



MADAGASCAR MILLENNIUM DEVELOPMENT GOALS NATIONAL MONITORING SURVEY

E N S O M D 2 0 1 2 - 2 0 1 3	 <p>ERADICATE EXTREME POVERTY AND HUNGER</p>	SUMMARY OF THE DIFFERENT TOPICS	 <p>ENSURE ENVIRONMENTAL SUSTAINABILITY</p>
	 <p>ACHIEVE UNIVERSAL PRIMARY EDUCATION</p>		 <p>PROMOTE GENDER EQUALITY AND EMPOWER WOMEN</p>
	 <p>REDUCE CHILD MORTALITY</p>		 <p>COMBAT HIV/AIDS, MALARIA AND OTHER DISEASES</p>
	 <p>IMPROVE MATERNAL HEALTH</p>		 <p>SOCIO-DEMOGRAPHIC CHARACTERISTICS</p>



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This report presents the main findings of the MADAGASCAR MILLENNIUM DEVELOPMENT GOALS NATIONAL MONITORING SURVEY (ENSOMD), conducted in Madagascar from September 2011 to August 2013 by the National Statistics Institute (INSTAT), in collaboration with the National Nutrition Office. Within INSTAT, three entities were involved in this survey: the Demographic and the Social Statistics Directorate, the Households Statistics Directorate, and the Institutional Relationship and Dissemination Directorate. ENSOMD was achieved with the financial and technical support of the United Nations' System Agencies, the US Agency for International Development, the African Development Bank, and the World Bank, through the PGDI 2 project.

The survey was conducted under the general supervision of the Steering Committee, and in in close collaboration with the technical committee. Technical assistance from international consultants regarding data collection, processing, and analysis was very helpful.

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ACRONYMS

DOIFL

Development Oriented Intensive Functional Literacy

ENSOMD

MDG National Monitoring Survey

PPP

Purchasing Power Parity

INTRODUCTION

The main objective of the 2012 Millennium Development Goals National Monitoring Survey (ENSOMD) was to assess Madagascar's method of achieving the Millennium Development Goals (MDGs). This survey measures 7 out of the 8 MDGs indicators with the knowledge that the 8th deals with financial resource mobilization which goes beyond the scope of the household survey. To be consistent with the main objective of the survey, this report was divided into 7 parts, each corresponding to one MDG. It is worth noting; however, that the survey goes way beyond the MDG indicators in a narrow sense to provide rich and various types of information on the socioeconomic, demographic, and health situation of the Malagasy population in 2012. Moreover, the "part zero" of the population's socio-demographic characteristics allows the portrayal of Malagasy households and population according to the ENSOMD data. The eight parts of the report are as follows:

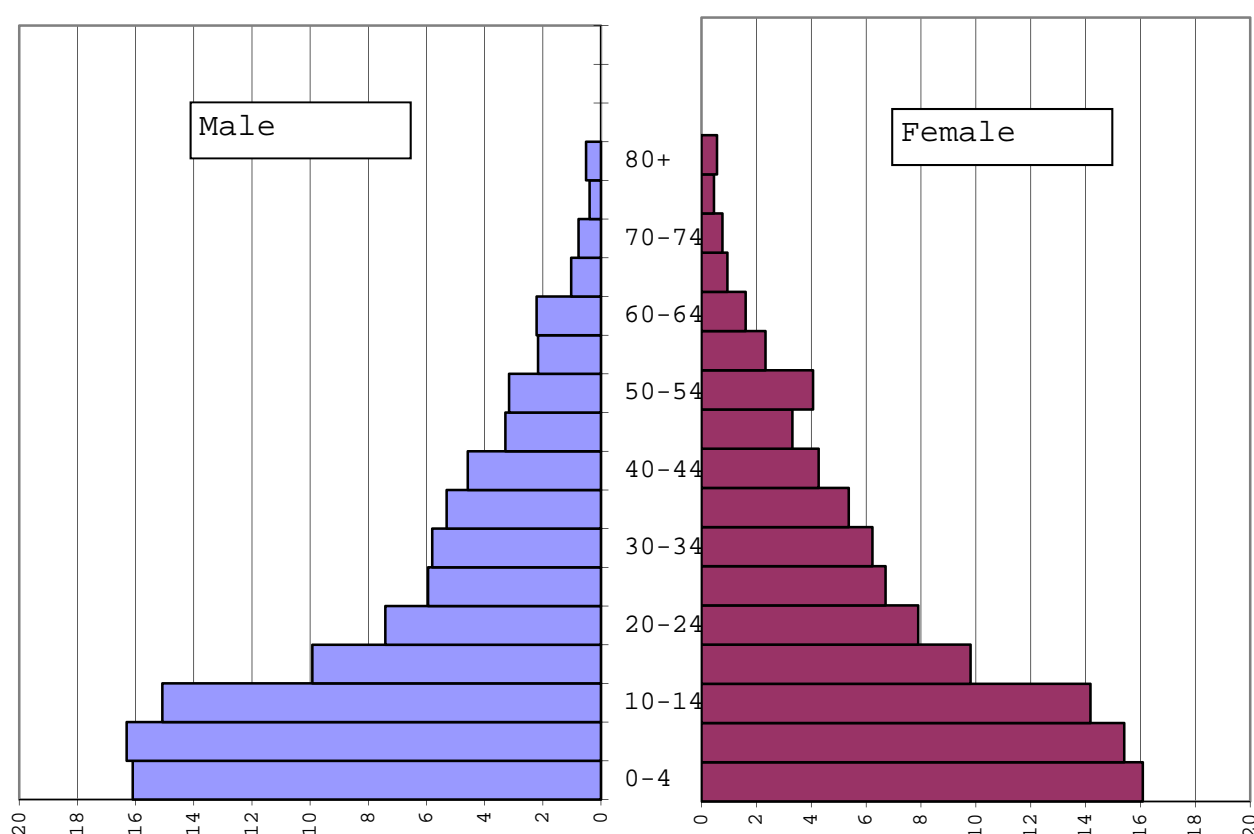
- 0- The socio-demographic characteristics of the population
- 1- Eradicate extreme poverty and hunger
- 2- Achieve universal primary education
- 3- Promote gender equality and empower women
- 4- Reduce the mortality rate of children under 5
- 5- Improve maternal health
- 6- Combat HIV/AIDS, malaria and other diseases
- 7- Ensure environmental sustainability

Below is the summary of the findings of the different reports. For each of the MDGs, we start by providing a summary table of the indicators being monitored by specifying the expected target for 2015; this depends on the indicator baseline level during the MDG evaluation. In addition, we give a summary that goes beyond the indicator while remaining partial compared to the information in the other reports. We invite the readers interested in a particular topic to refer to it for further details.

MDG 0: SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE POPULATION

The Malagasy population is generally characterized by its large proportion of young people since almost two thirds (64%) of them are under 25 years of age, and about half (47%) are under 15. The male-female ratio is 98.8 males for every 100 females; the majority of the population lives in rural (83%) and urban areas with more women than men (93 men for every 100 women). The three most populated regions of Madagascar are Analamanga, Vakinankaratra, and Vatovavy Fitovinany, these regions make up about one third (31%) of the population.

Graph 0. 1: age pyramid of the population (%)



SOURCE: INSTAT/ENSOMD 2012-2013

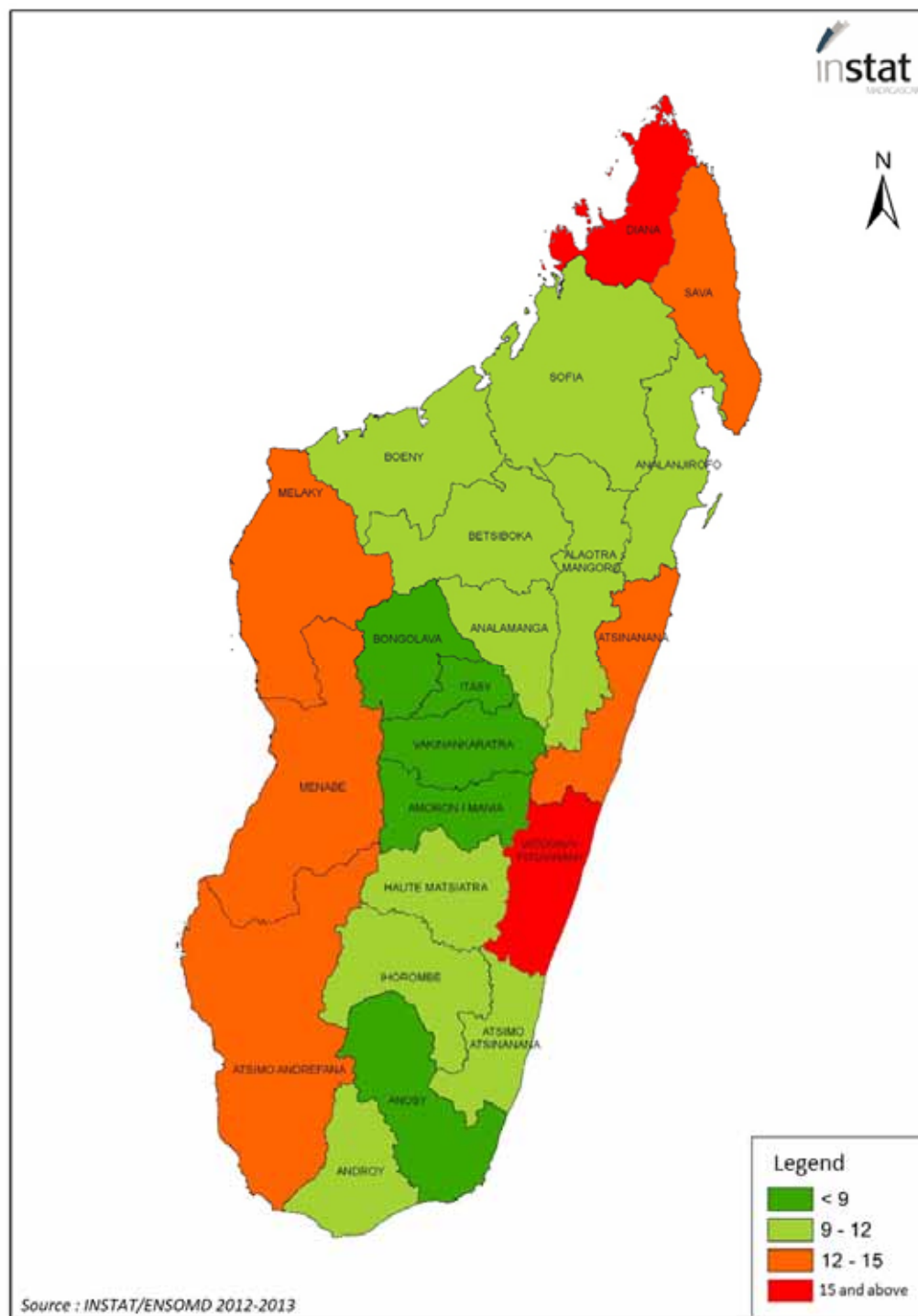
In Madagascar, there are on average 4.5 persons per household and more than three quarters of them are led by men (78%). The proportion of women as heads of households (22%) has not changed in the last 10 years; female-led households are more common in urban areas (27%), than in rural areas (21%). The average age of female heads of households is higher than men's (46 years old compared to 41). The main activity for the majority of heads of households is agriculture (64%) with 13% as independent workers in non-agricultural sectors, and about 8% as unskilled helpers and laborers; only 2% are mid or high-level managers. The average number of dependents per household is 2.7; about 30% of heads of households are illiterate.

Regarding marriage, the median age for newly married women between the ages of 20 to 49, is around 18.0 years old; it is almost the same age as when they receive autonomy. Although the age

of the first union among women has not changed since 1966, it still remains heterogeneous at the national level; some individuals get married much later than others because of socioeconomic or cultural reasons such as the woman's level of education. Moreover, women with a secondary education level on average get married at the age of 21, whereas women who received a primary level of education or no education at all usually marry at 19. As for domestic relationships, statistics show that about one in four couples are unmarried. Of course, this proportion is higher among younger couples but this remains significant in all age groups.

Regarding the morbidity of the population during the last two weeks prior to the survey, 11% of the population declared having gotten sick, the most common of all is catching a fever (42%), followed by diarrhea (12%), and acute respiratory infections (7%). The highest incidence of diseases is in the Vatovavy Fitovinany region with a rate of 16.7% compared to the 7% in Itasy and Amoron'i Mania.

Map 0. 1: Incidence of diseases per region



Only 37.7% consulted a qualified health care provider but the regional disparities are substantial, with consultation rates varying from 23.7% in Itasy to 50% in Atsimo Atsinanana. The incidence of diseases also varies by age: children under the age of 5 and senior citizens over 60 are the most affected (with a rate of about 20%), compared to other age groups.

MDG1: ERADICATE EXTREME POVERTY AND HUNGER

The main objective of MDG1 is to “Eradicate extreme poverty and hunger”. It is an ambitious objective that can influence many areas since poverty has several dimensions. ENSOMD 2012-2013 covers two major sets of topics that are directly related to the living conditions of households and poverty. The first set includes employment, agriculture, the non-agricultural businesses of households, and their vulnerability, all of which can influence the overall achievement of the MDG1 as well as the general household living condition. The second set targets households’ sustainable goods, financial poverty, lack of food, child nutrition, and subjective poverty; these topics look at the households’ achievements.

Employment

MDG1 has integrated a new target: target 1B, which tries to ensure full employment opportunities for every citizen including women and the youth. Indeed, a decent and productive job is the best way for households to get out of poverty.

Table 1. 1: MDG indicators for employment

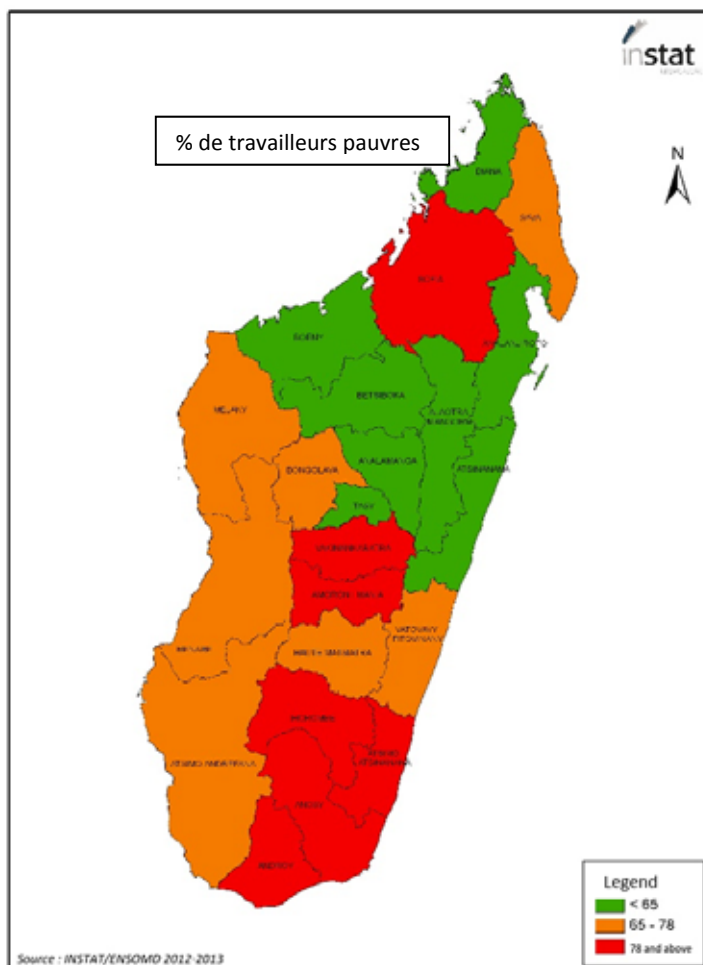
Indicator	ENSOMD2012
Indicator 1.5: Employment/population ratio	83.3%
Indicator 1.6: Proportion of the working population with less than PPP USD 1.25per day	68%
Indicator 1.7: Proportion of independent and family workers among the working population	86.1%

(*) PPP dollar was calculated according to the same methodology as the poverty line. In 2012, the value of PPP USD 1.25 was Ar. 610,496.

The employment/population ratio (for adults’ ages 15 years and up) measures the ability of an economy to provide jobs to its population; in Madagascar, the overall ratio is 83.3%. However, this relatively high rate does not indicate the quality of employment and when other factors are considered (i.e. share of poor workers, under-employment rate, poverty rate, the lack of job security), one notices that the country shares many similar characteristics to other developing nations. Furthermore, the high rate indicates that the poor work with no job security as a necessity to survive; as we can see, it is much more relevant to pay attention to other indicators that measure the quality of employment.

The proportion of the working population with less than PPP USD 1.25 per day: This indicator measures the proportion of the working population who live with very little resources in the country; at national level 68% live in such conditions. This relatively high figure demonstrates the fact that in Madagascar, there is a lack of decent jobs for almost 7 out of 10 workers.

Map 1. 1: Proportion of the working population with less than PPP USD 1.25 per day



This map shows the variation of this situation per region in Madagascar. In general, all regions present high rates of workers living in poverty. But some regions (in red) have particularly alarming levels (higher than 80%).

General description of the labor market in Madagascar

Beyond the MDG indicators, the survey gives a full picture of the current labor market.

The activity rate for people ages 5 and up is 60.6% and peaks between the ages of 30 and 49 years with an overall activity rate of 94% (close to 99% for men and 93% for women). This situation has not changed in 2010-2012 and agriculture remains predominant in the labor structure; it employs more than 7 out of every 10 workers. Apart from agriculture, the most common activities are in the commercial and private service sectors (not including healthcare and education). The optimization of human capital in the labor market is shown by the opportunities to access paid jobs as well as the orientation towards non-agricultural activities, particularly in the public service, the private sector, and commerce.

In 2012, the average annual salary was about Ar. 1,813,000 compared to the Ar. 1,388,000 in 2010. The level of education has a positive influence on the salary level: university graduates earn three times higher salaries than their uneducated counterparts. Women remain at a disadvantaged position since they only earn 72% for every Ar. a man receives.

The unemployment rate experienced a decline by two points unlike in 2010; 1.7% of the working population is unemployed. Unemployment is essentially an urban phenomenon: the rate is 4.5% in urban areas and 1.1% in rural areas. In fact, the tensions in the labor market do not translate into obvious unemployment; it takes the form of a massive under-employment rate among the labor force. Under-employment related to working hours (35 hours per week against their will), and the situation of jobs with an hourly rate below the accepted minimum wage, respectively affects 39.5% and 44.8% of the working population.

The integration of children into the labor market is significant, particularly in rural areas where 24.6% of them ages 5 to 17 are financially active. When compared to the figures in the HHS 2010, one can observe a slight decline of the child labor rate (by 2 points). In theory, these figures challenge the given ideas stipulating that child labor originates from the degradation of the households' living conditions; however, a more detailed analysis of the economic situation's development may explain this phenomenon. Indeed, the reduction of the economic activities in the formal sector, the general decline of the purchasing power (i.e. of the overall demand), and the relatively easy access to the informal sector (which is the main job provider for children) has provoked the appearance of limitations in the informal sector's job demands as well as created more competition between adults and children. This has led to both the "forced" and "slight" withdrawals of children from the labor market; we should also acknowledge the solid achievements made these past few years to eradicate child labor in Madagascar.

Child labor negatively affects the school situation; 12% of children enrolled in schools in 2011-2012 also worked (this proportion is under 18% even among those between the ages of 15 and 17). Working children are mainly involved in the agricultural sector, usually to help their family.

In conclusion, given the high proportion of independent, agricultural, and under-employed workers, it is clear that Madagascar will not achieve full employment with "decent and productive" jobs by 2015.

Agriculture

Achieving the MDGs, particularly MGD1, cannot be separated from the issue of agriculture. As a matter of fact, a country like Madagascar with a very high rural population almost wholly depends on agricultural activities, livestock, and fisheries; in terms of employment, the agricultural sector is the biggest job provider. Also, as far as poverty is concerned, agricultural production gives farming households the earnings necessary to meet their needs (other than food). Moreover, agriculture is an essential source of food for both rural and urban households, and its performance is absolutely critical in achieving the MDGs.

This survey uncovered key findings: farming households with its head employed in the agricultural sector represented 63.1% of all households in 2012 compared to the 67.8% in 2010. As agriculture can be practiced as a secondary activity by any member of the household, “agricultural households” in the broad sense consist of households that have practiced agriculture as its main or secondary activity by not only the head of the household. Agricultural households, if considered under this angle, represent 72.7% of all households a slight decline from the 80.6% according to the 2010 HHS; furthermore, the general size of farms is small and its average farmed surface area is 1.7 hectare at the national level compared to the 1.4 Ha in 2010. The median surface area is lower but more stable compared with the average: 1.0 Ha. Generally in Madagascar, farming is based on multiple cropping (i.e.: for around 82% of agricultural households); single cropping mainly occurs in urban areas and the average number of crops per household is around 3. In decreasing order of importance, the most cultivated crops are: paddy/rice, cassava, and potatoes, corn, leafy vegetables, and beans, and apart from rice, rice substitution products are also frequently cultivated.

The average annual salary for a Malagasy agricultural household is about Ar. 987,000 with a monthly income of Ar. 81,000. One can observe that compared to 2010, the agricultural income increased by 7% in nominal value when the 14% national rate is taken as reference; there has been an increase of 40% to 60% among the poor compared to the 2010 rate. Rice¹ remains the main financial source in agribusiness since it provides 41.9% of the total generated agricultural income. In addition, the sales contribute to the average annual income of Ar. 143,000 per agricultural household.

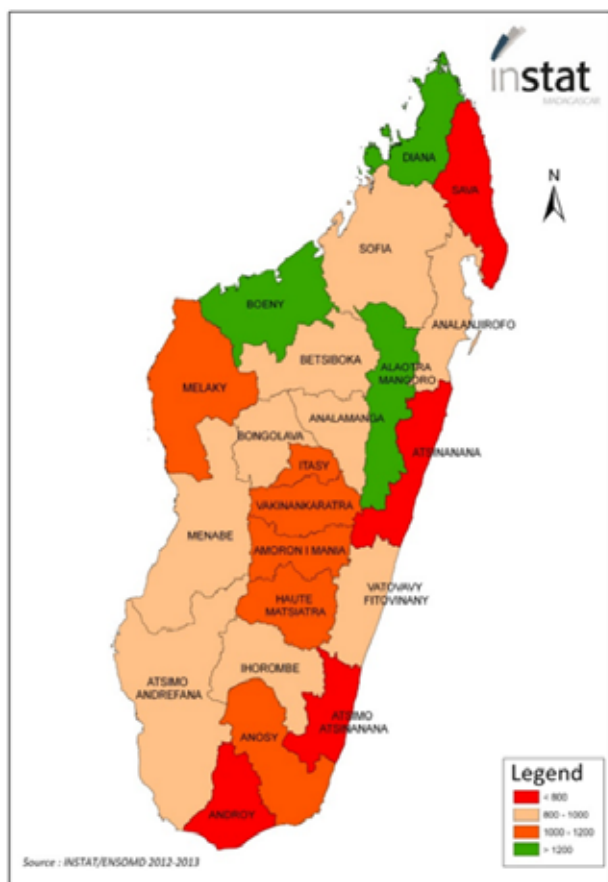
The average annual amount of money used purely for consumption is Ar. 519,000 per agricultural household.

The importance of the generated agricultural income depends on the characteristics of the households: the higher the education level of the household head and the bigger the farming surface area, the higher the income.

The regions where there is a particularly high level of agricultural incomes are: Alaotra Mangoro, Boeny, Betsiboka, DIANA, Bongolava, and Itasy.

¹ The trend in the consumer price for white rice and paddy indicates, according to the statistics of the Rice Observatory (ODR2012), an increase since 2010, thus, boosting the agricultural revenues

Map 1. 3: Average annual agricultural income per region (thousands of Ar.)



The proportion of households that have cultivated rice during the last 12 months prior to the survey is 63.3%; in general, the size of the farm and its productivity remains low. Indeed, the average yield per farming household is less than one ton of paddy (the average rice yield is 1.1 ton per hectare). Moreover, 54.4% of the rice produced is consumed by the farmer and 24.0% is sold. Rice sales are essentially centered in the region of Alaotra Mangoro (about 20% of sales) which is also considered Madagascar's bread basket. Other regions that have a high a production of rice include: Boeny (7.9%) with its Marovoay valley, Sofia (7.4%), and Vakinankaratra (6.9%).

Table 1. 2: Percentage of farm households and percentage of those cultivating each type of product, by region

Region	Farmer	Cultivating				
		Rice	Corn	Cassava	Potato	Other tubers
Analamanga	32.3	27.5	6.3	16.1	6.0	6.7
Vakinankaratra	88.4	80.0	70.2	53.7	45.0	43.6
Itasy	90.4	85.6	69.1	70.1	29.7	50.1
Bongolava	92.3	90.4	45.8	61.2	4.7	2.6
Matsiatra Ambony	79.6	69.8	40.2	68.8	44.9	15.2
Amoron'i Mania	96.5	91.9	49.9	81.0	60.4	24.9
Vatovavy Fitovinany	91.4	88.5	4.0	81.0	17.2	3.9
Ihorombe	78.1	73.6	23.8	61.5	18.1	2.8
Atsimo Atsinanana	87.0	82.2	3.8	73.8	44.2	2.9
Atsinanana	60.5	57.0	15.6	37.5	16.7	4.0
Analanjirofo	90.4	87.5	2.5	43.5	5.7	6.0
Alaotra Mangoro	77.9	74.2	16.7	39.7	7.8	4.6
Boeny	59.6	58.7	16.2	8.3	1.3	0.2
Sofia	89.3	87.6	34.9	33.4	3.0	3.0
Betsiboka	84.5	82.4	32.9	30.7	8.3	5.0
Melaky	91.0	88.3	31.9	61.3	2.9	4.4
Atsimo Andrefana	68.4	24.2	40.6	57.3	15.9	0.3
Androy	94.0	19.5	74.9	91.4	37.1	0.0
Anosy	76.7	52.3	35.4	67.2	23.1	2.5
Menabe	78.3	69.9	25.6	29.6	9.8	0.5
DIANA	54.5	49.4	12.0	9.3	2.4	0.8
SAVA	83.5	81.7	10.9	25.6	4.7	3.3
Overall	72.7	63.3	26.2	44.7	17.6	9.3

SOURCE: INSTAT/ENSOMD 2012-2013

Following rice, cassava is the second most cultivated crop and around one in every two Malagasy households grow it; corn comes in third (26.2%), followed by potato (17.6%). Cassava is especially important in the region of Androy as 90 % of households cultivate it. Vakinankaratra and Itasy are also among the most fertile regions of Madagascar with their volcanic soils making them ideal for the cultivation of potatoes. Madagascar's low agricultural productivity can be explained by many underlying causes including environmental problems, climatic conditions, isolation, instability, limited availability/high cost of agricultural inputs, access to financial aid, and land tenure.

Besides agriculture, livestock breeding is also frequently practiced by Malagasy households. Around 60% have at least bred one type of animal. In rural areas, around 2 in every 3 households are livestock breeders. Poultry are the most commonly bred species (44% of Malagasy households), followed by cattle (19%), pig (16%), and oxen (12.4%). The average number of bred zebus (cows) possessed by a household head is 9 with a monetary value of about Ar. 500,000 per zebu.

Households' non-agricultural businesses

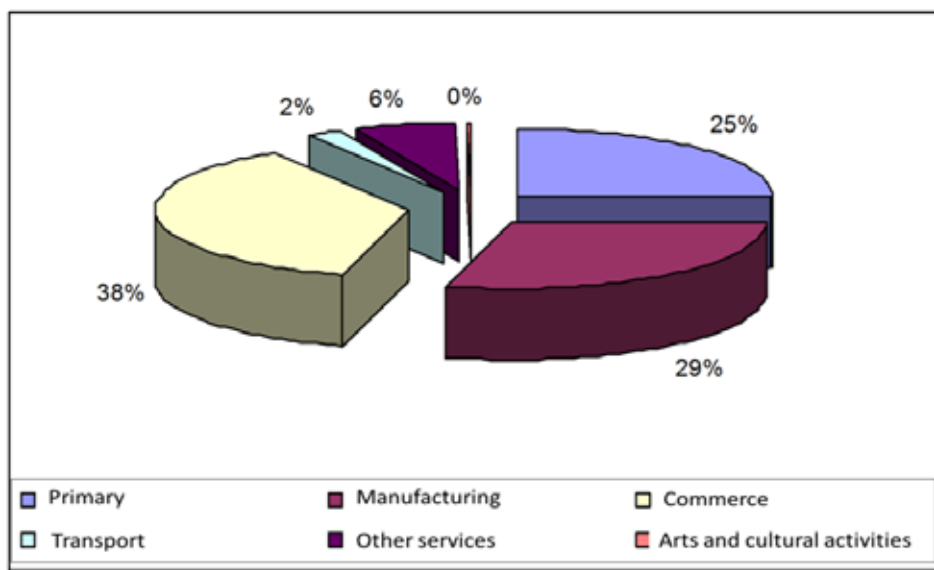
In addition to agriculture, the creation of small production units is part of the households' strategy to improve their living conditions. One has to admit that because of the weakness in the modern private sector (which only employs a tiny part of the working population), large numbers of households are obliged to develop small subsistence activities in the non-agricultural sector.

ENSOMD 2012 addressed non-agricultural businesses which centered on household led production units working in processing, trade, and services; 35.7% of Malagasy households possess at least one non-agricultural family production unit. The proportion of households that run a non-agricultural business does not vary according to their place of residence (36% in urban areas and 35.6% in rural areas).

These economic production units are mainly active in commerce (in 38% of cases), which are easier to set up and do not require specific qualifications²; this rate has changed from 2010 to 2012. There is a trend to turn to the primary sector, where processing units and small scale manufacturing represent 54.3% of the whole. The findings of the survey also show the substantial development of mining activities: more than 25.4% of non-agricultural businesses are in this sector where as it was only 12.1% in 2010.

² The 2013 statistics from INSTAT/DES show that, following the reduction of the number of incorporated companies since 2009, there has been a sharp increase of the number of newly-created formal businesses since 2010, mainly in the tertiary sector, and increasingly in the primary sector.

Graph 1. 1: Distribution of households' non-agricultural businesses by sector



With an average lifetime of 6 years, non-agricultural businesses have quite stable activities contrary to popular opinion. The flexibility of implemented production techniques gives them the ability to adapt and support the effects of difficult economic conditions. Furthermore, it is possible that the households in this sector have no other choice but to stay where they are even though productivity is low.

The number of employees is low in the non-agricultural sector with an average of 1.7 persons including the head of the production unit. This has not particularly changed with regards to the 2010 figures. Given the problems related to job demands and the financial market, the difficulties to access credit or to renew assets for production units follow a trend that has a threshold in terms of the number of employees. Because of the fluctuations and risks that accompany these activities, heads of households adopt expansive rather than intensive growth strategies by multiplying the number of production units and diversifying activities; also, to avoid problems related to taxation and regulation, they try to reduce their visibility by hiring the minimum number of employees.

Non-agricultural businesses generate an average annual income of Ar. 300,000. Their economic performance varies according to the household head's level of education and living-condition. This situation is caused by the share of human capital, the entrepreneurship ability of the heads who often manage the production unit, the heads' level of education, and the household's cash flow which positively affects the initial capital endowment of the non-agricultural businesses. The overall performance of non-agricultural businesses has improved since the total nominal term revenue increased by 12% compared to that of 2010. This increase varies from 25 to 40% among the poor compared to the 2010 figures. However, more than 43.1% of them declared having experienced a decline in income compared to the previous years (only 20.5% experienced an increase).

One of the targets of the MDG1 is to achieve full employment. However, this chapter has shown that the households' non-agricultural businesses, which along with the agricultural sector is the main job provider for the Malagasy population (and will remain as such in the coming future), is far from

providing decent jobs and has low levels of productivity. In order to increase this sector's productivity, the government and the TFP should invest in vocational trainings that are relevant to each type of activity and provide financial assistance to increase competitiveness and sustainable growth.

Transfers

The objective of this chapter was to analyze the Malagasy transfers; the transfers issued/received by households may serve as a buffering mechanism in the context of general poverty and the absence of a public social security policy. The proportion of Malagasy households that have issued transfers (of goods, services or funds) is 36% compared to 33% of receivers. The total amount of issuances received by households adds up to Ar. 968 billion, for an average of Ar. 1374 billion. Issuances mainly come from the “richer” households especially for their relatives. High and mid-level managers are the main issuers.

In addition, the issuers consist of households that have more active members; both in the rural and urban areas, transfers are mainly stimulated by the need to support relatives. It can be observed that the customs and traditions also serve as an important rationale for transfers in rural areas; moreover, inactive people include the unemployed and small farmers that receive the most transfers. The region of Amoron'i Mania has the highest proportion of households that have issued transfers, whereas Atsimo Andrefana has the highest number of receivers.

Vulnerability

Given the socio-economic and geographic situation of Madagascar, it is important to assess the different types of disasters households may be subjected to (especially when poverty is concerned since it is strongly tied to vulnerability). Threats to a household should be addressed along with its impacts and strategies to mitigate it; here are the following findings uncovered through our analysis:

At the national level, 31% of households have declared having experienced danger during the last 12 months. The proportion of these households varies from 38.5% among the poorest to 21.9% among the wealthier ones. According to their statements, rural households (34.6%), as well as those whose heads are farmers (37.4%) are the most vulnerable.

Households that experienced danger were asked to specify the type; the facts gathered point to climate and environmental hazards as the main threats to Malagasy households since 1 in 5 of them mentioned such issues. Rural households are more prone to danger (25%) and as far as security issues go, they affect around 5% of households. The hazard rate in urban areas is higher (5.4%) than the rural rate (2.7%).

The incidence of danger varies regionally. Climatic and environmental problems are widespread in Atsimo, Andrefana, and Androy; droughts are very common in Androy. On the other hand, the regions of Analamanga, Boeny, and DIANA are less susceptible to climatic shocks.

Table 1. 3: Proportion of households by shock type and intensity, per region

Region	Loss of goods			Loss of revenues		
	Affected percentage (%)	Average value (thousands of Ar.)	Median value (thousands of Ar.)	Affected percentage (%)	Average value (thousands of Ar.)	Median value (thousands of Ar.)
Analamanga	3.4	386.9	200.0	13.0	463.2	200.0
Vakinankaratra	19.0	287.6	120.0	24.8	465.1	200.0
Itasy	2.7	633.4	150.0	16.6	322.5	120.0
Bongolava	16.0	494.6	100.0	23.9	501.2	150.0
Haute Matsiatra	8.4	711.5	200.0	30.7	561.2	200.0
Amoron'i mania	13.7	415.8	80.0	37.7	232.3	90.0
Vatovavy Fitovinany	17.9	395.9	133.0	30.2	258.4	150.0
Ihorombe	16.1	333.7	60.0	23.9	553.3	200.0
Atsimo Atsinanana	19.4	280.9	100.0	44.3	440.1	100.0
Atsinanana	27.2	279.3	144.0	20.8	350.7	140.0
Analanjirifo	6.8	191.7	50.0	12.6	279.8	70.0
Alaotra Mangoro	16.1	354.5	130.0	23.1	427.0	100.0
Boeny	5.0	801.1	400.0	15.8	615.3	280.0
Sofia	4.8	1246.5	220.0	15.7	418.2	90.0
Betsiboka	10.6	369.3	200.0	16.8	692.2	300.0
Melaky	5.9	587.9	140.0	36.3	396.8	140.0
Atsimo Andrefana	22.0	773.6	400.0	48.1	845.7	460.0
Androy	27.1	974.5	100.0	52.1	711.0	150.0
Anosy	20.0	924.6	100.0	29.1	865.3	150.0
Menabe	16.6	603.9	150.0	19.1	720.5	200.0
DIANA	3.2	244.7	120.0	4.9	351.9	200.0
SAVA	19.5	280.8	160.0	38.6	343.0	200.0
Overall	13.1	484.0	150.0	24.4	500.1	175.0

SOURCE: INSTAT/ENSOMD 2012-2013

As for individual and security issues, Androy remains the most vulnerable region; Menabe is not spared from such problems either since its households have experienced hazards at the rate of 12.2%. Atsimo Andrefana and Atsimo Atsinanana comes in next with 10.6%, followed by Anosy (8.8%); these regions make up the danger “hot spots” due to the “Dahalo” phenomenon (highway bandits) which terrorizes the southern side of the country.

Around 13% of households declared having lost goods through perilous situations. The average monetary value of the losses is estimated to be over Ar. 150,000; moreover, such losses have been mentioned by 24% of households and have cost them Ar. 175,000.

The households that have not yet recovered from the damages caused by danger were asked about the amount of time it takes to recover from the losses; around eight in ten household’s stated that it will take them at least a year (or never). Vulnerable households in urban areas have more difficulties in

recovering from hazards compared to rural ones. Regardless of the area of residence, the main strategy households use to recover from damage is by increasing work, including:

- Entering labor-intensive work programs
- Increasing work hours
- Enrolling other family members into the labor market
- Dropping out of school
- Entering children into the labor market

The households that have suffered from danger were asked whether or not they received any aid from their relatives, the government, or international organizations; the results showed that less than 3% of Malagasy households received help (including donations). The average level of aid received varied according to the area of residence: in rural areas, it is lower (half of all the households that received financial support reported an amount that averaged under Ar. 75,000), whereas this figure was Ar. 100,000 in urban areas.

Sustainable goods possessed by households

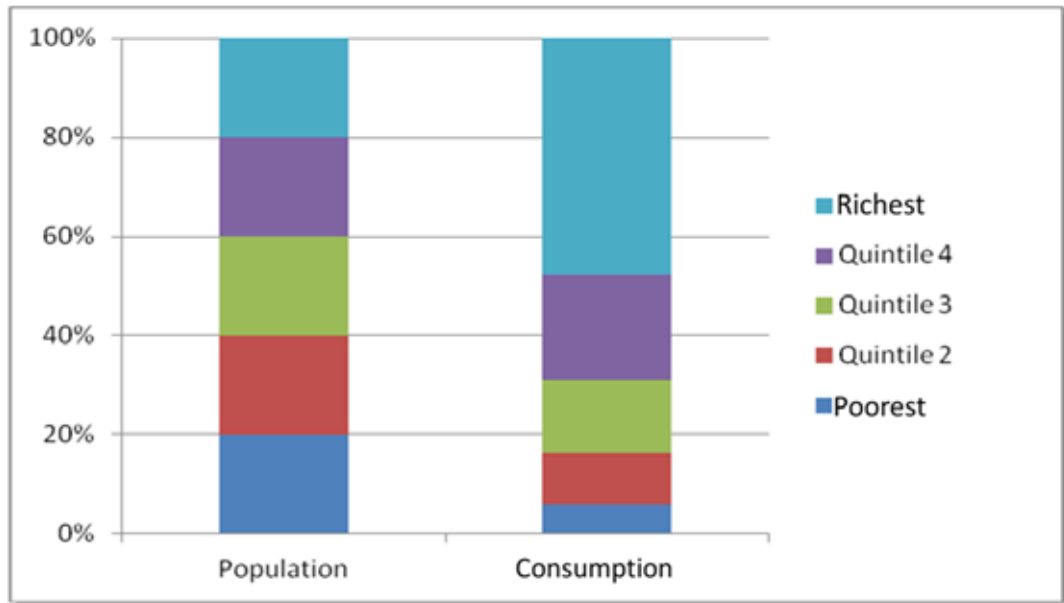
As part of updating and monitoring the MGD's main indicators, the "asset" component is among the elements that are essential to the microeconomic analysis of the households' living conditions as well as poverty. Compared to the findings of HHS 2010, ENSOMD 2012 shows the same household asset structure with slight changes including a decrease in the average possession of goods like furniture, household appliances, audiovisual equipment, and two-wheel vehicles. However, this decrease occurs to the detriment of agricultural equipment, of which the average possession has increased from 2010 to 2012. In terms of sustainable goods, the deprivation rate of transportation resources (71.7%) and household appliances (87.9%) remains high. The spatial analysis for the possession of some goods, such as radio sets, TV sets, and mobile phones shows substantial disparities between the 22 regions of Madagascar; Analamanga, Boeny and DIANA have the highest level of possessions compared to the other regions.

Consumption

The consumption level is among the main unit of measurement for a household's living conditions. The annual consumption level per capita in 2012 was estimated to be Ar. 495,000; this has increased by 22% in nominal value (and about 7.7% in actual value) between 2010 and 2012. However, as we highlighted in the methodology chapter, ENSOMD took place during the holiday season (November 2012 to January 2013) and so the consumption level might be overestimated; a specific processing of prices and quantities has been applied to take this into account. Also, it is difficult without an in-depth analysis to know whether or not the effects have been removed. What emerges from calculations is the life expectancy for households living under the poverty line with an annual income of Ar. 535,603 in 2012.

As expected, this level of consumption is twice as high in urban areas than in rural areas. The higher the household's head education level is, the higher the household's consumption; in monetary terms, uneducated heads receive Ar. 343,000 annually while those that attended university get Ar. 1,525,000. The distribution of the consumption levels shows the significance of the social disparities in Madagascar. Indeed, 20% of the richest people consume about 48% of the nation's total resourced, whereas 20% of the poor only consume 6%.

Graph 1.2: Distribution of consumption ground per quintile



SOURCE: INSTAT/ENSOMD 2012-2013

The relative share of food in the national consumption rate is 68%; in rural areas the rate is 72% (of which around 42% is used for self-consumption). This proportion is highly correlated to the standard of living, which confirms the law of Engel. It varies from about 57% (fifth quintile) to 78% (for the first two quintiles). After food, accommodation is another major household expenditure (21% of the household budget), followed by education (4.1%), and finally the expenses for leisure, communication, transportation, health, furniture, hotels, and other goods (under 2%).

Monetary poverty

The very high level of poverty is one of the characteristics of Madagascar and by 2015 none of the established goals will be achieved; what's worse is that the situation has in fact deteriorated as shown by the analyses below:

Table 1. 4: MDG indicators for poverty

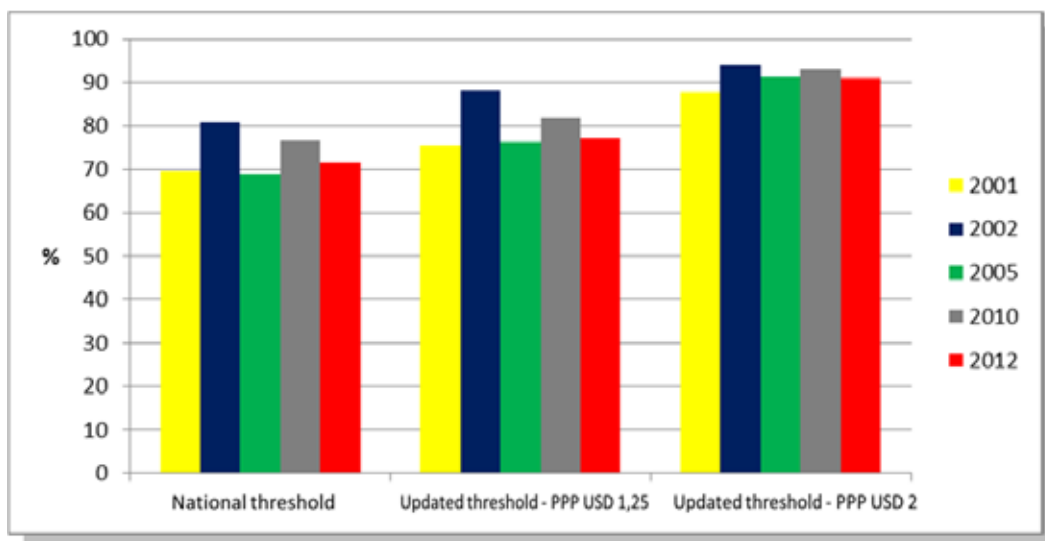
Indicator	ENSOMD 2012-2013	2015 target
Indicator 1.1: Proportion of population living under the national poverty line (threshold: Ar.535,603)	71.5%	35%
Indicator 1.1: Extreme poverty, national (threshold: Ar. 374,941)	52.7%	14%
Indicator 1.1: Proportion of population living with less than PPP USD 2 per day (Poverty, international threshold; PPP USD 2: Ar.976.794)	91.0%	
Indicator 1.1: Proportion of population with less than PPP USD 1.25 per day (Extreme poverty, international threshold; PPP USD 1.25: Ar. 610.496)	77.1%	
Indicator 1.2: Poverty gap ratio (average deviation below the Ar. 535,603 poverty line)	32.8%	
Indicator 1.3: Share of the poorest quintile of the population in the national consumption	6.1%	

Evolution of poverty in Madagascar

The evolution of poverty follows the same trend: a sharp increase in the poverty ratio between the years 2001 and 2002, then a substantial decrease from 2002 to 2005, another sharp increase from 2005 to 2010, and finally a slight decline between 2010 and 2012. These findings are largely correlated with the evolution of the macro aggregates, and highlight the negative effects of the repeated sociopolitical crises on the households' living conditions.

The variations are less sharp with the PPP USD 2 threshold since the distribution of the per capita consumption is highly skewed towards the lower levels (to the left) and indicates the slow disappearance of the middle class from the Malagasy society.

Graph 1. 3: Evolution of poverty between 2001 and 2012



Source: INSTAT/ENSOMD, 2012

Between 2002 and 2010, the socio-economic consequences of the 2002 and 2009 political crises were extremely severe at the national level. The negative shocks induced by these crises have provoked a sharp economic growth reduction felt by many households as poverty spread all over rural and urban areas. The poor households; however, were able to benefit from the sustained actual GDP growth from 2002 to 2008 and this improvement is mainly visible in urban areas. In rural areas, the living conditions of the households are mostly related to agricultural activities, which in turn depend on the climatic conditions and the quality of the land rather than money.

From 2010 to 2012, after the shocks of 2009 and 2010, there has been a gradual movement among households to adjust/adapt to the current situation. The sharp decline of the inflation rate during this period, mainly in 2012 (5.8%), has been profitable for poor workers since they have seen an increase in their annual nominal wages by 10%. The explosive growth of highly concentrated activities in specific regions has taken a significant share of households and turned them into the “newly-rich.”

However, as previously mentioned, the methodological aspects should also be taken into account. On one hand, ENSOMD was conducted during the holiday season (from November 2012 to January 2013), and the consumption level may have been overestimated; on the other hand, using the overall consumer price index to update the poverty line presents limitations as it may hide the effects of the relatively important price variations for specific low weighing goods in indexes such as education (decrease of the subsidies to help parents pay school fees and school stationeries) and health (decrease of subsidies to help patients pay their medical expenses). All of these aspects deserve further extensive studies to confirm this trend.

Poverty also shows important socioeconomic and spatial disparities that are worth highlighting; to do so, we exclusively used the national threshold.

With regards to the area of residence, poverty is widespread in rural areas with 77% of individuals

living in dire conditions; 56% of urban inhabitants also live in poverty with only 31% in the capital city.

Rural poverty is widespread (36%) when compared to the capital city (9%); in other words the rural poor experience a higher level of deprivation than their counterparts in the capital city.

Of the 22 regions, 9 present a poverty rate exceeding 80%, Androy is the most severely affected region since almost all its population (97%) lives in poverty. 5 regions have poverty rates between 70% and 80%. The only regions that are better off are DIANA and Analamanga where less than 50% of the population lives in poverty; when referring to the depths of poverty, statistics show that it is 64% in Androy and only 14% in DIANA.

Of course, poverty is closely correlated to the socioeconomic status of the household head and the rates are relatively low when household heads are senior level managers, mid-level managers, or qualified workers. Similarly, the risk of poverty declines with the increase of the head's level of education, going from above 80% among people living in a household led by an uneducated head, to around 10% for those whose head has attended university.

The measurement of inequalities shows a very high concentration of consumption; 10% of the richest (in terms of the consumption per capita) have a standard of living that is 6.1 times higher than the poor; the wealth gap has increased as the standard of living was only 5.4 times better in 2010. Similarly, the Gini index is at a very high level (0.41 in 2012, for 0.40 in 2010); these inequalities are associated with the structurally high levels of poverty and require a strong political response.

Food poverty

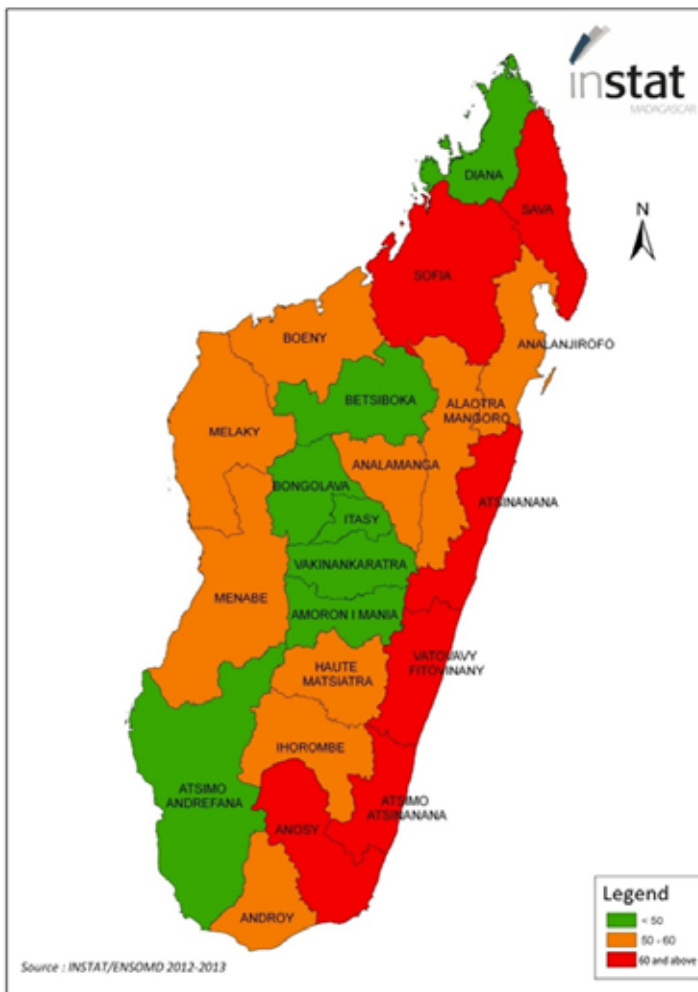
The objective is to analyze access to food both in quantity (at least 2133 Kcal/consumption unit) and in quality (at least 75% of cereals and starchy foods). The analyses shows that on both aspects, the situation is alarming in Madagascar

Table 1. 5: MDG Indicator on food poverty

Indicator	ENSOMD 2012-2013	2015 target
Indicator 1.9: Proportion of population that cannot achieve calorie intake (2133Kcal per day)	55.8%	

Regarding the quantity, about 56% of the Malagasy suffer from nutritional deficiency; there are strong regional variations with rates going from 80% (Atsimo Atsinanana) to 38% in Vakinankaratra.

Map 1. 4: Percentage of population with nutritional deficiencies (energy intake under 2133 Kcal per capita per day)



Socioeconomic disparities are also very important with regards to the poverty quintile or the professions of the household head; the people living in the poorest households are the most vulnerable to food deficiency.

Unlike monetary wealth, there is almost no difference between the urban and rural areas regarding food deprivation. One of the explanations for this may be the low price of food and its availability in rural areas; it is worth highlighting that this only applies to the healthy ones.

In terms of having a healthy diet, more than four in five Malagasies (84%) consume unhealthy foods (i.e. rice, starches, etc.). As for quantity, the poorest segment of the population is the most affected by this situation, even if the extent of the phenomenon is such, that no social category is spared. As for the spatial disparities, the rates vary from 78% in Anosy and SAVA, to 92% in Atsimo Atsinanana. This region; therefore, cumulates the highest deficiency rates for both quantity and quality. Unlike the quantity deficiency, rural areas (86%) relatively suffer more from food quality deficiency, compared to urban areas (73%), and the capital city (70%).

In short, one may learn from this analysis that the deficiencies, both in terms of quantity and quality, affect a significant share of Malagasy people in both rural and urban areas; this is a structural situation since the data from the previous surveys (namely 2005 and 2010) came to the same alarming conclusions.

Child Nutrition

To complement the previous analyses which covered the whole population, this chapter focuses more on the nutrition of children under the age of 5. Indeed, the high rate of food deficiency in quantity and quality makes it indispensable to have a limited review on children (a particularly vulnerable group). Moreover, child malnutrition is particularly serious due to the immediate consequences in terms of morbidity and mortality; in addition, it may also impact the child’s physical and mental development. The approach we adopted was through the anthropometric measurements method which combines the different measurements (weight, height, mid upper arm circumference - MUAC) with the age of the children to determine their nutritional status. Another difference with the previous section is that this phenomenon is measured by the level of the child and not the household. As for food and monetary poverty, the country is very far from achieving the MDG target goal to reduce the proportion of underweight children by 19%.

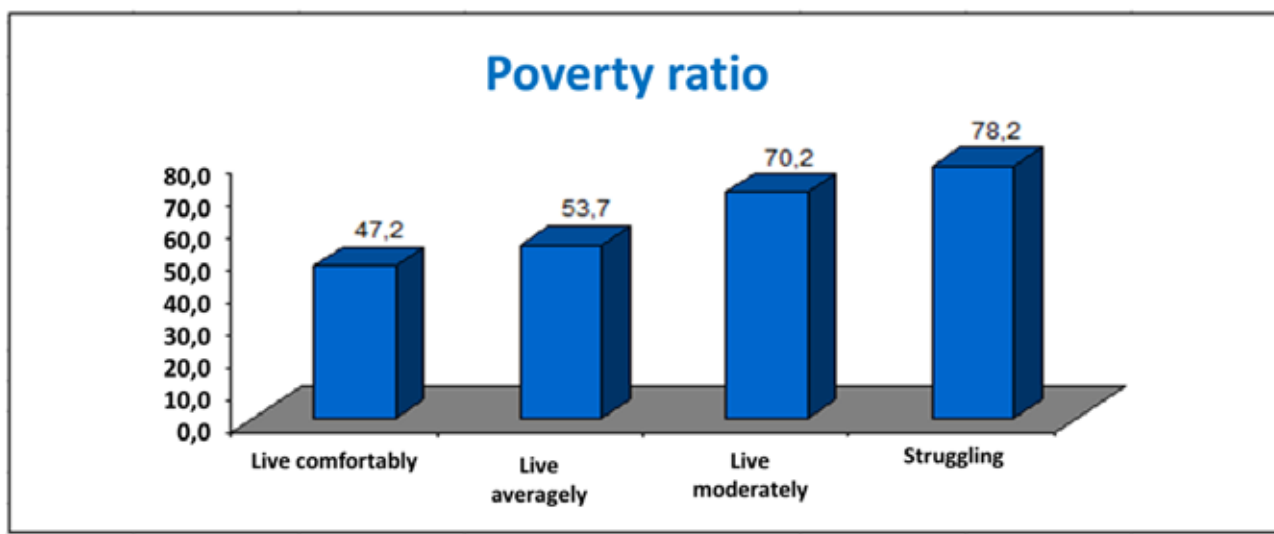
Table 1. 6: MDG indicator of underweight among children under the age of 5

Indicator	ENSOMD2012	2015 target
Indicator 1.8: Prevalence of underweight among children under the age of 5	32.0%	19%

Regarding chronic malnutrition, the nutritional situation is a matter of concern because a little less than half of the children under 5 years old (47.4%) suffer from it; furthermore, such incidences are particularly high in the highland/central regions (Vakinakaratra, Amoron’i Mania, Haute Matsiatra, Itasy) and so particular attention should be paid to fight chronic malnutrition since it affects the human capital (including the learning capacity of children).

Severe malnutrition affects 18.1% of children; the regions of Sofia, DIANA, and Menabe are the least affected, with a rate of less than 10%. Conversely, the regions of Vakinankaratra, Itasy, Haute Matsiatra and Amoron’i Mania are among the regions with the highest rate of severe malnutrition; breastfeeding (early and exclusive breastfeeding before 6 months of age), and other practices (the continuing of breastfeeding until the age of 2 years old, or later, with the optimal additional feeding from 6 months old and onwards), are preventive interventions that have a strong impact on the infant mortality rate, with a reduction of around 19% provided that these interventions cover at least 90% of the children.

Graph 1. 4: Poverty ratio, according to the households' opinion on their living conditions



SOURCE: INSTAT/ENSOMD 2012-2013

Regarding the households' financial situation, it turns out that most Malagasy households are struggling; almost 89% of them have an income level that does not help meet their essential needs. Households in Androy, Anosy, and Vatovavy Fitovinany are the most affected by this problem.

Malagasy households declared that compared to the situation in the past few years, their living conditions have not undergone a significant change. About 78.7% stated that they experienced either a slight improvement, a slight deterioration, or remained stable. It should; however, be noted that the proportion of households that declared deterioration (58.1%) is higher than the proportion that improved (11.9%).

Finally, the opinion of households on their living conditions compared to their expectation has been analyzed. In general, Malagasy households consider themselves as "unhappy" or "average" households. Very few declare being "happy" (3.1%), or "very happy" (0.2%); about 43.5% of the households consider themselves as "unhappy" and 40.1% as "average". The proportion of individuals that are not satisfied with their lives is the highest in Androy, Anosy, and Atsimo Andrefana (more than 7 out of 10 households are "unhappy" or "very unhappy" about their lives).

MDG 2: Achieve Universal Primary Education

The Malagasy government pledged in 2003 to achieve universal primary education by making it free and in 2005, a commitment was made to achieve the objectives of the Education for All (EFA) act by 2015. As a result, the primary enrollment rate has grown from 3.4 million in 2003-2004 to 4.3 million from 2009-2010.

Furthermore, the 2009 crisis has provoked a sharp decline in school enrollments since the rate has relatively stagnated. The progression of the number of new enrollments has significantly slowed and the drop-out rate has sharply increased. The quality of learning has also declined and the achievement of students at the end of primary school is very poor. In such context, Madagascar seems to have moved away from achieving the Education MDG since 2006³ as shown in the table below.

Table 2. 1: MDG2 indicators for education

Indicator	ENSOMD2012	2015 target
Net primary enrollment rate	69.4%	100%
Primary completion rate	68.8%	100%
Literacy rate among the 15 year-old and above	71.6%	100%

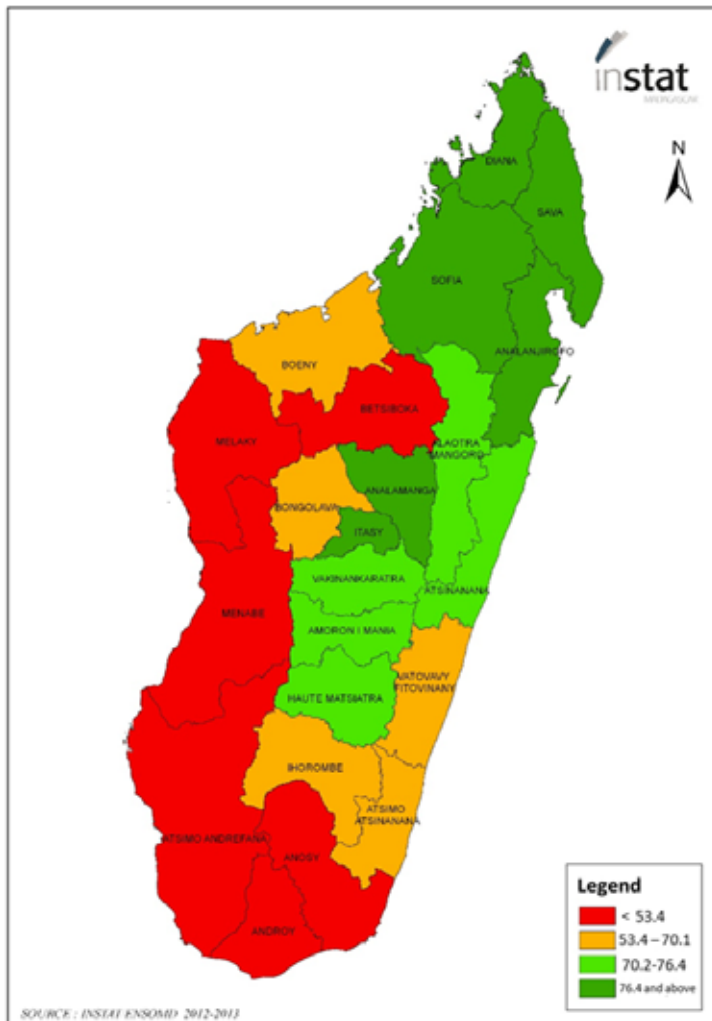
Beyond the lack of achievement of the MDG's goal of access to education, the decline in the school enrollment rate is particularly alarming. In this regard, the primary attendance rate has experienced a significant decrease from 2010 to 2012 (108% in 2012 compared to 118% in 2012 for the gross attendance rate, and 69.4% in 2012 vs. 73.4% in 2010 for the net attendance rate).

There are substantial spatial and socioeconomic disparities and the primary attendance rate is much more significant in urban areas (86%) than in rural areas (66%). The higher the consumption quintile and level of education of the household head, the higher the proportion of children that attend primary school; the net primary attendance rate is 54% among children from poorer households and 82% for wealthier households. The disparities show the same trends when one compares the households with uneducated heads (net attendance rate: 54%) to those whose head received a secondary or tertiary education (84%).

³ The second official MDG monitoring report, which was published in 2011 and reviewing the indicators of the evolution of MDG for the 2004-2006 period, indicated that Madagascar was on the right path towards achieving its 2015 commitments in some aspects if drastic and immediate measures were taken, namely the universal primary education, because the net primary attendance rate (6 to 10 years old) varied from 99.3 in 2004 to 96.2 in 2006.

There are important regional disparities as well; out of the 22 regions, 11 have a net attendance rate that is below the national average (69.4%) and these include Androy, Anosy, Melaky, Menabe, Atsimo Andrefana, Betsiboka, Ihorombe, Boeny, Atsimo Atsinanana, Vatovavy Fitovinany, and Bongolava. These are regions where the majority of the population is farmers, livestock breeders, or fishermen. Moreover, the regions of Analamanga, Analanjirofo, Itasy, Diana, and Sofia have much better attendance rates.

Map 2. 1: Net school attendance rate, by region



In order to measure the performance of the primary education system, it is interesting to pay attention to the number of children that complete the first year of primary school (primary survival rate) as well as the primary school completion rate. On average, out of the 100 children enrolled in the first year of primary school, 70 reach the 5th year; this proportion is significant in the capital city and the rate is slightly higher for girls than boys (72% vs. 69%). Overall, about 68% of children under 10 years old reach the last year of the primary; the regions of Analamanga (89%), Alaotra Mangoro (80%), and

Matsiatra Ambony (81%) have the highest survival rate. However, the regions of Menabe (38%), Betsiboka (41%), and Boeny (49%) have the highest drop-out rates.

The primary to post-primary transition rate measures the changeover from primary school to junior-high. Overall, out of the 100 students that complete the 5th year of primary school, 71 are enrolled to the first year of secondary school (Grade 6). The proportion of boys being enrolled is slightly higher than for girls (respectively 73% vs. 68%); there are regional differences: the primary to post-primary transition rate is the highest in Amoron'i Mania (83%) and Analamanga (81%), whereas it is the lowest in Vatovavy Fitovinany (53%) and Bongolava (48%).

One of the aims of the survey was to determine the level of literacy for individuals 15 years and older. A "literate" person is someone that has reached the post-primary level (or higher), has simply attended primary school, or is uneducated but can still read. Overall, the literacy rate for individuals 15 years and older is 71.6%. This rate reaches 7% for those between the ages of 15 and 24, 73.4% for the 15 to 49 year olds, and 70.3% for those that are ages 15 to 59; in general, men are more literate than women. Urban areas have a higher literacy rate regardless of the age group. Also, there is a positive correlation between a household head's level of education and the consumption quintile; the richer/ more educated the household head, the higher the level of literacy. The literacy rate for individuals' ages 15 years and older is highest in Analamanga, Itasy, and Vakinankaratra regardless of the age range.

MDG 3: Promote Gender Equality and Empower Women

Madagascar has committed to meet the MDG 3's Promote Gender Equality and Empower Women to eradicate the disparities in the primary and secondary education (and if possible in all levels) by 2015. It is worth noting; however, that the issue of gender and of women's status goes beyond education and encompasses equality in the labor market, the balance of roles within a couple, and the eradication of violence against women. ENSOMD2012-2013 allows the addressing of these different points. The analysis of the situation reflects the diversity of realities experienced by Malagasy women in their families and in society.

Table 3. 1: MDG indicators on men/women parity

Indicator	ENSOMD 2012	2015 target
Indicator 3.1a: girls/boys ratio in primary education	1.05	1
Indicator 3.1b: girls/boys ratio in junior secondary education	0.93	1
Indicator 3.1c: girls/boys ratio in higher secondary education	0.86	1
Indicator 3.1d: girls/boys ratio in tertiary/university education	0.73	1
Indicator 3.C1: Gender parity index related to literacy for the 15-24 years old.	0.95	1
Indicator 3.C2: Gender parity index related to literacy for the adults (24 y-o and above)	0.91	1
Indicator 3.2: proportion of women in wage employment in the non-agricultural sector	38%	50%

Regarding education, the girl/boy parity is achieved since the ratio is 1.05 in favor of girls (ratio of the gross girl attendance rate compared with boys); moreover, the girls are disadvantaged beyond primary school and this increases with the level of education. In the post-primary level (junior-high), there is a regression in the girl/boy ratio by 0.93. In the higher secondary level, the ratio is 0.86 and it goes down to 0.73 in the tertiary level.

Regarding the literacy rate, Madagascar has a male female ratio of less than 1 among those ages 15 to 24, this includes primary and secondary school and varies according to the region.

Regarding the situation of women in the labor market, their number is less numerous than men (38% vs. 62%) in the non-agricultural sector; thus, there is still a very long way to go to achieve equality. Creating access to union ad credits for women is part of the strategies adopted to improve the income

level of households. The proportion of women in unions that currently participate in a microfinance program is 3.8%; around 14.4% of them have reimbursement problems.

As for the participation of women in decision making, the decision is jointly made with their husbands or partner for the following three issues: personal health care (56%), households' major expenses (65%), and visits to the wife/ partner's parents (76%). Regarding the decisions of the households' daily expenses, 56% of the time women have the final say.

For the decision regarding the use of the women's income among those that worked during the last 12 months, only less than one third (30%) of them have the power to decide on how to spend their earned income. In 58% of cases, this decision is jointly made with the husband/partner. As for men in relationships, 21% of them declared that it is their wives/partners who decided on how their money will be spent; 18% state that make the decision alone and 60% affirmed that their wives/partners have a say in the matter.

The involvement and integration of women in an association is also part of the steps to take to improve their status. At national level, just over four women in ten (43%) declared being a member of a religious association, whereas only 5.5% are in a political or civic association. Regarding the position in the association, only 4.6% of women in an association occupy the position of chairperson, or vice-chair, 4.7% occupy the secretary's position, and 5.1% occupy other positions. Note that almost all (85%) women ages 15 to 49 that are affiliated to any association are simple members.

To address the justification or non-justification of violence committed by husbands against women within a household, women ages 15 to 49 and men ages 15 to 59 have been asked whether the husband has the right to beat his wife for certain reasons. About one of two women declared that there were reasons for a husband to beat his wife. For example: if a woman neglects her children (38.4% of women vs. 38.9% of men), going out without the husband's permission (23.0% of women for 23.3% of men), burning the food (13.5% of women and 12.9% of men), refusing to have sex with the husband (10.6% of women for 12.2% of men), or just "arguing" with the husband (8.1% of women, vs. 10.6% of men), are some of the reasons for men to beat their wives.

Violence is an act that may cause moral, physical, or material damage. It takes several forms: physical, sexual, psychological, and economic violence. Many women have suffered different types of violence during the last 12 months prior to the survey (one in 3 Malagasy women). Psychological is the most prominent (19.0% of women suffered it); as for physical violence, it is experienced by 12.1% of women. Sexual and economic violence are respectively suffered by 7.2 and 5.3% of women.

This analysis shows that no category of woman is exempted from violence, although prevalence slightly varies according to some socio-demographic characteristics; younger women are much more at risk than their elders and belonging to the richest quintiles does not spare a woman from violence. Indiscipline (78.2%) and disrespectful children (51.2%) are the causes for violent acts that are the most frequently mentioned by women. However, most of the women (83.3%) that have committed violence against children declared that these causes are seldom revealed. In contrast, only one in ten women dare to strike back at their husbands' violence.

Victims of violence often try to find help and more than half of the women that tried to seek assistance for any type of violence resorted to family-based arrangements; 60% of the victims (not including economic violence) have not sought help.

These findings have important shortcomings on the prevention and fight against gender-based violence (including the raising awareness campaigns and advocacy for women's rights among communities, opinion leaders, and authorities). Laws should also be amended and implemented, namely those related to family matters, succession, and citizenship, in order to eradicate any discriminatory provision against women. Moreover, counselling centers such as the Listening and Legal Advising centers/Legal Clinics, the promotion and implementation of centers for the social rehabilitation of victims of violence, the development of an action plan to prevent and fight against GBV (i.e. human trafficking), and the mobilization of technical and financial resources to empower women, are indispensable in the fight against this social plague.

MDG 4: Reduce the Mortality of Children under the Age of 5

Child mortality

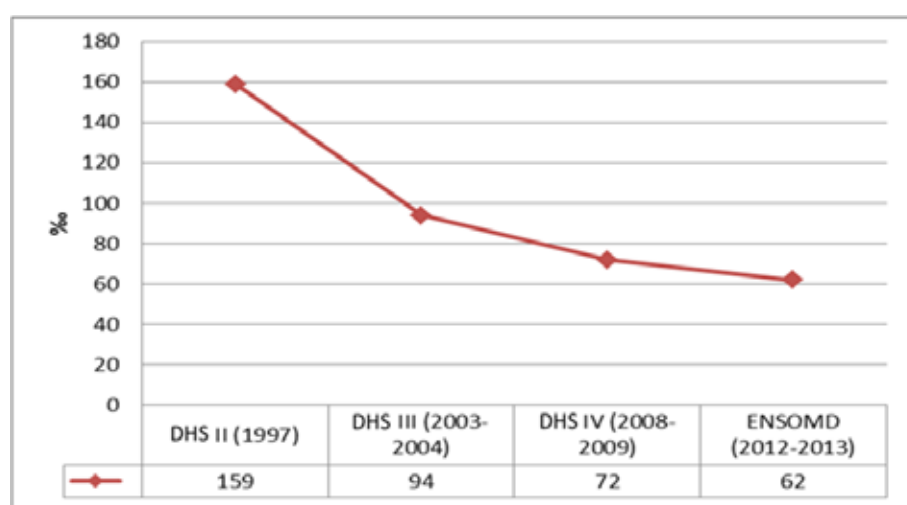
The MDG objective is to reduce child mortality by 2/3 by 2015. ENSOMD gives an overview of the efforts made in this regard, but also on child protection in general.

Table 4. 1: MDG for child health and mortality

Indicator	ENSOMD2012-2013	2015 target
Indicator 4.1: Under 5 y-o mortality rate (‰)	62	53
Indicator 4.2: Under 1 y-o mortality rate (‰)	42	31
Under one month old mortality rate (‰)	26	21
Indicator 4.3: Proportion of children from 12 to 23 months old who are immunized against measles	61.7%	100
Indicator 4.C1: Proportion of children from 12 to 23 months old who are totally immunized	51.1%	100

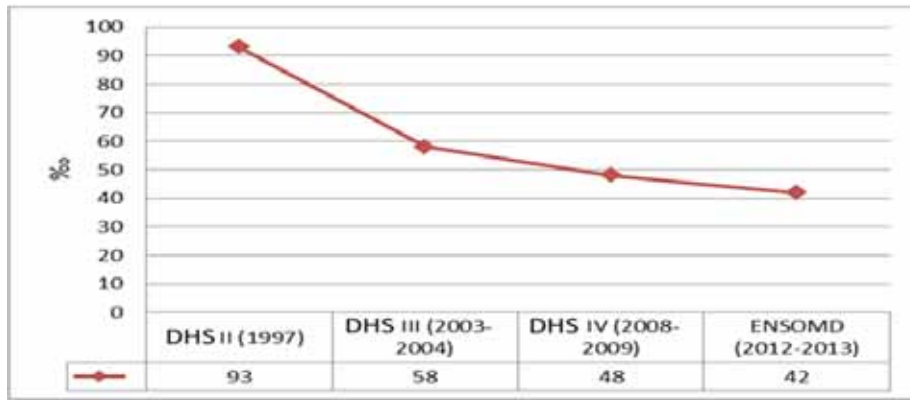
After experiencing a decade of declining mortality rates among children under the age of 5, the trends seem to have lost momentum, compared to the DHS 2008-2009 survey. Indeed, the dynamic analysis shows that the infant and child mortality rate has clearly declined by 55%, going from 159‰ in 1997 to 72‰ in 2009 (cf. graph 4.1). The mortality rate of children under the age of 1 also declined from 1997 to 2009, respectively going from 93‰ to 48‰ (cf. graph 4.2).

Graph 4. 1: Infant and Child mortality (< 5 years old)



Source: INSTAT/ENSOMD 2012-2013

Graph 4. 2: Infant mortality (under 1 year of age)



Source: INSTAT/ENSOMD 2012-2013

ENSOMD 2012-2013 also reveals that the infant and child mortality rate has declined from 72‰ to 62‰, whereas the child mortality has gone from 48‰ to 42‰. These recent figures deserve a lot of attention in order to not compromise the achievements made. Undeniably the child health indicators are not reassuring and one may then fear that the achievements for child survival could be compromised in the future if no strong action is made to remedy the situation.

In addition, it has also been observed that the mortality rate among children 5 years and under is higher in rural areas than in urban areas, with respective rates of 64‰ and 39‰. Besides, the mortality rate declines the mother's level of education; the rates range from 74‰ to 46‰. According to the socio-demographic characteristics, it is obvious that the risk of death is highest among children ages 7 and up when the mothers are 20 years old or younger, between 34 and 49 at birth, or have successive births at an interval of less than 2 years. Regionally speaking, the mortality rate among children under the age of 5 is the highest in Betsiboka, whereas it is the lowest in Analamanga, with respective rates of 97‰ and 36‰.

Children's health

In order to guarantee both the health of the child and reduce the child mortality rate, universal coverage of efficient and affordable interventions should be implemented, namely in newborn care, immunization, the prevention and management of acute respiratory infections, fever, and diarrhea. Moreover, the weight of newborn babies at birth is among the first determinants of his/her morbidity and future. Along this survey, the maximum amount of information on these interventions was collected.

According to the findings of ENSOMD, the percentage of children suffering from a low birth weight has decreased between the years 2008 and 2012. Indeed, the rate was 14% in DHS IV and has declined to 11% in ENSOMD.

Regarding nutrition, 8.6% of children suffer from acute malnutrition and are at a high risk of mortality. As for the feeding of infants and young children, it is obvious that breastfeeding and general feeding are preventive interventions that have the strongest impact on the child mortality rate. In the case of Madagascar, the ENSOMD 2012-2013 revealed that the breastfeeding and nutritional serving of young children is not sufficiently practiced with only 65.5% of children being breastfed within the hour

following birth, 41.9% of children under 6 months were exclusively breastfed, and 30.9% of children ages 6 to 23 months received a diversified diet. Vitamin A supplementation reduces mortality by 23%, among children ages 6 months to 5; however, only 42.7% of children received their vitamin A supplementation.

Immunization coverage has declined by 11 percentage points compared to the DHS IV data. This decline seems to be in contradiction with the high volume of activities made by the Expanded Program on Immunization (EPI), namely mass vaccination campaigns (measles, newborn tetanus, etc.), the advanced and outreach strategies, mop-up campaigns, sight-loss research, and the integration of immunization in the minimum package of health centered interventions. In this regard, a close review of the ongoing dynamics by tracking the evolution of these indicators during the last 15 years is recommended (namely through the first DHS which exactly used the same methodology as ENSOMD 2012-2013). In parallel, there should be an in-depth analysis of the barriers to immunization efficiency and effectiveness, namely the absence of the appropriate social mobilization strategy for the routine program, the permanent availability of vaccines and injection supplies, the availability of human and financial resources, the supply of vaccines and syringes, the isolation of some areas, and the closing of health centers.

As far as the main child illnesses are concerned, an increase in the prevalence rate has been observed during ENSOMD. The percentage of children with ARI symptoms has gone from 3 to 11%, diarrhea from 8 to 11%, and fever, 9 to 14%. Moreover, some regional problems deserve an in-depth review including Vatovavy Fitovinany, where the prevalence rates for these three diseases are very high. Currently, thanks to the implementation of the IMCI program at community level for all children under the age of 5, the prevention and treatment of these diseases should be affordable for the population. Now, actions should be taken to allow a better accessibility to care for the majority of the population.

In short, to achieve MDG4, an increase in the access to basic health services for the whole population is a key strategy. Also, the social and financial barriers to social protection should be removed, innovation to give the poor access to essential services should be created, and the local level health systems should be given more responsibilities. These are the measures that can improve equity, with the advantages involved in child survival. On the programmatic side, the maintaining/strengthening of the integrated (MCHW) immunization campaigns are important indicators of child survival. Finally, the “target groups” must be well prioritized; that is also what this MDG monitoring exercise is about.

MGD 5: Improve Maternal Health

The objective of the MDG 5 is to improve maternal health. Two goals have been defined in this regard: reduce the maternal mortality rate by three quarters from 1990 to 2015, and make access to reproductive medicine universal. These goals are supported by several indicators, including the maternal mortality rate, the proportion of qualified health personnel assisting deliveries, the prevalence of contraceptives, adolescent fertility rate, prenatal care coverage (at least four prenatal consultations), and the unmet family planning needs; the survey collected information on obstetric fistula, which is a serious public health issue in Madagascar. For all of these indicators, the situation is far from over as shown by Table 5.1.

Table 5. 1: MDG indicators for maternal health

	ENSOMD	Target
Indicator 5.1: maternal mortality ratio for 100,000 births (ESD_IV: 498 avec IC = [402 ; 594])	478	122
Indicator 5.2: Proportion of qualified health personnel assisted deliveries	44.3%	
Indicator 5.3: Contraception utilization rate (modern contraception among women in union)	33.3%	
Indicator 5.4: Adolescent birthrate (specific fecundity rate among the 15-19 y-o)	163 ‰	
Indicator 5.5: Antenatal care coverage (consultation of qualified personnel)	82.1%	
Indicator 5.5a: at least one consultation:	86.7%	
Indicator 5.5b: at least four consultations:	51.1%	
Indicator 5.6: unmet family planning needs:	17.8%	
Knowledge on fistula (heard about it): men & women	13% & 12%	
Among the interviewed women: percentage of 15 to 49 year-old women presenting urinary or fecal discharge through genital tract	5.3‰	

The findings of the ENSOMD2012-2013 survey show that the maternal mortality rate has stagnated for decades. It is estimated that for every 100,000 live births, there were 478 maternal deaths between the years 2006-2013 (versus 498 for every 100,000 live births in the DHSMD IV). Indeed, the interpretation of this information should be cautiously carried as the confidence interval is quite large.

This level reveals more of stagnation in maternal mortality and it has been confirmed by the explanatory factors summarized below.

The preventive care sector has experienced a slight decrease. Regarding access to health care, one can observe a decrease by 3 points between 2008-2009 and 2012-2013. The proportion of women that have attended at least one prenatal consultation has gone from 90% in 2008-2009 (DHSMD IV) to 87% in 2013-2013 (ENSOMD)

The number of qualified personnel assisted deliveries has not changed compared to 2008-2009. Indeed, the proportion of qualified personnel assisted deliveries was 43.9 in 2008-2009 and currently the rate is 44.3. For all of the women who recently gave birth, more than half have come back after 2 days to ask for postnatal care and yet the figure was below 50% in 2008-2009.

The proportion of deliveries in health facilities has moderately increased to vary from 35% in 2009 to 38% in 2012-2013. Around 58% of deliveries take place at the woman's places, especially in the regions of Vatovavy Fitovinany (78%), Androy (72%), and Melaky (73%).

The prevalence of obstetric fistula is estimated at 5 for every 1,000 women that have already given birth. Furthermore, we tend to consider this disease as common among the poor but the findings show that no social level is spared from it. However, the prevalence rate is quite high among women who did not attend any prenatal consultation during pregnancy (9‰), the less educated women (14‰), and the women under the age of 20 (8‰).

The median age for the first sexual intercourse has not changed compared to the DHSMD IV (age 17 for women aged 25 to 49), but it indicates that women have early sexual intercourses; this age has decreased in the newer generations. The median age for the first marriage is higher than the first sexual encounter (19 years old for 25 to 49 year-old women).

The median age for the first birth is not too far from the age of the first marriage: 20.2 years old for women ages 25 to 49. However, right from the age of 15 to 19 years old, quite a high proportion of women have already given birth (31.5%). In the regions of Sofia and Androy, more than half of the women ages 15-19 have already given birth.

Early sexual intercourse or marriage has impacts on fertility. Indeed, at the age of 15-19, the fertility rate reaches 163‰, and it peaks at the age of 20-24 (231‰). These relatively high rates increase the composite fertility index to 5 children vs. 4.8 in 2008-2009. The highest adolescent fertility rate is observed in Androy, with a quite high composite fertility index, associated with a lower prevalence of contraceptive use.

Despite the efforts made to meet the needs of the female population regarding family planning, the unmet family planning needs have slightly declined from 2009 to 2013 (18.9% in 2008-2009 and 17.7% in 2012-2013).

The contraceptive prevalence rate has also increased compared to the observations made on the DHSMD (33% vs. 29% in 2008-2009). Injections remain as women's favorite contraceptive method (20% of women use it). Regarding the discussion with the husband or the partner on the use of

contraception, in 94% of the cases, women declared that their husbands know that they use contraception.

In summary, achieving the MDG5 is a big challenge for Madagascar. Nevertheless, the findings of ENSOMD2012-2013 for pre and postnatal care, the immunization status of mothers for the prevention of maternal and neonatal tetanus, the location and assistance to deliveries, as well as the problems limiting the access to health care for women, allowed the identification of the most important issues facing maternal health. These findings will allow the evaluation and the development of policies and programs in reproductive health, particularly in maternal health to promote Safe Motherhood in various areas in order to better adapt to the interventions and to act in a more rational and efficient manner.

MDG6: Combat HIV/AIDS, Malaria and other Diseases

MDG6 can be defined through two goals: stopping the spread of HIV/AIDS and controlling major diseases like malaria by reversing the current trend.

Table 6. 1: Indicators for MDG6.

	Men	Women	Overall
Indicator 6.2: rate of condom use at the last high-risk sexual intercourse (15-24 y-o)	7.3%	8.5%	7.9%
Indicator 6.3: Proportion of the population aged 15-24 having accurate and up to date knowledge on HIV/AIDS	25.5%	22.9%	24.2%
Indicator 6.7: Proportion of children under the age of 5 sleeping under insecticide impregnated bed nets	48.6%	50.8%	49.7%
Indicator 6.8: Proportion of children under the age of 5 with fever, treated with the appropriate antimalarial medication	12.3%	12.8%	12.5%
Indicator 6.9: knowledge on tuberculosis	84%	80%	82%

HIV/AIDS

The regular use of condoms during casual sex substantially reduces the risk of sexual transmitting HIV and other STI's; the rate of condom use will then be measured in this study.

According to the findings, the vast majority of women and men ages 15 to 49 have heard about HIV/AIDS. However, a noticeable decline has been observed from 2009 to 2012. Besides, the level of knowledge of the two main methods of prevention (use of condom and limitation of sexual intercourse with only one faithful and uninfected partner) has experienced a major setback regardless of the respondent's gender. The proportion of men and women that know these two methods of prevention have respectively varied from 65% to 58% and 54% to 62% between both surveys. Overall, only 23% of women and 26% of men ages 15 to 49 have an extensive knowledge on the transmission of HIV/AIDS.

A little less than half of the women (47%) are aware of the risk of transmission through breastfeeding, but few of them (31%) know that this risk can be reduced by the taking specific medicines during pregnancy. It is rare for women to have multiple partners: during the 12 months prior to survey, only 1% of women declared having had at least two sex partners, 9% of which stated having used a condom during the previous sexual encounter. Having multiple partners is more frequent among men: the proportion of men that declared having had multiple partners during the 12 months prior to survey (5%) is much higher. However, it has sharply declined from 2008 to 2012, from 16% to 5%. Among men having multiple partners, only 8% declared having used a condom during their last sexual intercourse.

These results show that the knowledge on preventative methods does not always translate into safe practices: indeed, the condom use rate is low compared to the level of knowledge.

There seems to be some reluctance among the population to know one's HIV status: only 11% of women and 7% of men ages 15 to 49 declared having gotten tested, whereas more than 2 in 5 women and men declared knowing a place to get such test. The figures are even lower among those that are between the ages of 15 and 19, for whom the percentage of those who have been screened and received the results does not go beyond 5%, regardless of the respondent's gender; this may be partly due to the requirement of a parent or tutor's consent for the screening (this is mandatory according to the 2005-040 legislation on HIV/AIDS). Only 2% of all the respondents declared having been screened during the last 12 months prior to survey and the lack of screening reagent in many health centers in 2012 may be another cause.

Discrimination and stigma remains a challenge to the country; considering the four situations requiring tolerance towards PLVs, only a small proportion of women and men (respectively 4% and 5%) would show a positive attitude towards PLVs.

Compared with the last DHSMD IV survey, there is a significant increase in the proportion of women and men who never heard about STI's, the percentages respectively going from 38% to 46% and from 30% to 35% among both groups. The lack of knowledge of these diseases is a public health problem if one refers to the available national data; this will affect their care-seeking behavior. Based on the statements of the respondents, only 2% of women and 4% of men declared having suffered an STI during the last 12 months.

Tuberculosis

This disease represents a major health problem; it was important to collect data on the attitudes and knowledge of the population as well as its risk factors. On average, 82.5% of the population declared having heard of tuberculosis (higher among men). More than 9 in 10 people declared that this disease can be treated (94%). Regarding the knowledge of the propagation of tuberculosis, more than half declared that it spreads through the air. As for confidentiality, less than half of those who know about tuberculosis would like to keep their experience a secret.

Regarding the risk factors, the survey also collected information on tobacco consumption. The results show that the proportion of men that smoke cigarettes is much higher than women's (23% vs. 1%). However, chewing and sniffing tobacco are more frequent among women with a proportion of 14%. Regarding the number of cigarettes men smoke, almost half of them smoked 3 to 5 sticks during the last 24 hours prior to survey.

Malaria

Madagascar has made a lot of efforts to fight against malaria, with various strategies implemented. They are: vector control through the distribution of LLIN and intra domiciliary spraying, prevention for pregnant women through intermittent preventive treatment (IPT), and early case management among children under the age of 5.

After so much effort made to fight this disease, it was important to collect data on the preventative methods used by the population. It has emerged that around two in three households possess bed nets (64%). Those possessing LLIN (recommended by the current national policy) are around 60%; more

than one in four households possess more than one (34%). The average number of bed nets per household is 1.15.

Regarding the use of bed nets, three population sub-groups have been analyzed: households, children under the age of 5, and pregnant women. For the first sub-group, 48% of the people travelling outside their homes have slept under a bed net during the night prior to the survey, 44% of whom slept under a LLIN. For the second sub-group, more than one in two children slept under a bed net (55%) the night prior to the survey, and about the same proportion used a LLIN (50%). In the households that possess at least one LLIN, 88% of the children under the age of 5 have slept under a LLIN the night prior to the survey compared to the 71% in the 2008-2009 DHSMD.

Regarding pregnant women, 48% slept under a bed net the night prior to survey; they slept mainly with LLIN (44%). Among the households that possess at least one LLIN, 92% of the women slept under a LLIN the night prior to survey, compared to the 76% in DHSMD 2008-2009. Moreover, about one in two pregnant women (46%) took, as a preventative method, antimalarial medicines during pregnancy. Furthermore, in 5% of cases, it was an intermittent preventive treatment (IPT) with the intake of at least two doses of SP/Fansidar during the prenatal consultations.

Regarding the intra domiciliary spraying, the proportion of households benefitting from this intervention is 19%. Overall, the rural households are more frequently sprayed than urban ones (22.6% vs. 3.7%). According to the well-being quintile, it can be observed that the wealthiest are less covered by spraying with a proportion of 12.7% compared to the 22% on average for other quintiles.

Regarding children, it is observed that among the children under 5 years of age that suffered from a fever during the last two weeks prior to survey, less than one in five of them were treated with antimalarial medicines (14%), and about 5% have had early treatment (on the day the fever appeared or the following day). Nearly half of them sought advice from a health facility, care provider, or pharmacy, and more than 5% took a blood-sample for a diagnosis confirmation. The most frequently used medication remains to be chloroquine and quinine (around 3%). Other antimalarial medicines, such as Amodiaquine, Sulfadoxine Pyriméthamine/Fansidar, and ACT are only used at low proportions.

The IPT coverage rate has slightly decreased by 8.2%, vs. 11% in DHSMD 2008-2009. Regarding the treatment of simple malaria cases, ACT treatment has not changed compared with DHSMD 2008-2009, with respective rates of 0.9% and 1%. It is important to mention that out of the 112 covered by the three preventive interventions, 41 are covered by spraying, 93 by LLIN, and 87 by IPT.

MDG7: Ensure Environmental Sustainability

The main objective for MDG7 is to ensure environmental sustainability. The indicators that were considered are (i) the proportion of the population that have access to improved drinking water sources (27.7%) which has slightly increased by 8.1% compared to the 2010 rate; (ii) the proportion of the population using improved sanitation infrastructures (7.1%)⁴, which has also shown a slight increase of 4.3% compared to 2008, (iii) the proportion of the population using the main solid fuels (99.2%) with an unchanged rate from 2010, and finally (iv) the proportion of city dwellers living in slums (88.2%)⁵, which reflects very poor living conditions in urban areas.

Table 7. 1: MDG Indicators on the environment

	Urban	Rural	Overall	Target
Indicator 7.8: the proportion of the population having access to improved drinking water sources	77.4%	17.7%	27.7%	62%
Indicator 7.9: Proportion of the population using improved sanitation infrastructures	24.7%	3.6%	7.1%	71%
Indicator 7.10: of city dwellers living in slums	88.2%			

Moreover, the targets for 2015 regarding Improved Drinking Water and the access to better sanitation infrastructures are respectively: 68% and 54%, according to the MDGs. This objective is far from being achieved since only 27.7% of the population has access to improved drinking water, despite the efforts made by the government in the past. The same applies to the population's access to improved latrines, which represents only 7.1%. As for waste management, more than 57% of the population throws out their waste on the streets. This proportion is much higher in rural areas (65.5%), whereas in urban areas, the public or private waste collection system prevails (43.7%)

Regarding the management of environmental resources, the improvement is hardly palpable in Madagascar. Indeed, timber and charcoal are the most frequently used primary fuel for cooking, with

⁴ The definitions of the access to improved sanitation infrastructure cannot be strictly comparable and depend on the design of the questionnaires. One should then be cautious, unless one makes a reconstitution of the definitions. However, a reality emerges, whatever the source. It is the proportion of the population that has no latrines, which has gone from 43% in DHS 2008-09 to 52.8% in HHS 2010, and is at 48.2% in 2012/13. This long-standing trend is compliant with what was observed among these indicators, i.e.: a slight deterioration before 2010, and the, an improvement

⁵ This figure depends on the definition or the methodology that applied for the calculation. The international definition for "slums" is too restrictive, if one considers the situation of Madagascar. Indeed, the definition is based on the number of household members, on the access to an improved water source, and on the improved infrastructure. Given the irrelevant level of the indicators used as inputs for the calculation of this indicator, it is understandable that the level is high.

respective rates of 69.9 and 26.2%. The stagnation of the trend in the use of these fuels, at more than 96%, translates a risk of depletion of the ligneous species.

As for the secure tenure of city dwellers, the objective was to reach by 2020, 100 million inhabitants in the world. Yet the share of Madagascar is relatively negligible, as it only represents 408,097 inhabitants with secured tenure.