

COUNTRY PROFILE: MOZAMBIQUE

Overview of Mozambique's health system

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**SOCIAL
INNOVATION
IN HEALTH
INITIATIVE**

CONTENTS

LIST OF ABBREVIATIONS.....	i
EXECUTIVE SUMMARY	i
1. COUNTRY AT A GLANCE	1
2. COUNTRY CONTEXT	3
2.1 Country history and political system	3
2.2 Population.....	4
2.3 Economy.....	4
2.4 Environment.....	5
3. HEALTH SYSTEM.....	5
3.1 Overview	5
3.2 Organization	5
3.3 Capacity.....	6
3.4 Policy environment	7
3.5 Health financing	8
3.6 Country disease profile.....	8
4. INNOVATION ECO-SYSTEM.....	10
REFERENCES.....	11

LIST OF TABLES

Table 1. Economic measures of Mozambique	4
Table 2. Number of facilities and health workers per population, Mozambique	6
Table 3. Health financing data for Mozambique, 2014.....	8
Table 4. Disease profile for Mozambique	8

LIST OF ABBREVIATIONS

AIDS	Acquired immune deficiency disease
ANC	African National Congress
FRELIMO	Mozambican Liberation Front
HDI	Human development index
HIV	Human immunodeficiency virus
NGO	Non-governmental organisation
OOP	Out of pocket
RENAMO	Mozambican National Resistance
SDSMAS	District Services for Health, Women, and Social Action
SNS	National Health Service
US\$	United States dollar
WHO	World Health Organization

EXECUTIVE SUMMARY

Mozambique stretches along the Indian Ocean coast from Cabo Delgado in the north and past the capital city of Maputo in the south. Two-thirds of the population of 27 216 276 inhabitants are based in rural areas and the population is ethnically diverse with fluid ethnic categories that reflect the country's colonial history. Almost half of Mozambicans practise traditional religions, two-fifths adhere to a form of Christianity, and less than one-fifth are Muslims. Under the 1990 constitution, Mozambique's government became a democracy. With an annual growth rate averaging 7% over the past two decades, Mozambique's gross domestic product growth reached 5.9% in the first quarter of 2015 and is said to have been supported by trade, manufacturing, extractive industries, transport, communication, and electricity production. However, rapid growth has only had a moderate impact on poverty reduction, and the Mozambican government has prioritised social spending in response. The country ranked 180th out of 188 countries in the most recent Human Development Index, with the adult literacy rate at 56% and average life expectancy at just 55 years. Mozambique's disease burden includes a high prevalence of HIV/AIDS and other communicable diseases, high maternal mortality, and increasing rates of non-communicable diseases. Mozambique is heavily reliant on external donors, which fund half of total health expenditures through vertical interventions, making it difficult to coordinate partners and finances. The Mozambican government aims to invest in scientific research and technological innovation through the development of 40 "clusters" or "innovation aggregates", with each cluster comprising a series of production, regulatory, research, and service bodies in various fields.

1. COUNTRY AT A GLANCE

Component	Details/indicator/year	Data
Population	Total population (2014)	27 216 276 ^a
	Percentage of urban vs. rural (2014)	Urban: 32, rural: 68 ^a
Geography	Mozambique consists of lowlands in the south that narrow to a coastal plain in the north. The land rises gently from east to west, with high plains in the centre and north, and mountainous regions in the northwest. The Zambezi valley, a part of the Eastern Rift Valley, is Mozambique's most prominent geographic feature. The climate is largely seasonal and tropical, with the exception of the highland areas. ^b	
Ethnic composition	Ethnically diverse groups, including the Makua-Lomwe, Tsonga, Sena, Ndaou, Chopi, Chewa, Yao, Makonde, and Ngoni. ^b	
Government	Under the 1990 constitution, Mozambique's government became democratic, implementing multi-party elections, universal adult suffrage, presidential term limits, and a parliament. The president serves as head of state and government, and can be elected for up to two five-year terms. Members of the legislature, the Assembly of the Republic, are also elected for five-year terms. The judicial system consists of the Supreme Court, the Administrative Court, and lower courts. The country is divided into 10 provinces, with the capital at Maputo. ^b	
Economic and infrastructure data	GDP per capita (purchasing power parity) (2014)	US\$ 1 129.3 (current international dollars) ^a
	Economic growth as percentage of GDP (2014)	7.2 ^a
	Gini-index (2013)	45.7 ^c
	HDI (2014)	0.416 (ranked 180) ^d
	Percentage of people below national poverty line (2008)	54.7 ^a
	Percentage of unemployment (2014)	22.6 ^a
	Percentage of adult literacy (2009)	51 ^a
	Education gender parity index (2013)	0.91 ^a
	Percentage of population with access to sanitation (2015)	Access to improved drinking water: 51 (urban: 81, rural: 37) ^a Access to improved sanitation facilities: 21 (urban: 42, rural: 10) ^a
	Percentage of population with access to electricity (2012)	20.2 ^a

Health system	Health expenditure as percentage of GDP (2014)	7.0 ^a
	Annual public expenditure on health as percentage of total health expenditure (2014)	56.4 ^a
	Health expenditure per person (2014)	US\$ 42 (current US\$) ^a
	Number of physicians per 1 000 population (2012)	0.04 ^a
	Number of nurses and midwives per 1 000 population (2012)	0.4 ^a
	Percentage of births with skilled attendants (2011)	54 ^a
	Average life expectancy in years (2014)	55 ^a
Disease burden	HIV prevalence as percentage among adults aged 15–49 (2014)	10.6 ^d
	Deaths due to AIDS (2014)	45 000 ^e
	Deaths due to non-communicable diseases (2012)	72 600 ^f
	Deaths due to homicide (2012)	852 ^f
	Maternal mortality rate per 100 000 births (2015)	489 ^a
	Infant mortality rate per 1 000 births (2015)	57 ^a
	Under-five mortality rate per 1 000 births (2015)	79 ^a
Top five causes of mortality as percentage of deaths (2012)^g	1. HIV/AIDS	26.2
	2. Lower respiratory infections	7.6
	3. Malaria	5.6
	4. Diarrhoeal diseases	4.8
	5. Tuberculosis	3.8
Top five causes of DALYs (2012)^g	1. HIV/TB/malaria	ND
	2. Maternal/neonatal/nutritional	ND
	3. Other infectious diseases	ND
	4. Unintentional injuries	ND
	5. Other non-communicable diseases	ND

GDP: gross domestic product; gini-index: measures the extent to which the distribution of income (or consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution; HDI: human development index; DALYs: disability-adjusted life years.
Sources: ^a World Bank (2015b); ^b Penvenne and Sheldon (2015); ^c UNDP (2013); ^d UNDP (2015); ^e Joint United Nations Programme on HIV and AIDS (2014); ^h WHO (2012); ^g WHO (2015c).

2. COUNTRY CONTEXT

2.1 COUNTRY HISTORY AND POLITICAL SYSTEM

In the 3rd century, Bantu-speaking tribes from west-central Africa moved into the area currently known as Mozambique and by the 11th century, the Shona Empire had developed between the Limpopo and Zambezi rivers. In the late 15th century, Portuguese explorers had dropped anchor off the Mozambican coast and by the 17th century, Portuguese colonists had set up trading posts and mining enterprises in the interior, parceling out land to European settlers. Mozambique soon became a slave-trading centre and while slave trade from Mozambique was outlawed in Portugal in 1842, the practice continued. Mozambique's western and southern borders were defined in 1891 by Portugal and Britain. Lourenço Marques became the colonial capital in 1902 and by 1932, Portugal had imposed a direct rule over the colony, which started attracting thousands of new Portuguese settlers (BBC, 2015).

An opposition group, formed by exiled activists and headed by Eduardo Mondlane, met in Tanzania in 1962 and formed the Mozambique Liberation Front (FRELIMO). Two years later, FRELIMO initiated a war of independence, taking control of much of Northern Mozambique. Following a military coup in Portugal in 1974, 250 000 Portuguese inhabitants left Mozambique given that the new Portuguese government supported autonomy for its colonies. In the same year, a transitional government was established after FRELIMO and Portugal signed the Lusaka Accord. By 1975, Mozambique had become fully independent, with FRELIMO ruling under a single-party system with Samora Machel as president and Lourenço Marques was renamed to Maputo shortly thereafter (BBC, 2015).

An anti-FRELIMO group called the Mozambican National Resistance (RENAMO) was set up in 1976 and was supported by white Rhodesian officers, resulting in Mozambique imposing economic sanctions against Rhodesia. RENAMO was supported by South Africa after the collapse of the Rhodesian regime. Under the Nkomati accord in 1984, Mozambique dropped its support for the African National Congress, in return for the withdrawal of South Africa's support for RENAMO. President Machel was killed in an air crash in 1986 and Joaquim Chissano became president. The government amended its constitution in 1990 to allow a multi-party political system and initial talks took place between the government and RENAMO in which a peace deal was signed in Rome in 1992 (BBC, 2015). This agreement marked the transition from civil war to peace, culminating in the country's first democratic elections of 1994 and the emergence of FRELIMO as the dominant political force in the country (World Bank, 2015a). Chissano was reelected in 1994 and in the following year, Mozambique became a member of the Commonwealth. Chissano defeated Renamo's Dhlakama in presidential elections in 1999. In June 2002, independence struggle veteran Armando Guebuza was chosen as the FRELIMO candidate for 2004 presidential elections after Chissano had declined to run for a third term and Guebeza was subsequently inaugurated as president in 2005. In 2009, President Guebuza was re-elected with more than 75% of the vote (BBC, 2015).

In subsequent years, the tension between RENAMO and the government has escalated resulting in RENAMO pulling out of the 1992 peace deal. Additionally, in 2014, hundreds fled the south district of Homoine after fighting erupted between government forces and RENAMO rebels. Filipe Nyusi, FRELIMO's presidential candidate, won presidential and legislative elections in October 2014 and was inaugurated in January 2015 (BBC, 2015). In the same election, RENAMO more than doubled its seats in parliament and proposed a decentralisation of the current political system to allow it to rule those provinces where it came out ahead in the polls (World Bank, 2015a).

2.2 POPULATION

Mozambique's population is about 27 million, two-thirds of whom live in rural areas (World Bank, 2015b). The country's fluid ethnic categories reflect its colonial history. All inhabitants of the country were designated Portuguese in 1961 and some ethnic classifications such as Makua-Lomwe were created by colonial Portuguese officials themselves. Other groups include the Tsonga, Sena, Ndau, Chopi, Chewa, Yao, Makonde, and Ngoni. Portuguese, the official language, is used as a lingua franca by two-fifths of the population. Other languages include the Bantu branch of the Niger-Congo language group, including Makua, Lomwe, Tsonga, Sena, Shona, and Chuabo. Mozambique also shares languages with surrounding countries, such as Swahili, Shona, Shangaan, and Nguni languages such as Zulu and Swati. European and Asian language-speaking groups are based mainly in port cities like Maputo and Beira. Makua and Lomwe are spoken by almost half of the population, dominating most of northeastern Mozambique. Almost half of Mozambicans practice traditional religions, with two-fifths adhering to some form of Christianity and fewer than one-fifth being Muslims (Penvenne and Sheldon, 2015). Life expectancy is 55 years (World Bank, 2015b) and the median age is quite low, at just over 17 years (United Nations, 2015).

2.3 ECONOMY

Table 1. Economic measures of Mozambique

Indicator/year	Data
GDP per capita (purchasing power parity) (2014)	US\$ 1 129.3 (current international dollars) ^a
Economic growth as percentage of GDP (2014)	7.2 ^a
Debt as percentage of GDP (2014)	60.1 ^b
Gini-index (2013)	45.7 ^c
HDI (2014)	0.416 (ranked 180) ^d
Percentage of people below national poverty line (2008)	54.7 ^a
Percentage of unemployment (2013)	22.6 ^a

GDP: gross domestic product; gini-index: measures the extent to which the distribution of income (or consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution; HDI: human development index.

Sources: ^a World Bank (2015b); ^b IMF (2015); ^c UNDP (2013); ^d UNDP (2015).

Mozambique's Gross Domestic Product (GDP) growth reached 5.9% in the first quarter of 2015 with annual growth averaging 7% over the past two decades; supporting this growth was trade, manufacturing, extractive industries, transport, communication, and electricity production. However, rapid growth over the last 20 years has only had a moderate impact on poverty reduction. Public debt rose rapidly to 55% of GDP in 2014 and is expected to stabilise around 60% of GDP in the medium term. Year on year inflation remains low (0.12% by the end of June 2015), with inflationary pressures in the north of the country due to the floods early in the year. The fall in the price of minerals and raw materials in general is also affecting foreign investment in Mozambique (World Bank, 2015a). The country ranked 180th out of 188 countries in the most recent Human Development Index (UNDP, 2015). The social progress index for access to improved sources of water and sanitation ranks Mozambique

128th and 119th, respectively, out of 135 countries. In response, the Mozambican government has prioritised social spending, having increased funding for social sectors (World Bank, 2015a).

2.4 ENVIRONMENT

Mozambique stretches along the Indian Ocean coast from Cabo Delgado in the north, past the capital city of Maputo in the south. It is bordered by Tanzania, the Mozambique Channel (which separates it from the island of Madagascar), South Africa, Swaziland, Zimbabwe, Zambia, Malawi, and Lake Nyasa. Lowlands in the southern provinces narrow to a coastal plain, with the Zambezi River cutting through the middle of the country. The lower section of the Zambezi valley forms part of the Eastern (Great) Rift Valley and is Mozambique's most dramatic geographic feature. The land rises gently from east to west, sloping in the centre and north into high plains and mountains on the northwest border with Malawi and Zambia. Mozambique has ample water resources, with river systems offering both hydroelectric and irrigation potential. The Zambezi flows 819 km through the country, draining more than 225 000 square km of the central region. Mozambique lies largely within the tropics, with the coastline subject to the seasonal influence of the Indian Ocean monsoon rains. The climate is mostly seasonal and tropical. Daily temperatures average in the lower to mid-20s °C, with peak temperatures between October and February and lowest in June and July. Humidity and precipitation vary widely throughout the country, ranging from humid and warm to dry and semiarid. Precipitation ranges in the north and central region between 1 010 and 1 780 mm, declining in the south to about 610 mm. The west-central and southern points of Mozambique are subject to periodic drought (Penvenne and Sheldon, 2015).

3. HEALTH SYSTEM

3.1 OVERVIEW

Mozambique's burden of disease includes: high prevalence of HIV/AIDS and other communicable diseases, high maternal mortality and increasing rates of non-communicable diseases. Environmental disasters, including floods and droughts, have been known to affect food supply, water access and disease outbreaks (WHO, 2014). Great efforts have been made to increase human resources in health through increasing training capacity, but human resource shortages persist, in addition to challenges such as the uneven distribution of resources and geographical and socioeconomic disparities. Mozambique is heavily reliant on external donors, which are responsible for nearly half of total health expenditures, disbursing funds through vertical interventions that make it difficult to coordinate partners and finances (Government of Mozambique, 2013). Through decentralisation, continued partnerships with non-governmental organisations (NGOs) and continued efforts to increase overall capacity, Mozambique hopes to strengthen the overall health system and reduce the burden of disease (Government of Mozambique, 2013; WHO, 2014).

3.2 ORGANIZATION

The governance of Mozambique's health sector is decentralised. The Ministry of Health is responsible for policies and national strategies, as well as coordinating plans, disbursing funds, and monitoring service implementation. At the provincial level, the Provincial Health Directorate also helps coordinate, implement, and monitor health service implementation; and provides logistical support to individual

districts. District Services for Health, Women, and Social Action or *Serviços Distritais de Saúde, Mulher e Acção Social (SDSMAS)*, is a part of the District Administration that provides services to the public. Municipalities also play a role in governance, including management of primary care and advising on targets for health programmes. They are able to raise their own funds and directly interact with the Ministry of Health rather than through provincial governments (Government of Mozambique, 2013). Mozambique's National Health Service, or *Serviço Nacional de Saúde (SNS)*, provides care in the public sector and is the most comprehensive source of services.

The SNS is organised into four levels (Government of Mozambique, 2013):

1. **Primary level:** Health centres and health posts provide the most basic services and the bulk of priority programmes.
2. **Secondary level:** District, general, and rural hospitals at this level are the primary referral level and may serve more than one district. The primary and secondary levels are both responsible for primary health care and organise health units, or *unidades sanitárias*, in principal towns and villages to do so.
3. **Third level:** Provincial hospitals provide care using specialised providers.
4. **Fourth level:** Similar to the third level, specialised hospitals provide differentiated care using specialised providers.

SNS services are generally organised according to individual programme rules, often based on international strategies. While the government has defined model teams, this is not strongly enforced, resulting in unbalanced staffing of health teams and uneven geographic distribution of resources (Government of Mozambique, 2013).

Notably, the programme for primary polyvalent workers, or *agentes polivalentes elementares*, is being revitalised. Other community health workers and traditional midwives (*parteiras tradicionais*) are active in providing care for HIV/AIDS. However, these workers are generally not accounted for in government expenditures and are thus heavily reliant on external funding (Government of Mozambique, 2013).

The for-profit private sector is found almost solely in urban areas, particularly the capital Maputo, and is not strongly regulated. The not-for-profit private sector—represented by NGOs—is strongly connected to the public sector; helping fill gaps that the SNS does not cover, particularly with regards to HIV/AIDS. NGO distribution, much like the public sector, is uneven. Practitioners of traditional medicine offer non-allopathic medicine, with an estimated 70% of the population making use of traditional medicine (Government of Mozambique, 2013).

3.3 CAPACITY

Table 2. Number of facilities and health workers per population, Mozambique

Indicator/year	Data
Number of facilities at level 1 (2013)	1 314 ^a
Number of facilities at level 2 (2013)	66 ^a
Number of facilities at level 3 or level 4 (2013)	10 ^a
Number of beds per 1 000 population (2011)	0.7 ^b

Physicians per 1 000 population (2012)	0.04 ^b
Nurses and midwives per 1 000 population (2012)	0.4 ^b

Sources: ^a Government of Mozambique (2013); ^b World Bank (2015b).

The referral system of the SNS is poorly implemented, resulting in overburdened higher services and inefficient primary care. Services often fall below the government's standardised level. While 98% of unidades sanitárias offer Integrated Management of Childhood Illnesses and more than 90% offer at least three methods of family planning, availability of basic emergency obstetrical care remains limited. Furthermore, only half of health centres have electric power systems and only 60% have water supply. Shortage of equipment and supplies is also a problem as well as lack of rule and regulation enforcement (Government of Mozambique, 2013).

Lack of qualified human resources has been identified as one of the greatest barriers in providing care. The capacity of the network of training institutes increased by approximately one-third between 2004 and 2010, with an increasing number of courses and instructors and priority given to mid-level staff in lieu of employees at the basic level. However, education quality remains a concern. Continuing training opportunities are fragmented and often misaligned with sector needs and the expertise of workers (Government of Mozambique, 2013).

3.4 POLICY ENVIRONMENT

The World Health Organization (WHO) (2014) states:

The health policy framework for Mozambique is articulated through: the Five-Year Government Program (2010-2014), the Action Plan for the Reduction of Poverty (PARP 2011-14) and the National Economic and Social Plan (2014). A new Health Sector Strategic Plan 2014-2019 was approved following a comprehensive review of the previous 2007-2012 Strategic Plan.

The Sector Strategic Plan comprises seven strategic objectives and is based on principles of primary health care, equity and better quality of services: Increase access and utilization of health services; improve quality of service provision; reduce geographic inequities and between different population groups in accessing and utilizing health services; improve efficiency on service provision and resource utilization; strengthening partnerships for health; increase transparency and accountability on management of public goods; and strengthen the health system.

WHO (2014) lists the following as strategic priorities for Mozambique:

1. Strengthening health systems and ensuring increasing equitable access to health services and building management capacity in the public health sector as well as expanding the coverage.
2. Reducing the disease burden of communicable and non-communicable diseases.
3. Improving mother, newborn and child health.
4. Addressing health determinants.
5. Leadership, governance and partnership.

3.5 HEALTH FINANCING

Table 3. Health financing data for Mozambique, 2014

Indicator	Data
Total health expenditure (current US\$)	US\$ 1 142 990 000
Public expenditure on health as percentage of total expenditure	56.4
Public expenditure on health as percentage of general government expenditure	8.8
OOP expenditure on health as percentage of total private expenditure	21.8
Private insurance expenditure on health as percentage of total private expenditure	-
Expenditure of non-profit institutions serving households as percentage of total private expenditure	71.5
External funding (current US\$)	US\$ 556 571 000
Health expenditure as percentage of GDP	7.0

OOP: out of pocket; GDP: gross domestic product.
Source: WHO (2015a).

Almost half of the health sector's financing is sourced from external donors, notably the United States and the Global Fund to Fight AIDS, Tuberculosis and Malaria. These funds are often disbursed through contracts with NGOs as vertical interventions aimed at combatting specific diseases. Vertical financing poses a challenge to planning, execution, and monitoring. Private outlays account for approximately 13% of total expenditures and represent payments to private providers, pharmacies, and co-pays for services received from the SNS (Government of Mozambique, 2013). Resources are organised at the central, provincial, and district levels. At the central level, the government purchases drugs and equipment and manages investments in the public sector. The provincial level is also responsible for investments and operating expenses. The district level handles expenses of the primary and secondary levels. Providers are closely tied to financing, limiting the government's ability to collect funds and influence health policy. Due to decentralisation of governance, resources are distributed on a geographical basis (Government of Mozambique, 2013).

3.6 COUNTRY DISEASE PROFILE

Table 4. Disease profile for Mozambique

Indicator/year	Data
Age-standardized DALYs per 100 000 for communicable diseases (2012)	54 637 ^a
Age-standardized DALYs per 100 000 for non-communicable diseases (2012)	25 425 ^a
Age-standardized DALYs per 100 000 for injuries (2012)	8 430 ^a
Under-five mortality rate per 1 000 live births (2015)	79 ^b
Infant mortality rate per 1 000 live births (2015)	57 ^b
Maternal mortality rate per 100 000 live births (2015)	489 ^b
Estimated cases of malaria (2013)	9 300 000 ^a
Estimated deaths due to malaria (2013)	16 000 ^a

Prevalence of TB per 100 000 (2014)	554 ^a
Incidence of TB per 100 000 (2014)	551 ^a
Deaths due to TB among HIV-negative people per 100 000 (2013)	67 ^a
Prevalence of HIV as percentage among adults aged 15–49 (2014)	10.6 ^c
Deaths due to AIDS (2014)	45 000 ^c
Deaths due to non-communicable diseases (2012)	72 600 ^a
Deaths due to homicide (2012)	852 ^a
Percentage of top five causes of mortality (2012)^d	
1. HIV/AIDS	26.2
2. Lower respiratory infections	7.6
3. Malaria	5.6
4. Diarrhoeal diseases	4.8
5. Tuberculosis	3.8
Top five causes of DALYs (2012)^d	
1. HIV/TB/malaria	ND
2. Maternal/neonatal/nutritional	ND
3. Other infectious diseases	ND
4. Unintentional injuries	ND
5. Other noncommunicable diseases	ND

DALYs: disability-affected life years; TB: tuberculosis; ND: not determined.

Sources: ^a WHO (2015b); ^b World Bank (2015b); ^c Joint United Nations Programme on HIV and AIDS (2014); ^d WHO (2015c).

Communicable diseases, particularly HIV/AIDS, continue to dominate Mozambique's disease burden, which is expected to continue in the short term. Epidemics of other diseases—such as malaria, dysentery, and diarrhoeal diseases—are known to occur periodically, with outbreaks of cholera between 2008 and 2010 and measles in 2010. While neonatal and under-five mortality has decreased—marking progress towards achieving Millennium Development Goal 4—maternal mortality remains high due to lack of access to essential services, inadequate financing, and gaps in capacity (specifically human resources and essential medicines). Non-communicable diseases, neglected tropical diseases, and injuries from road traffic accidents and domestic violence also contribute significantly to Mozambique's burden of disease (WHO, 2014; Government of Mozambique, 2013).

Access to water, sanitation, and health services is far greater for those of higher socioeconomic standing and the northern provinces, particularly Zambézia, generally have poorer health indicators. Different provinces also provide different health services. In terms of environmental health factors, Mozambique is prone to environmental disasters as floods and droughts often impact agricultural production, restrict water availability and contribute to disease outbreaks. Overfishing, lumbering and extended use of wood as a cooking fuel can result in desertification and also affect the food supply (Government of Mozambique, 2013).

4. INNOVATION ECO-SYSTEM

To stimulate sustainable development, the Mozambican government aims to produce scientific research and technological innovations. One example is the 40 “clusters” or “innovation aggregates” that have been developed. Each comprises of a series of production, regulatory, research, and service bodies ranging from tourism, agriculture, education and health. The National Research Fund supports these clusters in addition to other projects aiming to foster the development of small and medium companies that stimulate economic growth and scientific and technological development for social impact. The National Research Fund has also helped create a network of clusters with a platform for reflection, debate, exchange, and support (AllAfrica, 2015).

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