabilities that could be accumulating. The government also has a track record of managing its debt prudently, partly as a result of scarce concessional financing and lack of access to international markets and partly because it has cut expenditures instead of resorting to deficit financing when faced with a decline in resources. It should be noted, however, that there is no systematic data on contingent liabilities and informal debt, stemming from out-of-circuit expenditure, public pension obligations³⁴ and liabilities of state-owned enterprises, and extra-budgetary expenditures whose legality is questionable.

65. The Central Bank has maintained price stability, but its independence has been eroded during the crisis. The Central Bank has maintained price stability and reduced inflation during the last crisis. Its independence was eroded over the same period, however, as it was forced to give preferential exchange rates to petroleum companies to support the government's fuel subsidy program, and to grant increasing statutory advances to the government (although still within the legal limit).

66. Madagascar has made progress in public financial management reforms with a number of initiatives to improve transparency and accountability. Public financial management has been improving as a result of a series of reforms in budgeting, procurement, treasury and cash management over the last decade. The 2014 Public Expenditure and Financial Accountability (PEFA) self-assessment showed that the country has improved budget credibility regarding revenue forecasting. Efforts have also been made to improve budget transparency with the regular publication of quarterly budget execution reports on the Minister of Finance and Budget (MFB) website within a month of the end of the period, although annual execution reports are not made public (see below). The completion of the first Open Budget self-assessment in July 2014 is an additional step in the right direction. Government has also joined the Global Partnership for Social Accountability (GPSA) in October 2014.

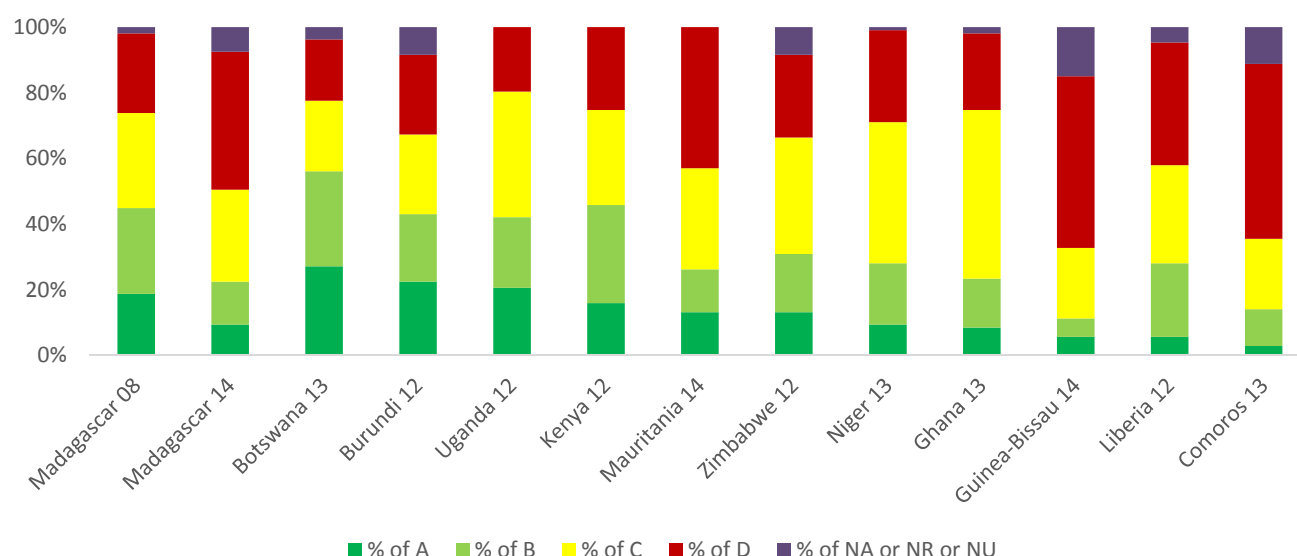
67. While the regulatory framework and technical solutions for public finance management have improved, implementation of reforms has been weaker. The reforms have not delivered

³³ *Second Projet de Gouvernance et de Développement Institutionnel - Rapport Final de Contrôle Physique des Effectifs*, 2008.

³⁴ Contingent liabilities stemming from the public pension obligations and transfers to formal sector pension scheme (CNaPs) are being studied during the Country Partnership Framework (CPF) period.

the results expected because the rules are often circumvented to cope with the shortage and unpredictability of cash flow by resorting to extra-budgetary spending, or to accommodate the well-connected. An evaluation of expenditures shows mismatches between budget previsions and execution, both on the amounts and composition; the first has been poor historically (the score of D in both years) but the second saw a significant deterioration during the crisis (from A in 2008 to C+ in 2014). Budget information available is not exhaustive (no change in scores between 2008 and 2014), and budget preparation lacks credibility due to inadequate participation by sectoral ministries (deterioration). Extra-budgetary expenditures are common (deterioration), creating windows for abuses. The procurement processes remain opaque (deterioration), allowing domination of the market for state contracts by a limited number of firms. There are major delays in preparing the annual consolidated accounts and their audits by the Accounting Agency (*Cour des Comptes*): the last audited consolidated public accounts (*Loi de Règlement*) brought to the Parliament for approval were those for 2008 (no change in scores).

Figure 26: PEFA scores in SSA 2012-14



Source: PEFA reports (various years)

68. Participatory budgeting at the local level has been a success with avid participation by citizens. Participatory budgeting is one way for citizens to influence public policy decisions. It has been implemented successfully in some communes (the lowest level of government) starting with pilot programs introduced in 2004 and progressive scaling-up to include a total of 122 communes by 2014. Malagasy citizens mobilize when given a chance³⁵: 36.6 percent of citizens attended the initial fora where budget priorities were discussed in each commune. This result contrasts with other countries, for example, in Porto Alegre in Brazil, where participatory budgeting has been implemented for about 20 years, average attendance rate is only 3.3 percent. A subsequent survey in 2014 noted an attendance rate of 26 percent, which is one of the highest in

³⁵ World Bank study on participatory budgeting (2010)

the world. Analysis suggests that the rate of citizens feeling that their opinions are taken into account by local leaders is significantly higher in communes where participatory budgeting was implemented than in those where it was not.

69. Decentralization could be a programmatic option for a country as vast as Madagascar, and it has been on the political radar screen for a long time, but most public finances and decision-making remain highly centralized. The success of participatory budgeting at commune level and other countries' experience seem to indicate that moving public decision making closer to the people by decentralizing may be useful in making policies more responsive to ordinary citizens' needs. Successive governments in Madagascar have discussed and promised decentralization since at least the 1990s, yet most public finances and decision-making remain centralized. The constitutions of 1992 and its amendments, a 2006 policy paper, legislations adopted in 1994 (Law 94-01 and 94-007), the creation of the Local Development Fund (*Fond de développement local - FDL*) in 2007, the latest Constitution and the recently adopted decentralization Code 2014-018³⁶ outlined ambitious steps for decentralization, but few of them have been implemented so far.

70. Disarticulation has opened the door for experimentation and service delivery at the local level during the crisis. Citizens and officials at the commune level reacted with creativity and resilience to the shortage of fiscal resources from the center during the crisis years 2009-13. It led to some *ad hoc* decentralization, though not on the path spelled out in the Constitutions and the laws. Local governments have sometimes taken matters in their own hands in the areas of education, land management and taxes. They also negotiated some mining royalties, despite the stipulations of the Mining Code. A few places have made impressive progress on the strength of their economic situation and the personality of their leaders, but most have too few resources to do much, or have used their resources less well and done very little for development.

3.2 Opportunities and recommendations

71. The main priority for strengthening public finances and the delivery of public services would be to increase government revenues. Increasing revenue is a prerequisite for improving public service substantially. The underlying causes of low revenue reflect most elements of governance challenges facing the country, be it special treatments of well-connected individuals, insufficient enforcement of law and order, or a marked lack of citizens' confidence in the public sector. Hence, efforts to increase tax revenue could serve as a lens through which to assess progress in forging a more sustainable and inclusive future with higher economic growth. Regaining the lost ground during the crisis will be an uphill battle, as bad habits are difficult to remove once they become entrenched; it is always easier not to give special treatments in the first place than to try to take them away from those who are enjoying them already. What is needed are behavioral changes and a willingness to demand even well-connected businesses to contribute

³⁶ The new legislation on decentralization adopted in October 2014 excludes the specific legislation on municipalities with "special status," including the nation's capital, Antananarivo. The proposed legislation for municipalities with "special status" currently debated in Parliament proposes a partition of Antananarivo, which is controversial and is perceived as a political move in anticipation of the next communal elections not yet scheduled, but anticipated to take place in 2015.

their fair share to the public treasury. Professionalizing the revenue-collecting administrations, and creating an incentive structure compatible with upholding the laws are also indispensable. Technical upgrades would only be productive if there is a political will to implement these reforms and agents are incentivized to follow them through.

72. Establishing or reinstituting budget oversight mechanisms that were weakened during the crisis is a priority for the expenditure side. This would include, among others, operationalizing the system to investigate, prosecute and sanction wrong doing by civil servants; auditing and publishing of the financial accounts of the government; enforcing rules for procurement to assure value for money; and cleaning up the extra-budgetary procedures tolerated during the crisis.

73. Improved service delivery will also require a better incentivized civil service – efforts should therefore focus on strengthening the civil service. Madagascar needs to develop a strategy to manage its civil service, which is aging and gradually losing technical expertise. Developing a human resource management strategy is a priority, starting with the establishment of a single roster of civil servants, which will also help plan for future pension liabilities. The strategy should also re-examine the location of civil servants, who have traditionally been highly concentrated in the capital.

74. To increase public investment even at a time of limited fiscal resources, Madagascar could consider expanding PPPs. Madagascar has gained experience in the past few years with the implementation of a number of PPPs, focused on the telecommunications, energy and transport sectors. Private sector participation in infrastructure through PPPs amounted to US\$853 million in the last 23 years (1990-2013)³⁷. Private participation was largest in the telecom sector, with US\$757 million, followed by transport with US\$79 million (3 projects including airport, railroad and seaport) and energy with US\$18 million. Experience from other countries shows that managing PPPs can be complex and involves important risks: it requires a strong capacity to negotiate balanced contracts, and to monitor and enforce them. Still, PPPs can be particularly attractive for Madagascar, as the country has few other options at its disposal for increasing investments.

75. The government has identified setting up a PPPs framework as a priority to develop infrastructure services and boost economic growth. The regulatory framework is being revised and consultations on a draft law are ongoing. In 2008, a national strategy, a global PPPs law and a bill on “*contrat de partenariat*” (a form of PPPs inspired from French PPPs legislation) were drafted by legal consultants and a PPPs ad hoc committee was tasked with elaborating the associated decrees. The draft PPPs law clarifies roles between the different ministries, providing the Ministry of Finance with approval rights at different stages of project preparation to ensure affordability and management of fiscal exposure. The PPPs Unit to be created within the State Minister for Infrastructure (MOI) will assist contracting agencies with the selection of projects, preparation and procurement of PPPs projects, particularly where capacity is weak (e.g. at the subnational level), supervision of project implementation as well as capacity building. Contracting

³⁷ PPI Database

agencies will be responsible for the identification, appraisal, development, and monitoring of project implementation.

76. Decentralization also provides opportunities for improved revenue collection and services delivery. One avenue for potentially attaining higher tax revenues and improving service delivery is fiscal decentralization. The principle of subsidiarity states that public service should be provided by the lowest logical level of the government. The entity providing the service may have a better chance of convincing taxpayers to contribute, provided that there is sufficient potential for revenues (in the medium term) and capacities are improved. Many areas of the country are predominantly agricultural, and are likely to have a limited potential for tax collection. An accompanying system of transfer and equalization fund will need to be operational for economically disfavored regions/communes for a decentralized system to function properly. Elected local governments with more autonomous sources of revenue and empowered to make policy decisions would be more resilient, and could continue to function, even when the central government experiences political crises. Local Development Fund (*Fonds de Développement Local*) offers an opportunity for encouraging a performance-based culture in which municipalities receive transfers from the central government based on their performance against verifiable criteria, such as schooling outcomes, forest conservation, health outcomes and so forth.

77. Natural resources offer a significant opportunity to increase government revenues but there is a need to improve transparency in regulating the sector. Madagascar's rich natural endowments represent an opportunity for the country, and a potential source for government revenue, but they also pose a governance challenge as the experience of other resource-rich countries shows. Madagascar should strengthen transparency in regulating the natural resource sector. There is also a need to strengthen the capacity to enforce existing laws, urgently for renewable natural resources sectors such as forestry. Enhancements are needed in multiple facets to improve law enforcement, such as technical capacity of the front line officers to understand the law and pedagogical expertise to enforce them, financial resources to carry out the necessary surveillance and investigations, and a functioning penal chain to prosecute wrongdoers and to discourage potential ones.

78. As the government prepares to amend the petroleum and mining codes, there will be trade-offs in the country's efforts to benefit from its natural resources. For example, the Law on Large Mining Enterprises stipulates lower royalties if the enterprise is engaged in transformation activities in Madagascar instead of exporting raw materials. The lower rates were designed to promote local employment and diversification of activities. Besides the question of whether these intended outcomes are likely to materialize, there is also a case to be made for a careful weighing of the trade-offs between employment and activities in specific areas around the mines on the one hand, and higher tax revenue which might be used for the benefit of a larger segment of the population on the other. The choice is subject to preferences and judgment call, and should be debated widely and transparently among stakeholders. That the government is pondering the future role of the extractive sector now represents an opportunity, as it is still early

days for the sector's development: despite the abundance of endowments and a large potential, the extractive sector currently represents only a few percent of GDP.³⁸

79. **Stability of rules, especially those related to taxes, is very important to investors**, and the Malagasy authorities did well to resist reneging on the Law on Large Mining Enterprises (although the mining company did encounter numerous difficulties during the Transition period). A reasonable assurance that professional administrations can continue to function even during crises allowing investors to pursue their business activities would go a long way in convincing potential investors to invest. It would also help preserve gains in the form of employment and accompanying income generating activities.

³⁸ The estimated contribution of the extractive sector to GDP is too low, as GDP is still calculated with 1984 as the base year. Rebasing to a more recent year would increase the contribution, possibly 2-3 fold, but the sector would still not be the predominant one in the country.

Chapter 4. Private sector

Summary:

- *The main constraints for private sector development include weak governance and the frequent political crises, a poor business environment as well as poor access to social, financial and physical infrastructure. A partial justice system and uncompetitive market structures in many sectors adversely affect the private sector.*
- *Access to electricity is among the lowest in Sub-Saharan Africa. Delays and costs of obtaining an electricity connection are onerous, affecting competitiveness. Weak government capacity to supervise the sector, poor governance of the sector, and underperformance of the electricity company are obstacles to improving access to electricity.*
- *The financial sector has shown remarkable resilience during the crisis, but its level of financial intermediation is limited. Long term financing is largely unavailable and costs remain high. Access to finance remains a major constraint, particularly for small and medium enterprises (SMEs). Insurance and capital markets remain small.*
- *Increasing financial intermediation will require interventions to improve the supply of finance – promoting competition and product innovation; the demand of finance – improving firms' business plans; as well as financial system improvements, such as the creation of a credit bureau and collateral registries. Increasing access to finance for SMEs will require innovative products, such as increased use of mobile money, and improving financial literacy.*
- *Transportation services represent a major constraint for the country's competitiveness. To improve the sector's performance, the government will need to prioritize between maintenance, rehabilitation and investment in transport infrastructure in the short term. In the medium term, the government should prepare a medium term investment plan that helps the country invest scarce resources in the most productive infrastructure.*
- *Despite these challenges, Madagascar's private sector harbors significant opportunities, particularly in sectors that can leverage its potential for labor, natural resources, international and regional trade treaties.*

4.1 Diagnosis

80. **Growth is constrained by weak governance and a poor business environment, recurrent political crises as well as poor access to social, financial and physical infrastructure.** The private sector is and will be the engine of growth in Madagascar. The country has diverse endowments, and the private sector (outside of agriculture) is small but diversified, which is an asset for stability. But the business environment is constrained by strong administrative red-tape favoring back channel relationships, back-hand rewards and unfair practices. Disruptions caused by the recurrent political crises make long term planning difficult and investments riskier, especially for those without connections. The private sector is also constrained by poor access to social, financial and physical infrastructure.

A RESILIENT PRIVATE SECTOR OPERATES IN A DIFFICULT BUSINESS ENVIRONMENT

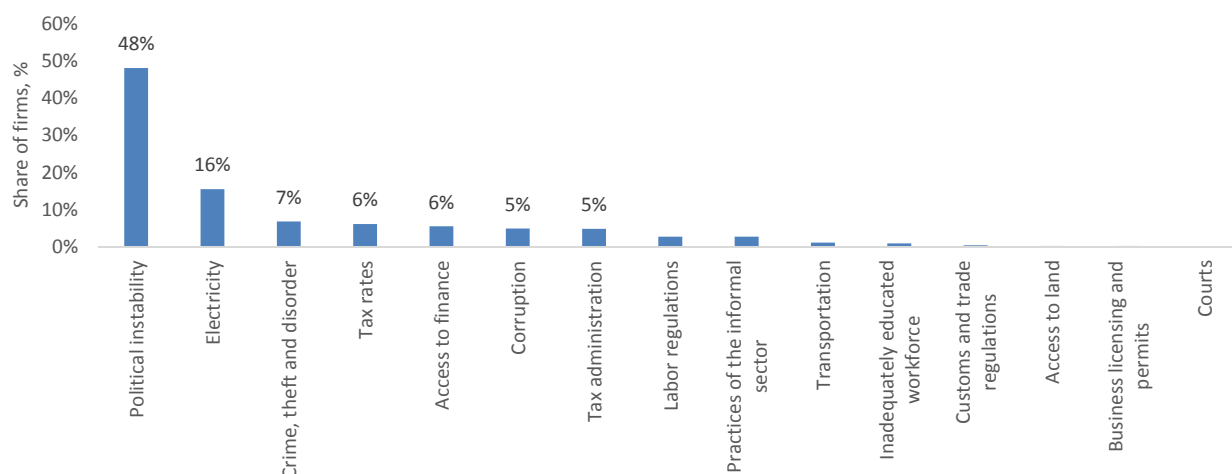
81. **Investment climate reforms prior to the 2009 crisis had started to create a vibrant private sector.** Madagascar's private sector is small, fragmented and suffers from a highly restrictive and uncertain policy and regulatory environment. Earlier waves of investment climate reform before 2009 had begun to create a vibrant private sector, assisted by the liberalization of the telecoms, rail and petroleum distribution and logistics in the early 2000s. A new Investment Law and Export Processing Zone Law were adopted in 2007 and 2008 respectively. These measures catalyzed the emergence of tourism, garment, construction, fisheries and Information and Communication Technology (ICT) sectors.

82. **The crisis had a devastating effect on the private sector with a large number of investors and professionals moving abroad.** The policy gains described above were not sustained, and have given way to an unpredictable environment in the wake of the 2009 political crisis. The economy suffered a sharp decline in 2009 followed by economic stagnation in 2010-14. During the crisis, many firms exited the market or introduced some form of parallel trading with cash transactions (i.e. no VAT invoices), and others opted to join the informal sector, resulting in a decrease in formal employment. One of the direct casualties of the crisis was the loss of AGOA privileges, which affected the viability of the textile and garment export oriented sector. Many investors and professionals shifted their activities opportunities elsewhere.

83. **The return to the constitutional order has not resulted in a revival of investments due to the prevailing poor business environment and degrading infrastructure.** Though business opportunities have been identified in several sectors such as agro-industry, infrastructure, services (e.g. tourism), and mining, the investments by the private sector remain limited. The lack of appetite appears in part due to the sluggish improvements in the business environment and unstable political situation, and also in part due to lack of complementary infrastructure.

84. **Madagascar is one of the most difficult countries in the world in which to do business, according to surveys such as the Doing Business and Enterprise Survey.** The 2013 Enterprise Survey noted that nearly half the firms cited political uncertainty as the most severe constraint (Figure 27). The grant index, a measure of corruption, at around 25 percent is well above the Sub-Saharan African (SSA) average of around 20 percent. *Doing Business 2015* ranked Madagascar 163rd out of 189 countries assessed, down from 157th the previous year. Madagascar has made very little progress over the last five years on improving its performance. The most critical constraints identified by *Doing Business 2015* were “getting electricity (189th, i.e., the lowest among all the countries assessed)” and “getting credit (180th).” In addition, Madagascar fared poorly in “dealing with construction permits (177th),” “registering property (153rd)” and “enforcing contracts (146th).”

Figure 27: Main constraints to operation and growth as identified by formal firms



Source: Enterprise Survey 2013-2014

85. A partial justice system and uncompetitive market structures in many sectors affect the private sector and the country's competitiveness. Investors have also expressed little trust in the justice system, citing quasi-impossibility of winning even obvious cases in the courts of justice without paying bribes to judges as one of the factors increasing costs of doing business in Madagascar. As a result, few people take a case to the court.³⁹ There is a strong perception that the laws are not enforced equally. Business groups with close historic ties to politicians have a strong presence in most sectors. These groups operate in multiple sectors and maintain *de jure* or *de facto* monopoly or oligopoly power in some, such as the railway and air transport. The government is not setting the right regulatory and administrative framework, creating instead high barriers to entry. While this situation is not unique to Madagascar, it is clear that such a market structure reduces business opportunities, investments and therefore growth.

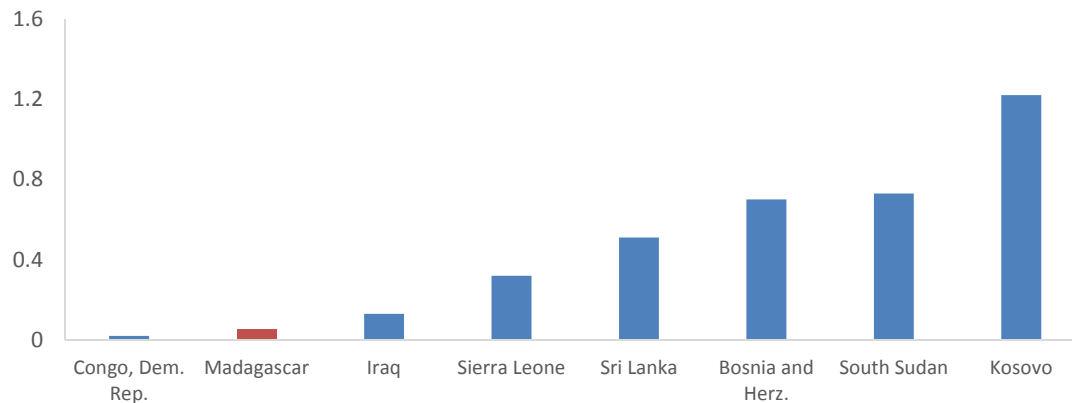
86. More generally, the statutory rules, as codified by laws and regulations, and practices often diverge in Madagascar. For example, the Competition Law (No 2005-020) was adopted in 2005, but its implementation decree (No 2008-771) was not issued until 2008. The statutes of the Competition Council, the main enacting body of the Competition Law, were only adopted in 2014, and the Council has not adopted any decision to date. Moreover, the implementing decrees referenced in the Law have not been approved yet (e.g., the *ex-ante* merger control regime is still not in place). The delay in implementing the enforcement body and instruments is in part due to the political crisis (2009-2014), but also seems to have been associated with lobbying from the industry groups, fearing that the Competition Law could threaten their economic positions in Madagascar.⁴⁰

³⁹ Source: World Bank (2012) *Political and Social Dynamics in Madagascar: Implications for the Design of a New Multi-Sector Program*.

⁴⁰ <http://www.xchange-madagascar.com/actualites/index.php/conseil-de-la-concurrence-enfin-les-statuts-definis/>

87. **The formal small and medium enterprise (SME) sector in Madagascar remains small.** The country has among the lowest rates of new firm entry, as measured by the Global Entrepreneurship Database, ranking just above Democratic Republic of Congo (DRC) with 0.05 firms per 1,000 people, and well below a number of other conflict-affected states (Figure 28). Smaller firms have developed sources of resilience to the risky environment, including resorting to informality and informal payments to circumvent regulatory barriers.

Figure 28: New firms created* (2012) selected comparators

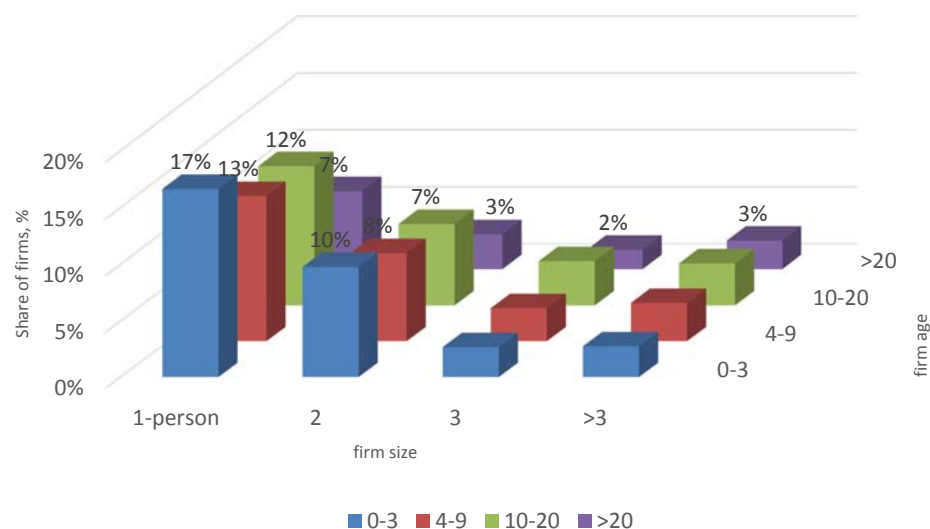


Source: Global Entrepreneurship Database

*number of limited liability firms (*Sociétés Anonymes à Responsabilité Limitée*) per 1,000 working-age person

88. **Informal firms do not formalize over time.** There is a very large share of small informal firms and this share of 1-person firms is constant at around 72 percent for firms with under 3 years and over 20 years of activity, as well as everything in between. There is no marked drop off in informality with the length of the firm's life: about a fifth of the informal firms surveyed had been in business for over 20 years.

Figure 29: Micro firms dominate the informal sector even among old firms



Source: Author's calculations using MIES 2012. Graph shows the share of firms by age and size group

89. **A large share of informal firms do not think there are any benefits from formalization – complexity and costs of procedures seem to be important constraints to formalization.** When asked to report their needs for various business support services such as technical training, support to access credit, assistance to have better access to market, a majority of the firms did not express a desire for support services to help them solve their challenges underscoring their isolation and unwillingness to interact with formal institutions. Forty percent of firms responded they would be willing to formalize their businesses, but the stated willingness to formalize may not be an accurate reflection of reality as only 6 percent of firms have actually tried to formalize in the past. Twenty nine percent of informal firms think there is no benefit to formalization. Most common perceived benefits of formalization are the ability to have “better location in the market” (25 percent of firms) and thus afford and enjoy the advantages of being more visible, followed by “better access to credit” (17 percent) and “being able to sell to large firms” (10 percent). The complexity and cost of procedures are important impediments to firm formalization.

90. **Informality does not shelter business from taxation, as many informal businesses do pay “taxes” to local governments.** Interviews with informal businesses showed that small fruit merchants along the RN7 pay 1,000 Ariary per week to the municipality, a retailer of artisanal goods pays 40,000 Ariary to the regional government, while a small bicycle repair shop owner pays 100 Ariary per day to the commune. These payment schemes are adapted to the income streams of informal businesses, but are often a significant share of their sales and net income. Moreover the lack of clear local tax laws undermines the transparency of tax obligations local institutions put on informal businesses.

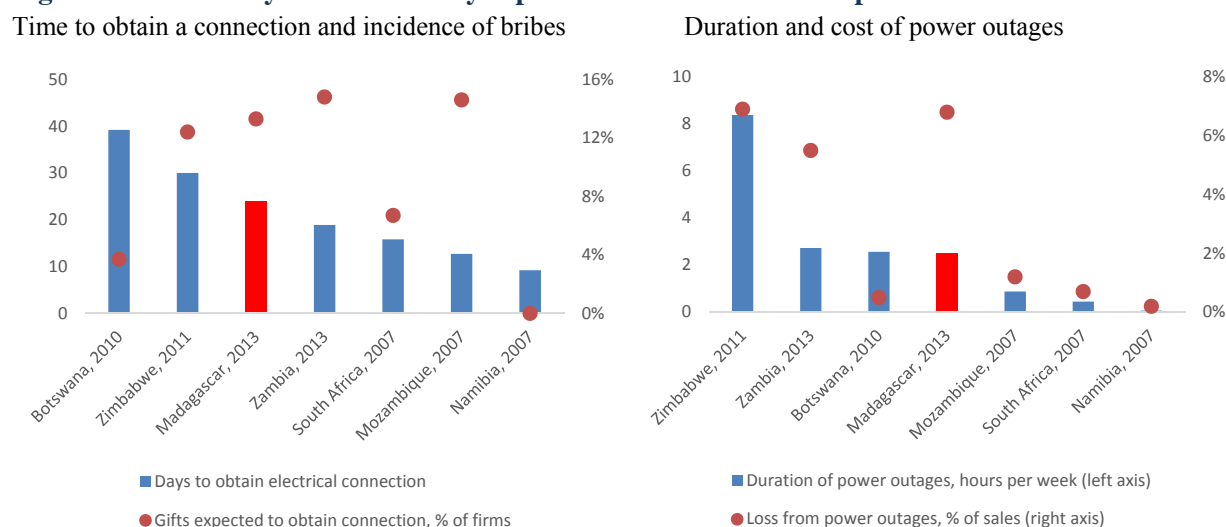
91. **Availability of electricity is a major impediment for investors and has a significant impact on competitiveness.** Only 14 percent of the population had access to electricity in Madagascar in 2010, lower than many comparator countries. Firms in Madagascar have to wait 24 days to obtain an electricity connection upon submission of their application, compared to 16 days in South Africa and 19 days in Zambia (Figure 30). Corruption to get electricity connection is also apparent with 13 percent of firms saying that gifts are expected to complete the process. Once connected, firms receive poor service relative to regional comparators. They experience over 6.7 power outages per month of an average duration of 1.5 hours which is about 2.5 hours per week. The impact on businesses is large; the average firm loses the equivalent of 7 percent of its sales because of power outages compared to 6 percent in Zambia and 1 percent in South Africa.⁴¹

92. **Difficult access to electricity is a consequence of three factors: weak government capacity to supervise the sector, poor governance in the sector as well as the poor performance of the state-owned enterprise in charge of urban electricity.** First, the supervising ministry lacks the capacity to carry out sector planning and implementation in all segments, in particular in energy generation, which result in suboptimal choices and high costs for the country. Second is poor governance and unclear allocation of responsibilities to sector players. Third, but not least, the poor performance by JIRAMA, the state-owned electricity and water company. The company’s financial position deteriorated significantly between 2010 and 2013 due

⁴¹ These calculations do not incorporate the incidence and impact of variations in electricity voltage which are significant for firms according to interviews with entrepreneurs and managers of textile plants.

to declining operational efficiency, poor management of its assets and theft of fuel, and high non-technical losses (unbilled electricity consumption) and rising price of inputs, primarily imported fuel (prior to the recent bout of lower fuel prices). JIRAMA has increased the use of expensive oil-based thermal generation, mainly running on diesel, to reduce the supply gap in the short term, even though the use of diesel for electricity generation is incompatible with sustainable development of the power sector. As a result of its dire financial situation, the company has underinvested in network maintenance and rehabilitation/upgrade, which in turn results in high technical losses and exacerbates its financial difficulties. The government has provided large transfers to fill the increasing financing gap of the company at a high opportunity cost of foregoing more productive investments.

Figure 30: Electricity service delivery is poor and undermines firm performance



Source: World Bank, Enterprise Surveys, various years

93. The financial sector has shown remarkable resilience during the crisis but its level of financial intermediation is limited. The sector can be considered to have a low level of capitalization, high sector and client risk concentration, and has a narrow product offering, resulting in low levels of financial intermediation: the depth of the Malagasy's financial sector is lower than the Sub-Saharan African average despite high levels of bank liquidity. Yet the total number of financial institutions has continuously increased over the past five years now reaching 11 banks, 6 Non-Banking financial institutions (NBFI) and 30 microfinance institutions. However, the high asset concentration index for the three largest banks (at 93 percent at end-2013) signals potential systemic risks and general lack of competition. Total assets of the financial sector represented 23 percent of GDP at end 2013.

94. The financial system continues to be broadly stable but its supervision needs to be reinforced. The majority of banks adhere to the Basel core principles as of end June 2014. The average risk weighted capital adequacy ratio was 16.1 percent at the end of 2013 and declined to 14.8 percent at end June 2014 but it is still well above the minimum requirement of 8 percent. The liquidity levels in the system, despite a decrease in the ratio of liquid assets/deposits and short term funding from 54.3 percent at end 2012 to 45.2 percent at end 2013, remain above the SSA average

of 33.8 percent. The banking system remains very profitable, with a Return on Equity at 24.8 percent in 2013 (from 19.8 percent in 2012) against a regional average of 17.1 percent.

95. Long term financing is largely unavailable and financing costs remain high. The banking sector has been very risk averse and relied mainly on collateral based lending. A slight increase was registered in the ratio of private sector credit to GDP (from 11 percent at the end of 2012 to 11.9 percent of GDP in 2013), but this ratio is still significantly lower than the regional average of 23.6 percent. Non-performing loans as measured by Banking and Financial Supervision Commission (CSBF) prudential rules reached 14 percent in June 2014, a relatively high level. This figure could be higher if measured under the International Financial Reporting Standards. The tertiary sector (mainly trade) and construction are the most exposed in terms of non-performing loans. Long-term funding is largely unavailable and banks have mostly a short-term funding structure. The high cost of lending further inhibits access to finance which has been specifically detrimental for the micro, small and medium enterprises as well as for households and consumers, all of them remaining strongly underserved by traditional banks.

96. Access to finance is a major constraint in Madagascar with access levels much lower than in the rest of Sub-Saharan Africa. Only 8.6 percent of adults aged 15 and older have an account (with a financial institution or mobile money service) compared to a SSA average of 34.2 percent⁴². Of these, only 5.7 percent have an account at a financial institution in 2014, showing very little progress from the 5.5 percent level of 2011 (versus SSA averages of 29 percent and 24 percent respectively). In 2014 only 3.3 percent of adults saved at a financial institution, and only 2 percent have borrowed from a formal financial institution despite 40 percent of adults declared to have saved money in 2014 and 57 percent of adults declared to have borrowed money in 2014 (of which almost 50 percent from family and friends). Access to formal financial services remains therefore a major challenge. Lack of risk mitigation tools, weak legal frameworks, poor infrastructure and a lack of efficient low-cost delivery mechanisms, among others, hinder banks and Microfinance institutions (MFIs) from expanding their services to the unserved population. Mobile accounts remain on the low side too, compared to SSA levels (4.4 percent of adults in Madagascar versus 11.5 percent in SSA).

97. The Malagasy microfinance sector has been growing rapidly in recent years, but some are facing difficulties. The number of MFIs has reached 30 (up from 25 in 2009) and the total number of clients has grown by 16 percent annually to reach a million in 2013. Clients are reached through a growing number of service points; 803 in 2013, up from 652 in 2009. Despite this growth and relative outreach, the microfinance sector is increasingly fragile. One deposit-taking MFI, TIAVO, is insolvent because of mismanagement and fraud. This has had a negative impact on several other MFIs that have deposits at TIAVO or have contributed to its financing. Another deposit-taking MFI, Boeny, is also facing serious difficulties because of a shortfall of funds as it did not receive expected government subsidies. There are strong indications that the difficulties extend beyond these two institutions.

⁴² Global Findex Dataset

98. The Malagasy insurance market is small and does not cater for the local private sector.

Insurance penetration remains low, mainly because the non-life products are geared for large corporations and not adapted to suit local micro, small and medium enterprises (MSME) business requirements and business constraints. On the microfinance front, the offer of micro-insurance products, especially for the rural population, is still limited. The regulatory framework for insurance is outdated and it does not cover micro-insurance activities.

99. Capital markets are also very limited. There is no corporate or municipal debt market in Madagascar and the fixed income market is limited to short term government securities. As of today, Madagascar lacks a sovereign rating by any of the three major credit rating agencies. There are no primary dealers in Madagascar and all investors (excluding foreigners) with a local currency account can access the primary and secondary government bond market. Secondary market activity has decreased considerably in recent years and liquidity is limited. Madagascar has no stock exchange and no derivatives market.

100. Madagascar's transport sector represents a major constraint for the private sector. The transport sector has a key role in connecting the domestic markets and to integrate with the rest of the world. In the early 2000s the government decided to focus its role in policy design and strategy development and signed a number of concessions for transport services delivery. Regulation and supervision of the sector was to be delegated to independent agencies. This shift was endorsed by development partners, who helped the government initiate in-depth institutional reforms and carry out investments, partly using PPPs. However, the 2009 crisis and the suspension of traditional donor support that ensued, led to slowing or suspension of the reforms initiated and investments planned or made. During the crisis period, even minimum repair and maintenance work fell short due to lack of resources. As a result, half of the secondary roads and two thirds of tertiary roads are classified to be in “bad condition,” although 88 percent the primary roads were in “good” to “moderate” condition in 2012 (see Figure 14). The performance of the troubled Air Madagascar, a *de facto* monopoly, is also a constraint for business people that need to traverse the large country, as well as for industries that depend on it, such as tourism.

101. Investments in telecommunications offer opportunities to mitigate the deficiencies of physical connectivity. Madagascar has improved access to international connectivity with the arrival of several submarine cables since 2009, and considerable investments have been made in access infrastructure to increase network coverage.⁴³ Madagascar's mobile broadband penetration of 0.4 per 100 inhabitants at end 2013, however, is among the lowest in the world (ITU, 2014). Basic services like telephony⁴⁴ are not as widely available in Madagascar as in other countries with more accessible and affordable voice services.

⁴³ Source: interviews with private operators, World Bank. More than 1000 antennas were deployed over 500 sites by mobile operators as of end of 2013. PICOM project funded by the World Bank designed to cover an additional 9% of the Malagasy population in rural areas by the end of 2015.

⁴⁴ Fixed and mobile teledensity reached only 28% of the population at the end of 2013. Sources: TeleGeography, World Bank.

PROMISING SECTORS FOR GROWTH

102. **Despite these challenges, Madagascar’s private sector has significant potential**, provided that some of the constraints can be relaxed. The following section presents a non-exhaustive list of promising sectors, and delves further into sector-specific manifestations of the challenges.

Table 12: Economic contributions of the “promising sectors”

Area	Contribution to GDP 2013 (%)	Direct employment (persons)	Exports 2013 (% of total exports)	Sources and notes
Textile and garment	3.2%	277,787	14.0%	INSTAT, Labor Force Survey (INSTAT) and ITC.
Agribusiness	5%	>250,000 h.h.	10.6%	Global Trade Analysis Project (GTAP) and ITC. Contribution to GDP is for 2011, and includes non-food agribusiness.
Tourism	6.0%	233,400	25.4%	World Travel and Tourism Council. “Visitor exports (foreign spending)” is used for exports.
Industrial fisheries	0.1%	4,830	5.2%	FAO (contribution to GDP and employment) and Ministry of Fisheries. Contribution to GDP and direct employments are 2011 estimates Does not include aquaculture.
Extractive industries	0.3%	12,500	16.2%	INSTAT, WB and IMF. Employment is 2012 estimate.

Source: Data for GDP are from national accounts (INSTAT) and total exports are from IMF.

103. **Textile and garment industries** are poised for a rebound, with the reinstitution of the AGOA benefits in 2014 (and if the extension of the Act is approved by the US Congress). Informal surveys indicate that it takes 1-2 years to start up an operation in these industries. Madagascar’s abundant and relatively literate workforce is well-suited for these industries. The attractiveness will be enhanced further with improved productivity of the labor force, better infrastructure such as roads and electricity, competitive freight costs and streamlined customs clearance. Streamlined customs processes are particularly important to the textile industry, which is more intensive in capital than the garments industry. A revival of the textile industry would open scope for vertical integration between the two industries and higher addition of value in Madagascar, and an avenue for shared prosperity. It should be noted, however, that an earlier study of these industries (Nicita 2006) found that the benefits from export-led growth had only a small impact on overall poverty reduction, as they accrued disproportionately to urban and semi-urban residents concentrated around Antananarivo, who have at least 8 years of education. Many of those who worked in this sector lost their jobs during the crisis as the firms closed, and quite possibly fell below the poverty

line.⁴⁵ Nevertheless, the recovery of the sector bodes well for those living in this area with the right qualifications.

104. **Agribusiness**, which is distinct from the subsistence farming in which the majority of the population is engaged, is another area of high potential for Madagascar,⁴⁶ provided that the incentive structure can be improved. Agricultural policies in Madagascar often do not serve the interests of the larger public but rather accommodate the needs of economically powerful and politically connected businesses. Examples include past efforts to impose minimum export prices for lychees and vanilla, as well as use of government-supported crop production campaigns to promote particular types of locally produced fertilizer. Farms are also subjected to extortionary practices by rent-seeking public officials. Such unfavorable business climate discourages private investment and starves smaller (and less connected) players of the financing needed to grow and diversify. In addition, faced with steep entry barriers erected at the urging of economically and politically powerful entrenched interests, private entrepreneurs have tended to shy away from agricultural markets in favor of more attractive opportunities elsewhere. Years of underinvestment have left agricultural markets underdeveloped, non-competitive, and all too often subject to manipulation by a small number of economically-dominant and politically-connected players. Other bottlenecks for expansion of the sector and increased productivity include a lack of skills and knowledge among producers, outdated production technology, inadequate aggregation capacity, specific rural infrastructure deficiencies, processing technology limitations, ill-equipped sanitary, agricultural, veterinary and other government services.

105. **Policy inconsistencies in the agriculture sector provide disincentives for large scale private sector investment.** Even the well-intentioned policies in agriculture sector tended to change frequently with changes in political leadership, but with a common feature of reliance on special initiatives, programs, and projects to provide immediate solutions to pressing crises. Many special initiatives and programs have been financially unsustainable (the most recent example being the crop intensification program launched during the 2008 *contre saison*). Market participants all along the supply chain frequently express frustration that government policies are inconsistent and counter-productive. The criticism is heard especially often in the rice sub-sector, where farmers, processors, and traders say they are discouraged by the unclear and conflicting messages being transmitted by the government through its statements and through its actions with regard to the production, importation, and trading of this strategic commodity.

106. **Rice policy implementation seems to favor a few large importers at the expense of smaller traders.** The rice market is essentially divided into two, imports and local (domestic) trade. As in many other African countries, the import sector is dominated by a few politically-connected companies, but there are also smaller traders that import container loads of rice. The few large companies dominate the market for imported rice (importing up to 300,000 tons, or 10 percent of total consumption), almost exclusively for urban centers. Some of this trade supplies government subsidized distribution programs where suppliers are paid full price. Other potential

⁴⁵ Significant shares of the workforce (50, 39 and 42 percent in 1997, 1999 and 2001, respectively) were already classified to be below the poverty line (Nicita 2006).

⁴⁶ Opportunities and constraints for agribusiness are being examined by the analytical work under preparation, which will be completed during the Country Partnership Framework (CPF) period.

suppliers are excluded from these programs. At the importation level, the formalities appear to serve only to escalate illegal practices and reduce competition. At the urban rice distribution level, the government rice subsidy program creates unpredictability and reduces transparency, discouraging potential importers of rice and diminishing contestability of the market.

107. The resilience of a number of export-oriented agribusinesses and rice markets suggests that, despite the discussed constraints, agribusiness continues to present opportunities for Madagascar. First, a substantial number of export-oriented agribusiness value chains have survived, and/or have developed, during recent years. Madagascar continues to be a major supplier of vanilla, vanilla extract, cloves, clove oil, lychee, and pepper in world markets, including Fair Trade and organic niche markets, confirming competitiveness of its agribusiness sector, and attractiveness for private investment. Second, while the production of rice has suffered from locust and drought events in recent year, resulting in localized food insecurity, rice markets have continued to function. Where supplies from rural areas were inadequate, urban demand was met through private sector imports, including small scale imports, despite policy signals that suggested government interventions and distortions in the rice market. Therefore, the dynamism in the rice market could be harnessed and support could be directed to making rice production more profitable and the rice market more efficient and more accessible by local producers.

108. An increasing number of agricultural value chains are being organized around contract farming schemes in Madagascar. A growing body of evidence – global and from Madagascar – points to the effectiveness of contractual relationships in spurring better linkages of small farmers to agricultural markets. Contract farming spans a wide array of value chains, although it still concerns only 10 percent of the roughly 2.5 million farms operating in Madagascar. One of the most studied contract farming schemes in Madagascar is the centralized model developed by the firm Lecofruit. Today, more than 14,000 farmers from the Central Highlands are involved in the production of green beans and a number of other vegetables for the export market. The additional income generated by this off-season production amounts to more than Ariary 400,000 per contracting household. As with a number of other value chains, more farmers could be included in this contract farming scheme if two key constraints are addressed, namely: improved road access to rural communities, and increased capacity to train farmers in specific production techniques (in the case of Lecofruit, farmers require training on production and quality control, and the use of the drip irrigation equipment that is supplied by the company).

109. Other agribusiness value chains offer significant potential for the development of contract farming schemes, both for domestic and export markets. Cotton production in Antsimo Andrefana has been rebounding since 2013 – following the collapse of the privatized state enterprise Hasyma in 2009 – with six new private firms collecting and processing the cotton seeds produced on more than 35,000 ha. The region’s favorable agro-ecological potential for cotton production, coupled with farmers’ good knowledge of the related agricultural practices could contribute to the development of a competitive, diversified, and sustainable cotton industry. Cocoa is another value chain that could offer sizeable growth potential and income generation possibilities for farmers. But as it stands now, production remains limited – less than 6,500 tons exported – and lingering issues related to aging cocoa trees, low productivity, decreasing quality, and illegal exports will have to be tackled for the value chain to reach its full potential. In the highlands, Artemisia is produced by smallholder farmers, contracted by a company that produces Artemisinin, used to treat malaria and exported mainly to China. (The company started out with a

large production unit but found that it was more efficient to contract out the production to smallholders.)

110. Agro-food value chains – milk, wheat, barley, various pulses, sesame, garlic, onions, herbs and potatoes – produced in the central highlands with Antsirabe and Antananarivo as the main hubs – have potential for growth if the main constraints related to feeder road maintenance, seed quality and training/human capacity are addressed. The further development of export value chains on the east coast, with Toamasina as the main hub, will require addressing constraints related to rural roads, productivity, and aggregation and quality issues. Addressing key infrastructure bottlenecks could unlock areas with substantial production potential. Strengthening producer organizations would enhance the quality and volumes of lychees and other fruits supplied to exporters. For lychee, clove, and vanilla, their medium to long term development potential and sustainability will be determined by the ability to replace old tree stock with new plantings. In addition, quality requirements and volume restrictions imposed by regulations and by industry players require improved value chain coordination, ensuring transparency in building competitive and inclusive industries.

111. Tourism is one of the promising drivers of growth, supported by Madagascar’s unparalleled biodiversity. The sector is highly sensitive to political instability, but it has also tended to bounce back quickly from shocks. The country recorded 196,000 tourist arrivals in 2013, which has not quite attained the peak of 255,000 reached in 2008, and there is still a large growth potential: neighboring Mauritius, located only 900 km away and whose surface area is less than 1 percent of Madagascar, recorded almost a million tourist arrivals in 2013. Tourism offers high direct and indirect employment opportunities, even in remote areas. Travel and tourism’s total contribution to GDP is estimated at 15.9 percent in 2013, which is higher than the world (9.5 percent) and Africa (8.5 percent) averages.⁴⁷ Direct job creation increased from 18,600 in 2003 to 35,400 in 2013.⁴⁸ The study on tourism sector (World Bank 2013) identified air transportation, infrastructure and land allocation as the main constraints for the sector’s development. Growing insecurity and lack of adequate health and sanitary services in tourist areas are also cited as constraints. Traffic in rare and precious timber species, which is taking place increasingly in protected areas, will also act as a deterrent to nature-based tourism.

112. The industrial fisheries sector offers significant growth prospects. With an exclusive economic zone covering over 1 million square kilometers, Madagascar is endowed with substantial marine and coastal resources: hundreds of thousands of hectares of mangroves, coral reefs, inshore coastal areas and offshore waters. Tuna and billfish fishing licenses sold to foreign vessels yield an average of US\$3.2 million per year. Since 2009, the country developed its own tuna fleet of currently three long-liners targeting tuna and tuna-like species. Madagascar hosts the third largest fish processing hub in the Indian Ocean. The industrial fisheries sector suffered from the political crisis and external shocks, and is adapting to diminishing resources and an increasingly competitive regional and global environment. Industrial aquaculture is relatively advanced in Madagascar compared to other countries in the region, and significant room for development

⁴⁷ World Travel and Tourism Council, 2014.

⁴⁸ Ministry of Tourism, Tourism statistics in 2013.

remains. To counter the negative price effects from international competition, the industrial shrimp aquaculture focuses increasingly on quality. New species such as sea-cucumbers and eels are candidates for an expanded aquaculture production. Higher levels of regional cooperation will be necessary to boost Madagascar's integration in the region's ocean economy while limiting the economic and environmental negative effects of intra-regional competition.

113. **Extractive industries** are very likely to contribute to higher growth in the future. Industrial mining investments had almost singlehandedly maintained economic growth during the last few years, and could remain one of the main engines of growth going forward and dominate Madagascar's exports by 2025⁴⁹. Mining employs 12,500 people directly, which represents 0.1 percent of national employment. The production at the two world-class industrial projects, Ambatovy and QMM, has started, and will continue for the next 20 years, and the output will depend essentially on the international prices of the product, barring serious economic setbacks. Once the mining companies become profitable (projected around 2021), they will become reliable sources of corporate income tax revenues for the central government. Mining royalties, estimated to reach around US\$10 million annually from Ambatovy alone, start accruing immediately with exports, and are distributed to affected local governments (provinces, regions and communes: 70 percent), mining cadaster (21 percent) and the central government (9 percent). The royalties will make a relatively minor contribution to the central government treasury in the next few years, but will have a large impact on the affected communities. There are several development challenges associated with the allocation and spending of these royalties, including how to define the "affected local governments," how the funds should be used, and how to ensure transparency and fairness among local entities. Industrial mining currently has limited linkages with the rest of the economy, but under a number of scenarios, local procurement could increase from US\$200 million today to US\$1 billion and employ, directly and indirectly, up to 65,000 people⁵⁰. Optimizing these linkages will require close engagement of both the government and the private sector.

4.2 *Opportunities and recommendations*

114. **Private sector could play a larger role in prioritizing policy reforms and improving investment climate through an effective platform for dialogue with the government.** A credible public-private dialogue platform could help identify comprehensively the challenges and prioritize actions and reduce a mismatch between private sector needs and what the government identifies as the priorities. The government has recently taken two actions to address this issue. First, it adopted a decree that sets forth a Public-Private Dialogue (PPD) platform⁵¹ with the mandate to facilitate a constructive dialogue between the government and the business community. Second, a Doing Business reform memorandum that traces a set of short, medium and long term action plan of reform agenda has been drawn. Examples of possible initiatives include: (i) enhancing transparency for prioritizing implementation of economy-wide quick wins reforms and addressing anti-competitive behaviors in some industries, coupled with targeted policies to promote FDI inflows, (ii) strengthening the PPD platform by defining a transparent process of

⁴⁹ World Bank, 2015, "Economic Contributions from Industrial Mining in Madagascar", Research Summary

⁵⁰ Idem.

⁵¹ Decree No. 2015-creation of Public Private Dialogue Platform, June 3, 2015.

validating and selecting priorities, improving the analysis and implementation of the identified issues (i.e. Doing Business issues, tourism, investment regulation, etc.), setting up an impact evaluation and communication campaign for the PPD, and (iii) streamlining commercial justice procedures, process mapping and administrative efficiency analysis to improve efficiency, fairness and transparency of the legal, regulatory and judiciary environment for business.

115. Improving corporate governance is also indispensable in nurturing a dynamic private sector in Madagascar. Enterprises, both state-owned and private, should be run efficiently to maximize the value for shareholders, and for this purpose, their managers must be held accountable. The performance of enterprises should be judged periodically using an agreed set of metrics, and to this end, audited financial accounts should be published annually and discussed by the board of directors, who should be selected according to their qualifications. These accounts would also be used for verifying compliance with tax and other legal obligations of the companies. The exercise carried out in South Africa⁵² to improve corporate governance may serve as a model. In Madagascar, the banking sector may be a good candidate for an entry point to infuse ‘best practice’ in private sector enterprises, as it has already an established supervisor, the *Commission Supervision Bancaire et Financière*, and also has a reputation for being a well-run sector.

116. Addressing constraints to accessing electricity, finance and transportation infrastructure will be key for private sector development. The constraints identified by the private sector, such as those reported by the Enterprise Surveys, should be addressed as a priority. The 2012 survey reported the main constraints as political instability, access to electricity, crime, theft and disorder, tax rates and administration, access to finance and corruption. Transportation comes in slightly behind them. This section concentrates on access to electricity, finance and transportation, as the other issues are discussed in detail in the previous chapter.

Electricity

117. Addressing performance issues at JIRAMA should be the most immediate concern to improve access to electricity. There are immediate actions which could start alleviating the worst of the bottlenecks in accessing electricity while other challenges can only be addressed over a medium term. The most immediate action is to start running JIRAMA more professionally, by stopping the theft of subsidized fuel, reviewing policies for providing preferential electricity rates to employees and selected customers and publishing the audited financial statements of the company as required by the law. Bringing in private sector expertise could help in this regard. Necessary work to elaborate a medium term business plan for the company as well as a cost-effective electricity sector development plan should also start right away. The business plan should include a socially and politically acceptable tariff adjustment mechanism, an incentive structure for the employees to provide best service to fee-paying customers, as well as technical plans to widen access to electricity sustainably.

⁵² See King Report on Corporate Governance. Institute of Directors South Africa, <http://www.iodsa.co.za>

Access to Finance

118. Increasing financial intermediation will need a combination of supply side measures – promoting competition and product innovation; demand side measures – improving firms’ business plans; as well as financial system improvements – credit bureau, collateral registries. Barriers to access credit could be lowered by promoting competition and product innovation on the supply side, and by supporting micro and SMEs’ preparation of financially viable business plans on the demand side. Product development and training at local institutions to create awareness and competition are crucial. The absence of a functioning credit bureau inhibits access to finance by preventing SMEs and individuals from creating a credit history. Similarly, the absence of a collateral registry further inhibits access to credit. Institutional strengthening and a fair/transparent judicial system will be needed. Similarly, legal, administration and taxation amendments to allow companies to regroup under holding company structures with the inherent fiscal advantages would be critical to creating corporate value for long term equity and debt financing.

119. Increasing access to finance, primarily for SMEs and individuals, will require enhancing the use of alternative payment services and improving financial literacy. Wider access to financial services can contribute to inclusive growth. Enhancing the use of alternative payment services such as mobile phones can improve access to finance and facilitate the implementation of social protection programs and possibly automatization of government’s transfers. Creditor and debtor rights should be adequately protected through a consumer protection framework. Financial education and literacy also remain a challenge, with a large part of the population lacking the knowledge and skills to safely use financial services for saving, borrowing, making payments, and managing risk.

120. The regulatory framework for the stability of the financial sector may have been adequate so far, but would require a major upgrading if it were to play a critical role in supporting economic growth. Although the existing legal and regulatory framework is considered acceptable, implementation, supervision and enforcement of prudential standards are weak, as demonstrated by the recent episodes in the microfinance sector. Prudential rules governing the banking sector are outdated and in their current form will act as a major constraint on banking sector growth. There is scope and rationale for strengthening the supervising entity, *Commission de Supervision Bancaire et Financière* (CSBF). The banking sector association (*Association Professionnelle des Banques*) and local independent non-executive directors on the boards of banks have also a role to play in ensuring sustainability and adequate skills of local middle management. The regulatory framework governing insurance needs updating; micro insurance practices are not regulated and supervised; the overall supervisory capacity of the insurance sector at the Ministry of Finance and Budget (MFB) remains limited.

Transportation

121. Improvements in the transportation sector should include clear and transparent management of the sector, adhering to commitments made and the establishment of an effective monitoring system. There are three important components for improving the country’s transportation service. First is a clear and transparent management of the sector, which should be

accomplished by clarifying the roles of all stakeholders including ministries, regulatory agencies, implementing agencies, concessionaires and licensing authorities, private sector and the users. Second is for all stakeholders to respect the financial and operational commitments made. Third is the establishment of an effective monitoring system, in which the administration is no longer an all-powerful authority wielding arbitrary decisions, but one that clarifies and respects the rules of the game, accounting for its management to citizens. In parallel, the public and users must have a say in the management of the assets and public funds through existing channels.

122. In the short term, the government will face tradeoffs between maintenance, rehabilitation and investment of transport infrastructure. Short term recommendations include preparing a costed plan to reduce the large deficit in the maintenance of all transportation infrastructures and launching an inventory exercise of the current state of the assets of the transportation infrastructure with an estimated value. These actions are prerequisites for prioritizing among the competing needs for maintenance, rehabilitation and investment in transportation infrastructure.

123. In the medium term, the government should update the National Transportation Policy and prepare a medium term investment plan that informs the Priority Investments Plan and helps the country allocate scarce resources to prioritized projects. In the medium term, the National Transportation Policy (NTP) should be updated based on developments in the industry over the last decade and on the basis of the visions for the future of the sector, essentially based on the projected increase in traffic due to the expected increase in trade between Madagascar and the rest of the world, leading to more substantial carrying capacity and/or major renovations in all the transportation sub-sectors and the investments to support this extension. The government's vision for each sub-sector of transportation should be more specific to address their different challenges. Based on the updated National Transportation policy (NTP), a medium term investment program (5 years) should be prepared. It is crucial for the government to clarify how it intends to allocate scarce resources, so that they are actually allocated to priority needs. For each large scale project estimates for the costs of initial investments as well as the future maintenance needs, and the benefits to be derived from realizing the project should be provided for prioritization purposes. This cost benefit analysis role is one of the areas where capacity reinforcement is needed. The transport sector's medium term investment program would be a critical component in the country's rolling multiannual Priority Investments Plan (PIP), which in turn would determine the allocation for public investments in the annual government budget, and potential opportunities for public-private partnerships.

124. Beyond the above three priority areas, complementary public investments will be required to act as a catalyst for new private investment in agribusiness value chains, air transportation and biodiversity-based tourism. For example, public investments in value chains are needed to unlock the agribusiness potential. Tourism sector is particularly dependent on reliable airline service, for both international and domestic travel. Regional and strategic partnerships are promising avenues for overcoming some of the constraints facing the air transport subsector. The air transport subsector itself has potential for new private investments if some of the constraints are relaxed. Harnessing the value of biodiversity through tourism can be enhanced through unlocking carbon finance, particularly when linked to sustainable forest management. Poverty driven deforestation means that actions to reduce emissions through avoided deforestation are extremely cheap compared to other emission reduction options available globally. Madagascar

has developed a series of important pilots throughout the country and has already concluded a number of carbon credit transactions with foreign governments and private firms. This is the tip of the carbon revenue potential.

Chapter 5. Aiming for higher human capital

Summary:

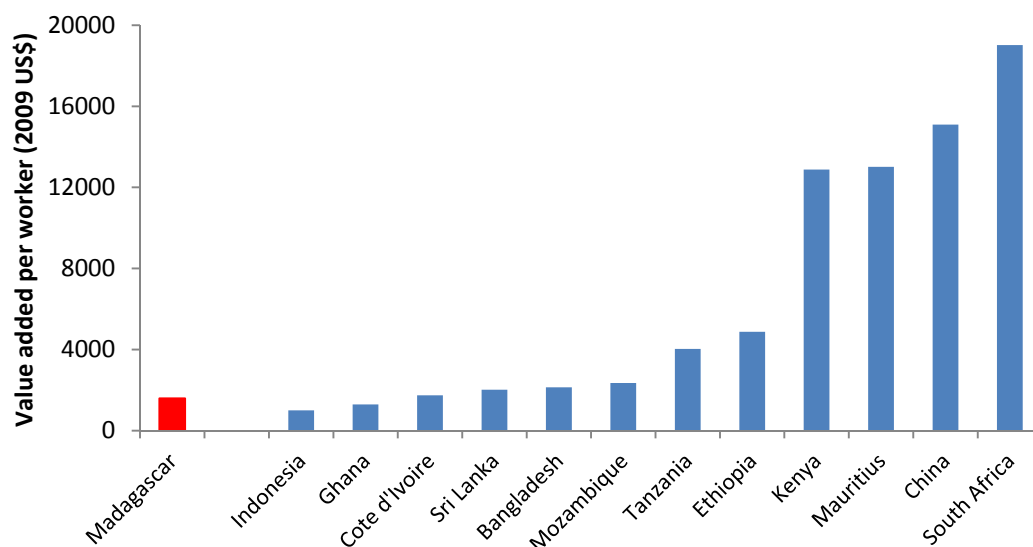
- *Labor productivity in manufacturing is lower in Madagascar than in many comparator countries. The low productivity decreases the country's cost advantage arising from low wages.*
- *The low productivity is partly due to low and stagnant educational attainment of the labor force and poor health development outcomes.*
- *Public spending on education has declined as government resources dwindled and out-of-pocket expenditures have increased as a share of household expenditures. Madagascar's education system is not yet able to provide education for all children, and does not seem to prepare those in school for the labor market. Financing challenges must be overcome to improve access to and the quality of the education system.*
- *Nutrition and health are key drivers of educational attainment and productivity and Madagascar is doing poorly on both. Government allocations to health and nutrition seem inadequate and have declined since the crisis. The Malagasy health system is failing most of the population, especially the poor.*
- *To improve development outcomes in health and education, the government will need to improve the efficiency of public spending given the limited fiscal space going forward as well as strengthen human resources management. Renewed focus on nutrition is essential because of the multiple impacts on health, education and productivity*

5.1 Diagnosis

125. Low productivity undermines the country's cost advantage arising from low wages.

Labor productivity in manufacturing is lower in Madagascar than in many comparator countries. Systematic data on labor productivity are not available, but according to the Enterprise Surveys, the labor productivity in the manufacturing sector is lower in Madagascar than in comparator countries (see Figure 31).

Figure 31: Labor productivity is lower in Madagascar than in comparator countries



Source: World Bank staff estimates based on data from World Bank Enterprise Surveys

Note: Partial productivity measures are measured in 2009 US\$. See appendix for details. All data points are for the median firm on each measure of performance.

126. Low labor productivity decreases the country's cost advantage arising from low wages. Competitiveness of wage levels can be assessed by comparing wage levels with value added per worker. The indicator of real wage cost to the firm is a measure of unit labor cost which measures labor compensation as a ratio of labor productivity. The lower this ratio is, the lower the real cost of labor to the firm. The ratio of the minimum wage of the typical worker to the value added per worker (average value added per worker in the retail sector) is 0.74 in Madagascar, 0.51 in South Africa and 1.21 in Zambia.

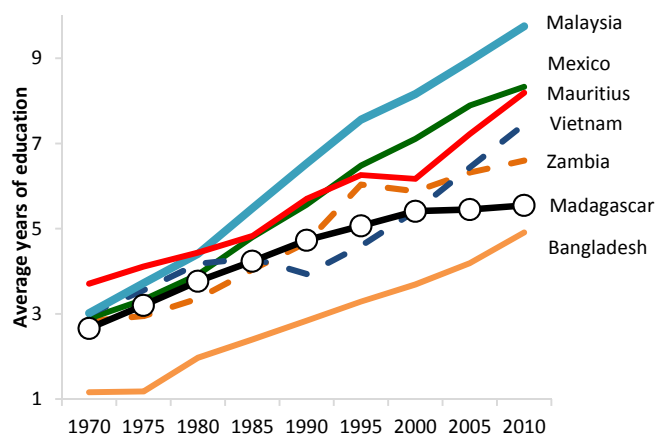
Figure 32: Madagascar has low wages but productivity offsets advantage in labor-intensive activities



Source: World Bank, Doing Business Surveys 2014 and staff estimates

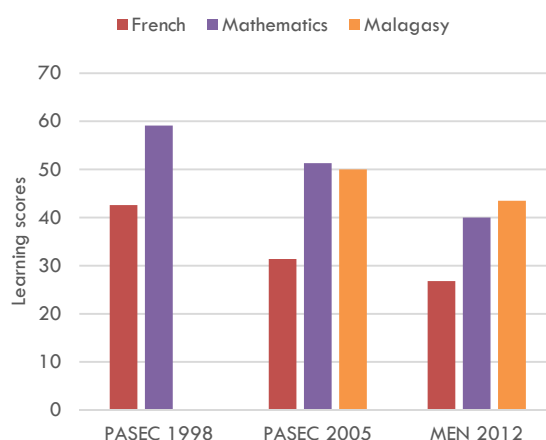
127. **The low productivity is partly due to low and stagnant educational attainment⁵³** of the labor force in Madagascar, which has been losing ground compared with the rest of the world (see Figure 33). Further, the last 10-15 years have witnessed a rapid drop on education outcomes, which means that those leaving school may not be equipped with basic and other level skills required by the economy. Analysis of PASEC⁵⁴ results indicates that between 1998 and 2012, the national average in French scores (grade 5) has dropped 16 percentage points and the math score (grade 5) by 19 percentage points, with Madagascar being the worst performer in French language among all participating countries in PASEC 2012.

Figure 33: Educational attainment of the labor force



Source: *Improving Education attainment and Quality- Some Cross-Country Lessons*, S. Bashir, Antananarivo, 2014

Figure 34: Learning Scores in 1998, 2005 and 2012



Source: Ministry of Education

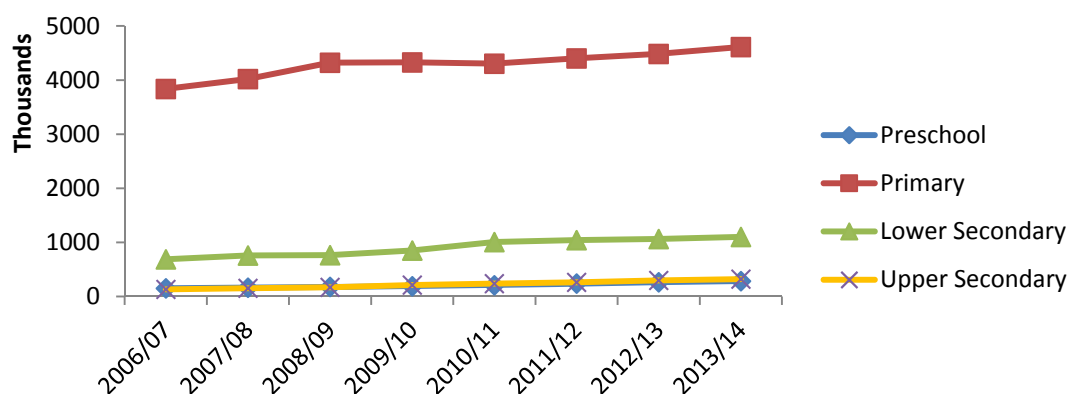
128. **Madagascar's education system is not yet capable of providing education for all children.** Before the onset of the crisis in 2009, Madagascar was making good progress in expanding school enrolment (see Figure 35) and enrollment in primary education was relatively high. However, the financial impact of the crisis along with the pace of population growth made it impossible for the system to keep the pace of expansion. The gross enrollment rate for primary dropped from 157 percent in 2008/09 to 144 percent in 2013/14, equivalent to a 13 percentage point drop. The attendance rate of children aged 6 to 14 years has also receded strongly over the 2005-12 period, from 77 percent to 74 percent in 2010 and 69 percent in 2012. Between 2005 and 2010, the drop was most apparent for primary school-aged children (aged 6 to 10 years), for whom the rate was reduced by 4.6 percentage points, against 1.2 percentage points for children aged 11 to 14 years. The drop in attendance rates has been unequal, especially affecting rural zones and the southern regions, and, with the greatest reductions and levels of exclusion being observed in

⁵³ The average years of education reflects cumulative investments in education.

⁵⁴ PASEC stands for *Programme d'analyse des systèmes éducatifs de la CONFEMEN*; and CONFEMEN stands for *Conférence des ministres de l'Éducation des États et gouvernements de la Francophonie*. Countries participating in PASEC include Mali, Congo, Chad, Burundi, Senegal, among others.

rural areas, especially for boys. The most recent estimates indicate that 1.4 million children aged 6-10 are out of school.

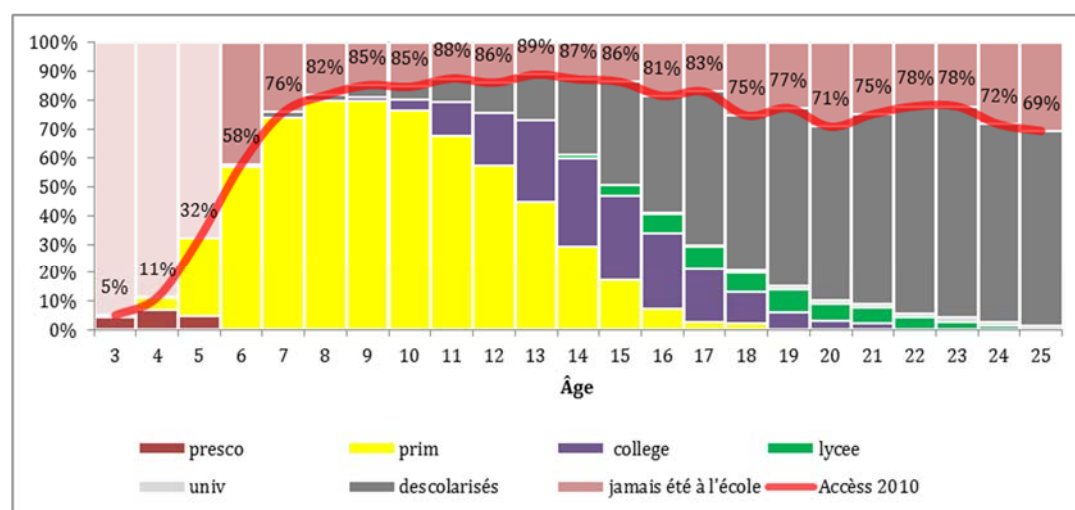
Figure 35: Enrolment by education level, 2006/07-2013/14



Source: Education statistical yearbooks, 2006/07-2013-14

129. **The education system in Madagascar seems to be failing to prepare students for both the formal and informal sectors of the economy.** A large number of children are out-school, and thus have no access to formal skills development. Quality of learning outcomes has deteriorated and thus even those who complete basic education may enter the labor market with lack of functional skills to allow them to either be self-employed or improve their livelihoods in the informal sector. For those moving up in the education ladder, i.e. the less poor, education may not be providing them with appropriate skills for the labor market, as there is limited technical and vocational training on offer, and higher education is mostly focused on the social sciences, for example, in 2011, 43 percent of students were enrolled in departments of law, management or social science, preparing them for work in the tertiary sector, whereas subjects where shortages of skills are observed, such as agriculture, teaching, engineering, health and science, attract small shares of enrollment.

Figure 36: School Situation of Children and Youth Aged 6 to 25 years

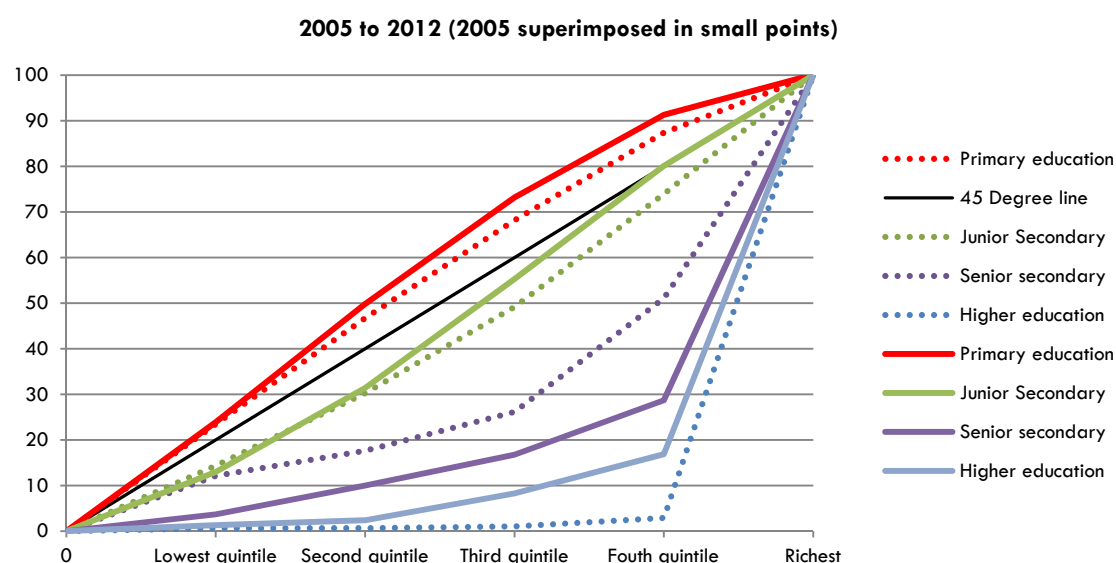


Source: INSTAT, EPM 2010

130. Public spending on education has declined as government resources dwindled and out-of-pocket expenditures have increased as a share of household expenditures. The crisis caused a decline in education spending, both from the government side as its revenues dwindled and aid was suspended, and from the household side. In terms of public spending, primary education receives more than half of the overall education budget including salaries but excluding investment. Between 2011 and 2013, the share of primary education in terms of current expenditure was nearly 55 percent on average and the shares for lower and upper secondary education was 7.2 percent and 18.2 percent respectively. Out of pocket expenditures of the households have increased substantially from 2.1 percent of the household's budget in 2005 to 3.5 percent in 2012. Moreover, households finance 19 percent and 30 percent of total expenditure for primary and junior secondary schools respectively. Most of these funds are used to finance community hired teachers which constitute around 80 percent of the teaching force.

131. Education opportunities are unequal and poor children have little to no access to higher education. Spending in primary education is still pro-poor. Spending on lower secondary education is reasonably equal and spending on higher education benefits primarily the richer segments of the population. Higher education is not accessible for anybody under the fourth quintile, and—recalling that the poverty threshold is into the fourth quintile in Madagascar—this means that almost none of the poor can access universities (only 1.3 percent of students are from the poorest quintile in 2012). As Figure 37 indicates, a visual comparison of the 2005 and 2010 data shows increasing inequalities at the secondary level, and this inequality is most apparent in 2012, suggesting that the number of school dropouts in teenage years has increased among the poor.⁵⁵

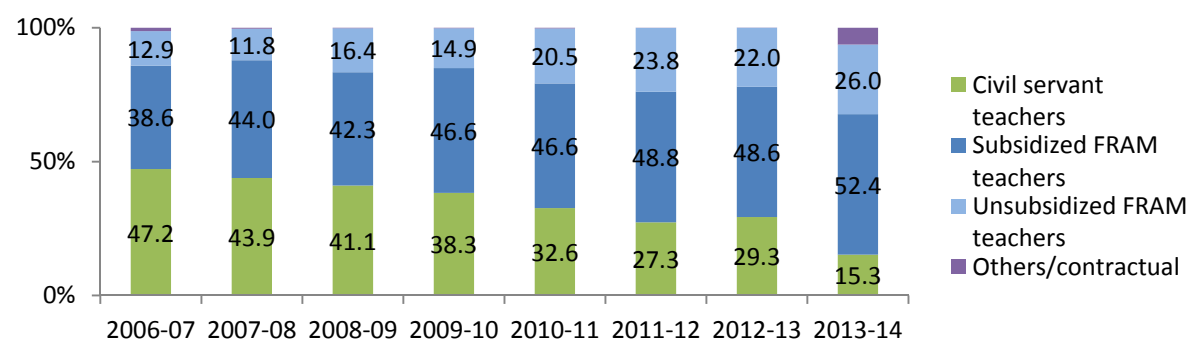
Figure 37: Lorenz Curves for Utilization of Public Education, 2005-2010, 2010-2012 and 2005-2012



Source: INSTAT, EPM 2005, EPM 2010 and ENSOMD 2012.

⁵⁵ Statistical significance of the differences has not been established.

Figure 38: Teachers by status in primary public schools, 2006/07-2013/14



Source: Education statistical yearbooks, 2006/07-2013-14

132. Improving access to and the quality of the education system will pose financing challenges. Improving access, quality and equity requires an allocation of resources that considers the specific geographical and population characteristics of the various regions and the need to improve education inputs such as the quality of teachers and the learning environment. Currently, a large share of the budget is allocated to salaries and does not include the salaries of the community teachers, which account for 80 percent of the teaching force (see Figure 38). A dominant factor for this decline is the massive increase in the number of community teachers, who tend to be poorly qualified. In 2011-12, it is estimated that over 90 percent of community teachers had no teaching certificate. Transforming these teachers into civil servants will decrease household's out-of-pocket expenditures but will challenge the financial sustainability of a system which is already financially constraint.

Box 3. The Impact of the Regularization of Community Teachers as Civil Servants

Recent political decisions in the sector include the gradual integration of community teachers in the civil service. Projections for 2020 show that the number of teachers would reach 96,100 for an expected 5.2 million children in primary school. It translates into the recruitment of an additional 68,000 civil servants compared with 2014. An analysis of the potential impact of this decision on public spending on education is presented below. The evolution of the macroeconomic context was simulated using two different scenarios, in line with the recent scenarios elaborated by the IMF. In addition, the analysis examined two different hypotheses for integrating community teachers in the civil service.

- Hypothesis 1: all community teachers are integrated in the civil service as early as 2016, and new teachers are hired as civil servants.
- Hypothesis 2: community teachers are gradually integrated in the civil service to ensure that all teachers are civil servants by 2020. More specifically, this hypothesis assumes the integration of 10,000 community teachers in 2016, 15,000 in 2017, 15,000 in 2018, 16,000 in 2019 and 16,960 in 2020.

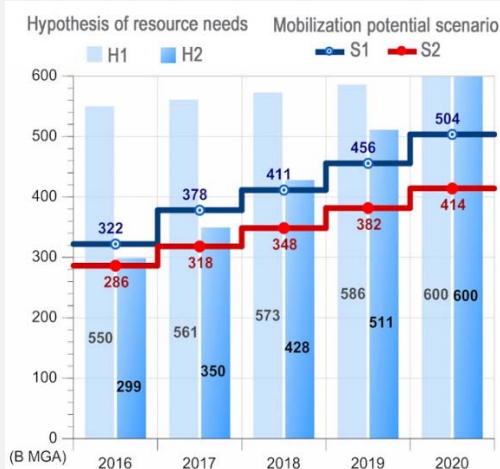
The results of projections show that Hypothesis 1 is unsustainable even in the most favorable macroeconomic scenario. Indeed, from 2016 onwards, the salary needs for primary schools would amount to 550 billion MGA, or 16 percent of total government revenue projection for 2016, and 10 times larger than the current amount allocated to community teachers' subsidies.

In the case of Hypothesis 2, the results of projections show that the integration of 10,000 community teachers in 2016 and as many in 2017 would result in salary costs equivalent to about 300 billion Ar in 2016 and as much as 350 billion Ar in 2017. This compares with 286 billion Ar and 318 billion Ar projected for salary costs in 2016 and 2017, respectively. Neither hypothesis seems sustainable even in the favorable economic growth scenario, and completely unrealistic in case of a slower economic growth.

The results of these simulations show that the integration of community teachers as planned will have large and unsustainable consequences for the State budget. To improve its feasibility, it would seem essential to envisage the following options: (i) dramatically slow down the process of integration; and/or (ii) allocate more resources to salary for primary education. The second option should be assessed in the current context that already allocates a high weight to salaries and to primary education in the education sector spending.

The implication is that interventions aiming at improving the quality of education, such as the improvement of infrastructure, teacher training and the improvement of the availability of learning material would need to be cut back as a consequence.

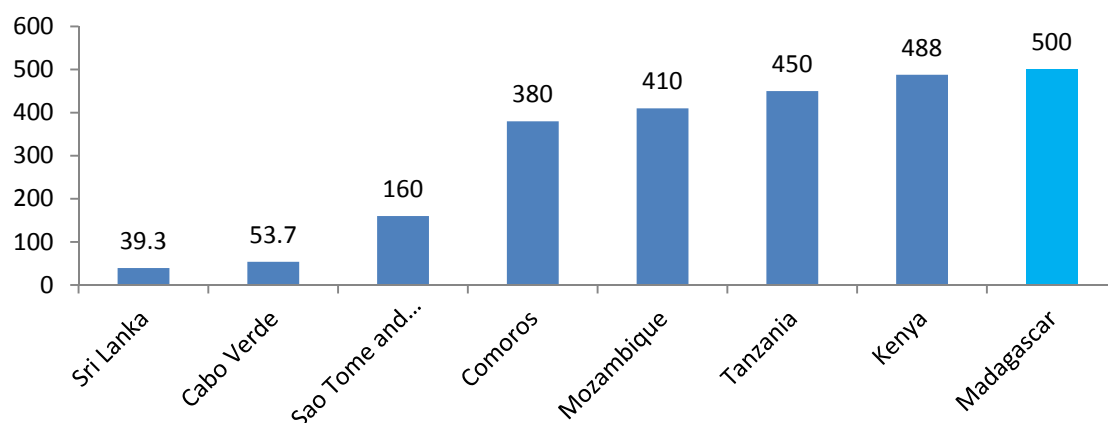
Simulating the impact of the integration of community teachers



133. Health outcomes remain poor and in many areas progress has stalled over the past ten years. The health and nutrition sectors suffered from lack of financing, inequitable service delivery and poor quality of service. In addition to the overall health financing budget being low, current health expenditure is highly inequitable. While there have been some gains in the reduction of overall child mortality prior to 2009, the infant mortality rate stagnated at the national level since 2007 (62 per 1,000 live births in 2012). Prevalence of long term (chronic) malnutrition among children under five is one of the highest in the world: 53 percent are stunted (short for their age) and 5.8 percent are wasted (too thin for their height). Over the past few years the rates of acute malnutrition have risen by over 50 percent in some of the most food insecure regions in the southeast, southwest, and central parts of the country. Maternal mortality ratios have also remained relatively high and stagnant over the last ten years: from 469 per 100,000 live births in 2003 to 500 per 100,000 live births in 2013 (Figure 39). Looking at specific outcomes such as child mortality, the bottom 40% of the population, bears most of the burden. Similarly, key service

delivery indicators such as skilled birth attendance are 40% lower among the poorest two quintiles as compared to the richest quintile further highlighting the equity issues in accessing and utilizing care. HIV/AIDS and STDs are high among at-risk populations and vulnerable populations.

Figure 39: Maternal mortality ratio (modelled estimate, per 100,000 live births)



Source: World Bank/UN, 2013. World Development Indicators

134. Nutrition and health are key drivers of productivity and poor development outcomes affect the work force's productivity. One of the most worrying statistics in Madagascar is the prevalence of stunting among young children due to chronic malnutrition, which is the sixth highest in the world: 53 percent of all children 0-5 are stunted and 22 percent are severely stunted. Growth retardation, which starts earlier in Madagascar compared to other countries, is largely irreversible after the age of two and has long term costs in terms of educational attainment and productivity as an adult because of poor cognitive development, delayed psychomotor development, poor fine motor skills, and altered behavior. Children who do not reach their full development potential at an early age are more likely to do poorly in school: for every 10 percent increase in stunting, the proportion of children reaching the final grade of primary school drops by 7.9 percent.

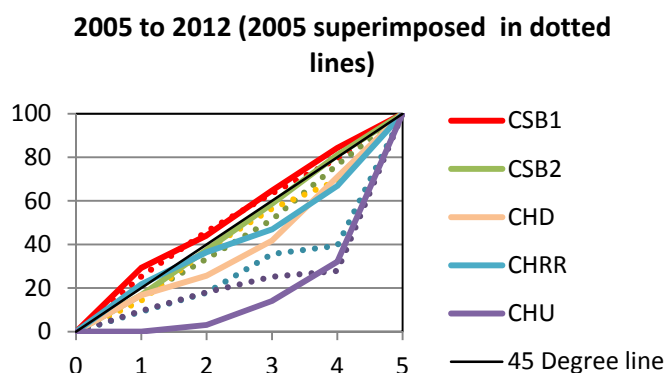
135. In addition, Madagascar's school children and communities in the poorest regions carry the highest burden of neglected tropical diseases (NTDs) in the country. NTDs are responsible for absenteeism from school, and as many poor households are malnourished, NTDs and other illnesses further impact the child's ability to concentrate and learn. With regards to the adult population, workers in Madagascar suffer from a number of illnesses that lower their overall productivity. While Madagascar does not currently have a high prevalence of HIV/AIDS, trends among high-risk groups are concerning and would be detrimental to the country's overall productivity should there be a more generalized epidemic (as experienced by other Southern African countries).

136. Government allocations to health and nutrition seem inadequate and have declined since the crisis. Despite the inextricable links of health and nutrition to education and longer term productivity, both the nutrition and health sectors are not prioritized in Government spending. Madagascar spends less on health than most other low income countries in Sub Saharan Africa (SSA). Since 1995, the percentage of total Health Expenditure in GDP has remained around 4-5

percent with a slight downward trend in recent years. In real terms, per capita expenditure has not changed since 1995. Between 1995 and 1999, total health expenditure per capita was US\$21 in the period between 2010 and 2014 it was US\$20. This is far below the regional average of US\$84⁵⁶. Unlike the education sector, the health sector is only 20 percent financed by domestic Government resources, far lower than other sectors in the country. Such a high amount of external funding poses serious challenges to the sector in terms of financing predictability, efficiency and sustainability. Recent severe cuts to the National Nutrition Office's (ONN) budget with most of the resource envelope going to central salaries is posing real challenges to realizing the multi-sector coordination mandate of the National Nutrition Office's (ONN) and to the implementation of the country's National Community Nutrition Program which has been built over a 25 years period and is considered a global good practice in delivering crucial nutrition services to pregnant/lactating women and children under five across all quintiles.

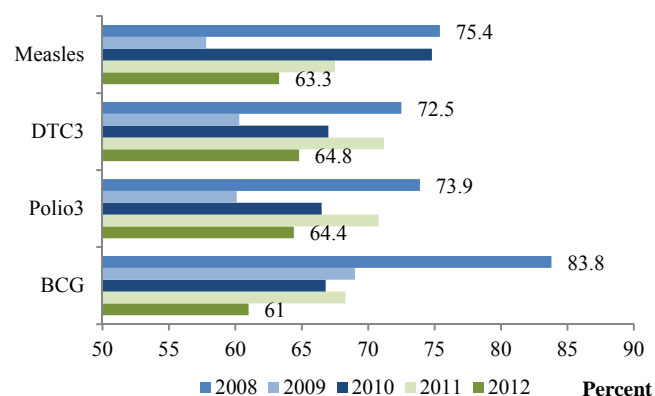
137. The Malagasy health system is failing most of the population, especially the poor. Madagascar's epidemiological profile remains comparable to many low-income countries with a high communicable disease burden. Almost 30 percent of all deaths in Madagascar are still attributable to preventable and infectious and parasitic diseases, with the burden of disease falling disproportionately on the poor. Over the past decade, non-communicable diseases are increasing in the population, resulting in a dual burden of disease which will tax an already fragile health system. Overall, utilization of services is unevenly distributed across locations and is marked by substantial income/wealth inequality (Figure 40). Coverage of essential health services is low and immunization coverage has also decreased in recent years. Immunization is a proxy indicator of the availability of primary health care in a country, and this has declined from 62 percent in 2008 to 33 percent in 2012 in some of the poorest regions (Figure 41). The country is also seeing a rise in non-communicable diseases (NCDs) in recent years which will put an additional strain on the health system.

Figure 40: Lorenz Curves by quintile for Utilization of Public Health Facilities, 2005-2012



Source: INSTAT, EPM 2005 and ENSOMD 2012. Note: CSB1 is the simplest type of health care facility; CHU is the most developed type of facility such as university hospitals

Figure 41: Immunization Coverage for DPT, Polio and Measles for children under one, 2008-2012



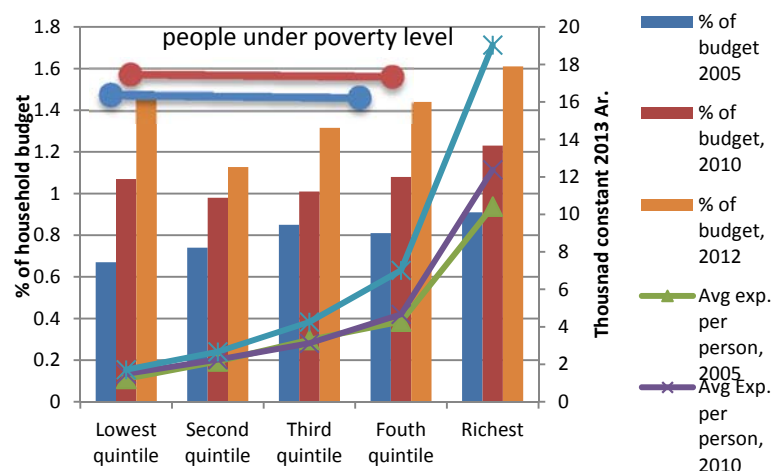
Source: Health statistical yearbooks, 2008-2012

⁵⁶ Source: World Bank, 2010

138. **Health expenditure is highly inequitable in Madagascar.** Over eighty percent of health financing comes from external aid both channeled through the sector and by vertical funds. Overall, health expenditures are negatively correlated to poverty rates and positively correlated with per capita consumption – even when restricting expenditures to primary health care, regional distribution is regressive. The Benefit Incidence Analysis for MOH non-wage expenditures reveals that benefits are found to be regressive with the average benefits going to individuals in the richest quintile two to four times higher than those going to individuals in the poorest two quintiles. Distribution of benefits from all MOH expenditures directed to primary health and hospital care is pro-rich with the richest quintile benefiting from 40 percent of total expenditures. Similarly, analysis of expenditure shares by type of residence show that less than five percent goes to rural communes. Considering that approximately two-thirds of the population lives in rural areas, this represents a highly unequal distribution of expenditure shares.

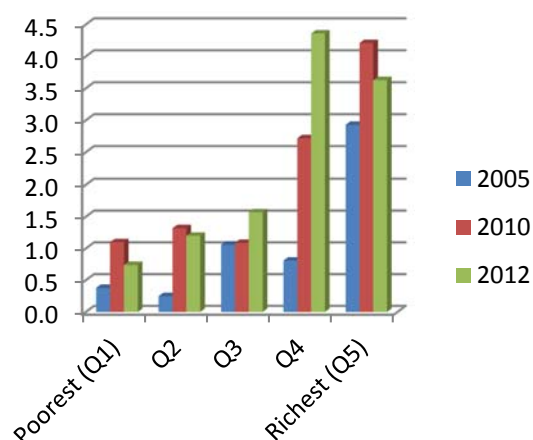
139. **Health care in Madagascar is both expensive and non-accessible to the poor.** Household out-of-pocket health expenditures are high and increasing in Madagascar with the cost of most medical consumables borne by the patient through cost recovery. Yet, percentages of catastrophic expenditures in the poorest quintiles are very low (Figure 42). In the context of Madagascar, which has also has low total health expenditure per capita this is indicative of the low health seeking behavior among the poor. Indeed, the latest household survey (2012) indicates that close to 70 percent of the population does not seek care when ill. Catastrophic expenditures may cause 4.5 percent of people in the richest quintile to fall below the poverty line (and keeps those already in poverty poor).

Figure 42: Household Out-of-Pocket Expenditure, 2005, 2010 and 2012



Source: INSTAT, EPM 2005, EPM 2010 and ENSOMD 2012.

Figure 43: Incidence of Catastrophic Out-of-Pocket Expenditure by Wealth Quintile



Source: ENSOMD 2012. OOP are considered catastrophic when greater or equal 40% of non-subsistence expenditure

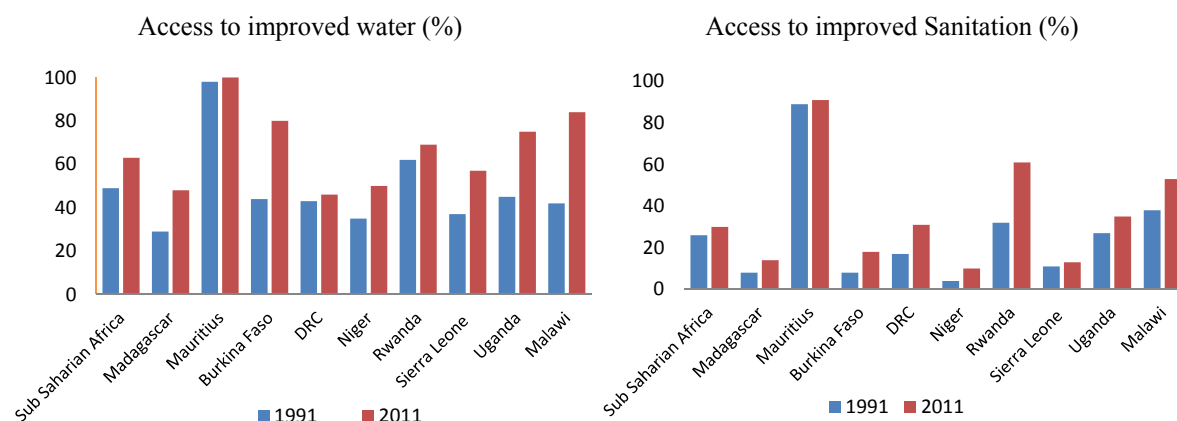
140. **Geographic access to health service is also a challenge, as numerous communities are seasonally isolated for months at a time.** Even those communities with a health center suffer during the rainy season, since referrals to hospitals are impossible, replenishment of drugs is slower, and supervisory visits are virtually non-existent. Geographic access is of particular importance to maternal mortality and morbidity outcomes, where Madagascar fares poorly. Prior to the crisis, the World Health Organization reported that only 60 percent of the Malagasy

population had access to health facilities. By 2013, approximately 856 primary health care facilities had closed down due to the impacts of the crisis, which has led to an increased workload in the health facilities that continue to function. The number of people served by a health facility has gone down by nearly 47 percent in rural areas. In addition, nearly 78 percent do not have the ability to transport patients to hospitals for further treatment.

141. The persistently high total fertility rate and population growth rates (4.6 births per woman and 2.8 percent growth respectively) indicate that further action is needed in this area. Significant variations by location and income quintiles exist. For example, the total fertility rate for rural areas is almost double that of the capital - 5.2 versus 2.7 while that for the poorest quintile is 2.5 times that of the richest. The percentage of adolescents having given birth is almost 4 times higher for the poorest quintile than for the richest. Not surprisingly, the contraceptive prevalence rate (modern methods) for the richest quintile is double that of the poorest and the unmet need for contraception is 41 percent higher for the poorest quintile than the richest. While there has been a significant increase in the utilization of family planning (from 18 percent in 2003/04 to 29 percent in 2008/09), the significant unmet need and the inequitable availability of family planning services – as well as the non-health related implications of continued high population growth highlighted above – suggest that this issue deserves increased attention.

142. Lack of access to potable water is a determinant in the health status of the Malagasy. Madagascar ranks among the countries with the lowest access rate to drinking water and sanitation, well below Sub-Saharan Africa average despite recent progress in improving access to potable water, which increased from 29 percent to 46 percent between 2000 and 2012 (see Figure 44), although the progress falls short of the Millennium Development Goals (MDGs) target of 68 percent by 2015. Disparities exist between regions. In rural areas, access to potable water increased by 20 percent between 2000 and 2012, as a result of support from development partners who mainly focused their interventions in rural areas. On the other hand, access in urban areas has progressively declined since 2005 due mainly to lack of rehabilitation/extension works and proper maintenance of existing infrastructure. Regarding sanitation, the access rate was 46 percent in 2012, also far from the MDG target of 54 percent by 2015. There are disparities between highland and coastal regions.

Figure 44: Deficit in water and sanitation



Source: Joint Monitoring Programme for Water Supply and Sanitation (JMP) 2013

143. Poor access to drinking water and sanitation facilities has a negative impact on public health, education, poverty as well as the environment. In Madagascar, diarrheal diseases are the second leading cause of death after malaria and affect 51 percent of children under 5 years. Practice of hand washing with soap will result in reducing risks to contract diarrheal diseases by 44 percent and access to sanitation facilities will also diminish these risks by 32 percent. The number of school days lost per year due to these diseases is estimated at 3.5 million, and the number of work days lost by population per year due to the lack of access to water and sanitation-related diseases is estimated at 5 million (Source: UNICEF). On the environmental side, open defecation and proximity between unimproved latrines and wells increase the risk of contamination of water sources (groundwater, rivers, lakes, etc.).

144. Indoor air pollution caused predominantly by solid fuel use has the potential for substantial effects on human health and economic development. Burning solid fuels (i.e. charcoal and fuelwood) for cooking produces extremely high levels of household air pollution. Average concentrations of fine particulate matter (PM₁₀) in homes using biomass fuels typically range from 300 to 3,000 µg/m³, with peaks during cooking as high as 10,000 µg/m³. By comparison the European Union standard for average annual PM₁₀ levels is 40µg/m³. Elevated levels of indoor air pollution have been proven to increase the risk of several life threatening illnesses including pneumonia and other acute lower respiratory infections and chronic obstructive pulmonary disease; these diseases are particularly prevalent in children and women over 30 respectively, two vulnerable groups from a public health point of view. There is also evidence of associations between indoor air pollution and lung cancer, asthma, cataracts, tuberculosis and adverse pregnancy outcomes. Madagascar's burden of death and sickness due to indoor air pollution is comparable to the one for diarrheal disease and tuberculosis; an estimated 5.3 percent of the burden of disease is attributable to solid fuel use. With more than 90 percent of the population in Madagascar using solid fuel, the burden of ill health stands at nearly 12,000 deaths per year, of which 10,000 per year are children under the age of five, and 40 percent of respiratory infections are thought to be linked to indoor air pollution.

145. There is no social safety net system to support basic consumption and human needs as well as productive development of the poorest of the poor. Development Partners and CSOs support a variety of programs, ranging from food assistance and training to cash-for-work programs, often responding to disasters. While these more emergency related interventions are important given the country's high level of extreme poverty, they have failed to develop a systemic approach to address the short and longer term causes of extreme poverty. In moving toward a more development focused safety net approach, a collaborative effort by government and development partners is needed to identify the poorest according to a set of objective criteria, and combine income support with livelihood and human capital development, thus establishing a basic safety net to enable the poorest of the poor to access basic services and participate in opportunities for enhanced livelihood. The new Ministry of Population, Social Protection, and Promotion of Women has started to fill this gap by leading a participatory process to develop the country's first Social Protection Strategy. This process is inspired and informed by successful experiences of other poor countries, such as Ethiopia and Rwanda (for the design of Productive Safety Nets) and Senegal, Niger, Brazil and others (for the design of Human Capital Safety Nets), in establishing country wide, targeted programs for the extreme poor (see box 4).

Box 4: A path to a first system of social protection

Several countries in the Africa region are establishing safety net programs that provide cash transfers for the poorest of the poor while also improving the beneficiaries' access to human development basic services such as education, health, nutrition and early childhood development. Others are also exploring how to engage the poorest in community works that can not only provide them with a minimum income but also improve the land productivity and climate change resilience in their area. An example of such program is Ethiopia's Productive Safety Net Program (PSNP) which has made a significant contribution to increasing food security in Ethiopia over the past ten years. The PSNP provides food and/or cash to chronically vulnerable households during the predictable annual lean season in exchange for their labor on communal projects that address the underlying causes of vulnerability and food insecurity. As a consequence, the food security of PSNP beneficiaries has increased from 8.4 months per year in 2006 to 10.1 months per year in 2012 on average.

For the past year, Madagascar has piloted a cash transfer program that is conditional on children's attendance to primary school and that encourages mothers' participation in local educational programs on nutrition. Initial results of the pilot covering 5000 families indicate that school attendance is at 98%, with cash transfers enabling families to cover a share of the out-of-pocket costs associated with sending their children to school regularly. On the basis of these positive results, the pilot will be expanded to cover 32,000 families within a year and will be subject to a rigorous impact evaluation that will include an assessment of the families' nutritional improvements as well as behavioral changes of parents and children.

Madagascar is also attempting to support the poorest in rural areas that do not have access to land and thus hardly benefit from the Government's programs aiming at improving agricultural productivity (e.g. irrigation for rice production). Through a multi-year cash-for-work program – following the Ethiopian and Rwandan models –, the poorest would undertake small work activities identified through a micro-regional landscape development plan designed jointly by the authorities and the communities that would aim to improve land productivity and limit land degradation (e.g., reforestation of watershed areas, terracing, building and maintenance of small dams and canals). This “productive” safety net program would provide a minimum cash income for almost 30,000 poorest households, with the landscape enhancements of micro-regions benefiting their entire communities.

The sustainability of such programs will depend not only on its proven positive results but on increased tax revenues and additional donor support.

5.2. Opportunities and recommendations

146. Improving access, quality, and equity in education and health in Madagascar is essential for increased labor productivity. This will entail improving the efficiency of the systems along with the implementation of short to medium term pro-poor policies and interventions within a context of limited fiscal envelopes and financial sustainability.

147. Improving access to education involves pro-poor measures to reduce the number of out-of-school children and to allow the poor to move up in the education ladder. International experience has shown that education conditional cash transfers have an impact on school attendance while improving local economies. If targeted to the poorest communities, such as those in the southern areas of the country, such a program could reduce the number of out-of-school children while allowing a transfer of resources to the poorest local economies of the country. Conditional cash transfers linked to secondary education, aligned with a pro-poor secondary school grant system, could also offer an opportunity for poor children to move in the education system, and thus have greater access to wage employment. For those children who are out-of-school and

lost from the system, second chance education programs would be an option. If well aligned with the skills needs of micro and small enterprises, and if supported by micro-credit programs and internships, second chance education programs could have a strong impact on labor productivity and improvement of livelihoods of the poor.

148. Improving learning outcomes will require better equipped teachers. Investment on pre- and in-service teacher training will be required to improve learning outcomes in Madagascar. Assessment exercises clearly indicate that students perform the worst in schools where teachers have very few if any qualifications. Teacher training programs need to be customized to the characteristics of the Malagasy teaching force and need to take into account the limited teaching inputs of the system. Further, given the fact that 80 percent of Malagasy teachers are community teachers, training programs need to target this group, and can be used as a mechanism to support the integration of these teachers in the system.

149. Improving distribution of qualified teachers in a financially sustainable manner would have an impact on equity and quality of education. Evidence indicates that poor communities are those with less qualified teachers; further, poor communities out-of-pocket expenditure in education is very much linked to payment of community teachers. An improved distribution of qualified teachers in the country would have an impact on learning outcomes, especially, if accompanied by a progressive program of integration of trained community teachers in the system. This would also free resources from poor families and potentially have an impact on access to education, as well. However, the integration of community teachers in the wage bill threatens the financial sustainability of the system. Thus, an integration program will need to focus on the medium term, include an appropriate teacher career path, linking qualifications and training with integration in civil service, and target initially the most deprived and poor areas of the country.

150. Policies and interventions to reduce out-of-pocket expenditure on health can have a strong impact on health outcomes in Madagascar. Such policies and interventions would involve prioritizing and investing in functionality of first level rural health facilities, removing out-of-pocket costs for services at the facility level, especially for the poorest communities, and at the lowest facility level, and financing outreach activities and approaches in rural areas. Conditional cash transfers could also be considered – conditionality could be linked to education and health.

151. Better qualified and distributed health personnel is essential for improved health outcomes. This entails a review of existing policies and training of health personnel. Strengthening primary and community mechanisms and deploying community health workers, can promote resilience in service delivery. Training programs for health workers and better supported health workers networks would allow for improved performance of these health actors.

152. The use of results-based financing in the health sector in Madagascar would have an impact on the availability of resources at the facility level. International experience has shown that such type of financing improves the system efficiency and quality of outcomes. This is so as it improves the distribution chain, allowing health inputs to reach the local level, while stimulating health practices of high impact such as immunization.

153. A renewed focus on nutrition is essential because of the multiple impacts on health, education and productivity. A way forward would be to scale up a package of interventions that

tackle stunting. Estimates of the impact of these programs indicate that they have a benefit to cost ratio of about 10, which compares favorably to other interventions.

154. Policies to improve water and sanitation will be required if health outcomes are to improve. Access to water and latrines in schools, along with the development of behaviors around washing hands are interventions to be considered. Urban development interventions need to include sanitation related ones.

155. The promotion of cleaner cooking solutions, particularly in urban areas, is key to reduce the burden of disease from indoor air pollution. Recent research points to the comparative advantage of ethanol when compared to improved charcoal cookstoves from a household air pollution point of view. Building on an initiative to monitor household air pollution in two towns in Madagascar, with a stratified sample of 154 and 184 households, Dasgupta et al. (2013)⁵⁷ investigated the effects of various factors, including fuel (charcoal, wood, and ethanol), stove type (traditional and improved ethanol), kitchen size, ventilation, building materials, and ambient environment. Judging by its comparatively lower production of fine particulate matter and carbon monoxide, ethanol is significantly cleaner than biomass fuels. Compared with traditional charcoal stoves, improved charcoal stoves were found to yield no significant improvements in air quality, although the improved wood stove with a chimney was effective in reducing concentrations of carbon monoxide in the kitchen, as was ventilation.

⁵⁷ Susmita Dasgupta, Paul Martin and Hussain A. Samad (2013), Addressing Household Air Pollution: A Case Study in Rural Madagascar. World Bank Policy Research Working Paper, No. 6627. World Bank: Washington DC.

Chapter 6. Tackling poverty – improving the lives of the rural poor

Summary:

- *The lack of progress in reducing extreme poverty in Madagascar is to a large extent due to the failure to improve the lives of the rural poor, a vast majority of whom work in agriculture or the informal sector. Eighty percent of people engaged in agriculture are poor compared to about 25 percent and 38 percent in the public and textiles sectors. Unemployment is low, since the poor cannot afford to be unemployed, but around 80 percent of the workforce is underemployed.*
- *Agricultural productivity is low in Madagascar and has been falling in the past 50 years. Low agricultural productivity can be attributed to limited use of improved technologies and weak extension services, limited availability and high costs of improved inputs, limited access to credit, deficient infrastructure, lack of land tenure security, soil degradation as well as a weak human capital base. High transport costs hinder access to markets and provide disincentives for investments.*
- *To improve agricultural productivity, efforts will be needed to improve rural infrastructure, enhance land tenure security, increase human capital of the poor, strengthen provision of extension services and increase access to improved inputs (fertilizer, seeds) and credit.*
- *Madagascar is one of the most climate vulnerable in the world and risks are likely to increase in the future. The poor are often the worst impacted by natural hazards because they have less ability to cope efficiently with the negative social and economic impacts on their lives.*
- *Poverty in Madagascar is closely linked to environmental degradation. The regions with highest poverty incidence and low productivity are also those with most acute environmental and land degradation. Degrading lands are often a consequence of poverty-driven short-sighted land management decisions, including deforestation and over-tilling of soils. Community-based natural resources management can be a pathway out of poverty, although the evidence so far is mixed, particularly in terms of reducing deforestation. Going forward, it will be important to revise the legal and regulatory framework for community based natural resources management.*
- *A better definition of the roles and mandates of disaster risk management institutions as well as stronger capacity of staff responsible for environmental and climate change risks management will be necessary to improve disaster risk management and to protect the poor from the negative impact of climate change.*

6.1 Diagnosis

156. **The lack of progress in reducing extreme poverty in Madagascar is to a large extent due to the failure to improve the lives of the rural poor, a vast majority of whom work in agriculture or the informal sector (usually both).** “Structural transformation” is not happening in Madagascar: more people are engaged in agriculture and productivity per worker in agriculture is falling. Constraints for structural transformation and poverty reduction include limited migration to urban areas, few job opportunities in urban areas, declining agricultural productivity, the vulnerability of poor households to a variety of risks and poor delivery of public goods and

services. Natural resources are being depleted, partly through overuse by the poor, which will affect the sustainability of growth and rural livelihoods.

MISSING STRUCTURAL TRANSFORMATION: MORE PEOPLE WORK IN AGRICULTURE AND THE INFORMAL SECTOR

157. Agricultural sector growth causes the largest decline in poverty, but growth in agriculture in the last decade has been very low – around half the average in Sub-Saharan Africa (SSA). Studies have shown that growth in agriculture and services has the largest impact on poverty reduction in SSA, while in other developing countries, it is growth in industry and services that reduces poverty the most. In SSA, a 10 percent increase in agricultural growth (respectively services growth) reduces the headcount by 6.7 percent and the poverty gap by 10.2 percent (respectively 9.4 percent and 12.3 percent).⁵⁸ In Madagascar, a 10 percent increase in agricultural growth reduces poverty by 14 percent compared to 4 percent for growth in mining and utilities. Agriculture in Madagascar grew by only 1.4 percent in 2000-2013 compared to about 7.6 percent on average in SSA.

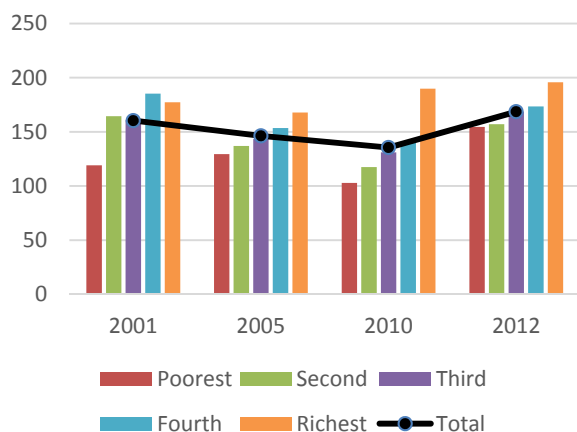
158. International experience suggests that improvements in agricultural productivity leads to structural transformation. According to a recent study (Herrendorf et al, 2013),⁵⁹ a structural transformation away from agriculture, triggered by a faster productivity gain in the sector, leads to higher income growth. The study finds that faster agricultural productivity growth raises the competitiveness of non-agricultural activities and fosters overall economic growth. This in turn raises income levels and the demand for non-agricultural goods. This process leads to a reallocation of resources from agriculture to non-agricultural sectors such as manufacturing and services as countries develop.

159. Labor productivity in the agriculture sector has been declining and there is no evidence of structural transformation in Madagascar. The share of the labor force working in agriculture has been increasing, and the average acreage cultivated per household decreased between 2001 and 2010 for the poorest 80 percent of the households before regaining ground in 2012; the per capita labor productivity in the sector has been falling (Figure 46).

⁵⁸ Estimates were taken from Africa's Pulse Vol. 8 which drew from Dorosh and Thurlow (2013). Dorosh and Thurlow, 2013: "Beyond Agriculture: Decomposing Nonagricultural Growth-Poverty Linkages in Africa." Paper presented at the "Sources of Growth and Poverty Reduction: The Role of Agriculture and Non-Agriculture under Structural Transformation" workshop at the World Bank, Washington, DC, September 16–17.

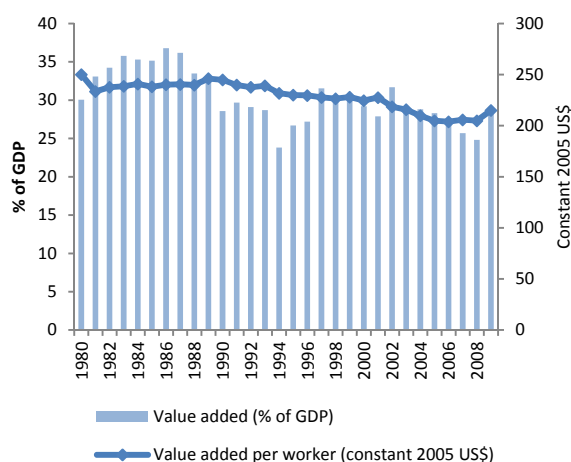
⁵⁹ Herrendorf, Berthold, Richard Rogerson and Ákos Valentinyi (2013): "Growth and Structural Transformation", NBER Working Paper 18996. <http://www.nber.org/papers/w18996>

Figure 45: Area of Economically Exploited Land by Year and Consumption Quintile (acre) (agricultural HH only)



Source: INSTAT, EPM 2001-2010 and ENSOMD 2012

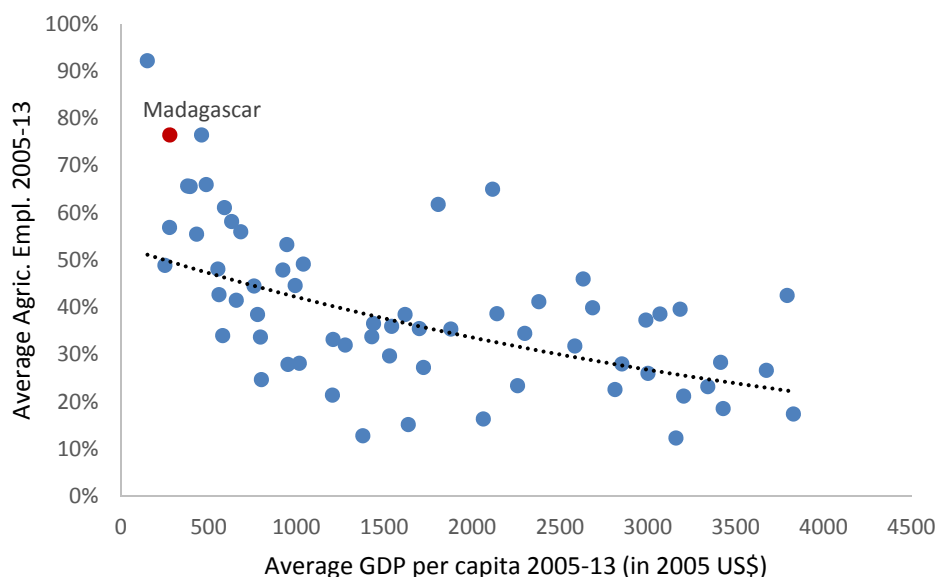
Figure 46: Value added per worker in agriculture sector



Source: FAO

160. A large majority of the country's labor force continues to be employed in agriculture, more than predicted by its income level (Figure 47). Agriculture (and fisheries) is the main source of employment followed by manufacturing and commerce. A vast majority (80 percent) of people engaged in agriculture are poor compared to about 25 percent and 38 percent of the workers respectively in the public sector and textile sectors.

Figure 47: Madagascar is insufficiently diversified out of agriculture for its level of income.

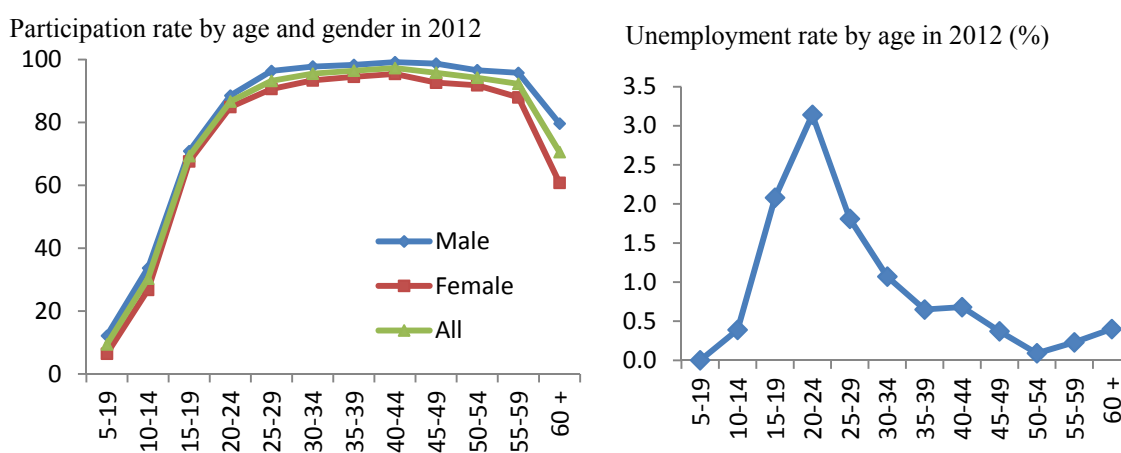


Source: World Bank, WDI.

Note: The sample is restricted to countries with average GDP per capita in 2005-2013 between US\$152 and US\$4,000.

161. **High participation rates and limited job opportunities outside agriculture explain the high share of the labor force in the agricultural sector.** While unemployment is very low, underemployment is rife at 80 percent of workers. One of the reasons to find a higher than predicted share of the labor force working in agriculture is that the demand for labor is weak, but the labor force participation rate is high (Figure 48, left panel). The official unemployment rate is low (3.4 percent in urban areas and nil in rural areas), essentially because the poor cannot afford not to work. The unemployment rate of the youth aged 20 to 29 is 3 percent compared to a national average of 0.6 percent (Figure 48, right panel). The majority of these youth are new entrants in the labor market but about 40 percent were unemployed following the loss of their previous job. According to the 2012 labor force survey (LFS), 8 out of 10 working individuals are underemployed⁶⁰ and most of them work in the informal sector. Among those who work outside the agriculture sector, the rate of underemployment in 2012 is 1 in 4. The rate of underemployment varies somewhat by regions: it is relatively lower in the capital region (Analamanga) and in the north (Diana) registering between 67-76 percent, whereas it reaches around 90 percent in some regions.

Figure 48: Labor force participation and unemployment rates (2012)



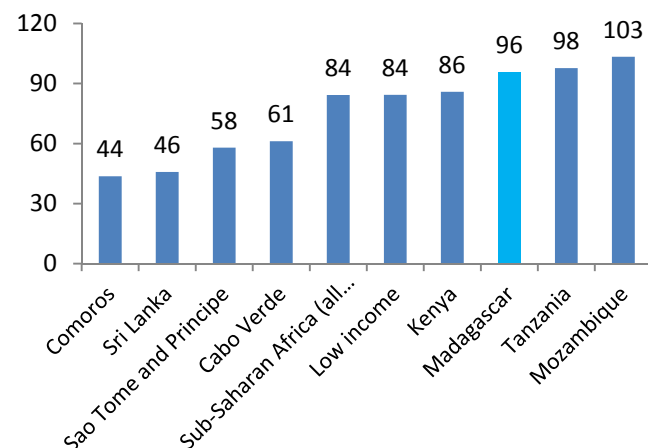
Source: INSTAT/DSM-United Nations Development Plan (UNDP)-International Labor Organization (ILO)-IRD/DIAL, ENEMPS 2012

162. **Malagasy women have a high participation in the labor force, but they still receive significantly lower wages than their male peers.** Women's participation in the labor force is higher than many comparator countries, with close to gender parity (see Figure 49), yet women earn less than men. The gender pay gap has been dropping in recent years – from over 40 percent in 2005 to 34 percent in 2010, but figures from the World Economic Forum (WEF) Global Gender Gap report suggest that wage inequality in Madagascar is still higher than in comparator countries (see Figure 50). In addition, the rate of underemployment is higher in women (87 percent) than in men (75.8 percent), and a substantially higher proportion of women than men working in

⁶⁰ Defined as those who are earning less than the official minimum wage of Ariary 100,000 (approximately US\$40) per month (in 2012). Source: INSTAT.

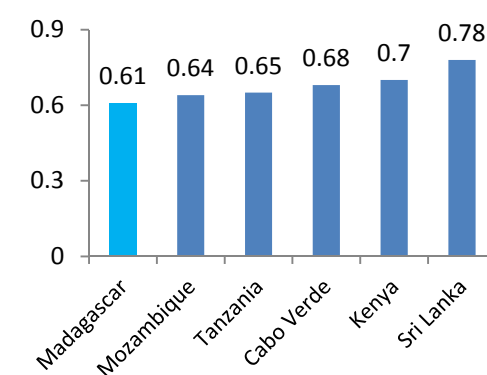
agriculture do not get paid for their work – 12.8 percent versus 1.8 percent (2008-9 Demographic and Health Survey).

Figure 49: Ratio of female to male labor force participation rate (%)



Source: International Labor Organization (ILO)

Figure 50: Female to Male Wage Ratio for Similar Work



Source: World Economic Forum Global Gender Gap 2014

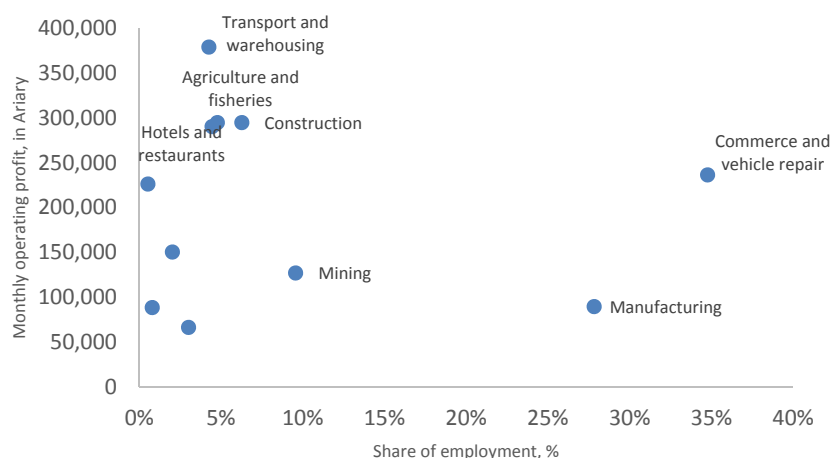
163. The country's non-agricultural private sector is dominated by self-employment and family workers. About 42 percent of the employed work in their own business and 18 percent help in their family's businesses. Large firms of over 100 workers only account for 4.5 percent of total employment. Most micro and small firms are not registered with statistical and tax authorities or with the social security agency. The registration process is different depending on the legal status of the firms. The *sociétés* (SA, SARL etc.) can register at the one stop shop but the *entreprises* (mostly owned by one person) must go through various steps involving various institutions. These include obtaining an authorization at the municipal level, a statistics number with the National Statistics Office and a tax identification number with the Tax Office.

164. Educated workers are less likely to be employed in the agriculture or informal sector. The workforce is highly segregated by levels of education. The less educated are mostly employed in agriculture, while the more educated are mostly employed in services and are more likely to work in manufacturing. The more educated are less likely to work in the informal sector (although the likelihood is still high at about 50 percent) and more likely to have a contract and social security coverage. Given the correlation between poverty and educational attainment, these findings again indicate that the composition of growth will benefit people with different levels of education to a varying degree and will impact the profile of poverty reduction. The findings also indicate that the contraction of employment in manufacturing that resulted from the crisis may have impacted the more educated workers more severely.

165. Sectors with a high share of employment have low levels of operating profits, but there are niche sectors with high levels of operating profit. For instance the average net monthly operating profit of informal enterprises in the manufacturing sector is about 100,000 Ariary, where operating profit is defined as profits minus costs including intermediate inputs, wages, rental of business location, cost utilities such as water and electricity etc. Certain niche informal activities,

such as transport and warehousing, construction, hotels and restaurants, have average operating profits above 300,000 Ariary per month.

Figure 51: Average operating profit by share of employment (informal sector)



Source: Author's calculations using data is from the MIES 2012

166. The artisanal mining sector is the third largest non-agricultural employer of the informal sector after commerce and manufacturing. It is almost entirely informal but far from being marginal for the economy.⁶¹ The country is well-known worldwide for its precious and semi-precious stones such as sapphire, ruby, aquamarine, tourmaline, topaz, amethyst and emerald. Their exploitation provides full-time or seasonal livelihood to up to 500,000 artisanal miners spread across the country. The sector also includes small-scale gold mining, artisanal extraction of alluvial gold, which is a secular livelihood activity in many regions of Madagascar. These activities sometimes bring significant impacts on health, safety, social and environment in rural areas or parks. In addition to coloured gemstones and gold, artisanal miners exploit decorative stones, industrial minerals (quartz, mica, feldspar) and building materials (cement, marble, kaolin, gypsum).

167. Artisanal fisheries are an important source of income for the poor, and are in urgent need of reorientation towards a sustainable path. The artisanal branch represents the vast majority of the fisheries sector, with an estimated 102,000 fishermen catching 135,000 tons on average annually, and relying heavily on marine resources for subsistence and income.⁶² The catch is sold almost exclusively to local markets as their products have difficulty getting certified for export. While no stock assessments have been conducted, the limited amount of data available indicates that most fisheries are in decline due to overfishing, habitat destruction, pollution and

⁶¹ According to *Bureau du Cadastre minier de Madagascar*, 70% of mining permits are artisanal.

⁶² The numbers are probably largely underestimated: there has been no recent census and many households practice fishing as part-time occupation or as means of supplementing their subsistence needs. Active population in Madagascar: 11.3 million (The World Bank, 2012)

climate change. There is a need to deepen fisheries value-chains and reorient the sector towards higher value-added and sustainable activities:

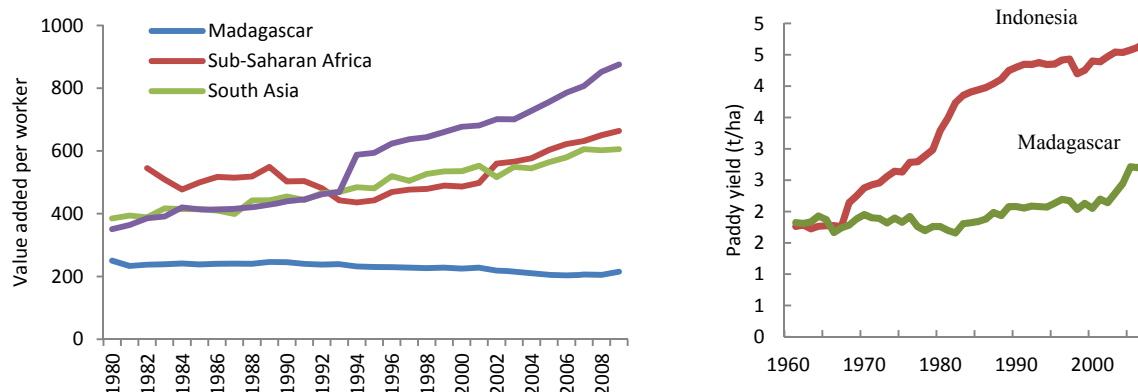
- *Developing artisanal fisheries value-chains, which have promising income generation potential for the poor in the current context of difficult access to markets and low value-addition.* Several constraints currently hamper this development, including systemic lack of access to finance and market barriers linked to certification requirements.
- *Engaging in sustainable co-management of fisheries.* Despite some successful but scattered initiatives, the overall sustainability of the resource is jeopardized by a lack of attention to fisheries management, and greater effort is required at the local, national and regional level.⁶³
- *Increasing aquaculture fish production for internal consumption, exports, job creation and reduction of the pressure on the marine ecosystems.* Several promising models are being developed in Madagascar and in the region, and greater attention to the facilitating environment is required to significantly scale up the approaches. Out-grower schemes in sea-cucumber aquaculture are tested to address rarefaction of the resource while supporting poverty reduction, and are progressively industrialized.

A CLOSER LOOK AT AGRICULTURAL PRODUCTIVITY IN MADAGASCAR

168. **Agricultural productivity in Madagascar is low and has been falling since the 1960s.** Agriculture value added per worker was merely US\$250 per worker (in constant 2005 dollars) in 1980, did not grow significantly in the 1980s, and contracted on average 1 percent per year in the 1990s and 2000s. Moreover, production of rice, Madagascar's main staple food crop, representing nearly 70 percent of agricultural production and accounting for 48 percent of total calorie consumption, has not kept pace with the increasing needs of the population. Over the past 30 years, rice production grew by 2.6 percent per year on average, mostly through area expansion rather than yield increase, while total calorie consumption expanded at around 3 percent per year. Madagascar's performance in agricultural productivity compares poorly to most other countries (Figure 52, left panel). Productivity growth is slow, while it has more than doubled in Indonesia, a country with similar agro-climatic potential, from a similar starting point in 1960 (Figure 52, right panel). Today, the yield gap in rice (defined as the difference between average yields achieved by farmers and maximum yields attainable under experimental conditions) is much larger in Madagascar (75 percent) than in Indonesia (20 percent). Other staple food crops are also characterized by average yields that are well below their potential: corn (0.9 t/ha actual vs a potential of 4 t/ha), beans (0.8 vs 2), cassava (7 vs 30), and potatoes (6 vs 20). The bulk of staple food is produced for self-consumption, with less than 25 percent of the production sold on markets. This limited market participation limits farmers' capacity to boosting productivity, which requires improved inputs that are acquired from cash flow generated by market sales.

⁶³ "Natural Capital Accounting and Management of the Malagasy Fisheries Sector". Le Manach et al, The World Bank, March 2013

Figure 52: Agricultural productivity in Madagascar is low and is declining unlike in other countries



Source: FAOSTAT

169. Low agricultural productivity in Madagascar can be attributed to multiple underlying causes, of which the following stand out:

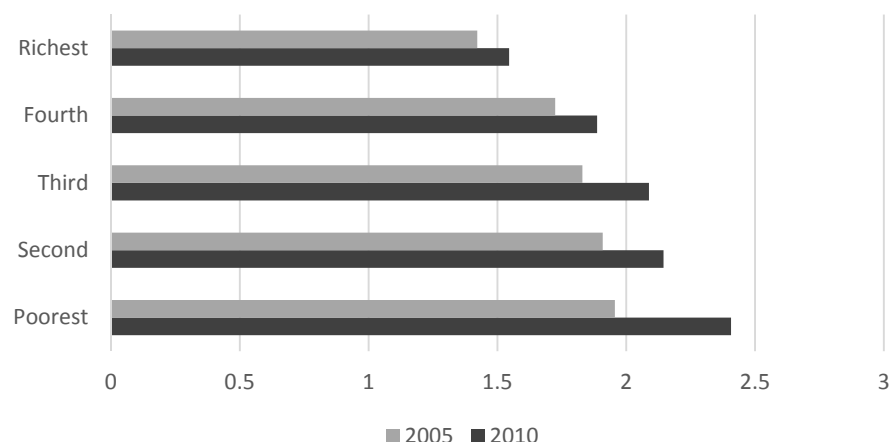
- **Use of outdated farming practices caused by producers' inadequate knowledge of improved technologies and compounded by a weak and ineffective extension service.** Experience from many countries suggests that the most effective way to deliver extension advisory services is through pluralistic systems that bring together public institutions, private firms, and civil society organizations. Such a pluralistic system does not exist in Madagascar. In the absence of a functional public extension service, donor-supported development projects have attempted to enlist the support of Non-governmental organizations (NGOs) and private firms in providing agricultural advisory services. This approach has not worked. The services available today are limited in terms of geographical coverage and highly uneven in terms of quality. More than 50 percent of rural households currently have no access to an extension agent of any kind (SSA 2009).
- **Limited availability and high cost of improved inputs,** (especially seed and fertilizer) resulting from poorly developed input distribution systems, high transportation costs, and a weak private sector. Returning to the comparison with Indonesia, only about 20 percent of the area planted to rice in Madagascar is planted with modern varieties, compared to 95 percent in Indonesia. Fertilizer use in Madagascar (5 kg/ha) similarly has lagged far behind fertilizer use in Indonesia (290 kg/ha) and has actually declined during more recent years (FAOSTAT 2009).
- **Low use of production credit,** stemming from a lack of effective demand for bank financing on the one hand and a lack of supply of appropriate financial services on the other. Many agricultural producers lack the knowledge and skills needed to access financing through the formal credit system, and those who do have the knowledge and skills are considered by banks to be unattractive clients because they can offer little in the way of collateral and plan to invest in risky activities. In the absence of effective demand, financial institutions in Madagascar make little effort to lend into the agricultural sector. Market penetration by financial institutions extends to only 20 percent of all communes, and only around 10 percent of rural households access credit to finance agricultural production activities (AGEPMF).

- **Deficient infrastructure for production, especially irrigation infrastructure and grain drying and storage facilities.** One of the major reasons for low productivity in rice, by far the most important crop, is the lack of effective water control. The proportion of total cultivated land classified as irrigated is relatively high by global standards—around 31 percent in 2005—but nearly three-quarters of the irrigated land is irrigated using micro-perimeters, many of which allow only poor water control (INSTAT 2008). Lack of irrigation infrastructure therefore continues to pose a major constraint.
- **Weak human capital base,** resulting from poor nutrition, inadequate rural health services, and prevalence of debilitating diseases, lack of skills (attributable to the lack of education opportunities for the rural population, particularly opportunities for vocational training), and poor organization (reflecting the absence of a tradition of formal and informal collaboration). According to the most recent census, 23 percent of the agricultural work force had not attended school at all, and an additional 63 percent had not progressed beyond primary school (INSTAT 2008). Poor health and nutrition status have a significant impact on the level of productivity. For example, according to the 2009 Demographic and Health Survey, 9.3 percent of adults had a fever or malaria in the 2 weeks prior to the survey, while 35 percent of women and 33 percent of men suffered from anemia. Anemia has been shown to result in 17 percent lower productivity in heavy manual labor and 5 percent in other manual labor. A bout of non-fatal malaria will typically last for 10–14 days, including 4–6 days of total incapacitation during which no farm work is possible.
- **Lack of land tenure security:** due to continuing reliance on traditional systems of land allocation and administration, which discourage investment in productivity-enhancing improvements, especially irrigation and terracing. Although 86 percent of the land used for agriculture is classified as privately owned, only 8 percent of household heads hold formal title to their land (INSTAT 2008).
- **Soil degradation closely linked to the high rates of deforestation** which are in turn an effect of poverty driven agricultural extension practices (known as ‘tavy’). These practices are also re-enforced by the widespread application of customary law in forest management, which allows for slash and burn as a mean to sustain livelihoods as population grows and agricultural land remains at low levels of productivity. Soil degradation makes the farmers more vulnerable to weather shocks and natural disasters.

170. **High transport costs and poor physical and informational connectivity reduce incentives for productivity-enhancing investments.** The considerable variation in prices across regions of the country indicate high domestic transport costs and poorly functioning information exchange. Many rural communities lack reliable access to the outside world. Where roads do exist, they are often in poor condition and impassible during the rainy season. The poor have to contend with great distances to reach food markets, urban centers and schools, although the distances covered are generally very high for even the richest segment of the population, and have increased between 2005 and 2010. For example, it takes over 90 minutes for the richest quintile to reach food markets, and over 144 minutes for the poorest quintile (Figure 53). The Rural Access Index for Madagascar, defined as the percentage of rural people who live within 2 km of an all-weather road, is 22.4 percent, extremely low even by developing country standards (World Bank 2009). Road maintenance is expensive, because the country is large and sparsely populated, and also because of the damage caused by frequent tropical storms and cyclones. Coverage of the rail network is limited to the more densely populated areas in the central plateau. Port facilities are for

the most part in poor condition. Consequently, only around 40 percent of agricultural production is sold, according to the estimates by Randrianarison et al (2009). In addition, the strong seasonal variability of prices of many leading commodities suggests a lack of reliable storage capacity.

Figure 53: Remoteness -- Time to Reach Food Market (Hours) by Household Consumption Quintile

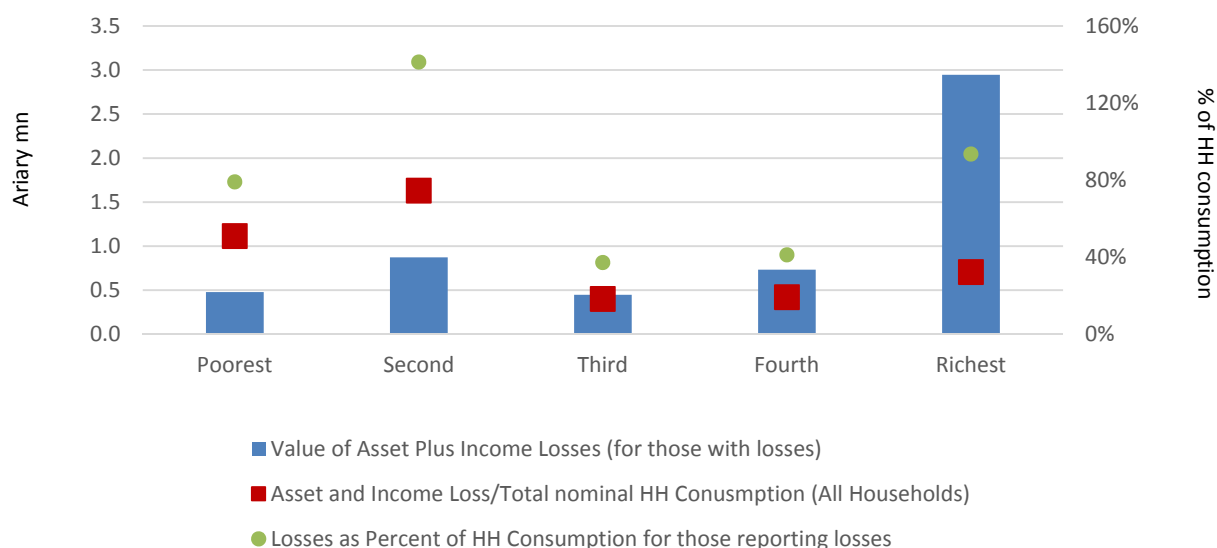


Source: INSTAT, EPM 2005-2010

171. **Output is also lost due to adverse shocks, many of them weather-related** as discussed in the first chapter. Although the nominal value of loss incurred is highest among the richest quintile of the population, the losses in income and assets combined resulting from all negative shocks as a share of household consumption is much higher for the bottom two quintiles of the population (figure 54). Such huge intermittent losses combined with the absence of mechanisms to address this risk is considered to be among the key constraints for the poor.⁶⁴

⁶⁴See, e.g., Christiansen and Dercon (2011), Osborne (2006), and Zimmerman and Carter (2003), which underscore the importance of risk in farmers' decisions to utilize lower-effort lower-return technologies.

Figure 54: Asset and Income Losses Due to Shocks, 2010



Source: ENSOMD 2012

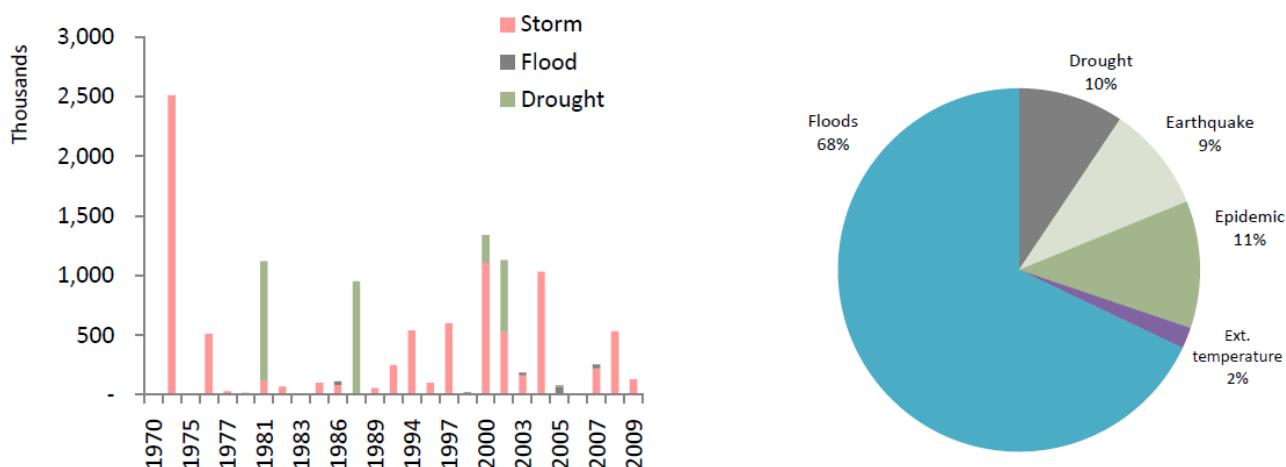
WEATHER RELATED SHOCKS EXACERBATE POVERTY

172. **Madagascar is one of the most climate vulnerable countries in the world with a poor and predominantly rural population, a high geographical exposure to climate events, and a lack of readily available resources to respond to and recover from natural disasters.** From 1980 to 2010, 53 natural hazards - including, droughts, earthquakes, epidemics, floods, cyclones, and extreme temperatures - affected Madagascar and caused economic damages of over US\$1 billion (Figure 55). These risks are projected to become more acute in the future, due to rising sea levels and increasingly severe and frequent droughts. In addition to human exposure, the country's infrastructure and urban zones, particularly in coastal areas, have not been developed to cope with the effects of existing and future climate events. Historically, the disaster risk management in Madagascar had focused on *ex post* response and recovery efforts, but there had been a growing recognition that it is important to give equal attention to pre-disaster planning and preparedness, by taking a resilience-building approach. The political crisis and the resulting withdrawal of many development partners halted efforts in this direction.

173. **The poor are the most impacted by natural hazards because they tend to choose lower priced lands located in disaster-prone areas and have less ability to efficiently cope with the negative social and economic impacts on their lives.** Over 4 million people currently live in zones at high risk of cyclones or floods. While Madagascar remains a predominately rural country,

potential urbanization in the future would increase vulnerability to disasters.⁶⁵ The recent storms and flooding that hit the country have revealed the fragility.

Figure 55: Number of people affected by the top three natural hazards (left) and average distribution of disasters reported each year in Madagascar (right)



Source: EM-DAT: The Office of Foreign Disaster Assistance (OFDA)/ Centre for Research on the Epidemiology of Disasters (CRED) International Disaster Database, Université Catholique de Louvain, Brussels, Belgium Data Version: V11.08

174. **Madagascar has one of the highest cyclone risks among African countries, with an average of three to four cyclones affecting the country every year.** Cyclone season begins in November and ends in March and can cause significant damage, including crop loss, increased incidence of disease outbreaks, degradation of coastal and marine ecosystems, disruption of critical urban services such as water and electricity, severe flooding, damages to infrastructure, and sometimes human casualties. In the last decades, several damaging cyclones have hit the country. In 2008, a more detailed economic analysis of the impacts of natural disasters was carried out following the arrival of three consecutive, severe cyclones.⁶⁶ These cyclones affected 84 percent of the territory, causing an economic loss equivalent to 4 percent of GDP and a decline of 0.3 percent in real GDP growth in 2008. Damage and losses of US\$103 million were experienced in the agricultural sector, US\$127 million in the housing and public administration sector, and US\$46 million in the transport sector. Rebuilding cost estimates were in the order of \$155 million.⁶⁷ Recent research suggests that while the frequency of cyclones will decrease along this part of the

⁶⁵ United Nations Department of Economic and Social Affairs (UN DESA) projects that half of Madagascar's population would live in urban areas by 2040 (World Urbanization Prospect 2014).

⁶⁶ Joint Damage, Loss and Needs Assessment, Republic of Madagascar, 2008.

⁶⁷ World Bank (GFDRR), 2010. A brief publication of the World Bank's Africa Region Sustainable Development Department: "Madagascar Disaster Risk Reduction Plan: Moving from disaster response to prevention."

Southern Indian Ocean, their intensity is projected to increase, and could severely impact the country's GDP (leading to a 38% decline in the balance of payments).⁶⁸

175. Driven by large-scale disruptions in atmospheric circulation and exacerbated by poor land use practices, droughts are a common occurrence in the south of Madagascar, with some areas receiving less than 400 mm of rainfall each year. Droughts pose a severe strain on subsistence livelihoods, leading to water shortages and crop loss. Between 1980 and 2009, five major droughts occurred with large impacts on agriculture and food security. According to the World Food Program in Madagascar, over the past years droughts have caused widespread failure of maize crops in the southern regions affecting more than 230,000 children under five years of age. Recent evidence of the prolonged nature of dry periods suggests the need to place increasing emphasis on livelihood diversification that can temper the impacts of future droughts for vulnerable populations.

176. Intense rainfall events caused by strong storms and tropical cyclones, coupled with poor land use practices and increasing deforestation, can lead to significant and damaging floods across the country. Floods cause damage to roads, bridges, houses, and crops, while also threatening the lives of hundreds of people that live in the affected areas. Over 30 floods or heavy rainfall events affected Madagascar in the past 30 years, killing hundreds of people and affecting thousands. The most damaging floods were those caused by hurricane Gloria, which killed 20 people, and tropical cyclone Elita, which killed 363 people and affected one million, causing economic damages of over US\$250 million.⁶⁹

177. Shoreline erosion caused by sea level rise is already a significant problem to the coastal ports and beaches of Madagascar. Coastal erosion as measured in 1997 was between 5.71 and 6.54 meters, and this is projected to increase exponentially by 2100. Critical infrastructure such as ports and roads are at risk from rising sea levels, as are unique biodiversity hotspots with coastal ecosystems such as the littoral forests on the sandy coastal plains of eastern Madagascar, which are already threatened by development and increased fragmentation.⁷⁰

178. In addition to the economic damage inflicted by a disaster, the preparation for future natural disasters will have an economic impact. The future costs of climate change adaptation (CCA) in sub-Saharan Africa are estimated to be in the order of 0.6 percent of GDP. The costs of adaptation in Sub-Saharan Africa are expected to be highest in the areas of water supply/flood protection and agriculture – a trend that is likely to be reflected at the national level in Madagascar given the apparent vulnerability of these sectors to projected climate change, despite the lack of accurate national estimates of priorities and budget needs for adaptation.

⁶⁸ UN News Service. Madagascar: floods, drought threaten lives of undernourished children, UNICEF warns. Published 2 March 2007.

⁶⁹ EM-DAT: The OFDA/CRED International Disaster Database.

⁷⁰ Climate Change National Adaptation Plan of Action of Madagascar, 2006.

Future Trends⁷¹

179. Rainfall is expected to decline in the south of the country, while cyclone intensity is projected to increase by almost 50 percent, with important implications for agriculture, food security and infrastructure. Between 1961 and 2005, rainfall declined in the central and east coastal regions and was accompanied by increases in the length of the dry spells. By 2065, rainfall in the southern part of the country is projected to increase during the summer months of January to April, and again in October through November- with one exception being the southernmost station, which in October may become drier. Also by 2065, rainfall in the southern part of the country is projected to decrease during May, with greater decreases projected inland through June and July, and also during August and September. Projected changes in rainfall are less certain for the north, with some models suggesting drier conditions and others suggesting wetter conditions. By 2100, the frequency of cyclones is projected to decrease over the Indian Ocean, particularly between September and December. Cyclone intensity, on the other hand, is projected to increase by 46 percent and shift northwards with implications for agriculture, food security, and infrastructure.

Sector Risks

180. Agriculture and social services are particularly exposed to risks from climate change and other natural hazards. Further to these general trends three key sectors: agriculture, health (and other social services) and fisheries were screened to better understand the drivers of impact as well as the current and future impact. Table 13 presents the overall risk to each sector, based on climate and geophysical hazards and sector potential impact, but adjusted for the sector's institutional readiness and for the challenges and opportunities presented by the larger development context. The results indicate where there are potential risks. Further consultations, diagnosis, and studies may be required to identify and ultimately reduce the risks posed by climate change and other natural hazards.

⁷¹ Cranfield University: Madagascar Climate Change Briefing and World Bank Climate Change Knowledge Portal.

Table 13: Overall Sector Exposure to Climate Change Risks

	AGRICULTURE		HEALTH AND OTHER SOCIAL SERVICES		FISHERIES	
	Historical/ Current	Future	Historical/ Current	Future	Historical/ Current	Future
Potential Impact						
Extreme Temperature						
Extreme Precipitation and Flooding						
Drought						
Sea Level Rise						
Storm Surge						
Strong Winds						
Overall Sector Potential Impact						
Institutional Readiness Score						
	5-Moderate		5-Moderate		5-Moderate	
Preliminary Sector Impact						

Source: World Bank staff estimates

181. **Climate change will affect agriculture through its negative impact on soil fertility and variations in rainfall and temperatures.** Agriculture is dominated by small-scale, predominantly subsistence farming that is rain-fed and based on traditional technologies. Deforestation and erosion, aggravated by the use of firewood as the primary source of fuel, are serious concerns. Climate change adds a layer to the vulnerability of this sector. Climatic changes will negatively impact soil fertility, particularly in highland areas where increased rainfall coupled with deforestation is decreasing soil cover through erosion⁷². Variations in rainfall and temperature, along with increased intensity of activity in some regions have already led to shifts in the farming schedule/calendars of local farmers, and consequently an increase in crop failure. Water supply for agriculture is expected to decrease.

182. **Madagascar's limited public health sector is vulnerable to climate variability and change, particularly with regard to the increased incidence of nutritional deficiencies and vector-borne diseases.** Projected temperature increases, coupled with warmer and more humid environments, could increase the incidence of malaria, diarrheal diseases, and acute respiratory infections. There is a potential for an elevation migration of the *Anopheles fluviatilis* malaria

⁷² United States Agency for International Development, 2008. Impacts of climate change on rural livelihoods in Madagascar and the potential for adaptation.

vector from endemic coastal areas to elevations above 1500 m. Diarrheal diseases are already a significant problem in the country and flooding may exacerbate these and other water-quality diseases, such as cholera, by increasing surface water pollution. Addressing the impacts of climate variability and change on the health sector requires addressing issues of poverty, sanitation, nutrition, and environmental degradation, all of which significantly hamper a community's vulnerability and capacity to adapt.

183. Offshore fish stocks have already been affected by increased sedimentation and runoff from the country's extensive river systems. This impacts corals as well as water acidity levels and temperatures in the productive deltas, all of which have already faced significant degradation from cyclones. An increased migration to new fishing grounds is well documented as are increased supplementary livelihoods in fishing communities and the occasional livelihood conversion altogether. Conversion from a fishing-based livelihood to a livelihood based principally on agriculture may not be a viable or sustainable alternative, but it is already being practiced. Fishermen have to travel longer distances out to sea to fish, creating an increased reliance on material and financial aid to obtain the necessary equipment (e.g. motors) to do so. Climate-related stresses, coupled with over-fishing, increase the vulnerability of fishing-based livelihoods. Onshore fishing is most vulnerable to water supply and quality, sedimentation, and the migration of species.⁷³

DEPLETING NATURAL CAPITAL AND POVERTY – A VICIOUS CIRCLE

184. Poverty in Madagascar is closely linked to land degradation and deforestation. Land degradation, defined as the temporary or permanent reduction in the productive capacity of land as a result of human action, affects 31 percent of the country. Seventy percent of the country is classified as agricultural land and in 2000, 53 percent of the population lived in areas with a high proportion of land degradation.⁷⁴ The most severe areas of land degradation are in the southwest, the eastern coast and highlands, a pattern which corresponds not only with the highest poverty rates, but also to the presence of lower fertility, highly erodible ferrallitic and ferruginous soils. Existing soil maps are based on global mapping which categorize Madagascar's soils into four broad classes: acidic ferrallitic soils located on the east coast and highlands, and ferruginous tropical soils in the west and south, which together cover nearly 70 percent of the country and are highly subject to erosion due to the topography on which they are located and their physical structure; and peaty hydromorphic soils in valley bottoms and alluvial soils on floodplains in the west of the country that are less susceptible to erosion and have higher fertility, but which cover

⁷³ The World Bank & United Nations International Strategy for Disaster Reduction (2007). Report on the Status of Disaster Risk Reduction in the Sub Saharan Africa (SSA) Region.

⁷⁴ McConnell W, Sweeney S & Mulley B. 2004. 'Physical and social access to land: spatio-temporal patterns of agricultural expansion in Madagascar'. *Agriculture, Ecosystems and Environment*, vol. 101, pp. 171-184.

only approximately 30 percent of the country. Between 1993 and 2003, 48 percent of hillsides in one study in the east of the country had suffered loss of soil quality.⁷⁵

185. Degrading lands are often a consequence of poverty driven short-sighted land management decisions, including deforestation and over-tilling of soils. The need to survive can compel a farmer to over-work fragile soils, or harvest the last trees on her farm, even if it jeopardizes future productivity.⁷⁶ Loss of soil fertility is traditionally blamed on tavy practices that employ nutrient depleting fire, short fallow periods and enhance erosion rates. In addition, Madagascar has suffered significant deforestation and forest fragmentation over the last 50 years (in large part owing to agriculture), with the forest cover decreasing almost 40 percent from the 1950s to 2000 and much of the remaining forest land being highly degraded.⁷⁷ In addition, much of the agricultural land is severely eroded owing to unsustainable land-use practices.⁷⁸

186. Woody biomass used as the dominant household energy source in Madagascar has also imposed significant threats to forests. The nation's current structure of household energy consumption is highly skewed. Around 95 percent of households depend on woody biomass, primarily wood and charcoal, with annual natural consumption of about 9 million cubic meters of firewood and 8.6 million cubic meters of wood as charcoal. Electricity, natural gas and kerosene provide cooking fuel for only a very small minority, with liquefied petroleum gas (LPG) accounting for 11 percent in urban areas while being negligible elsewhere.

187. The recent increase in forest felling implies an increasing number of people is potentially being brought into a poverty trap. Calculations of deforestation rates vary due to differences in specificity of different studies over time and differing definitions of forest. While deforestation rates had been declining, they have recently experienced a steep increase: deforestation at the national level was estimated at 0.83 percent between 1990 and 2000, 0.53 percent between 2000 and 2005, and 0.40 percent between 2005 and 2010.⁷⁹ More recent calculations of deforestation rates for the Eastern Humid Forest ecoregion are illustrative of increasing rates of deforestation⁸⁰: 0.50 percent between 2005 and 2010, and 0.94 percent between 2010 and 2013. Deforestation at the local level means that forest dependent communities may suddenly find themselves in low productivity crop-land which in turn translate into poorer livelihoods (Figure 56).

⁷⁵ Minten B. and Ralison E. 2003. 'Environnement, agriculture et pauvreté' in Bart Minten, Jean-Claude Randrianarisoa, and Lalaina Randrianarison (eds) *Agriculture, Pauvreté Rurale et Politiques Économiques a Madagascar*. Cornell University, Ithaca.

⁷⁶ World Bank 2015. The hidden dimensions of poverty: natural resources and the environment. Washington DC.

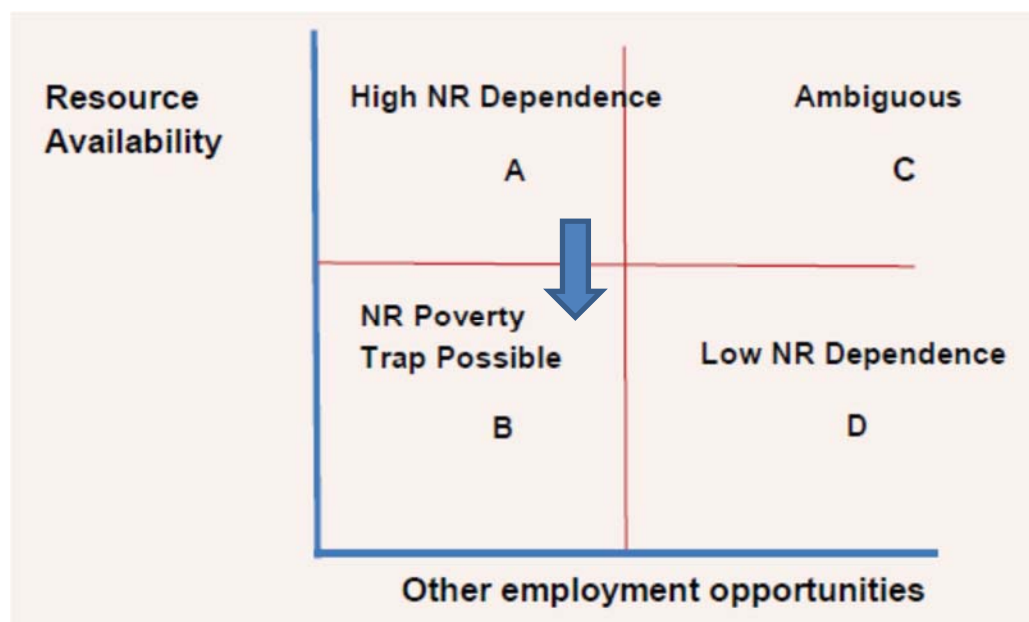
⁷⁷ Harper GJ, Steininger MK, Compton JT, Juhn D, Hawkins F. 2007 Fifty years of deforestation and forest fragmentation in Madagascar. *Environ. Conserv.* 34, 325–333.

⁷⁸ Styger E, Fernandes ECM, Rakotondrasamasy HM, Rajaobelinirina E. 2009 Degrading uplands in the rainforest region of Madagascar: fallow biomass, nutrient stocks, and soil nutrient availability. *Agroforestry Syst.* 77, 107–122.

⁷⁹ MEF - USAID et CI (2009) : *Évolution de la couverture des forêts naturelles 1990 – 2000 – 2005, Madagascar*. Analysis of Forest areas were carried out by Conservation International with support of USAID in 2007, while vegetation cover was taken from and National Forest Inventory carried out in 1996.

⁸⁰ Analysis carried out under the Additional Financing for the third Environment Program by a consortium including MEESF, WCS, ONE, EtcTerra and Madagascar National Parks. Results were presented on 5-6 August, 2014 and publication is anticipated for 2015.

Figure 56: Resource dependence, resource availability and opportunity



Source: World Bank 2015. *The hidden dimensions of poverty: natural resources and the environment*. Washington DC.

188. **Remaining forests represent a safety net to those living near them.** In poor communities across the world, the income derived from forests is on average equal in magnitude to revenue from crop sales. Neglecting this “hidden bounty” is analogous to ignoring the role of agriculture, the primary occupation in rural areas. Where there is adequate forest cover, the level of dependence on forests is surprisingly large (28 percent of income).⁸¹ In addition to timber resources, forests also provide hunting opportunities. In northeastern Madagascar (case study on the Makira Natural Park and Masoala National Park), the value of wildlife provisioning represented 57 percent of annual household cash income in local communities, and harvested areas produced an economic return of US\$ 0.42 ha per year.⁸² Forests and their wildlife can also be an important antidote against child malnutrition. In the same region of Madagascar, consuming more wildlife was associated with significantly higher hemoglobin concentrations. The empirical models demonstrate that removing access to wildlife would induce a 29 percent increase in the

⁸¹ Angelsen, A., Jagger, P., Babigumira, R., Belcher, B., Hogarth, N. J., Bauch, S., and Wunder, S. (2014). Environmental income and rural livelihoods: a global-comparative analysis. *World Development*, 64, S12-S28.

⁸² Golden, C. D., Bonds, M. H., Brashares, J. S., Rodolph Rasolofoniana, B. J., & Kremen, C. (2014). Economic valuation of subsistence harvest of wildlife in Madagascar. *Conservation biology*, 28(1), 234-243.

numbers of children suffering from anemia and a tripling of anemia cases among children in the poorest households.⁸³

Forest as a stepping stone out of poverty: mixed evidence

189. Community-based natural resource management (CBNRM) can be a pathway out of poverty. Forests can provide a source of income and food to the poor and chronically poor. Community-based NRM is one potential tool. The government legislated⁸⁴ on community-based NRM in the late 1990s to reduce deforestation and protect the significant part of the world's biodiversity that is endemic to Madagascar.⁸⁵ The number of community managed forest units increased rapidly and continues to grow.⁸⁶ The Madagascar-based Anja Miray Association runs a community forest reserve, using ecotourism to create jobs and fund basic social infrastructure such as schools, health clinics and environmental education centers. Prior to the initiative, the vast territory around the community was cleared every year for corn planting. Local communities were hunting the lemurs as a source of protein to supplement their poor food diet. Today, the forest is a popular attraction for tourists worldwide. Ecotourism has also provided substantial revenues for alternative farming and new investments in agriculture, fishery and tree nurseries, helping the community become self-sufficient in food.

190. In spite of encouraging examples, community-based natural resource management (NRM) has generally failed on its promise. A recent impact evaluation conducted by the World Bank⁸⁷ shows that decentralization of forest management to local communities in Madagascar has not, on average, achieved its forest conservation goal. In terms of deforestation, significant effects cannot be identified between community managed forests and non-community managed forests, even after restricting the treatment sample to those communities for which the forest management contract has been positively evaluated by the State. At the national level, the findings support the rather gloomy pictures of community forest management in Madagascar depicted in a number of institutional and policy studies.⁸⁸ To explain the ineffectiveness of community forest management,

⁸³ Golden, C. D., Fernald, L. C., Brashares, J. S., Rasolofoniaina, B. R., & Kremen, C. (2011). Benefits of wildlife consumption to child nutrition in a biodiversity hotspot. *Proceedings of the National Academy of Sciences*, 108(49), 19653-19656.

⁸⁴ Raik, D., 2007. Forest management in Madagascar : an historical overview. *Madagascar Conservation and Development*, 2(1), pp.5–10.

⁸⁵ Le Saout, S. et al., 2013. Protected areas and effective biodiversity conservation. *Science*, 342, pp.803–805.

⁸⁶ Aubert, S., Tchouso, A. & Razafarijaona, J., 2013. Les tenants et les aboutissants juridiques des transferts de gestion des ressources naturelles renouvelables. In P. Montagne & F. Rives, eds. *Kajiala. Tattali, Djekabaara. Valoriser les Produits pour Mieux Conserver les Forêts*. Antananarivo, Madagascar: CITE, pp. 49–67.

⁸⁷ Ralofoson, R., 2015. Effectiveness of Community Forest Management at reducing deforestation and improving human well-being in Madagascar. Draft.

⁸⁸ Pollini, J. et al., 2014. The transfer of natural resource management rights to local communities. In I. R. Scales, ed. *Conservation and Environmental Management in Madagascar*. Oxon, UK: Routledge, pp. 172–192; Pollini, J. & Lassoie, J.P., 2011. Trapping farmer communities within global environmental regimes: the case of the GELOSE legislation in Madagascar. *Society & Natural Resources*, 24(8), pp.814–830. Raik, D.B. & Decker, D.J., 2007. A multisector framework for assessing community-based forest management : lessons from Madagascar. *Ecology and*

these studies describe inadequate integration of local participation, ill-defined tenure security on forest land, gaps in the community based NRM regulations, resource capture by elites, unfulfilled support promises by different organizations, and lack of capacity of the community and the State, among other factors. While these studies point to institutional and policy shortcomings, the impact evaluation analysis undertaken by the World Bank suggests that at the national level community-based NRM has not delivered in terms of its central objective: reducing deforestation.

191. Community-based NRM has had minimal positive effects on well-being. The transfer of forest management rights to local communities has not improved household economic living standard at larger scale (municipality level). However, community-based NRM has enhanced the economic living standard at a smaller scale, that is, for households living nearer to the forest edge. This positive result for household nearer to the forest edge and the finding that community forest management has not reduced deforestation reveal the challenge of achieving conservation and development objectives simultaneously. This interpretation contrasts with evidence that participation of local communities in forest management leads to win-win conservation and well-being outcomes.^{89,90} The conservation and livelihood synergy may not be observed in Madagascar because the size of the impact, although positive, is quite small.

6.2 Opportunities and recommendations

192. For structural transformation to occur, the productivity in agriculture must rise and labor force participants must have alternatives to agriculture and informal sector jobs. Opportunities and recommendations for promoting vibrant private sector that creates jobs are discussed in Chapter 4. Improving agricultural productivity will require introduction of more productive methods coupled with improved rural infrastructure, enhanced land tenure security and higher human capital of the rural poor through better nutrition, access to health care and education system. The issues relating to human capital are discussed in Chapter 6. Opportunities and recommendations for the remaining aspects are discussed in turn below.

193. Strengthen private input distribution systems. Sustained productivity growth in agriculture will not be possible without continuous technological innovation, which depends (among other things) on the timely availability of improved inputs such as seed, fertilizer, and crop chemicals. Dissemination of modern crop varieties represents one of the largest potential “quick wins” in Malagasy agriculture. Stimulating the development of an efficient, profitable, and competitive fertilizer industry will require a two-pronged approach to strengthen demand for

Society, 12(1), pp.14–28; Rives, F. et al., 2013. Forest management devolution: gap between technicians’ design and villagers’ practices in Madagascar. *Environmental Management*, 52, pp.877–893; Urech, Z.L., Sorg, J.P. & Felber, H.R., 2013. Challenges for community-based forest management in the KoloAla site Manompana. *Environmental Management*, 51(3), pp.602–615. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/23337927>.

⁸⁹ Chhatre, A. & Agrawal, A., 2009. Trade-offs and synergies between carbon storage and livelihood benefits from forest commons. *Proceedings of the National Academy of Sciences of the United States of America*, 106(42), pp.17667–17670.

⁹⁰ Persha, L., Agrawal, A. & Chhatre, A., 2011. Social and ecological synergy: local rulemaking, forest livelihoods, and biodiversity conservation. *Science*, 331(6024), pp.1606–1608. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/21436453>.

fertilizer on the one hand and improve the supply of fertilizer on the other. State-led efforts to improving input distribution systems attempted in the past have been costly and inefficient. In recognition of past shortcomings, the government has developed national strategies for seed and fertilizer that rely on private-sector service delivery mechanisms. The implementation of these strategies, which had stalled during the crisis, should be resumed.

194. Overhaul agricultural advisory services. Improved inputs are unlikely to have much impact unless farmers know how to use them. Keeping farmers well informed and knowledgeable is the job of the extension system. In the absence of a public agricultural extension service, the only practical option for providing extension services is via private service providers and Non-governmental organizations (NGOs). In recent years, the government and several development partners have been attempting to promote the emergence of private advisory services by funding the establishment of *Centres de Services Agricoles* (CSAs), whose function is to help match users with service providers. Implementation of the CSA network has slowed during the political crisis. The long-term success of the initiative will depend on there being effective demand for agricultural services, because without effective demand, there will be no incentive for private service providers to emerge. For this reason, there is a need to continue to support the CSA approach by channeling funds to producer organizations for use in paying for advisory services, as is already being done through a number of development projects, and has been institutionalized through the *Fonds de Développement Agricole* (FDA). This will allow producers and producer organizations to engage private service, increasing the likelihood that a viable service provision industry will emerge. Efforts also are needed to strengthen producer organizations themselves, as these remain very underdeveloped in Madagascar compared to many other countries.

195. Exploit quick wins in farm-level infrastructure. Lack of infrastructure remains a major constraint at the farm level, particularly infrastructure related to irrigation and infrastructure needed for processing and storage of crops. There is evidence that relatively modest investments in small-scale infrastructure can have rapid and significant impacts on production. An urgent priority will be to expand irrigation by stimulating investment in affordable small-scale irrigation technologies (both gravity systems and pump-driven systems). A second urgent priority will be to promote investment in construction and effective use of village-level grain storage facilities. Most farmers in Madagascar are unable to store grain for extended periods without experiencing significant losses. As a result, they are forced to sell their production right after the harvest, when prices are low, and to buy grain later in the season, when prices are high. Access to storage facilities and functional grain warehousing systems, combined with the capacity of users to manage stocks effectively will enable them to secure household food supplies and time sales more strategically to take advantage of favorable prices

196. Improve roads serving high-potential production zones. Madagascar's farmers will not be able to make the transition from subsistence to commercial agriculture without significant improvements in the road network that links them to markets for inputs and outputs. Some of the nation's leading agricultural production zones remain poorly linked to Antananarivo and other major consumption centers. Similarly, agribusinesses located in and around urban areas will not be able to obtain reliable supplies of low-cost, high-quality raw materials without improved access to rural production zones. To ensure that investments are targeted to areas where they will have maximum impacts on growth, it is necessary to examine the relative emphasis on targeting primary

roads vs. secondary vs. tertiary roads, as well as the appropriate balance between constructing new roads and maintenance of existing roads.

197. Nurture local organizations which can demand policies and public services adapted to the farmers' needs. Although many of the constraints facing the agricultural sector in Madagascar are well known, as are many of the interventions needed to overcome those constraints, little progress has been made in the past because approaches have been overly top-down, with implementation too often entrusted to public agencies and parastatal companies who lacked capacity and commitment. The record of public service delivery is poor, in part because of the lack of social capital in rural communities, which generally has its roots in the limited knowledge and weak skills found among most of the rural population. Compared to most other developing countries, Madagascar has few well-functioning farmer associations, producer cooperatives, savings and loan societies, and other types of community self-help groups. Policy reforms and supporting investments are needed to stimulate the emergence of dynamic and vibrant local organizations which can generate effective demand for goods and services, and which can hold public service providers accountable by mobilizing political power.

198. Consider aligning with the process being promoted by the African Union through the Comprehensive Africa Agriculture Development Programme (CAADP). With the help of technical assistance and financial support made available through CAADP, more than 20 African countries have made significant progress during the past two years in developing national agricultural development strategies, preparing national agricultural investment plans and medium-term expenditure frameworks, and organizing roundtable events during which major stakeholders and partners have signed compacts committing themselves to supporting the implementation of the national agricultural development strategy. The CAADP process is one that could provide significant impetus to Madagascar's efforts to rebound from the crisis and restore the capacity and the authority of the public institutions working in the agricultural sector.

199. Make it a priority to protect the poor against natural disaster-related shocks, because they tend to be the largest negative shocks to the lives of the poor for which they are ill-equipped to cope, and also because mitigation and adaptation against natural disasters are unambiguously a public good, and hence the use of public resources to provide it is uncontroversial. While a zero risk is not expected, research show that the following investments are cost-effective and reduce the social and economic impacts of natural hazards:

- **Investing in risk reduction:** Studies have shown multiple economic benefits of investing in mitigation which varies depending on the scale, hazard type and type of interventions (structural or non-structural).
- **Investing in risk information:** The benefits of enhancing forecast information and making it available to the public is cost-effective. Investing in hydro-meteorological could also reap a cost-benefit ratio of 4 to 36.
- **Investing in disaster recovery:** The decision of investing in disaster recovery right after the relief can reverse the negative economic impacts of disasters in the long run. Having in place robust disaster risk financing strategies can help the country to address both recurrent as well as catastrophic events.

200. Poverty alleviation policies need to take into account the negative impact of environmental degradation on poverty. Environmental sustainability is not only or primarily

about preserving the pristine forests and beaches for tourism. The role of environmental and natural resources in poverty reduction has largely been ignored by governments and development partners alike, partly a consequence of the complexity of the interactions and the difficulties of measurement. Data on critical indicators, such as forest cover, fish stocks and water quality, have historically been sparse and inaccurate. The traditional focus of poverty measures on consumption rather than wealth levels, though justifiable on practicality grounds, has often diverted attention away from issues of resource availability and sustainability. The policies for poverty reduction need to take this consideration into account for them to be robust and accurate.

201. Fill the gaps in the community-based NRM legal and regulatory frameworks. The cornerstone of the community-based NRM legal framework is represented by the law called “*Gestion local sécurisée des ressources naturelles renouvelables*” or (GELOSE law), approved in 1996. The law was never complemented by a full body of regulations de facto leaving some key principles of the law without a clear implementation tool. Key gaps include: the delimitation of State land, which can then be transferred to local communities, leaving de facto unclear use rights on the land; clear guidelines for the management transfer to be considered by the municipality and in this way made compatible with the municipality’s land management plan; and, definition of the benefits the community has the right to obtain from the use of the resources being transferred. Subsequent decrees have not filled these important gaps and have given rise to contracts for which land tenure rights are not always clear, the participation of the municipality is only marginal, and the community could not see its needs fully represented.

202. Enhance coherence in sector policies with respect to natural resources management. In order to strengthen the land tenure and use rights of communities, some inconsistencies in the existing sector laws need to be dealt with. The issue is particularly important with respect to the land tenure legislation. The land tenure reform introduced in 2005 gave right to municipalities to recognize land use rights to private individuals. This responded to an obvious development need: ensure land tenure for farmers. However it made it more difficult for communities in charge of forest resources management to see their rights clearly recognized, unless the land comes clearly from the State’s private domain. Other gaps include the legislation on energy (e.g. rural electrification and use of biomass) and on mining. These two regulatory bodies do not make explicit reference to community-based NRM regulations opening the way to potential conflicts in the use of resources.

203. Strengthen the capacity for law enforcement. The key to functioning forest management contracts, whether with private operators or with local communities is the capacity to clearly apply the law and respond to non-compliance. Building capacity of judiciary, administration and civil society is necessary to improve effectiveness of the legislative framework. Strengthening of the capacity of all parties involved in the application of environmental legislation is required ranging from the judiciary to technical field agents. In addition, environmental justice and information needs to be taken to the people. Procedures need to be less complex and in line with the capacity of local communities to be involved meaningfully in environmental action and mechanisms such as traveling courts and/or reopening of local courts need to be supported. Another important element is the development of information tools capable of detecting pressure on natural resources at an early stage so as to be able to address the causes at the onset.

204. **Develop a landscape approach to project finance and carbon finance.** Involving communities into conservation will often require boosting agricultural productivity. Agricultural intensification will in turn require healthy watersheds and forests. Developing actions that are spatially integrated will mean a bigger solutions space and the possibility to exploit synergies across sectors. In addition, being a pioneer on forest carbon, Madagascar could potentially be a leader in addressing reforestation, reduced degradation, agriculture, and biomass energy in an integrated approach that enhances food security, increases the resilience of local communities and environments to climate change and raises new finance for conservation.

Chapter 7. Summary of Challenges

205. This chapter will suggest priorities from among the many constraints that have been analyzed in previous chapters to identify those that can be expected to have the largest impact in accelerating Madagascar's progress toward the goal of ending extreme poverty in a sustainable manner. As a reminder, this report is built on the premise that poor governance, which partially finds its origin in poor dynamics among economic elites and political instability, is affecting the ability of the State to collect revenues, contributing to a poor investment climate and thus low investment, and preventing proper control of the country's natural resources. The low level of fiscal revenues in turn prevents the State from undertaking investments to support a structural transformation of the economy and from providing sufficient basic services to develop the country's human capital. Weak economic growth, stagnating human capital, and fast population growth have translated into a continuously declining per capita income, leading communities to rely more and more on natural resources thus contributing to resource depletion. This resource degradation could reach such a level that it would prevent people from coming out of poverty. Each chapter makes a series of recommendations. The main ones are summarized in Table 14.

Table 14: Summary of main issues identified

Thematic issues	Broad Issues identified
Improving governance	<ol style="list-style-type: none"> 1. Understand the dynamic of degradation of law and order and reverse the trend by strengthening relevant entities; adopt decisive measures to stop trafficking of precious woods as a signal to end impunity and promote better local livelihood 2. Improve the center-periphery relations through decentralization (e.g. implementation of the existing law) and greater community engagement in economic and social processes 3. Weaken the elite bargain by cultivating counter-powers, (e.g., civil society, press and national assembly) empowering citizens with access to information, and protecting press freedom
Strengthening public finances, a pre-condition for improving public service delivery and financing high impact investments	<ol style="list-style-type: none"> 4. Increase tax revenues by tackling the underlying causes of low collection 5. Establish or re-institute budget oversight mechanisms to create greater accountability and better performance on the expenditure side 6. Finalize PPP framework to engage the private sector in financing infrastructure and service delivery
Instituting policies that help unleash the private sector potential	<ol style="list-style-type: none"> 7. Provide priority complementary public investments in areas propitious for private sector development and job creation (e.g. seeking partnerships in air transport to unleash tourism potential) 8. Identify and prioritize policy reforms through the new public-private dialogue platform to improve investment climate and promote FDI, to enhance the performance of the judicial sector, and to address anti-competitive behaviors and enhance firms' corporate governance 9. Address the main constraints identified by the private sector: reliable access to electricity, broader access to finance, and expanded transport infrastructure. Where relevant, improve governance and performance of state-owned enterprises

Thematic issues	Broad Issues identified
Aiming for higher human capital	<ol style="list-style-type: none"> 10. Support the poorest in accessing education, basic health, and nutrition through the development and implementation of a social protection policy (such as conditional cash transfer programs) 11. Improve the quality and equity of education by investing in pre- and in-service training for all teachers, improving the distribution of teachers across the country, and gradually integrating trained community teachers in the system while maintaining local accountability mechanisms 12. Prioritize and invest in first-level rural health facilities, train and distribute health personnel across the country, and remove out-of-pocket costs at facility levels, particularly for poorest communities 13. Renew focus on nutrition and scale up interventions that tackle stunting 14. Implement policies and increase investment to improve water and sanitation, starting in large urban areas
Tackling poverty – improving the lives of the rural poor	<ol style="list-style-type: none"> 15. Improve agricultural productivity through the introduction of more productive methods, support for local organizations, financing for better farm-level and road infrastructure, enhanced land security, and higher human capital 16. Enhance management of natural resources, by improving the mechanisms through which communities benefit from it, adopting a landscape approach that integrates mechanisms for better watershed and forest management, and strengthening the capacity of law enforcement 17. Institute mechanisms for protecting the poor from weather-related shocks through mitigation and prevention measures and disaster response financing mechanisms

206. **To define priority interventions, each of the challenges identified above was assessed against a set of criteria, the first of which is the impact on reducing extreme poverty:**

- *Impact on poverty reduction:* To what degree will the reforms proposed impact the reduction of poverty and ensure a sustainable increase in the welfare of the less well off? The main area assessed in here is the impact that the proposed reform has on raising the income of the poor and the most vulnerable.
- *Time horizon of impacts:* Over what timeframe will the impact be realized? Madagascar has five-year presidential and legislative terms and the Government has developed a five-year National Development Plan that runs until 2019. In a context of repeated political instability, the State faces the difficult challenge of asserting its authority by demonstrating to all Malagasy people that it can quickly deliver results for them. Still some of the priority issues will be longer term, as many of the challenges are structural and related to moving the country to a new growth path that will require time to be implemented. Short period is considered when impact of the reforms could be achieved in 1-2 years, medium in 3-5 years and long period beyond 5 years. It is important to note that recommendations that may have an impact on poverty in the long term need to be initiated in the short term for the impact to materialize in the long term.
- *Preconditions:* To what degree does this issue need to be addressed in order to unlock wider potential in other areas? This criterion assesses whether the reform identified would serve as a building block to reforms supported in other areas.

- *Contribution to reducing fragility*: To what degree does the issue have the potential of contributing to a reduction of instability over the long term by strengthening checks-and-balances on elites and on natural resources management, and/or by improving social cohesion across the country (including through decentralization)?
- *Evidence-base*: Based on the quality of the evidence, how confident are we in the identification of the issue as a priority? This criterion acknowledges reforms in which not enough granularity can be offered and additional analytical work is required to better detail a reform plan.
- *Political capital required*: This criterion assesses the political cost that the intended reform will have on the government. The political cost reflects the fact that some rights, privileges or support are removed from existing beneficiaries as well as the fact that the reform will have substantial redistributive impact. Those rated as high are expected to have strong resistance from a narrow but powerful base of vested interests, while those rated as medium are expected to confront strong resistance from the population at large. A low rating would signal mild opposition to the reform proposed.

207. The main criterion for selection of the challenge as a priority is its impact on poverty reduction. The second and third most relevant criteria are the time horizon for the challenge to affect poverty and the ability to reduce sources of fragility. Under each thematic group of issues, the recommendations are thus ranked per that order, starting with the ones that will have the largest impact on poverty reduction within the shortest time. Table 15 summarizes the results of the desk prioritization assessment, followed by a description of the challenges identified and how they are assessed against the main criteria selected.

Table 15: Criteria for prioritizing opportunities and constraints

	Constraint	Impact on poverty goal	Time horizon of impacts	Pre-condition?	Contribution to reducing fragility	Evidence base	Political capital required
		small medium large	short medium long	yes no	low medium high	weak medium strong	low medium high
Governance	1. Understand the dynamic of degradation of law and order and reverse the trend by strengthening relevant entities; adopt decisive measures to stop trafficking of precious woods as a signal to end impunity and promote better local livelihood	Medium	Medium	Yes	High	Weak	Medium
	2. Improve the center-periphery relations through decentralization (e.g. implementation of the existing law) and greater community engagement in economic and social processes	Medium	Long	Yes	High	Medium	High
	3. Weaken the elite bargain by cultivating counter-powers, (e.g., civil society, press and national assembly) empowering citizens with access to information, and protecting press freedom	Small	Long	Yes	High	Medium	High
Public Finance	4. Increase tax revenues by tackling the underlying causes of low collection	Large	Short	Yes	High	Strong	High
	5. Establish or re-institute budget oversight mechanisms to create greater accountability and better performance on the expenditure side	Medium	Medium	Yes	Medium	Strong	High
	6. Finalize PPP framework to engage the private sector in the financing of infrastructure and service delivery	Small	Medium	No	Low	Medium	Low
Private sector	7. Provide priority complementary public investments in areas propitious for private sector development and job creation (e.g. seeking partnerships in air transport to unleash tourism potential)	Large	Medium	Yes	Medium	Medium	Low
	8. Identify and prioritize policy reforms through the new public-private dialogue platform to improve investment climate and promote FDI, to enhance the performance of the judicial sector, and to address anti-competitive behaviors and enhance firms' corporate governance	Medium	Short	Yes	Medium	Strong	Low

	Constraint	Impact on poverty goal small medium large	Time horizon of impacts short medium long	Pre-condition? yes no	Contribution to reducing fragility low medium high	Evidence base weak medium strong	Political capital required low medium high
Human capital	9. Address the main constraints identified by the private sector: reliable access to electricity, broader access to finance, and expanded transport infrastructure. Where relevant, improve governance and performance of state-owned enterprises	Large	Long	Yes	Medium	Strong	High
	10. Support the poorest in accessing education, basic health, and nutrition through the development and implementation of a social protection policy (such as conditional cash transfer programs)	Medium	Short	No	Medium	Strong	Low
	11. Improve the quality and equity of education by investing in pre- and in-service training for all teachers, improving the distribution of teachers across the country, and gradually integrating trained community teachers in the system, while maintaining local accountability mechanisms	Medium	Long	No	Low	Strong	Low
	12. Prioritize and invest in first-level rural health facilities, train and distribute health personnel across the country, and remove out-of-pocket costs at facility levels, particularly for poorest communities	Medium	Long	No	Low	Strong	Low
	13. Renew focus on nutrition and scale up interventions that tackle stunting	Medium	Long	No	Low	Strong	Low
	14. Implement policies and increase investment to improve water and sanitation, starting in large urban areas	Medium	Long	No	Medium	Low	Low
	15. Improve agricultural productivity through the introduction of more productive methods, support for local organizations, financing for better farm-level and road infrastructure, enhanced land security, and higher human capital	Large	Medium	Yes	Medium	Medium	Low
	16. Enhance management of natural resources, by improving the mechanisms through which communities benefit from it, adopting a landscape approach that integrates mechanisms for better watershed and forest management, and strengthening the capacity for law enforcement	Medium	Long	Yes	High	Medium	Medium
Rural poverty	17. Institute mechanisms for protecting the poor from weather-related shocks through mitigation and prevention measures and disaster response financing mechanisms	Medium	Long	No	Low	Medium	Low

208. Madagascar's sustained development is hampered by several governance challenges originating in the concentration of political and economic powers within a few networks led by powerful leaders. This balance of power creates a bias in the provision of public goods and services in favor of the center, although the capital has the lowest incidence of extreme poverty (see paras. 7 to 18 for an overview of poverty). The fight for resources among those networks generates recurrent political crises that interrupt growth spurts and discourage investment (see paras. 25-34). Political instability is reported as the top impediment to doing business by firms (see paras. 39; 43). Three types of actions could be supported to address those weaknesses:

- *Understand the dynamic of degradation of law and order and reverse the trend by strengthening relevant entities (e.g., anti-corruption bureau, security forces, justice services); adopt decisive measures to stop trafficking of precious woods as a signal to end impunity and promote shared prosperity* – Periods of instability have created an environment complicit for trafficking, growing insecurity, and a weakening respect for law and order (see paras. 44-46). The pillage of precious woods is symbolic of how poor governance can erode the country's asset base with few development returns to the country as a whole and to the local communities in affected areas (paras. 20-24). There are ongoing efforts to strengthen the anti-corruption agency and to update the national governance strategy, but more systematic efforts, including greater monitoring of the effectiveness of those actions and stronger international cooperation on combating organized crime, are needed. Such measures will likely run into strong resistance from networks who will favor maintaining the status quo.
- *Improve center-periphery relations through decentralization and greater community engagement in economic and social processes* – The limited public resources are devoted primarily to financing the functioning of the central administration, at the expense of social services and public investment (see paras. 38, 61-62). The success of participatory budgeting at the commune level suggests that moving public decision making closer to the people by decentralizing may help make policies more responsive to ordinary citizens' needs. While successive governments in Madagascar have discussed and promised decentralization since at least the 1990s, most public finances and decision-making remain centralized. (see paras. 68-70). Implementing the existing law on decentralization would allow for a greater share of the public finances to be determined at the local level. In the long run, such reform could have a strong impact on both inclusiveness and sustainability, thus reducing significantly the risks of fragility. It would likely face some resistance from the central administration. Further analysis would be required to design implementation mechanisms.
- *Weaken the elite bargain by cultivating counter-powers, (e.g., civil society, press and national assembly) empowering citizens with access to information, and protecting press freedom* – As institutions tend to be controlled by elite networks, there is a need for a stronger system of checks-and-balances on the government and this could be done by (i) reinforcing the capacity of Parliament so they are better able to legislate and scrutinize the actions of the government (e.g. stronger and more regular engagement in the budgetary process), (ii) supporting measures to improve the regulatory framework and capacity of CSOs, particularly the ones operating beyond the capital, and (iii) adopting a communication code protecting the freedom of the press and guaranteeing citizens' rights to access to information (see paras. 40-41). While these measures would not by themselves have an immediate impact on poverty reduction, they would help limit over time the sources of political instability.

209. Madagascar's development is also hampered by the lack of revenues and poor provision of services. Tax potential has been estimated at 15 percent of GDP, compared to the current level of 9.7

percent, one of the lowest in the world (see paras. 53-59). Low revenues, compounded by the drying up of external financing during the 2009-2013 crisis, meant that Madagascar has maintained macroeconomic stability by cutting drastically spending on social services and investment. Over 40 percent of public resources are allocated to civil service wage bill and in 2014, nearly half of the discretionary spending went to regressive subsidies for fuel and electricity (see paras. 60-62). A priority is thus to strengthen public finances, a pre-condition to improving public service delivery and financing high impact investments. The following actions are recommended:

- *Increase tax revenues by tackling the underlying causes of low collection* – Tax policies are generally sound, but tax administration is weak, compliance is low, monitoring is scarce, and there is no effective mechanism to sanction agents who engage in corruption (see paras. 55-57). If measures are adopted and implemented forcefully, they could quickly help finance a tangible increase in service delivery and investments, which – if well targeted – could have a significant impact on poverty. It is undeniable that such reforms will face opposition from some agents and from businesses that have benefited until now from privileged treatment.
- *Establish or re-institute budget oversight mechanisms to create greater accountability and better performance on the expenditure side* – the regulatory framework for public financial management policies has been improving as a result of a series of reforms in budgeting, procurement, and treasury and cash management over the last decade. Still, implementation has been weak and deteriorated during the last crisis (see paras. 66-67). It is thus recommended to operationalize the system to investigate and sanction wrong-doing by civil servants; to audit and publish financial accounts of the government and submit them for scrutiny by the National Assembly in a timely manner; enforce rules for procurement to assure value for money; and clean up the extra-budgetary procedures.
- *Finalize PPP framework to engage the private sector in the financing of infrastructure and service delivery* – building on past experiences in the telecom, energy and transport sectors, the government has expressed strong interest in expanding public-private partnerships as a way to finance and deliver better services to the people. It will require finalizing and adopting the PPP law and strengthening capacity at the Ministry of Finance and the Ministry for Presidential Projects, Equipment, and Territorial Development so that PPPs are technically and financially sound (see paras. 74-75). Such measures should not meet any opposition, though some groups may oppose them as “privatizations.”

210. Unleashing private sector potential will be key to accelerating economic growth. The country has diverse endowments and the private sector (outside of agriculture) is small but diversified, which is an asset for stability. The business environment is constrained, however, by strong administrative red-tape favoring back-channel relationships, back-hand rewards and unfair practices. Disruptions caused by the recurrent political crises make long-term planning difficult and investment riskier, especially for those without connections. The findings of the Doing Business and Enterprise Surveys demonstrate that the private sector is also constrained by poor access to social, financial and physical infrastructure (see paras. 80-86). The formal SME sector remains small and a large share of informal firms do not see any benefits from formalization. Although they do not contribute to the central government revenue, they pay “contributions” to local governments (see paras. 87-90). Three broad areas of reforms are proposed:

- *Provide priority complementary public investments in areas propitious for private sector development and job creation* – with targeted public interventions, some sectors could rebound quickly and generate employment, particularly in urban areas: textile and garment, agribusiness and industrial fisheries, tourism, and extractive industries (see paras. 102-113). Many of the specific measures such as increasing competition of the rice market or seeking regional partnerships on air transport would likely run into strong opposition, but they could have a large

impact on job creation, including for workers with limited skills. By providing opportunities for increased income to a large number, those measures could also reduce the willingness of low-income groups to accept payments in exchange for their participation in political events, thus contributing to greater stability.

- *Identify and prioritize policy reforms through the new public-private dialogue platform to improve investment climate and promote FDI, to enhance the performance of the judicial sector, and to address anti-competitive behaviors and enhance firms' corporate governance* – the establishment of a credible public-private platform would help ensure that the priority measures that the government wishes to adopt to improve private sector growth and employment benefit from the views of the private sector (see paras. 114-115). The implementation of measures aiming at improving the investment climate could be spearheaded by the Economic Development Board of Madagascar. Such measures are straightforward to develop and together with political stability, could encourage a rapid growth of investments and the generation of jobs, particularly in urban areas.
- *Address the main constraints identified by the private sector: reliable access to electricity, broader access to finance, and expanded transport infrastructure* – the difficulty of *accessing electricity*, a major impediment for investors, is a consequence of three factors: weak government capacity to supervise the sector, poor governance in the sector, as well as poor performance of the SOE in charge of urban electricity, JIRAMA (see paras. 91-92; 116). The measure that would have the greatest short-term impact on business profitability would be to improve the performance of JIRAMA. The *financial system* is mostly stable but long-term financing is largely unavailable, financing costs are high, and few individuals access it (see paras. 93-99). Increasing financial intermediation will hinge on a combination of supply-side measures (e.g., promoting competition and product innovation), demand-side measures (e.g., improving firms' business plans) and financial system improvements (e.g., credit bureau, collateral registries, strengthening the capacity of supervising entity). Increasing access to finance, primarily for SMEs and individuals, will require enhancing the use of alternative payment services such as mobile phones and improving financial literacy (see paras. 118-120). Beyond the immediate need to rehabilitate some core transport corridors, the transport sector would benefit from continuing reforms that had been initiated in the 2000s to improve the management of the sector and develop a medium-term plan of prioritized investments (see paras. 100; 121-123). The level of complexity of these reforms means that their impact will be felt in the medium to long term, but it would have a strong positive impact on generating employment and reducing poverty.

211. Madagascar's long-term development will depend on the country's ability to invest in higher human capital. The low labor productivity undermines the country's cost advantage arising from low wages. It is partly due to low and stagnant educational attainment, but also poor health and nutrition. Not only the system is not yet capable of providing education to all children, it is failing to prepare students for both the formal and informal sectors. The country does not fare better on health outcomes: while there have been some gains in the reduction of child mortality, maternal mortality is stagnating at a high rate of 500 per 100,000 live births, chronic malnutrition among children under five is one of the highest in the world, and immunization coverage has decreased in recent years. Those problems affect disproportionately the poor. They are compounded by persistently high fertility and population growth rates (respectively, 4.6 births per woman and 2.8 percent growth), and by one of the lowest access rates to safe drinking water and sanitation. In education, health and nutrition, the main constraints are first and foremost a lack of public resources and, second, a better targeting of the financial and human resources so that they help the poorest access those services at a limited out-of-pocket cost (see paras. 130-139). While measures to improve access to education, health and nutrition would not have an

immediate large impact on poverty, other than lowering out-of-pocket costs in the short term, they would be welcomed by communities as tangible signs that the government is intent on providing services to all Malagasy people. Based on a recent Public Expenditure Review of those sectors, the main recommendations are the following:

- *Support the poorest in accessing education, basic health, and nutrition through the development and implementation of a social protection policy (such as conditional cash transfer programs) –* it is essential to limit out-of-pocket costs to families so they send their children to schools, can enhance their nutrition and are not reluctant to go to the first-level rural health centers. Systems such as conditional cash transfers or second-chance education programs for children who have been out of school for long periods have proven effective in other countries in reducing the number of out-of-school children and improving health coverage (see para. 145). One challenge is for the Government to develop a strategy for social protection while already starting to deliver some flagship initiatives to meet people's high expectations. The main challenge in adopting such measures and implementing them consistently over time is one of availability of financial resources.
- *Improve the quality and equity of education by investing in pre- and in-service training for all teachers, improving the distribution of teachers across the country, and gradually integrating trained community teachers in the system, while maintaining local accountability mechanisms –* quality of education is highly correlated with the quality of teachers. Madagascar has to tackle several challenges: reverse the declining trend in public financing for education so it can do more than finance civil servant teachers; focus on training teachers and particularly community teachers, 90 percent of whom do not have any teaching certificate; ensure that teachers are located across the country in a way that matches the distribution of children; and implement a policy to regularize gradually qualified community teachers (see para. 132 and box 3). The main challenge in implementing these measures will not only be financial, but also in managing the expectations of community teachers and in keeping parents engaged in the local decision making and monitoring of performance (close to 80 percent of the teachers are community teachers, a third of whom are entirely financed by parents).
- *Prioritize and invest in first-level rural health facilities, train and distribute health personnel across the country, and remove out-of-pocket costs at facility levels, particularly for poorest communities –* a similar set of recommendations applies to the health sector, focusing on community health workers. The use of results-based financing could encourage better availability of resources at the facility level (see paras. 150-151).
- *Renew focus on nutrition by scaling up interventions that tackle stunting and implement policies to improve water and sanitation, starting in urban areas –* poor nutrition, limited access to safe drinking water and sanitation and indoor air pollution have negative impacts on public health, education attainment, and poverty. Actions to address those constraints would have a sustained impact on poverty over the longer term. Research is ongoing to identify optimal intervention packages to address chronic malnutrition.

212. The lack of progress in reducing extreme poverty is to a large extent due to the failure to improve the lives of the rural poor, a vast majority of whom work in agriculture or the informal sector and depend on natural resources for their livelihoods. Labor productivity in the agriculture sector has been declining over the past 50 years. It can be attributed to limited use of improved technologies and weak extension services, limited availability and high costs of improved inputs, limited access to credit, deficient infrastructure (e.g., irrigation infrastructure, storage and roads), lack of land tenure security, soil degradation as well as weak human capital base (see paras. 157-162; 168-170).

Reducing rural poverty will require a set of actions to improve agricultural productivity but also to increase resilience and improve natural resources management:

- *Improve agricultural productivity through the introduction of more productive methods, support for local organizations, financing for better farm-level and road infrastructure, enhanced land security, and higher human capital* – the shortcomings that have been identified as plaguing the agricultural sector for decades lead to a set of recommendations that are straightforward, well-researched, and accepted by a large number of stakeholders, but they are complex in their implementation (see paras. 192-198). These would have the largest and most sustained impact on poverty reduction.
- *Enhance management of natural resources, by improving the mechanisms through which communities benefit from it, adopting a landscape approach that integrates mechanisms for better watershed and forest management, and strengthening the capacity of law enforcement* – a better management of natural resources is essential to ensure that poor rural communities have the opportunity to improve their livelihoods in a sustainable way. Land degradation and deforestation are mostly consequences of short-sighted actions that farmers make to survive, even if they jeopardize future productivity (see paras. 184-188). It is compounded by weak law enforcement. Community-based natural resource management can be a pathway out of poverty though the evidence has been mixed (see paras. 189-191; 200-204). More analysis and experimentation would be required to ensure complementarity of poverty reduction measures and sustainability.
- *Institute mechanisms for protecting the poor from weather-related shocks through mitigation and prevention measures and disaster response financing mechanisms* – Madagascar is one of the most climate-vulnerable countries in the world, suffering from high exposure to climate-related events and of a lack of readily available resources to respond and recover. Climate-related events are expected to worsen over the next 50 years: rainfall in the south of the country would decline while cyclone intensity would increase by 50 percent, potentially affecting agriculture, fishing, and social services (see paras. 172-182). A combination of measures to mitigate the impact of disasters, to increase preparedness of the communities, and to accelerate post-disaster recovery would limit the impact of such disasters on poor people (see para. 199). There is no constraint to implementing such measures other than the availability of public resources.

213. The prioritization exercise also highlights additional trade-offs around impact, time horizons and political opposition to reforms which suggests the need to sequence reforms and ensure complementarity. A few measures can improve rapidly the lives of a large number of people. Lifting the financial constraint is essential to expanding investments for infrastructure and in basic services but would require adopting measures that will face strong opposition from groups that have benefitted from tax and customs exonerations and from subsidies. . Enabling private sector growth, on the other hand, would not require major public financing, could have a rapid and sizeable impact on poverty, particularly in urban areas, and would not be met by unsurmountable resistance from vested interests. Efforts to increase agricultural productivity and improve natural resources management would have the largest impact on extreme poverty, but only over the medium to long term. All recommendations to increase human capital require additional financing, reinforcing the need to prioritize lifting the financial constraint, and while they do not reduce poverty significantly overnight, they bring hope of a better future. Finally, when measures are to be implemented at the local level, it would be beneficial to do so by strengthening local governments and enhancing communities' participation as this would likely reduce the country's fragility.

214. **Part of the financial constraint has to be lifted with the help of development partners.** Many donors have started increasing their funding for Madagascar and are considering further increases. They are encouraged by the government's efforts to develop a National Development Plan and an Implementation Plan. One critical factor in their decision is likely to be the willingness and ability of the government to break with past practices and tackle some reforms that would generate large public goods, but require overcoming strong vested interests. A better management of public finances is an example of such reform.

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The University of Queensland, SMI Centre for Social Responsibility in Mining	2015	Economic contributions from industrial mining in Madagascar.
Spence, M. and M. Lewis	2009	Health and growth. <i>World Bank Publications</i>
Stifel, D., F. Forster, and C. Barrett	2010	"The Evolution of Groupwise Poverty in Madagascar, 1999-2005," <i>Journal of African Economies</i> . March 30
Styger E, Fernandes, ECM., Rakotondrasamasy, HM. and E. Rajaobelinirina	2009	Degrading uplands in the rainforest region of Madagascar: fallow biomass, nutrient stocks, and soil nutrient availability. <i>Agroforestry Syst.</i> 77, 107–122
Sunley, E.	2014	Madagascar's fiscal regimes for Mining: a preliminary assessment. <i>World Bank Publications</i> .
UNICEF/ World Bank	2012	South Madagascar Multiple Indicator Cluster Survey (MICS)
United Nations Department of Economic and Social Affairs, Population Division	2014	World Urbanization Prospect 2014 http://esa.un.org/unpd/wup/
United States Agency for International Development	2008	Impacts of climate change on rural livelihoods in Madagascar and the potential for adaptation
Urech, Z.L., Sorg, J.P. and H.R. Felber	2013	Challenges for community-based forest management in the KoloAla site Manompana. <i>Environmental Management</i> , 51(3), pp.602–615. Available at: http://www.ncbi.nlm.nih.gov/pubmed/23337927
WFP	2011	Madagascar - Comprehensive Food and Nutrition Security and Vulnerability Analysis
Weber, M.	1978	Economy and Society: An Outline of Interpretive Sociology
World Bank	2004	Decentralization in Madagascar
World Bank	2007	Assessing labor market conditions in Madagascar, 2001-2005
World Bank	2007	The role of employment and earnings for shared growth – Madagascar (Draft)
World Bank	2008	Developing the workforce, Shaping the future: Transformation of Madagascar's post-basic education
World Bank	2008	Making work pay in Madagascar. Employment, growth and poverty reduction
World Bank	2009	Civil society and social accountability in Madagascar
World Bank	2010	Bilan des actions pilotes du budget participatif à Madagascar
World Bank	2010	Governance and development effectiveness review. A political economy analysis of governance in Madagascar
World Bank	2010	Vers un agenda de relance économique
World Bank	2010	Labor markets conditions in Madagascar
World Bank	2010	Vulnerable places, vulnerable people. Trade liberalization, rural poverty and the environment
World Bank	2010	Décentralisation : A Necessary Utopia
World Bank	2010	Mimeo : A study tour on learning from Brazil's successful design and implementation of Participatory Budgeting
World Bank	2012	Après trois ans de crise: Evaluation de la vulnérabilité et des politiques sociales et perspectives d'avenir

Author	Year	Title
World Bank	2012	Light manufacturing in Africa : targeted policies to enhance private investment and create jobs
World Bank	2012	National Survey of Health Facilities (Enquête sur l'Etat des Formations Sanitaires EEFS) 2012
World Bank	2013	Indian Ocean Islands Tourism Review: Madagascar dealing with challenges in the tourism sector in Madagascar
World Bank	2013	Enterprise Survey (2013)
World Bank	2013	Note exploratoire sur l'analyse des dépenses déconcentrées à Madagascar
World Bank	2014	Face of poverty in Madagascar: Poverty, Gender, and Inequality Assessment
World Bank	2014	Opportunities and challenges for inclusive and resilient growth : compendium of policy notes for Madagascar
World Bank	2014	Madagascar's fiscal regimes for mining: a preliminary assessment
World Bank	2014	Les Priorités pour une chaine de la dépense plus efficace
World Bank	2014	Decentralization background paper
World Bank	2014	Mettre fin à la fragilité : construire le présent à partir du futur
World Bank	2014	Doing Business (2014)
World Bank	2014	Program Document for Reengagement DPO, Report No. 90809-MG
World Bank	2014	Madagascar Assessment of the Drivers of Fragility and Resilience, Fragility Hub
World Bank	2015	The hidden dimensions of poverty: natural resources and the environment.
World Bank	2015	World Development Report: Mind, Society, and Behavior
World Bank	<i>forthcoming</i>	Madagascar poverty and inequality update: recent trends and analytical findings
World Bank/ UN	2012	Madagascar MICS 2012 report
World Bank and UNICEF	2015	Madagascar 2014 Public Expenditure Review: Education and Health
World Bank & United Nations International Strategy for Disaster Reduction	2007	Report on the Status of Disaster Risk Reduction in the Sub Saharan Africa (SSA) Region
Zimmerman, F.J. and M.R. Carter	2003	Asset Smoothing, Consumption Smoothing, and the Reproduction of Inequality under Risk and Subsistence Constraints. Journal of Development Economics 71 (2), 233–260.
	2011	Reproductive health at a glance
	2012	National Microfinance Strategy (2008-2012)
	2012	Madagascar: Three Years into the Crisis: An assessment of Vulnerability and Social Policies and Prospects for the Future
	2013	US Department of State Human Rights Report on Madagascar, 2013
	2013	Madagascar: Land Policy Reform: Perspectives and Prospects, Overview

Author	Year	Title
	2014	Atlas of African Health Statistics 2014 - Health situation analysis of the African Region
	2014	Levelling the Field (on gender differentials in agricultural productivity)
	2014	Change in wealth per capita database
	2014	Comprehensive wealth tables with aggregates
		Health statistical yearbooks, 2008-2012

Annex 2. Data limitations

Sector	Data	Quality
Mining	Almost no government statistics; EITI reports and other pieces have made public a range of information	Moderate
Water and sanitation	Water supply and sanitation facilities database at Ministry of Water since 2007 and used to monitor and evaluate the sector performance (increasing access and sustaining services delivery). Collection and consolidation of data not made in systematic manner due to staffing and information gathering constraints. Monitoring system not operational in all 22 regions, as lack of human, financial, logistic resources does not allow systematic data gathering, check of facilities' conditions, nor relay of information to central level (responsible for update of the functionality data and predictive indicators). Inconsistency observed with data produced by other sources (INSTAT and Joint Monitoring Program by Water and Sanitation Program) despite attempts to revisit definition of objectives and indicators, and harmonize terminologies to allow data reliability, consistency and comparability at local and global level.	Moderate
Environment	Wealth estimates and change of wealth estimates The state of resource depletion in Madagascar Cost of environmental protection	Moderate Good Moderate
Agriculture	FAOSTAT. 2009. United Nations Food and Agriculture Organization. Agricultural Statistics, INSTAT Statistiques Agricoles 2007	
Fisheries	Lack of robust data on stocks, catch volumes and economic values of resources. Official data on catch volumes underestimated as they fail to account for important sub-sectors and illegal catches. Most of local management agencies suffer from a lack of human, technical and financial resources and suffer the effects of regular changes in personnel and Ministerial direction.	
Finance	Global Financial Inclusion Database – FinDex World Bank Enterprise Survey Database IMF Financial Access Data Doing Business Data FinStats CPIA Stats Central Bank Annual Report (for banking sector data/ratios) APIMF/CSBF data on Microfinance institutions GSMA data on Mobile Money	Good Good Moderate Good Moderate Poor Moderate Moderate Moderate
Macro	National accounts statistics, price data available from INSTAT Monetary and aggregate BoP statistics available from Central Bank of Madagascar Budget allocation and execution available from Tresor public	Moderate Good Moderate
Gender	Demographic and Household Survey (2008-9) Malaria Indicators Survey (2013) Enquête Périodiques auprès des Ménages, EPM, 2010 Global financial inclusion database Madagascar - Comprehensive Food Security, Nutrition and Vulnerability Survey 2010 ENQUETE NATIONALE SUR LE TRAVAIL DES ENFANTS A MADAGASCAR 2007 Women, Business, and the Law database Madagascar MICS 2012 National survey on employment and the informal sector, 2012	Good Good Good Moderate Good
Poverty	ENSOMD and OMD surveys EPM 2010 household data	Moderate/ poor Moderate
Informality	Enterprise surveys (2009, 2013) Informal enterprise survey 2014	
ICT	Statistics agencies: ITU, TeleGeography National ICT regulator	Good Moderate
Energy and electricity	iea.gov, Enterprise Surveys, etc.	Moderate

Annex 3. Knowledge gaps to be filled in the CPF period

1. Studies being undertaken

- Poverty update (since 2010), poverty rates, inequality movements.
- Recent developments in increasing informality and loss of formal sector jobs during the political crisis
- Alternative job opportunities to subsistence farming, how to move back urban workers who lost formal jobs migrated into agriculture part or full time
- Madagascar's potential for agribusiness
- Evaluation of tax apparatus
- Urban service delivery and integrated urban water management

2. Studies to be undertaken

- Analysis of the 2014 business survey
- Political economy analysis of Malagasy private sector
- Strategy for collecting more taxes (possibly at decentralized levels)
- Decentralization: evaluation of why it has not progressed despite the long track record of discussion, and how it may help to reduce fragility
- Partner for reforms: who are (potential) demanders of reforms?
- Public Investments and (medium term) debt: how to prioritize very scarce resources, and the overall financing strategy