Madagascar
Three Years into the Crisis
An Assessment of Vulnerability and Social Policies and
Prospects for the Future
(In Two Volumes) Volume I: Main Report

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Currency Equivalents
(Exchange Rate Effective December 31, 2011)
Currency Unit = Malagasy Ariary
US$1 = Ar2,273

Government Fiscal Year
January 1 - December 31

Weights and Measures
Metric System

Abbreviations and Acronyms

AFAFI “Let’s Protect Family Health Together” (mutual health organization in Antananarivo)
ARI Acute Respiratory Infection
BNGRC Bureau National de Gestion des Risques et des Catastrophes (National Bureau for Risk and Catastrophe Management)
CCPREAS Cellule de Coordination des Projets pour la Relance Economique et des Activités Sociales (Coordination Unit for Economic Recovery and Social Activities Projects)
CCT Conditional Cash Transfers
CEFor Crédit Epargne et Formation (Credit Savings and Training, micro-finance institution)
CNaPS Caisse Nationale de Prévoyance Sociale (National Insurance Fund)
CNGRC Conseil National de Gestion des Risques et des Catastrophes (National Council for Management of Risks and Catastrophes)
CNLS Comité National de Lutte contre le SIDA (National Council for the Fight against AIDS)
CPR Caisse de Prévoyance de Retraite (Retirement Pension Fund)
CRCM Caisse de Retraite Civile et Militaire (Civil and Military Retirement Fund)
CRENA Centres de Récupération Nutritionnelle Ambulatoire (Mobile Nutritional Recovery Centers)
CRENI Centres de Récupération Nutritionnelle Intensive (Intensive Nutritional Recovery Centers)
CRS Catholic Relief Services
DHS Demographic and Health Survey
EFA Education for All
EPM Enquête Périodique auprès des Ménages (Periodic Household Survey)
EFSRP Emergency Food Security and Reconstruction Project
EU European Union
FANOME Fonds d’Approvisionnement Non-stop en Médicaments Essentiels (Fund for the Non-Stop Supply of Essential Drugs)
FE Fonds d’Equité (Equity Fund)
FEH Fonds d’Equité Hospitalier (Hospital Equity Fund)
FID Fonds d’Intervention pour le Développement (Intervention Fund for Development)
FPCU Fonds de Prise en Charge Universelle
FRAM Fikambanan’ny Ray aman-drenin’ny Mpianatra (Parents’ Association)
GRET Groupe de Recherches et d’Echanges Technologiques (Research and Technological Exchange Group)
HIMO Travaux Publics à Haute Intensité de Main d’Oeuvre (Labor Intensive Public Works)
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tr>
<td>HIPC</td>
<td>Highly Indebted Poor Countries</td>
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<td>ILO</td>
<td>International Labor Office</td>
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<td>INSTAT</td>
<td>Institut National de la Statistique (National Statistics Institute)</td>
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<td>LEAP</td>
<td>Livelihood Empowerment against Poverty</td>
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<td>MAP</td>
<td>Madagascar Action Plan</td>
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<td>McRAM</td>
<td>Multi-cluster Rapid Assessment Mechanism</td>
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<td>MENRS</td>
<td>Ministry of National Education and Scientific Research</td>
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<td>MHO</td>
<td>Mutual Health Organization</td>
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<td>MTEF</td>
<td>Medium-term Expenditure Framework</td>
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<td>NGO</td>
<td>Non-governmental Organization</td>
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<td>ONN</td>
<td>Office National de Nutrition (National Nutrition Office)</td>
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<td>PFM</td>
<td>Public Financial Management</td>
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<td>PSA</td>
<td><em>Programa de Subsidios de Alimentos</em> (Food Subsidy Program)</td>
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<td>PTF</td>
<td>Partenaires Techniques et Financiers (Technical and Financial Partners)</td>
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<td>SALAMA</td>
<td>Central Drug Purchasing Agency of Madagascar</td>
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<td>SALOHI</td>
<td>Strengthening and Accessing Livelihoods Opportunities for Household Impact</td>
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<td>SWAP</td>
<td>Sector-wide Approach</td>
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<td>UNFPA</td>
<td>United Nations Population Fund</td>
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<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
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<td>U5MR</td>
<td>Under 5 Mortality Rate</td>
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<td>WFP</td>
<td>World Food Program</td>
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This report is the outcome of a collaborative process by the international donor community involved in social protection in Madagascar and the World Bank. It has been prepared over a period of one year from January 2011 to January 2012 at a time when Madagascar was under Operational Procedures 7.30 “Dealings with De Facto Governments” which came as a result of the political crisis that emerged in early 2009. As a consequence, the Government of Madagascar has not been involved in the preparation of this report. However, the process involved continuous cooperation with partners and the government’s technical staff including several missions to Madagascar by World Bank staff and consultants, and multiple consultations with donors. A first draft of the report was available in July 2011; several rounds of discussions with development partners were held in the remainder of 2011. A final draft of the report was completed in January 2012. After a round of internal reviews, the report was finalized in March 2012 and presented to the working group on social protection, which met in Antananarivo on March 21, 2012 under the leadership of Ms. Christine Weigand (UNICEF). A broader presentation to civil society and development partners is scheduled to take place in mid-2012.

The preparation of this report was led by Philippe Auffret. The first volume of the report is based on background papers prepared during the first half of 2011 by a team comprising Mr. Anthony Hodges, Mr. Francis Hary Soleman Kone, Mr. Jimmy Rajaobelina, Mrs. Josiane Robiarivony Rakotomanga, Mr. Maminirinarivo Ralaivelo, Mrs. Brigitte Jalaosa Randrianasolo, Ms. Tahiana Randrianatoandro, Ms. Niaina Randrianjanaka, Mrs. Rachel Ravelosoa and Mr. Tiary Razafimanantena. The background papers have been merged into the second volume of the report. The first volume was written by Philippe Auffret, and it draws extensively on the background papers. Mr. Steven Farji Weiss and Ms. Joséphine Gantois assisted in the preparation of the report. Ms. Nadege Nouviale and Mrs. Ana Makiesse Lukau provided much needed editorial and logistical support. Ms. Joséphine Gantois translated in French the first volume of this report.

Comments on preliminary versions of the report were provided by the working group on social protection, which was created by development partners as a platform to discuss social protection in Madagascar, including Mrs. Charlotte Adriaen (European Union), Ms. Miaro-zo Hanoa Andrianoelina (GIZ), Mr. Nicolas Babu (World Food Program), Mr. Danny Denolf (GIZ), Mr. Pablo Isla Villar (European Union), Ms. Dorothée Klaus (UNICEF), Mr. Louis Muhigirwa (Food and Agriculture Organization), Ms. Joelle Rajaonarison (European Union), Mr. Adria Rakotoarivony (World Food Program), and Ms. Olga Ramaromanana (UNICEF). In particular, the report benefited from the workshop for experience sharing and reflection on social protection held in Antananarivo in May 2011.¹ Members of Fonds d’Intervention et de Développement (FID) including Mr. Rasendra Ratsima (General Director) and Mr. Mamisoa Rapanoelina also contributed to the realization of this report.

The report also benefited from comments from World Bank colleagues. Mrs. Maureen Lewis, Human Development Advisor for the Africa Region provided critical inputs on an earlier version of the report. The report greatly benefitted from comments provided by peer reviewers including John Elder, Jacques Morisset, Nadine Poupard and Ruslan Yemtsov. Comments were also received from Mrs. Harisoa Danielle Rasolonjatoavo Andriamihamina, Ms. Farida Caillaud, Mr. Qaiser Khan, Ms. Jumana Qamruddin, Ms. Maryanne Sharp and Mrs. Voahirana Hanitriniala Rajoela. Mr. Antoine Simonpietri reviewed and commented on the chapter on risk and vulnerability. Mrs. Lynne Sherburne-Benz, Sector Manager, and Mr. Yasser El-Gammal, Sector Leader, provided much support and guidance throughout the preparation

¹ This workshop was jointly sponsored by the European Union (EU), International Labor Office (ILO), United Nations Children’s Fund (UNICEF), Fonds d’Intervention pour le Développement (FID), World Health Organization (WHO), World Food Program (WFP) and German Gesellschaft für Internationale Zusammenarbeit (GIZ).
process. The report has been elaborated under the management of Mrs. Haleh Bridi, Country Director, Mr. Adolfo Brizzi, Country Manager, and Mrs. Ritva Reinikka, Human Development Sector Director.

The report contains original research on vulnerability conducted by INSTAT. We are particularly grateful to Mr. Paul Gérard Ravelomanantsoa (General Director of INSTAT), who kindly made the 2010 Household Survey available for the preparation of this report.
Over the past 25 years, impressive strides have been made in protecting people affected by adverse shocks, with many countries developing social protection programs to reach vulnerable households. However, considerable disparities exist across families and countries: Some households are able to mitigate the impacts of shocks; others remain largely unable to reverse the negative impacts of bad contingencies that may bring them into states of hunger, destitution or death.

In Madagascar, the situation has become critical. While a large segment of the population has always experienced frequent shocks originating from natural disasters, international economic shocks, malnutrition or sickness, the situation has considerably deteriorated as the result of the political crisis that emerged in early 2009. This crisis of governance is currently having a devastating effect on an already impoverished population.

Who are these Malagasy who have been affected by the current lingering political crisis? These are direct testimonies of a few:

Mrs. Herifanja Rajaomampionina lives in the fokontany\(^2\) of Andranomanalina in Antananarivo. “I am married, and we have three children. My husband used to work as a computer specialist for a firm in the Forello free-trade zone. However, the firm closed in February 2010. He looked for another job and was hired in a hotel. The number of customers and tourists progressively decreased. Three months later, the hotel closed and he lost his job. Then, we decided to move to the area of Andranomanalina where rents are lower. We also moved the children to a public primary school as we could no longer afford sending them to a private school. Currently, we try to pay the rent as a priority. We face considerable difficulties to afford enough food. The children do not eat before they go to school. They only eat at noon and sometimes in the evening when we can afford it. Otherwise, we go to sleep without eating. When we are sick, we go to the basic health center in Isoty, but we can rarely afford the medication.”

Mrs. Voahirana Radriamilanja lives in the fokontany of Ankasina also in Antananarivo. “I am married, and we have seven children between the age of 8 and 24. We do not own a house and need to pay a rent. Before we could send our children to school and afford to see Mr. Claude, the local doctor, and buy some medication when we were sick. We could also eat three times a day. Before the crisis, I had a little shop and I was planning to expand my activities. However, due to the political crisis and the difficulties it generated, I ran out of funds and had to close my shop. Now, we eat only once a day. Currently, we can only afford sending our younger child to school. The other six do not go to school any longer. When we are sick, we can only afford the basic medication to cure fever and malaria.”

Mrs. Farasoa Ravaonirina lives in a peri-urban area situated in the north of Antananarivo. “I am married, and I have two sons who both go to school. We live in Ilafy where we have a very difficult life because we rent. Our living conditions were more or less acceptable before the crisis. I was working for a Chinese owner. However, he went back home after the 2009 crisis started. This is when we started to face difficulties. Since then, our living conditions have considerably deteriorated. Our child has been operated on and is sick. I am often sick too. I owe Ar20,000 to the doctor. We have not paid him yet and we need to pay him progressively. We had to ask our

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\(^2\) Originally, a fokontany was a traditional Malagasy village. Today, there are over 17,500 fokontany, which represent the smallest administrative unit in Madagascar.
landlord to wait as we currently cannot pay the rent and are trying to prioritize the expenses related to school. Before the crisis, we were eating normally and we even considered buying a piece of land to build a house. We are looking forward to the end of this crisis as we are suffering enormously."

Mr. Jean-Claude Randrianasolo is a carpenter who lives in Toamasina (Tamatave). “I am 57. I am married, and I have three children. They all go to school for the time being. Despite some help from family members, expenses related to their education are increasingly difficult to bear. Before the crisis, I was working in a firm as a handyman but I was fired because of the crisis and, since this time, life has become very difficult for us. My wife is a seamstress but she makes very little money. On my side, I have more and more difficulties to find work. I currently look for some temporary positions working as a carpenter. The little I earn goes towards buying rice and paying for the children’s education. We told the children that we need to live frugally. Before the crisis, we wanted to buy a small piece of land and build a house but now we cannot even rehabilitate our house which has been damaged by a cyclone. Also, credit is more difficult to get and, when it is available, it needs to be repaid under a short period of time. We live day-to-day, but we cannot make any long term plans.”

Mr. Eugène Noro lives in Toamasina (Tamatave). He is currently unemployed. “I am 57. I am married, and I have seven children. I live off occasional small works. We live in deplorable conditions, without access to water, no fixed source of income. My wife does not earn a living either, she takes care of the children. I make about Ar2,000 per day, which we use to buy rice, coal to cook and a few other basic necessities. Between 1978 and 1989, I was working in a small firm but it closed. I managed to buy a small parcel of land and tried to revert back to agriculture. But there was a drought and then a flood in the Ampasimbe Manantsatrana area which damaged all the banana trees we had planted. We came back to the city. I would like to raise chicken to produce eggs. But this is very unlikely to materialize if the political situation does not improve.”

Mr. Arinesta lives in the commune of Ampanihy in the southwest region of Madagascar. “I am married. I have five children. I am 48. I lived as a carpenter but I am now the fokontany chief. In Ampanihy, there is a food crisis while a cyclone recently hit us. Almost all activities have been affected, including carpentry as people cannot afford to buy furniture. The crisis is currently deepening in the south of Madagascar. I had six zebus but I had to sell four of them. The remaining two allow me to make some money by carrying stones and wood to Ampanily. My five children used to attend a private catholic school but now only two of them attend this school while we moved the other three to a public school. Before, when we were eating manioc at noon, we would have rice in the evening. Now we eat manioc for lunch and dinner. In the morning we do not eat anything.”

Mrs. Haova lives in the fokontany of Erada Ambaninato in the commune of Ambovombe in the Androy Region, south of Madagascar. “I am 46. I have five children, and I am a single mother. My oldest child is 16. It is not easy to be a single mother. I do not cultivate any land. I have a small stall and sell deadwood, which I collect in the area. When a cash-for-work program is available, I try to participate and life changes a bit for the better. I buy food and some items for school as my five children attend school. When I have some money, I buy sweet potatoes. In the morning, we wake up and do not eat anything. It is painful. In the evening we go to bed without eating if I do not earn anything during the day. Sometimes I rush to the fields to look for manioc leaves which I pound and then cook, and this is all we eat in the evening.”
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THE MALAGASY POPULATION FACES A WIDE VARIETY OF RISKS WHICH HAVE BEEN ACCENTUATED BY THE DEEP AND PROLONGED POLITICAL CRISIS THAT STARTED IN EARLY 2009…

1. In Madagascar, a very high proportion of the population experiences frequent shocks. Madagascar is highly exposed to natural disasters including repeated cyclones, floods, droughts, locust infestations, and animal and plant diseases while global warming is leading to climatic disturbances that further increase the vulnerability of the population. Madagascar is also exposed to international economic shocks with substantial welfare impacts on households. Sudden spikes in international food prices, especially the price of rice, the main staple, or the international price of oil have negative impacts on sizable segments of the population.

2. That being said, history shows that the recurrence of internal crises of governance may be the major systematic risk faced by the Malagasy population. The socialist experiment of the Ratsiraka period (1975-1991) led to a major decline in real per-capita GDP. Since then, three major political crises have erupted in (1991, 2002 and 2009) and led to serious perturbations in economic activities. As a consequence, over the last two decades, per-capita GDP decreased while poverty increased. In 2010, with a poverty rate of 77 percent representing 15.6 million people, Madagascar shared with Haiti the highest poverty headcount in the world based on national poverty lines.

3. In addition to systematic risks, the Malagasy population also faces considerable individual risks. Episodes of illness occur frequently and particularly affect infants and young children. The risk of nutritional deficiency is very high. Currently, about half the population is undernourished that is, their caloric intake is less than the minimum caloric requirement. Children between the ages of 6 and 14 face risks of low human capital development, child labor and marginalization. The risk associated with childbirth is also very high and is exacerbated by cultural discriminatory practices that increase women’s vulnerability. Unemployment and underemployment are prevalent while the elderly face the risk of lacking any support for survival. High levels of vulnerability have been accentuated since the inception of the deep political crisis that followed the change of government in February 2009.

4. The risk of falling into extreme poverty is a daily reality for a significant segment of the population. Extreme poverty is a state of commodity deprivation where the individual cannot afford enough calories to be able to function. In Madagascar, extreme poverty represents 57 percent of the population. It is associated with geographic location, household size, presence of young children, woman-headed households and lower levels or constrained use of key assets, including labor, education, physical assets, basic services, credit and social capital. Traditional societies have historically developed layers of social protection against extreme poverty codified through social norms and support systems. These very measures and support systems, nevertheless, tend to break down with the process of modernization, population growth, urbanization and migration and the opening of new markets. As such, the state’s interventions have a key role to play in substituting for the loss of traditional support mechanisms.
MADAGASCAR’S COMMITMENT TO SOCIAL PROTECTION AS A POLICY WAS NEVER FULLY EFFECTIVE...

5. Before the inception of the current political crisis in early 2009, Madagascar’s overall social protection policy was outlined in the 2007-12 Madagascar Action Plan (MAP) while the mechanism to translate the policies into action, the Risk Management and Social Protection Strategy, was drafted but never officially adopted. Since early 2009, MAP – which is associated with the former regime – has ceased to guide government actions, and the current government’s commitment to past strategies with social protection components like the National Nutrition Policy or the National Policy for Management of Risks and Catastrophes remains uncertain.

6. The overall institutional responsibility for social protection was never fully effective either. One of the weakest ministries in terms of capacity, influence and resources, the Ministry of Population, Social Protection and Leisure, was responsible for social protection. When it was dissolved in January 2007, responsibility moved to a Directorate of Social Protection in the new Ministry of Health, Family and Social Protection. Following the change in government in 2009, however, this organizational fusion was undone, giving rise to the present Ministry of Population and Social Affairs. This latter remains largely ineffective to lead the design and implementation of an overall social protection strategy.

... SO THAT INTERVENTIONS IN SOCIAL PROTECTION HAVE BEEN DEVELOPED ON AN AD HOC BASIS OFTEN AT THE INITIATIVE OF DONORS.

7. The absence of government leadership on social protection has had consequences. First, ad hoc forums called “clusters” have been created by donors to discuss and coordinate selected social protection programs. For example, there is a cluster for food security and livelihoods and a social protection cluster. These clusters provide a valuable forum for discussion and coordination among donors, NGOs and other actors; yet, their decision-making power is limited and cannot substitute for government action. Second, the interventions in social protection have been developed outside of an overall policy framework, often at the initiatives of donors. As a result, social protection programs have remained scattered and uncoordinated across a number of ministries and agencies and have depended upon the donors’ own financing and agenda.

8. This situation has worsened as a result of the current political crisis. As donors do not recognize the transitional authority, activities are being financed at arms’ length from the government. This has undone much of the progress previously made in implementing the Paris Declaration on Aid Effectiveness and is leading to a severe erosion of state systems. It has also expanded the role of NGOs, which have become prominent in the implementation of donor-funded social protection programs.

9. Furthermore, the political crisis has halted the decentralization process. In early 2009, communes were expected to take increasing responsibility for the provision of core social programs including the delivery of basic services (schools, health posts, water systems, communal roads). With the suspension of donor aid, not only did the decentralization process not materialize but the expected substantial financial support to communes was also cut off. In practice, Madagascar remains a highly centralized state with limited public sector services provided at the local level.

10. Paradoxically, the political crisis has increased the role of communities (fokontany). The de facto power and influence of communities has increased since 2009 due in part to the channeling of external aid to local services via NGOs, which work closely with communities. These structures are, thus, playing a critical role in the implementation of social protection programs. For example, the fokontany issues solidarity cards to the most deprived, which provides access to free drugs and subsidized basic commodities under the newly created Tsena Mora program.
WHILE TOTAL EXPENDITURES ON SOCIAL PROTECTION HAVE ALWAYS BEEN LOW IN MADAGASCAR, THEY HAVE FALLEN DRAMATICALLY SINCE THE INCEPTION OF THE CURRENT POLITICAL CRISIS, AS A SLIGHT INCREASE IN DONOR AID TO SOCIAL PROTECTION HAS BEEN LARGELY OFFSET BY DRASTIC CUTS IN GOVERNMENT EXPENDITURES.

11. Madagascar’s government expenditures on social protection are very low compared to other African countries. Comparisons across countries are difficult due to differences in the definition of social protection. However, expenditures for social protection in nine other African countries represented 4.4 percent of GDP in 2007 with an upward trend in expenditures on social protection over the past ten years, compared to only 1.5 percent in 2008 in Madagascar the year prior to the political crisis.

12. From these low levels, government expenditures on social protection have fallen dramatically since the emergence of the current political crisis (from estimated US$145 million in 2008 to US$56 million in 2010) as the government struggles to maintain overall budgetary stability in the face of a sharp decline in domestic revenues and grants. The relative share of social protection in total expenditures has also dramatically declined from 13.4 percent in 2007 to 2.9 percent in 2010, suggesting that less priority has been granted to social protection.

13. Moreover, the composition of government expenditures on social protection has dramatically changed since the beginning of the crisis. Since 2009, the government’s social protection expenditures have consisted almost exclusively of payments to public pension schemes while all other social protection expenditures, including in the areas of health and education, have been dramatically cut. In 2010, contributions to public pension schemes represented 86 percent of social expenditures up from 44 percent in 2007.

14. The Tsena Mora program is now the main government social protection program. This program was launched in October 2010 to provide subsidized basic food commodities to the poor in six main urban centers. The Presidency initially allocated US$12 million to Tsena Mora in 2011. However, Tsena Mora has been scaled back considerably since July 2011 due to fiscal constraints.

15. Since 2009, the decline in government spending has been very partially offset by increased donor aid. Aid disbursement for social protection increased from estimated US$26 million in 2008 to US$37 million in 2010 due in part to increased aid for labor intensive public works programs.

AS THE VULNERABILITY OF THE POPULATION HAS BEEN SHARPLY INCREASING AND THE PROVISION OF SOCIAL PROTECTION DRAMATICALLY DECLINING, THE GOVERNMENT THAT COMES TO POWER AFTER THE CURRENT POLITICAL CRISIS MAY WANT TO URGENTLY DEVELOP A COMPREHENSIVE SOCIAL PROTECTION STRATEGY.

16. In Madagascar, the longstanding lack of prominence of social protection within the government and across the hierarchy of ministries leaves an enormity of residual risks to be borne by the average Malagasy rather than mitigated by efficient and effective government-run programs. Donors and NGOs have been trying to fill the social protection provision gap unmet by the government but the end result has been a large number of scattered and generally small initiatives driven by the donors’ own financing and agendas.

17. In this context, a post-crisis government may want to develop a comprehensive social protection strategy founded on sound principles with clear objectives and priorities for translating this strategy into actions. The preparation of such a strategy under government leadership and following a participatory approach could provide a strong signal to the population of the new government’s political commitment to social protection.
The social protection strategy proposed in this report is designed to increase the overall protection of the population while decreasing its vulnerability, taking into account the existing programs and the differences in exposure to risks among population groups. The definition of a social protection strategy could rely on a few core principles including: (i) resolution of the current political crisis in the short term and the deep-rooted governance issues in the longer term, (ii) macroeconomic stability to create the foundation for strong and sustainable economic growth, (iii) adoption of measures to increase domestic revenues to generate the fiscal resources necessary to finance an effective social protection strategy, (iv) implementation of economic reforms for sustained broad-based economic growth to enhance social protection and reduce vulnerability, (v) definition of a social protection strategy including prioritization among poverty groups, evaluation and rationalization of the existing social protection programs and reallocation of the corresponding savings toward the priority groups and the adoption of mitigating measures, (vi) decentralization of decision-making authority and financial resources for the delivery of social services, (vii) establishment of links between the public and private sector, (viii) development and use of targeting mechanisms to reach priority groups, and (ix) monitoring of vulnerability and the implementation of the strategy itself.

The resolution of the current political crisis and the establishment of a more viable social contract among ethnic and geographic groups are fundamental prior-conditions to improved governance. Once the issues of governance are resolved, structural reforms could be forcefully implemented to promote broad-based economic growth, reduce vulnerabilities, and minimize institutional and policy shortcomings in the area of social protection. The agenda of reforms to promote economic growth is large, encompassing reforms to modernize the state, enhance the business investment climate, improve the provision of basic infrastructure and services and create the conditions to develop tourism to an island considered as one of the world's most geographically diverse destinations on the planet. As experienced by countries all over the world, a timely implementation of key economic reforms can be expected to lead to sustained economic growth over a long period with considerable impacts on poverty reduction.

As in the short term financial resources are limited while needs are enormous, any social protection strategy would require to prioritize among vulnerable groups. The government could prioritize among vulnerable groups according to their exposure to risks and their likelihood of falling into extreme poverty. First priority could be given to the rural extreme poor who are very vulnerable with particular attention to those who live in the “deep south,” malnourished children in all areas, extremely poor head-of-household mothers in urban areas and all those who have been affected by a catastrophic event such as a cyclone. Second priority could be assigned to combating extreme poverty among the peri-urban poor, the elderly who are extremely poor and at-risk children who have left the formal education system. Finally, third priority could be given to programs that target the remaining extreme poor who live in urban areas and the extreme poor who are unemployed.

Public spending on social protection could be rationalized in the short term and then increased in the medium term. A strong social protection strategy would eventually require an increase in overall government resources. However, such an increase should take place only within the context of an overall modernization of the state. Also, decentralization of, and community participation in, service delivery could improve the effectiveness of the delivery of social protection interventions. The social protection strategy could emphasize decentralization of services at the commune level in order to improve the delivery of social protection services. This would require clearly defined mandates and financing of local governments (regions but also communes and possibly provinces) and deconcentrated bodies of central government institutions, and a greater reliance on the Local Development Fund (Fonds Local de Development, or FDL) to channel funds to sub-national levels.

Monitoring both the vulnerability of the population and the implementation of the social protection strategy is necessary, and adequate resources could be allocated to these tasks. The government may want to develop a risk monitoring system to track vulnerabilities and evaluate the impact of public
interventions. The government could also closely monitor the implementation of its social protection strategy.

**PENDING A FULL RESOLUTION TO THE POLITICAL CRISIS, IMMEDIATE MEASURES COULD BE ADOPTED TO STRENGTHEN SOCIAL PROTECTION.**

23. The vulnerability of the Malagasy population will not cease to deteriorate with the words of a political solution. Even after a political settlement is reached, it could take time for elections to be held, a new government to take office and a social protection strategy to be developed and adopted. In the interim, the government and technical and financial partners may want to immediately implement a few actions including:

(i) scaling up the public works program,

(ii) complementing the public works program with a cash transfer program for those who are labor deprived, and

(iii) piloting a conditional cash transfer in peri-urban areas.
MADAGASCAR
THREE YEARS INTO THE CRISIS: AN ASSESSMENT OF VULNERABILITY AND SOCIAL POLICIES AND PROJECTIONS FOR THE FUTURE

INTRODUCTION

1. Context. Since February 2009, Madagascar has been in the midst of a political crisis caused by the change of power from Marc Ravalomanana (who was forced into exile) to Andry Rajoelina (at that time the mayor of the capital city Antananarivo). This transfer of power was deemed unconstitutional by the international community. In March 2009, the World Bank decided to operate under the Operational Directives 7.30 “Dealings with De Facto Governments.” After an initial period of time when all disbursements to Madagascar were suspended, starting in December 2009, the World Bank progressively resumed disbursements under its existing portfolio. However, the crisis halted the implementation of the April 2007 World Bank Group’s four-year Country Assistance Strategy (CAS), covering the period from June 2007 to June 2011: with the exception of an Additional Financing to the Third Environmental Program Support Project, no new project has been approved since early 2009 while economic works and technical supports under the form of Analytic and Advisory Activities (AAA) have been adapted to reflect the new political context.

2. Objectives. The overarching objective of the report is to assess the impacts of three years of crisis on social protection and provide inputs into the definition of the social protection strategy that a duly elected government may want to develop in the aftermath of the political crisis. More specifically, the objectives are to: (i) analyze risk and vulnerability in Madagascar; (ii) review the impacts of the last three years of crisis on the provision of social protection by the Government of Madagascar, the international donor community and NGOs; (iii) identify key constraints in the demand and supply of social protection; and (iv) outline the main principles of a social protection strategy including options for interventions both in the short term but also in the aftermath of a resolution to the current political gridlock when donors are likely to be able to fully re-engage in Madagascar.

3. Quantitative and Qualitative Data Sources. This report draws on a number of recent studies and surveys. The starting point for the report is the August 2007 National Risk Management and Social Protection Strategy prepared jointly by the World Bank and the Government of Madagascar (World Bank, 2007). The main objective of this document was to orient public policies and expenditures to reduce vulnerabilities and assist the authorities in reducing extreme poverty. This report relies on the chapter on social protection included in the document “Madagascar: Vers un Agenda de Relance économique” written by the World Bank in collaboration with other donors at the beginning of 2010 (World Bank, 2010a). The objective of this chapter was, one year into the political crisis, to identify the main social risks, review Madagascar’s social protection strategy and identify the main social protection challenges. This report also builds on a series of analytical pieces that aimed at analyzing the labor market conditions in Madagascar starting in 2005 (World Bank, 2010b), and it uses the 2010 Household Survey (Enquête Périodique auprès des Ménages or EPM) conducted by Madagascar’s Institute of Statistics (INSTAT) on a representative sample of the population from June 15 to October 15, 2010.3 The household questionnaire includes quantitative data on various aspects of living conditions including household structure, housing, infrastructure, health, nutrition, education, economic activities (labor), vulnerability, spending and consumption, source and level of income, savings, credit and transfers. Furthermore, the report is based on the 2008/09 Demographic and Health Survey (DHS), which includes indicators on demographics, population and health, and draws on results from a series of Multi Cluster Rapid Assessment Mechanism (McRAM) Surveys conducted by UNICEF in the peri-urban areas of Antananarivo and Tulear. The rapid

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3 The final sample included 12,460 households located in 623 zones covering the 22 regions of the country. For more detail, see INSTAT, 2011b.
surveys were initiated in July 2010 to quickly assess the impacts of the crisis in peri-urban areas. The report incorporates the outcome of the surveys conducted by the Rural Observatory Networks to assess the social and economic impacts of the political crisis on rural areas as well as the Comprehensive Food and Nutrition Security and Vulnerability Analysis, carried out by World Food Program (WFP) and UNICEF in 2010, which is representative of rural Madagascar. Finally, the report draws on Rapid Harvest and Nutrition Assessments conducted by the Food and Agriculture Organization (FAO) and WFP.

4. **Policy Impact of the Report.** A political process is in place to find an exit to the crisis in Madagascar under the auspices of the Southern African Development Community (SADC). The social protection strategy outlined in this report could serve as an important input in the development of a government-owned social protection strategy in the resumption of peace and prosperity.

5. **Road Map for the Report.** The report is divided into two volumes. The first volume includes the fundamental content of the report. It is organized as follows. Chapter 1 provides a conceptual framework to analyze risk and vulnerability and provides a definition of social protection. Chapter 2 assesses the main risks faced by the Malagasy population as well as its vulnerability profile. Chapter 3 reviews Madagascar’s social protection policies, the institutions responsible for social protection and the financial resources allocated to social protection by the government, donors and NGOs. Chapter 4 proceeds with a description and analysis of the main social protection programs presently under implementation in Madagascar. Chapter 5 builds on the previous chapters but also on the experience of other low income countries, especially in Africa. It outlines the main principles of a social protection strategy and recommends priority actions for implementation including in the immediate aftermath of a resolution to the current political crisis. As such, this report is intended to contribute to future governments’ own formulation and implementation of a social protection strategy.

6. The second volume includes a number of background papers that were commissioned during the preparation of this report. These papers are as follows: Strategic Directions for Social Protection in Madagascar by Anthony Hodges; Poverty, Vulnerability and Sources of Risks by Tiaray Razafimanantena; Vulnerability Analysis by INSTAT; Review of Social Protection Programs by Julia Rachel Ravelosoa; Analysis of Public Spending on Social Protection in Madagascar by Maminirinarivo Ralaivelo; Description and Analysis of the Tsena Mora Program by Maminirinarivo Ralaivelo; Review and Analysis of Spending on Social Protection by NGOs by Francis Hary Soleman Kone; Case Study: Cash Transfer and Other Forms of Education Support for Children of Poor Households by Brigitte Lalasoa Randrianasolo and Payment Mechanisms to Transfer Cash to the Poor in Madagascar by Josiane Robiarivony Rakotomanga.
1. Conceptual Framework

7. Individuals are subject to shocks throughout their lives that may decrease their welfare. Social protection is the set of policies and measures that reduces the impacts of these shocks. This section briefly reviews the conceptual foundations of social protection and presents a simple typology of social protection programs.

A. Shocks, risk and welfare

8. From conception until birth and during their lifetime, individuals face risks and are subject to shocks that may affect their welfare negatively. Each shock can be characterized by an origin, a probability of occurrence and associated welfare costs. The origins of shocks are diverse. They can be political (coup d’état), economic (oil or food price crisis), environmental (tsunami) or medical (illness) among others. The probability of occurrence varies widely across shocks from once per several centuries (earthquake) to several times per annum (illness). Furthermore, different shocks may have widely different consequences on the welfare of the population. Some shocks like earthquakes, tsunamis or famine can result in considerable hardship (loss of life, depletion of financial assets or destruction of physical assets) while others such as minor accidents or some illnesses have much lighter consequences. Indeed, the welfare impact of shocks can be temporary or permanent. For example, the impact of an illness may be temporary while the impact of a major car accident may lead to a permanent disability.

9. Individuals are typically adverse to risks. They prefer a sure stream of income to one which may fluctuate. In particular, individuals are wary of being obliterated by a single bad contingency which can bring them permanently to a state of hunger, destitution or death.

B. Social protection

10. Aversion to risks creates a considerable demand for mechanisms to reduce the impact of shocks. In traditional societies, this need for protection against adverse contingencies leads households to diversify their activities or location of activities as a form of self-insurance, hoping that good fortune in one activity will compensate for misfortune in another one. It also helps explain the highly integrated network of inter-personal and inter-household obligations including, for example, task sharing within households and marriage patterns. Having children is another way to build social protection, especially for old age. Traditional societies also develop behavioral norms and rules of reciprocity that provide implicit insurance mechanisms. Within communities, there is typically an integrated system of mutual insurance against illness, production failure and general bad luck. This system of reciprocity usually relies on an established structure of power and authority, the internalization of social norms or repeated interactions.

11. However, traditional mechanisms do not provide an optimal level of protection. Trading in risks within communities is heavily constrained due to asymmetries of information and other sources of market failures. As a result, insurance markets are either very thin or inexistent. For instance, a major risk that affects all the members of a community cannot be traded or diversified away among the members themselves. As a result, individuals remain exposed to risk well beyond a level that is socially optimal.

12. Social protection is generally understood as the set of policies and formal measures that reduces the impacts of shocks and provides a level of protection that goes beyond that of the traditional mechanisms. Social protection policies may be translated into laws to protect some segments of the population like workers, children, women or persons with disabilities. The measures can be public or private, contributory or non-contributory, conditional on actions to be taken by the beneficiaries or unconditional, as well as targeted to some specific vulnerable groups or untargeted.

13. Social protection measures can be divided in three broad categories: (i) prevention measures which aim at mitigating ex-ante the impacts of shocks, (ii) protection measures which aim at coping with the impacts of shocks after they have occurred; and (iii) promotion measures which essentially seek to lift individuals above the state of extreme poverty and destitution (where they are very sensitive to any adverse shock) on a permanent basis. Important strategic documents from the World Bank including the
2. Risk and Vulnerability

14. The Malagasy population faces a wide variety of risks and experiences frequent shocks. Some shocks like cyclones or increases in the international price of oil and food simultaneously affect the whole population or large segments of it. Other shocks have specific impacts on individuals. For example, each person faces the risks of being sick or of being unemployed. Eventually, a segment of the population faces the real risk of falling into extreme poverty or destitution with considerable lingering inter-generational welfare consequences. This chapter reviews these risks and their impacts on the population. It also analyzes whether these risks have increased in the aftermath of the political crisis that erupted in early 2009. The risk and vulnerability profile outlined in this chapter provides a basis against which the relevance and effectiveness of social protection program will be assessed in the rest of the report.

A. Prevalence of shocks and household response

15. In Madagascar, a very high proportion of the population experiences frequent shocks, particularly shocks of an environmental nature. According to the EPM 2010, 93 percent of households were affected by shocks in 2009/10 (Figure 2.1). Respondents reported that these shocks originated from catastrophic events (cyclones, floods, droughts, locust infestations, plant diseases), a lack of security, economic difficulties but also illnesses. Environmental shocks affected the rural population more than the urban population (83 percent versus 63 percent). Insecurity and economic shocks each affected about one third of the population with no major difference between rural and urban areas. As the result of the shocks, 25 percent of households lost assets while 83 percent lost revenues. Unsurprisingly, poverty was higher among those affected by shocks (78 percent) than those not affected (59 percent).

Figure 2.1: Prevalence of Shocks – Households Affected (%)

Source: 2010 EPM, INSTAT.

16. Households have limited means at their disposal to protect themselves against the impacts of shocks. Inter-household transfers (47 percent of households made transfers and 36 percent received transfers in 2010) do provide some support during periods of adversity. However, these transfers do not generally provide an adequate means of protection and are largely deficient when the whole household support network is itself affected by a shock. When asked about their shock response strategies, 48 percent of households responded that they worked more, 11 percent that they reduced their consumption, 10 percent that they sold assets, including livestock, while less than 4 percent took out loans, which may be

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4 Respondents had to choose from a proposed list of shocks that did not include shocks of a political nature.
explained by the considerable constraints faced by households to access credit (Figure 2.2). The main opportunity for working more is in the informal sector, which accounts for 65 percent of employment (up from 53 percent in 2001). Reducing consumption creates an enormous stress including nutrition problems on an already struggling population. The sale of productive assets further depletes the limited capacity of households to withstand future shocks. Migration is also a common strategy, either as a proactive measure or as a consequence of acute shocks like cyclones or droughts. Nevertheless, all of these mechanisms are largely insufficient to alleviate the impacts of shocks: three of four households who had experienced a shock reported that they had not been able to recover from it one year later (EPM 2010).

Figure 2.2: Household Response to Shocks (%)

<table>
<thead>
<tr>
<th>Response to Shocks</th>
<th>Urban</th>
<th>Rural</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional work</td>
<td>40%</td>
<td>30%</td>
<td>35%</td>
</tr>
<tr>
<td>Obtain loan or credit</td>
<td>10%</td>
<td>15%</td>
<td>13%</td>
</tr>
<tr>
<td>Sell assets (Cattle included)</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Reduce consumption</td>
<td>20%</td>
<td>25%</td>
<td>22%</td>
</tr>
<tr>
<td>No response to shock</td>
<td>25%</td>
<td>30%</td>
<td>27%</td>
</tr>
</tbody>
</table>

Source: 2010 EPM, INSTAT.

17. Available evidence suggests that the current political crisis has a deep negative impact on households. Between May and November 2010, the overwhelming majority of households in Antananarivo relied on close family members (60 percent), friends (15 percent), neighbors (14 percent) and work colleagues (8 percent) to alleviate the impacts of shocks. Very few households relied on NGOs (about 1 percent) or churches (about 0.6 percent) (United Nations System, 2011). The unavailability of additional external support under the form of remittances or resources from external donors or NGOs is clearly problematic in the current context as it forces households to rely on each other at a time when they are all simultaneously affected by the current political crisis. In this situation, it is not surprising that an increasing percentage of households reports not being able to get any support to withstand the negative shocks brought about by the political crisis (United Nations System, 2011). This inability to alleviate shocks is likely to have considerable negative lingering effects on the current population as well as future generations.

B. Systematic risks

18. Some shocks simultaneously affect the whole population or large segments of it. The underlying risk is called a systematic risk, and it cannot be diversified away within the population itself – as everyone is simultaneously affected. The main systematic risks faced by the Malagasy population are related the occurrence of natural disaster, international economic shocks and the recurrence of self-inflicted governance crises including the current political crisis.

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5 Some farmers have been forced to sell land to cope with shocks, contributing to a more unequal distribution of land (INSTAT, 2011)
19. **Natural disasters.** Madagascar is highly exposed to natural disasters including repeated cyclones, floods, droughts, locust infestations, and animal and plant diseases. Over the past 35 years, Madagascar has experienced at least 50 such natural disasters. About one quarter of the population lives in areas regularly affected by climatic shocks. The eastern coast, where more than one third of the population lives, is exposed every year to cyclones forming in the southern Indian Ocean between December and April. Floods mainly affect the coastal areas of the southeast and the west. These repeated shocks cause extensive physical destruction to the country’s infrastructure, including roads and schools, and productive capacity and erode the livelihoods of the population. For example, three consecutive cyclones stuck Madagascar in early 2008 affecting 17 of 22 regions: A comprehensive damage, loss and needs assessment estimated the total damages at US$174 million (Government of Madagascar, 2008). On the other hand, the south, where rainfall is lowest, is prone to recurrent droughts. Insufficient and irregular rainfall in three southern regions since 2008 had devastating impacts on the 2010 harvest, leaving many vulnerable households in need of assistance (World Food Program and UNICEF, 2011). A low level of mitigating measures (defenses against flooding, building standards, anti-erosion measures) heightens the exposure to these risks. Animal and plant diseases and locust infestations are additional systematic risks.

20. Global warming is also increasing the exposure of the population to risks. Global warming is leading to climatic disturbances that have become more severe. Although there has not been any notable change in the annual number of cyclones striking Madagascar over the last 25 years, the intensity of cyclones has markedly increased since 1994 (World Food Program and UNICEF, 2011). Long-term projections point to a 2.5 degree average temperature increase over the next 50-100 years, with a reduction in average annual rainfall punctuated by sharp increases in rainfall during the rainy season.

21. **International economic shocks.** Madagascar is exposed to international economic shocks that may have substantial welfare impacts on households. A large sudden increase in international food prices, especially the price of rice, the main staple, affects both the urban population and the large number of households in rural areas that are net food consumers or experience seasonal food shortfalls due to inadequate storage facilities. Although 68 percent of households produce rice, more than two thirds among these households need to buy rice at some time in the year (INSTAT, 2011a). Prices are seasonally highest during the lean period before harvests, when stocks are the lowest and transport in many areas is disrupted by heavy rains (December-March). Although there are geographical variations in farming calendars, farmers tend to sell at low prices in June, following the March-May rice harvest, and then buy food at higher prices, which reach a peak in February (World Food Program and UNICEF, 2011).

22. Madagascar does not produce oil which also makes it vulnerable to any increase in the international price of oil. Higher energy prices result in higher prices for petroleum products directly consumed by households (electricity, gasoline, kerosene, diesel), which represent 2.6 percent of household expenditures (3.5 percent for households in the bottom quintile) (Andriamihaja and Vecchi, 2007). Energy consumption pattern varies widely according to wealth: kerosene represent 92 percent of total expenditures on energy for those households in the poorest quintile while it represents 41 percent for those households in the richest quintile, who spend 46 percent on electricity and 10 percent on gasoline. Higher oil prices also result in higher prices for those goods and services that use energy products as intermediate goods in the production process. Andriamihaja and Vecchi (2007) estimate that approximately 60 percent of the increase in expenditures (44 percent in the lowest quintile and 67 percent in the highest quintile) is due to these indirect effects, mostly via higher food and transport prices. However, the impacts of international rice and oil shocks have historically been largely mitigated by the adoption of domestic policy measures (see Chapter 4).

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6 The long-term upward trend in the real prices of rice may not be a major threat to the welfare of the population as over a long period of time both producers and consumers may adjust their production and consumption pattern.

7 This situation may change as the Tsimiroro heavy oil field, which has been reported to hold 3.9 billion barrels of oil, comes into production. There is considerable interest in the mining and oil exploration possibilities available in Madagascar. This is one area in which, over the coming years, substantial additional revenues may be possible.
23. Madagascar is also vulnerable to a loss of preferential treatment to foreign markets for manufactured exports, especially textiles. More than 30,000 workers were laid off from textile and garments firms when Madagascar lost eligibility to African Growth and Opportunity Act (AGOA) preferential access in January 2010 (World Bank, 2011f). Large numbers of urban jobs have been lost due to disinvestment in the textile industry in recent years, and more particularly since the 2009 political crisis.

24. **Governance crises.** The recurrence of governance crises is a major systematic risk faced by the Malagasy population. The socialist experiment of the Ratsiraka period (1975-1991) led to a major decline in real per-capita GDP, which fell by about one third during this period (from about US$400 in 1975 to about US$250 in 1991). Since then, three major political crises have erupted in Madagascar (1991, 2002 and 2009) and led to serious disruptions in economic activities: Gross domestic product (GDP) decreased by 6.3 percent in 1991, 12.4 percent in 2002 and 3.7 percent in 2009 (Graph 2.1). While the reduction in economic activities has been less dramatic during the current crisis, it has now lasted three years and per-capita GDP has declined by about 10 percent since the beginning of 2009. Overall, per-capita GDP over the last decade has remained broadly stable at a very low level of welfare as accumulated gains in any given year were offset by losses in another. With such lackluster growth, Madagascar has made no dent in poverty over the last 20 years. In fact, poverty has increased from 70 percent in 1993 to 77 percent in 2010, with the respective number of poor increasing from 9.9 million to 15.6 million and of extremely poor increasing from 8.4 million to 11.5 million. The poverty gap ratio, which is one measure of poverty intensity and measures how far below the poverty line the poor stand, has broadly remained stable at around 35 percent since 1993 (Box 1.1). In 2010, the poor consumed on average 35 percent less than the poverty line (EPM 2010). Currently, Madagascar shares the highest poverty headcount in the world with Haiti (based on national poverty lines and consumption expenditures) (World Bank, 2011d).

**Graph 2.1: Per-capita GDP and Poverty (1960-2011)**

Sources: INSTAT, World Development Indicators and IMF.

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8 Although per-capita GDP is an aggregate number, it is a reasonably good proxy of an individual’s overall welfare.
9 The population of Madagascar was estimated at 14.1 million in 1993 and 20.0 million in 2009.
Box 1.1: Poverty Measures and Measurement Issues

The extreme poverty line is defined as the cost of a normative food basket that individuals need to meet a minimal energy requirement. In Madagascar, it corresponds to the cost of a basic food basket providing a daily caloric intake of 2,133 kcal per person. In 2010, the cost of such a basket was estimated at Ar328,162 per annum equivalent to US$157 (EPM 201). The poverty line is derived by adding estimates of a reasonable allowance for non-food consumption to the cost of the food basket. In 2010, the poverty line was Ar468,800 per annum equivalent to US$224 (EPM 2010).

One natural measure of poverty is simply to count the number of people who are below the poverty line or below the extreme poverty line. This is the headcount (HC). In 2010, 15.6 million Malagasy were estimated to be poor and 11.5 million extremely poor. If we are interested in the relative incidence of poverty, we might want to divide the number of poor by the population. In 2010, the poverty rate in Madagascar was 76.5 percent while the extreme poverty rate was 56.5 percent (EPM 2010).

An obvious limitation of the poverty rate (respectively extreme poverty rate) is that it fails to capture the extent to which individuals fall below the poverty line (resp. extreme poverty line). As such, a government wants to reduce the poverty rate, it may want to design policies to favor individuals who are very close to the poverty line since they are less expensive to lift out of poverty.

The poverty gap ratio corrects for this drawback and captures more directly the acuteness of poverty. The poverty gap ratio (PGR) is the shortfall in the average income (or consumption) of the poor (resp. extreme poor) as a percentage of the poverty line (resp. extreme poverty line). Formally, the poverty gap ratio is defined as:

\[
PGR = \frac{\sum_{i} (p - y_i)}{HC \cdot p}
\]

where \( p \) is the poverty line, \( y_i \) is the income (or consumption) of individual \( i \) and the summation is over all the individuals who are below the poverty line. In 2010, the poverty gap ratio was 34.9 percent which means that the average consumption of the poor was US$145.80 (34.9 percent less than the poverty line). The extreme poverty gap ratio was 20.8 percent so that the average consumption of the poor was US$124.30. It implies that each extreme poor individual needed an additional $32.70 to be able to afford the minimum food basket.

However, both the poverty rate and poverty gap ratio have their own limitation as a policy objective. They fail to account for the important issue of relative deprivation among the poor. Indeed, a transfer of resources among the poor (so long as they remain below the poverty line) does not affect these measures. Economists have developed other poverty measures that address this issue that is, such that a transfer of income from any person below the poverty line to anyone less poor while maintaining the set of poor unchanged must decrease poverty. Foster, Greer and Thorbecke (1984) propose a set of measures that address this distributional issue.

Source: Author (year).

C. Individual risks

25. This section describes the main individual risks faced by the Malagasy population. It is worth noting from the outset that Madagascar has a very young population with half below the age of 22 and 5 percent of the population above the age of 60. It is also worth mentioning that despite the fact that Madagascar has the highest poverty rate in the world together with Haiti (77 percent), life expectancy (66 years) is higher in Madagascar than in most African countries and few people are dying of hunger possibly because most of the population can self-consume rice and has a shelter. Table 2.5 describes the individual risks by age group, some selected indicators that assess the welfare impact of each risk as well as the number of people affected.

26. Morbidity. Illnesses are major risks that may prevent early growth and healthy development. Morbidity is extremely high in Madagascar. According to the 2010 household survey (EPM 2010), 12.4 percent of those interviewed reported to have been ill during the two weeks preceding the survey (Table
The illness incidence rate was as high as 22.0 percent among infants below one year of age and 21.8 percent in the southern and poorest region of Androy. Fever, malaria, diarrheal diseases and respiratory infections are the most common diseases, particularly in young children. This is particularly concerning as morbidity in early childhood leaves a large imprint on a person and poses the gravest threat to children, with life-long consequences for cognitive development and future well-being and productivity in adults.\textsuperscript{10} Moreover, morbidity increased sharply from 7.2 percent in 2005 to 12.4 in 2010 possibly due to the impact of the crisis that has been lingering three plus years. In the event of illness, only one third of respondents consulted a health provider in 2010 down from 40 percent in 2005. Among those who estimated that their condition was serious enough to use health services, about half did not consult a health provider because of financial constraints while another quarter reported the problem of distance to health services. However, supply-side problems also loom large, with over 40 percent of women expressing a fear that neither is a health provider available nor are the necessary drugs (DHS 2008/09). About two thirds of those who did not consult tried to self-medicate and spent on average Ar3,000 on medicine. About half among those who consulted went to Basic Health Centers (Centre de Santé de Base or CSB) while about one fifth attended private practices with a sharp difference across income quintile: two thirds in the lowest quintile attended a CSB while only 10 percent visited a private doctor. In 2010, those who consulted spent on average Ar17,800 on medication (up from Ar6,193 in 2005).

### Table 2.1: Health Indicators

<table>
<thead>
<tr>
<th>Indicators</th>
<th>2005</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondents indicating that they have been sick during the past two weeks</td>
<td>7.2%</td>
<td>12.4%</td>
</tr>
<tr>
<td>Illness incidence among infants less than one year</td>
<td>15.6%</td>
<td>22.0%</td>
</tr>
<tr>
<td>Consultation rate</td>
<td>40.2%</td>
<td>32.7%</td>
</tr>
<tr>
<td>Among those with a serious condition, reasons for not consulting (% of total):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost</td>
<td>50.8</td>
<td>53.0%</td>
</tr>
<tr>
<td>Remoteness from health care provider</td>
<td>20.0</td>
<td>24.4%</td>
</tr>
<tr>
<td>Other reason</td>
<td>29.2</td>
<td>22.6%</td>
</tr>
<tr>
<td>Self-medication rate</td>
<td>72.4%</td>
<td>64.1%</td>
</tr>
<tr>
<td>Average cost of medicine through auto medication</td>
<td>Ar1,436</td>
<td>Ar3,000</td>
</tr>
<tr>
<td>Location of consultation (% of total):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic Health Centers</td>
<td>63.1</td>
<td>52.6%</td>
</tr>
<tr>
<td>Private doctor</td>
<td>15.7</td>
<td>19.2%</td>
</tr>
<tr>
<td>Other location</td>
<td>21.2</td>
<td>28.2%</td>
</tr>
<tr>
<td>Average cost of medicine (among those who consulted)</td>
<td>Ar6,193</td>
<td>Ar17,800</td>
</tr>
</tbody>
</table>

Source: 2005 EPM and 2010 EPM, INSTAT.

The Malagasy population faces numerous risks of morbidity including infectious and parasitic diseases among children. A common source of morbidity is related to iron deficiency among pregnant and lactating women. About 40 percent of women never take any extra iron during pregnancy while only 43 percent take vitamin A after giving birth (DHS 2008-09). Also, only half of the households have salt with an adequate level of iodine, a key for the normal metabolism of cells. Low levels of sanitation (more than half the population has no latrine) and access to potable water (more than half the population drinks water from rivers, lakes or other unprotected sources) lead to diarrheal infections, a central cause of infant and child morbidity and mortality that systematically retard growth (EPM 2010). Although vaccination coverage has improved over the past decade, only 62 percent of children aged 12-23 months were fully immunized in 2008/09 while 13 percent (over 100,000 children) had not received any vaccinations (DHS 2008-09).

\textsuperscript{10} For more on this issue, see Walker et al. (2011) who provide evidence how early childhood development affects later stage development.
Child immunization has also deteriorated since the beginning of 2009. While the risk of disability and chronic illness is little known, the risk of contracting HIV/AIDS is a much less serious problem than in many other parts of Sub-Saharan Africa, due to a still low HIV prevalence rate (less than 1 percent).

28. **Malnutrition.** The risk of nutritional deficiency is very high. Currently, more than half the population is undernourished (their caloric intake is less than the minimum caloric requirement). Good nutrition is also a key determinant of early growth. A child’s height-for-age and weight-for-height are good indicators of the state of health, and thereby nutritional status. Malagasy children face the highest risk of stunting among all countries in Sub-Saharan Africa where this data is available (World Bank, 2011d). The stunting rate among children below 3 years of age was 46 percent in 2009 (DHS 2008-09), which implies that over 1.2 million children under 3 suffer from chronic malnutrition. The wasting rate was 14.1 percent in 2004 implying that over 350,000 children were emaciated (DHS 2003-04). Malnutrition has little changed over the past two decades, with stunting among children below 5 years of age at 50.1 percent in 2008/09 compared to 56.4 percent in 1992, according to DHS data.

29. **Mortality.** The Malagasy population suffers frequent episodes of illness, with infants and young children particularly at risk. There have been significant declines in mortality. Despite the stubbornly high rates of malnutrition, infant and child mortality have been halved during the last two decades. Infant mortality declined from 117 deaths per 1,000 live births in the mid-1980s to 58 during the period 2000-04 and 48 during the period 2003-08 (DHS 2003/04 and DHS 2008/09) compared to 81 for Sub-Saharan Africa (World Bank, 2011d). Under 5 mortality decreased from 157 per 1,000 live births during the period 1992-97 to 94 during 2000-04 and 72 during the period 2003-08 compared to 130 for Sub-Saharan Africa (World Bank, 2011d). However, the current political crisis may have halted or reversed this progress.

30. **Maternal mortality.** The risks associated with childbirth are also very high. With a maternal mortality rate estimated at 498 deaths per 100,000 live births during the period 2002-09, a woman runs a risk of 1 in 38 of dying from maternity-related causes during her reproductive lifetime (DHS 2008/09). This risk has remained broadly unchanged since the period 1998-2003 when it was 469 deaths per 100,000 live births. It compares favorably to an average of 646 per 100,000 live births for Sub-Saharan Africa (World Bank, 2011d).

31. **Education-related risks.** The main risks faced by children are low human capital development, child labor and marginalization. The literacy rate is 71 percent while 37 percent of the population has never attended school (EPM 2010) (Table 2.2). The failure to accumulate education translates into reduced future earnings, as education is a significant determinant of employment in all sectors except agriculture. According to the 2010 household survey, the net primary school attendance ratio was 73 percent (EPM 2010). The household survey also indicates high drop-out and repetition rates (respectively 6 percent and 15 percent at the primary level) as confirmed by administrative data. This failure to progress is most marked among rural and lower income households with no clear divide across gender (EPM 2010). As a consequence, the primary education completion rate was estimated to be 61 percent in 2010/11 (Ministry of Education, 2011). A small minority of children transition to secondary education.

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11 The extreme poverty rate derived from household surveys measures the percentage of individuals who cannot meet a minimum daily caloric intake of 2,133 kcal. Accordingly, extreme poverty was 59.2 percent in 1993 and 56.5 percent in 2010 (EPM 2005 and EPM 2010).

12 Height-for-age is a person’s summary statistics of past nutritional experience and morbidity. Weight-for-height, on the other hand, is a summary statistics of current nutritional status. Those with a deficit in weight-for-height are called wasted in the biomedical literature, and those with a deficit in height-for-age are called stunted.

13 The 2008/09 DHS does not include wasting rates.

14 The infant mortality rate is the number of live births out of every 1,000 that die during the first year. It is a good indicator of nutrition and hygiene at the earliest stage of life. It is also related to the health of the mother and to the duration of lactation. The child mortality rate is the number of deaths of children per 1,000 in the age group 1-4 years. It is a good indicator of nutrition and hygiene after an infant is weaned (which is typically at one year of age, or a little over one year) and exposed to different sets of nutritional intakes.
The net attendance rate, 22.7 percent for middle school \((\textit{collège})\), further drops to 6.3 percent for high school \((\textit{lycée})\) (EPM 2010).

### Table 2.2: Education Indicators

<table>
<thead>
<tr>
<th>Indicators</th>
<th>2005</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literacy rate</td>
<td>62.9%</td>
<td>71.4%</td>
</tr>
<tr>
<td>Percentage of the population without instruction</td>
<td>33.8%</td>
<td>37.0%</td>
</tr>
<tr>
<td>Primary school net attendance rate</td>
<td>83.3%</td>
<td>73.4%</td>
</tr>
<tr>
<td>Repetition rate (primary level)</td>
<td>19.7%</td>
<td>14.9%</td>
</tr>
<tr>
<td>Drop-out rate (primary level)</td>
<td>7.1%</td>
<td>6.3%</td>
</tr>
<tr>
<td>Annual spending on education per child</td>
<td>Ar38,589</td>
<td></td>
</tr>
<tr>
<td>Middle school net attendance rate</td>
<td>19.1%</td>
<td>22.7%</td>
</tr>
<tr>
<td>High school net attendance rate</td>
<td>4.4%</td>
<td>6.3%</td>
</tr>
</tbody>
</table>

Source: 2005 EPM and 2010 EPM, INSTAT.

32. Since 2005, education attainment has deteriorated, and the deterioration has only been accentuated by the 2009 political crisis. According to the Ministry of Education, the net primary school attendance ratio decreased from 83 percent in 2005 to 73 percent in 2010 (EPM 2010). The primary school completion rate declined from 66 percent in the 2008/09 school year to 61 percent in 2010/11 so that the absolute number of primary school-age children who are out of school increased from close to 260,000 in 2008/09 to approximately 400,000 in 2009/10 (Ministry of Education, 2011). The risk of school drop-out has also increased during this period. In fact, the 2009 political and economic crisis has led to a reduction in government expenditure on education while parents are finding it increasingly difficult to cover school-related expenses. In 2010, average annual education-related expenditure per child was Ar38,579 (equivalent to US$19), of which over half was for food and transport while other costs included school materials, textbooks and FRAM levies (EPM 2010). The absence of a resolution to the political situation is jeopardizing the education of the next generation.

33. **Development indicators are worse for households in the lower quintiles, although for many indicators they are poor even in the top quintiles** (Table 2.3). The Under 5 Mortality Rate (U5MR) shows stark inequity across wealth deciles, as children in the poorest wealth quintile are twice as likely to die before reaching the age of 5 as children in the top quintile (106 compared with 48 deaths per 1,000 live births). Likewise, children in the bottom quintile with symptoms of Acute Respiratory Infection (ARI) are half as likely as children in the top quintile to be taken to a health provider for treatment. There is an even larger difference in some maternal health indicators, as only a quarter as many women in the bottom quintile give birth with the assistance of trained personnel compared to women in the top quintile. The one striking exception to this pattern is for stunting, which is very high across all quintiles, with no clear correlation to household wealth, suggesting that culturally determined dietary practices (low levels of exclusive breastfeeding and lack of dietary diversity) may be more important factors than differences in wealth. There is a similar structure of inequity with respect to school attendance as net attendance rates are strongly correlated with consumption expenditure. The primary school net attendance rate is by far the lowest in the first consumption expenditure quintile (59 percent) and then rises gradually to 87 percent in the richest quintile. The vast majority of children in the lower quintiles are effectively excluded from secondary education.

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15 FRAM is the acronym for \textit{Fikambanan’ny Ray Amandrenin’ny Mpi\(\textit{\text{iana}}\)tra}, which are parent-teacher associations that hire contract teachers, called FRAM teachers.
Table 2.3: Human Development Indicators by Quintiles

<table>
<thead>
<tr>
<th>DHS 2008/09 Data* (Wealth Quintiles):</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 5 mortality rate (per 1,000 live births)</td>
<td>106</td>
<td>93</td>
<td>84</td>
<td>64</td>
<td>48</td>
<td>72</td>
</tr>
<tr>
<td>Stunting (% children &lt; 5)</td>
<td>47.6</td>
<td>54.0</td>
<td>52.5</td>
<td>51.0</td>
<td>43.6</td>
<td>50.1</td>
</tr>
<tr>
<td>Births assisted by trained personnel (%)</td>
<td>21.9</td>
<td>28.3</td>
<td>42.9</td>
<td>60.1</td>
<td>90.0</td>
<td>43.9</td>
</tr>
<tr>
<td>Births in health facilities (%)</td>
<td>17.7</td>
<td>24.4</td>
<td>37.0</td>
<td>48.0</td>
<td>66.4</td>
<td>35.3</td>
</tr>
<tr>
<td>Children with ARI symptoms for whom treatment sought (%)</td>
<td>32.5</td>
<td>29.2</td>
<td>39.4</td>
<td>51.5</td>
<td>68.0</td>
<td>42.0</td>
</tr>
<tr>
<td>Children with fever for whom treatment sought (%)</td>
<td>33.2</td>
<td>32.2</td>
<td>35.2</td>
<td>48.2</td>
<td>64.8</td>
<td>41.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CSFVA+N 2010 Data (for Rural Areas Only; Wealth Quintiles)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Wasting (% children &lt;5)</td>
<td>6.7</td>
</tr>
<tr>
<td>Children 6-23 months with acceptable dietary diversity (%)</td>
<td>10.4</td>
</tr>
<tr>
<td>Children 6-23 months with acceptable diet (%)</td>
<td>9.1</td>
</tr>
<tr>
<td>Incidence of illness in children &lt; 5 (%, in 2 weeks prior to survey)</td>
<td>52.6</td>
</tr>
<tr>
<td>Treatment sought for children with illness (%)</td>
<td>17.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EPM 2010 Data (Consumption Expenditure Quintiles)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary school net attendance rate (%)</td>
<td>58.8</td>
</tr>
<tr>
<td>Middle school net attendance rate (%)</td>
<td>8.1</td>
</tr>
<tr>
<td>High school net attendance rate (%)</td>
<td>0.6</td>
</tr>
</tbody>
</table>


Note: * For 5 years preceding the 2008/09 DHS; data by quintiles are for 10 years preceding the survey.

34. **Poor households report facing considerable constraints to access health services.** The fee-paying nature of almost all health services and medication constitutes a significant hurdle for all households. The constraints are particularly acute for those households in the lowest quintile. According to the DHS 2008/09, the main demand-side constraints are a lack of financial resources (cited by 65 percent of the women in the poorest quintile) and lack of transport (42 percent) (Table 2.4). Supply-side constraints are also considerable with 55 percent of women in the lowest quintile citing the distance to a health post and almost 50 percent among them expressing fear that either a health provider or drugs would not be available. The problems are particularly acute for those households in rural areas.

Table 2.4: Difficulties Cited by Women in Accessing Health Services When Ill (%)

<table>
<thead>
<tr>
<th></th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>Q5</th>
<th>Rural</th>
<th>Urban</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need money</td>
<td>65.0</td>
<td>62.0</td>
<td>62.7</td>
<td>53.7</td>
<td>37.9</td>
<td>56.9</td>
<td>46.1</td>
<td>55.0</td>
</tr>
<tr>
<td>Distance to health service</td>
<td>55.1</td>
<td>51.6</td>
<td>51.4</td>
<td>36.8</td>
<td>21.9</td>
<td>46.0</td>
<td>21.9</td>
<td>41.8</td>
</tr>
<tr>
<td>Need transport</td>
<td>41.8</td>
<td>36.3</td>
<td>37.7</td>
<td>28.3</td>
<td>17.9</td>
<td>34.2</td>
<td>17.8</td>
<td>31.4</td>
</tr>
<tr>
<td>Not wanting to go alone</td>
<td>31.9</td>
<td>31.1</td>
<td>33.5</td>
<td>25.4</td>
<td>22.4</td>
<td>29.6</td>
<td>22.5</td>
<td>28.4</td>
</tr>
<tr>
<td>Fear that a health provider is unavailable</td>
<td>46.6</td>
<td>47.3</td>
<td>46.4</td>
<td>41.8</td>
<td>32.6</td>
<td>44.1</td>
<td>33.4</td>
<td>42.3</td>
</tr>
<tr>
<td>Fear that drugs are not available</td>
<td>48.4</td>
<td>46.7</td>
<td>47.1</td>
<td>42.7</td>
<td>34.2</td>
<td>44.9</td>
<td>35.1</td>
<td>43.2</td>
</tr>
<tr>
<td>Fear that health provider is not a woman</td>
<td>18.7</td>
<td>19.0</td>
<td>20.0</td>
<td>16.3</td>
<td>11.8</td>
<td>17.6</td>
<td>12.9</td>
<td>16.8</td>
</tr>
<tr>
<td>Need permission</td>
<td>18.7</td>
<td>18.1</td>
<td>17.8</td>
<td>12.5</td>
<td>10.0</td>
<td>15.7</td>
<td>11.6</td>
<td>15.0</td>
</tr>
</tbody>
</table>

Source: DHS 2008/09 (INSTAT and ICF Macro, 2010).

35. **Child labor.** The participation of children in income-generating activities in Madagascar is substantial. In 2010, about one quarter of the children in the age group 5-17 was economically active with no substantial difference between sexes (26 percent of boys and 23 percent of girls). About one quarter were engaged in activities that present health hazards (International Labor Organization, 2007). The
proportion of children who are economically active rises with age from less than 10 percent for those who are below 10 years of age to 26 percent of 10-14 year olds and 59 percent of 15-17 year olds (EPM 2010). Child labor is much higher in rural than in urban areas reflecting the involvement of children in family agricultural activities (27 percent versus 17 percent). However, except for households in the top 20 percent of income (richest quintile), child labor is little correlated with household expenditures (EPM 2010). Child labor decreased from 29 percent in 2007 to 24 percent in 2010. This decline may be explained by the fact that a decrease in work opportunities has more than compensated for an increase in the demand for labor (including that of children) to compensate for foregone income since the beginning of 2009.

36. **Child marginalization.** A number of children under the age of 15 run the risk of being marginalized. Although the number of children currently in this situation is difficult to assess, it is estimated to hover around 50,000. These children work in mines, engage in prostitution, live in the street or are seriously disabled. Existing sources estimate that there are about 3,000 child prostitutes, 1,000 children working in mines, 32,000 severely disabled children, 7,500 street children and almost 400 children in prison. In addition, orphans, who account for about 7 percent of all children under age 15, run a greater risk of not attending school or of not completing the primary school cycle. Last but not least, about one quarter of newborns are not registered at birth, which limits their access to some basic public services including education.16

37. **Gender discrimination.** Cultural discriminatory practices, some of which are regionally or ethnically specific, affect women. For example, in the south, women are traditionally denied inheritance and land ownership rights. In the region of Mahajanga, women are subject to the practice of moletry, a form of rent-seeking through repeated marriages of women to different partners to maximize revenue from dowries. More generally, girls are at risk of early marriage, early pregnancy and related reproductive health dangers. In fact, gender discrimination starts at a very early age. Differential treatment in the feeding of young children results in fewer boys than girls being exclusively breastfed, which has the perverse result that stunting in children under 5 has a much higher prevalence among boys (53 percent) than girls (45 percent) (World Food Program and UNICEF, 2011). In the event of illness, treatment is more likely to be sought for boys than for girls (28 percent versus 23 percent).

38. **Trafficking in persons.** Madagascar is a source country for women and children subjected to forced labor and sex trafficking. Reports indicate that sex and labor trafficking have increased, particularly due to a lack of economic development and a decline in the rule of law during the present political crisis (U.S. Department of State, 2011).

39. **Unemployment and underemployment.** Although there is almost no unemployment (the 2010 household survey reports an unemployment rate of 3.5 percent), underemployment is high.17 In 2010, one quarter of the population was underemployed (20 percent for men and 35 percent for women). Increased competition has depressed informal sector earnings, which fell by 4.1 percent in real terms between 2001 and 2010 (INSTAT, 2011). The 2009 political crisis has led to substantial job losses as a result of firm closures and disinvestments, in particular in the textile industry. Since then, investors have reportedly returned to Madagascar so that employment in free-trade zones at the beginning of 2012 is back to its pre-crisis level.

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16 Citizenship is derived from one's parents, although children born to a citizen mother and a foreign father must declare their desire for citizenship by age 18. The country has no uniformly enforced birth registration system, and unregistered children have historically not been eligible to attend school or obtain health care services. The United Nations Children's Fund (UNICEF) worked with the government to provide birth certificates for both newborn children and those who did not receive a certificate at birth. UNICEF estimates that 25 percent of children in the country under the age of five were not registered.

17 Unemployment is defined as the proportion of the economically actively population (population between the age of 15 and 64) who has been unemployed during the week preceding the survey, has been actively looking for a job and would be willing to work immediately (EPM, 2010). Underemployment is defined as the proportion of the economically actively population who works less than 35 hours per week and reports that it would like to work more.
40. **Old age.** The main risk for the elderly is the combined absence of family and community support together with little or no income: This combination reduces the chances of a decent survival. In 2002, only 2.3 percent of the working age population was affiliated to a pension scheme.\(^{18}\) In fact, less than one fourth of the formal sector workers are covered by a pension scheme although their affiliation is a legal requirement.

**Table 2.5: Individual Risks by Age Group, Leading Indicators and Number of People Affected**

<table>
<thead>
<tr>
<th>Main Risks</th>
<th>Leading Indicator</th>
<th>Indicator Value (%)</th>
<th>Number of People Affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morbidity</td>
<td>Child immunization (age 12-23 months)</td>
<td>52.9% (DHS 2003-04)</td>
<td>320,000 age 12-23 months are not fully immunized</td>
</tr>
<tr>
<td></td>
<td></td>
<td>61.6% (DHS 2008-09)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Iron supplement during pregnancy</td>
<td>34.3% (DHS 2003-04)</td>
<td>350,000 pregnant women do not take iron supplement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>59.8% (DHS 2008-09)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post-partum vitamin A supplement</td>
<td>19.1% (DHS 2003-04)</td>
<td>500,000 women do not take vitamin A after giving birth</td>
</tr>
<tr>
<td></td>
<td></td>
<td>43.1% (DHS 2008-09)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Household with adequate level of iodine salt</td>
<td>52.6% (DHS 2008-09)</td>
<td>10 million people without adequate iodine salt</td>
</tr>
<tr>
<td></td>
<td>Access to potable water</td>
<td>50.3% (EPM 2005)</td>
<td>2.3 million children under 5 years do not have access to drinking water</td>
</tr>
<tr>
<td></td>
<td></td>
<td>45.8% (EPM 2010)</td>
<td></td>
</tr>
<tr>
<td>Malnutrition</td>
<td>Stunting rate (height-for-age) (children under 3 years)</td>
<td>44.8% (DHS 2003-04)</td>
<td>1.2 million children under 3 years are stunted</td>
</tr>
<tr>
<td></td>
<td></td>
<td>45.5% (DHS 2008-09)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wasting rate (weight-for-height) (children under 3 years)</td>
<td>14.2% (DHS 2003-04)</td>
<td>350,000 children under 3 years are wasted</td>
</tr>
<tr>
<td>Mortality</td>
<td>Maternal mortality rate</td>
<td>469 per 100,000 (DHS 2003-04)</td>
<td>Death of 20,000 women per year</td>
</tr>
<tr>
<td></td>
<td></td>
<td>498 per 100,000 (DHS 2008-09)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Infant mortality rate</td>
<td>57.8% (DHS 2003-04)</td>
<td>40,000 deaths per year</td>
</tr>
<tr>
<td></td>
<td></td>
<td>48% (DHS 2008-09)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Child mortality rate</td>
<td>93.4% (DHS 2003-04)</td>
<td>60,000 deaths per year</td>
</tr>
<tr>
<td></td>
<td></td>
<td>72% (DHS 2008-09)</td>
<td></td>
</tr>
<tr>
<td>Education-related Risks</td>
<td>Net attendance ratio in primary school</td>
<td>73.4% (EPM 2010)</td>
<td>About 1.2 million children age 6-14 years do not attend primary school</td>
</tr>
<tr>
<td></td>
<td>Primary education completion rate</td>
<td>61.3% (MoE 2010/11)</td>
<td>1.8 million children age 6-14 years do not complete primary education</td>
</tr>
<tr>
<td>Child Labor</td>
<td>Child labor rate (ages 5-17 years)</td>
<td>24.7% (EPM 2010)</td>
<td>1.5 million children age 7-14 year work</td>
</tr>
<tr>
<td>Underemployment</td>
<td>Underemployment rate</td>
<td>25% (EPM 2010)</td>
<td>5 million people are underemployed</td>
</tr>
</tbody>
</table>

**Source:** Author (year).

**D. Risk of falling into extreme poverty**

41. **This section examines the risk of falling into extreme poverty.** Extreme poverty is a state of commodity deprivation where the individual cannot afford enough calories to be able to function. Traditional societies have historically developed layers of social protection against extreme poverty

\(^{18}\) For the private sector, the *Caisse Nationale de Prevoyance Sociale* (CNaPS) covers pensions while the *Organisation Sanitaires Inter-Entreprises* (OSIEs) covers health. Public sector employees contribute to the *Caisse de Retraite Civile et Militaire* (CRCM) and the *Caisse Autonome de Prevoyance et de Retraite* (CPR). Complementary protection is available from private insurance companies (International Labor Organization, 2004).
codified through social norms of behavior and support systems. However, such controls and support systems tend to break down with the process of modernization, population growth, urbanization and migration, and the opening of new markets. Chapter 5 will argue that a critical role of the state is to supplement existing institutions and design and implement social protection policies that protect individuals against extreme poverty.

42. **This section analyzes the determinants of extreme poverty using data from the 2010 household survey.** The analysis is useful, first, to verify the relative role of various factors in determining extreme poverty, and second, to assess how social protection policies can help induce change in these factors, holding all other factors constant. As such, this section provides the basis for an effective social protection against extreme poverty which will be developed in the following chapters.

43. **It is important to note the limitation of this analysis at the outset.** First and foremost, the analysis does not capture the dynamic impact of certain causes of destitution over time. Most notably, the impact of the economic decline since independence (Graph 2.1) – most certainly a key determinant of extreme poverty – cannot be assessed using the proposed static, cross-section model. Second, the analysis is limited by the variables available at the household level from the 2010 household survey. Other factors – such as social conditions like crime and violence, social interactions like membership in community organizations or physical conditions like variation in climate or access to markets – could not be included due to a lack of data. Finally, though the theory holds that many of the variables included in the analysis do indeed contribute to extreme poverty, the statistical relationships should be interpreted with caution since causality can run in both directions for some variables.

44. **Extreme poverty is clearly associated with lower levels or constrained use of key assets including labor, education, physical assets, basic services, credit and social capital.** Geographical location and household size are also found to be important correlates of extreme poverty. Table 2.6 shows the marginal effect of each significant variable on the probability of being extremely poor in both rural and urban areas.\(^{19}\) Table 2.7 complements the analysis by showing some key determinants of per-capita expenditures.

45. **Geographic location is a major factor in explaining extreme poverty in Madagascar.** Extreme poverty (57 percent of the population) is much higher in rural areas than in urban areas (62 percent versus 35 percent). Of the estimated 11.4 million people who are considered extremely poor, about 90 percent (10 million people) live in rural areas. Living in rural areas of the southern provinces (Fianarantsoa and Toliara) increases the probability of being extremely poor after controlling for other factors. This finding corroborates the fact that 2 of the 22 regions stand out, with extreme poverty rates above 50 percent according to the 2010 household survey: Androy (61 percent) in the south and Atsimo Atsinana (51 percent) in the southeast. Also, the rural areas are generally more disadvantaged, especially the most remote areas as they are further from markets and public services, a problem accentuated by the poor state of transport infrastructure in many parts of the country. Consequently, any social protection strategy would need to pay special attention to the rural areas in these regions.

46. **Households with children and particularly young children tend to be more destitute.** Due to the higher fertility rates among the extremely poor, a large number of children do not imbibe enough calories to sustain a healthy life. In fact, 66 percent of children under 5 (about 2.6 million children) and 64 percent of all children under the age of 15 (about 6.3 million) live in extreme poverty. Overall, each additional child under 14 years of age increases a household’s probability of being extremely poor by about 5 percent while any child below 1 year of age increases a household’s probability of extreme poverty by 7 percentage points. Family size and composition is clearly an important correlate of extreme poverty, suggesting a potentially strong role for family planning interventions.

\(^{19}\) The marginal effects are the change in the probability of being extremely poor (dependent variable) due to a change in one of the independent variables.
47. **Female-headed households tend to be more destitute.** Keeping all other factors constant, households in rural areas who are headed by a woman are 11 percent more likely to be extremely poor than those households headed by a man (8 percent in urban areas). This could be attributed to discriminatory practices and the absence of adequate family planning programs and childcare centers. These findings indicate that woman headship could be used as a useful proxy for targeting social policy interventions.

48. **The presence of elderly (over 66) is not associated with extreme poverty.** This finding may reflect the fact that survival to this age is higher among the better-off who do not face the loss of family support, illness, isolation and disability and who may benefit from a pension.

49. **Education is an important asset to mitigate the risk of being extremely poor.** The higher the educational attainment of the household head, the less likely the household is to be extremely poor. Overall, if a household head has completed primary education, the household is about 10 percent less likely to be extremely poor than if the household head has no education. Secondary education reduces the probability of being extremely poor by about 13 percentage points whereas higher education reduces the probability of being extremely poor by about 20 percent with no substantial difference between rural and urban areas. In fact, education is one of the most critical assets to mitigate the risk of becoming destitute.

50. **Agricultural employment is correlated with extreme poverty.** Overall 81 percent of households are engaged in agriculture, either as a principal or secondary activity, a figure which rises to 89 percent in rural areas (EPM 2010). The vast majority are subsistence farmers with low levels of technology and productivity. The latter is due to shortcomings in equipment, fertilizer and other inputs, environmental degradation, diseconomies of scale, lack of land titles and low access to credit, inadequate storage facilities and poor transport infrastructure which hinders access to markets and raises costs. Also, many of them are highly exposed to droughts, cyclones and floods. After correcting for other household characteristics, households headed by farmers have lower per-capita consumption (Table 2.7). The finding that a household who owns agricultural land is more likely to be extremely poor may seem surprising (Table 2.6). Agricultural land ownership probably stands as a good proxy for households headed by farmers as 82 percent of farmers own their own land (World Food Program and UNICEF, 2011). The higher the educational attainment of the household head, the less likely the household is to be extremely poor. Overall, if a household head has completed primary education, the household is about 10 percent less likely to be extremely poor than if the household head has no education. Secondary education reduces the probability of being extremely poor by about 13 percentage points whereas higher education reduces the probability of being extremely poor by about 20 percent with no substantial difference between rural and urban areas. In fact, education is one of the most critical assets to mitigate the risk of becoming destitute.

51. **Cultivating a larger area decreases the likelihood of falling into extreme poverty.** The parceling of farmland, which has been accentuated by high population growth, is one of the major structural problems of Malagasy agriculture. Lack of land tenure security is another factor holding back the development of agriculture. Measures have been taken since 2005 to enable the poorest farmers to secure their land ownership rights, but take-up has been low because of the cost of land certification fees for very poor rural households, as well as fear on the part of some farmers that they will be subject to taxation. Since the beginning of 2009, the loss of donor funds has undermined the financing of the reform.

52. **Growing rice decreases the probability of a household being extremely poor.** This may be explained by the fact that rice production is a key agricultural activity in Madagascar (as already noted about 70 percent of households produce rice). Maize production also decreases households’ probability of being extremely poor in both rural and urban areas. However, the other crops (cassava and potato) do not seem to have the same impact. Cattle ownership also reduces the risk of being extremely poor.

---

**Footnotes:**

20 The analysis uses the educational attainment of the heads of household. Since the educational attainment of household heads precedes their current economic status, it could validly be considered as having a causality influence on extreme poverty status (whereas the educational levels of young dependents in the household may be low because poverty prevents them from affording an education).

21 Renting of farmland is found mainly in the western regions and large farming plains, and sharecropping is concentrated in the central highlands.

22 In 2010, 52 percent of farming households cultivated less than 1 hectare while the average land size was 1.2 ha (WFP/UNICEF, 2010). It is estimated that 72 percent of farming households are smallholders with less than 1.5 ha of land (EPM 2010).
53. **Employment in the informal sector is correlated with extreme poverty.** Households deriving their income from the informal sector have lower per-capita consumption expenditures than those who work in the formal private and public sector due to lower earnings, poorer working conditions and the absence of social coverage.

54. **Extreme poverty is strongly correlated with the absence of basic services.** The lack of access to water and electricity is strongly related to the probability of being extremely poor, though the direction of causality is not readily discerned from the regression. Access to potable water decreases the probability of being extremely poor by 10 percentage points in rural areas (7 percent in urban areas). Access to electricity considerably decreases the probability of being extremely poor. In urban areas, a household who has access to electricity is 39 percent less likely to be extremely poor than a household without access (27 percent in urban areas). Households with access to potable water are also less likely to be extremely poor. These results suggest that the availability of basic infrastructure could be a useful proxy for targeting social protection interventions. Interestingly, ownership of a radio substantially reduces the probability of being extremely poor (13 percent in urban areas and 21 percent in rural areas). Ownership of a cell phone has similar effects. The causality may go both directions: it may be that households purchase a radio or a cell phone as soon as they can afford them or that a radio and cell phone provide access to information that allows households to be less vulnerable.

55. **Affiliation with a social security scheme reduces the probability of a household being extremely poor.** Households who benefit from social security coverage are 11 percent less likely of being extremely poor. It is worth noting that social insurance covers only a limited number of formal sector employees along with their dependents and excludes the large majority of the population (see Chapter 4).

---

23 Social security coverage is provided by three institutions: *Caisse Nationale de Prévoyance Sociale* (CNaPS) for private sector workers, *Caisse de Retraite Civile et Militaire* (CRCM) for civil servants and armed services personnel, and *Caisse de Prévoyance de Retraite* (CPR) for auxiliary public sector staff. Medical services are provided to a small number of formal sector employees through the *Services Médicaux Inter Entreprises* (SMIE).
## Table 2.6: Determinants of Extreme Poverty

#### Probit estimates

<table>
<thead>
<tr>
<th>Variables</th>
<th>Urban</th>
<th>Rural</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Extreme poverty rate</strong></td>
<td>34.6</td>
<td>62.1</td>
<td>56.5</td>
</tr>
<tr>
<td><strong>Household demographics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Household size</td>
<td>0.054</td>
<td>0.063</td>
<td>0.096</td>
</tr>
<tr>
<td>Dependency ratio (active members/inactive members)</td>
<td>0.010</td>
<td>0.034</td>
<td>0.275</td>
</tr>
<tr>
<td>Age of head of household</td>
<td>-0.008</td>
<td>-0.009</td>
<td>-0.006</td>
</tr>
<tr>
<td>Age of head of household squared</td>
<td>0.006</td>
<td>0.009</td>
<td>0.000</td>
</tr>
<tr>
<td><strong>Children</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of children under 1 year</td>
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<td>0.067</td>
<td>0.011</td>
</tr>
<tr>
<td>Number of children 1 to 5 years</td>
<td>0.013</td>
<td>0.060</td>
<td>0.002</td>
</tr>
<tr>
<td>Number of children 6 to 9 years</td>
<td>0.015</td>
<td>0.013</td>
<td>-0.036</td>
</tr>
<tr>
<td>Number of children 10 to 14 years</td>
<td>0.019</td>
<td>0.007</td>
<td>-0.039</td>
</tr>
<tr>
<td>Number of children in the household</td>
<td>0.044</td>
<td>0.051</td>
<td>0.022</td>
</tr>
<tr>
<td><strong>Old age</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Number of people aged over 66</td>
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<td>0.017</td>
<td>-0.011</td>
</tr>
<tr>
<td>Number of people aged over 55</td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Gender/Marital Status</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Female head of household</td>
<td>0.076</td>
<td>0.114</td>
<td>0.063</td>
</tr>
<tr>
<td>Household head customarily married monogamous</td>
<td>0.071</td>
<td>0.065</td>
<td>0.062</td>
</tr>
<tr>
<td>Household head customarily married polygamous</td>
<td>0.002</td>
<td>0.135</td>
<td>0.061</td>
</tr>
<tr>
<td>Common-law monogamous</td>
<td>0.031</td>
<td>0.080</td>
<td>0.030</td>
</tr>
<tr>
<td>Divorced</td>
<td>0.050</td>
<td>-0.146</td>
<td>0.023</td>
</tr>
<tr>
<td>Separated</td>
<td>0.036</td>
<td>0.065</td>
<td>0.074</td>
</tr>
<tr>
<td>Widow (ex)</td>
<td>0.053</td>
<td>0.003</td>
<td>0.117</td>
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<tr>
<td>Single</td>
<td>0.027</td>
<td>-0.018</td>
<td>0.014</td>
</tr>
<tr>
<td><strong>Education Level (Head of Household)</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Primary education</td>
<td>-0.104</td>
<td>-0.083</td>
<td>-0.094</td>
</tr>
<tr>
<td>Secondary education</td>
<td>-0.139</td>
<td>-0.125</td>
<td>-0.120</td>
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<tr>
<td>University level</td>
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<td><strong>Health</strong></td>
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</tr>
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<td>Health problem in the past 2 weeks</td>
<td>0.016</td>
<td>-0.009</td>
<td>0.072</td>
</tr>
<tr>
<td><strong>Activities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total area cultivated (rice, maize, cassava, potato)</td>
<td>0.000</td>
<td>-0.001</td>
<td>0.000</td>
</tr>
<tr>
<td>Rice producer</td>
<td>-0.056</td>
<td>-0.077</td>
<td>-0.093</td>
</tr>
<tr>
<td>Maize producer</td>
<td>-0.053</td>
<td>-0.028</td>
<td>0.030</td>
</tr>
<tr>
<td>Cassava producer</td>
<td>0.010</td>
<td>0.035</td>
<td>0.004</td>
</tr>
<tr>
<td>Potato producer</td>
<td>-0.021</td>
<td>0.009</td>
<td>0.003</td>
</tr>
<tr>
<td>Livestock breeder</td>
<td>-0.039</td>
<td>-0.074</td>
<td>-0.015</td>
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<tr>
<td>Agricultural land ownership</td>
<td>0.116</td>
<td>0.101</td>
<td>0.130</td>
</tr>
<tr>
<td>Fishing</td>
<td>-0.005</td>
<td>0.082</td>
<td>-0.020</td>
</tr>
<tr>
<td>Non-farm business ownership</td>
<td>-0.060</td>
<td>-0.100</td>
<td>-0.079</td>
</tr>
<tr>
<td>Head of household unemployed or inactive</td>
<td>0.036</td>
<td>-0.089</td>
<td>0.087</td>
</tr>
<tr>
<td><strong>Access to social security/services/assets</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Household head benefits from social security</td>
<td></td>
<td></td>
<td>-0.113</td>
</tr>
<tr>
<td>Household head affiliated with a trade union</td>
<td></td>
<td></td>
<td>-0.132</td>
</tr>
<tr>
<td>Access to electricity</td>
<td>-0.268</td>
<td>-0.389</td>
<td>-0.306</td>
</tr>
<tr>
<td>Access to potable water</td>
<td>-0.073</td>
<td>-0.099</td>
<td>-0.082</td>
</tr>
<tr>
<td>Radio ownership</td>
<td>-0.127</td>
<td>-0.206</td>
<td>-0.108</td>
</tr>
<tr>
<td>Cell phone ownership</td>
<td></td>
<td></td>
<td>-0.236</td>
</tr>
<tr>
<td>Member of a credit union</td>
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<td>-0.015</td>
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</tr>
<tr>
<td><strong>Province</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Fianarantsoa</td>
<td>0.040</td>
<td>0.078</td>
<td></td>
</tr>
<tr>
<td>Toamasina</td>
<td>0.092</td>
<td>0.054</td>
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<tr>
<td>Mahajanga</td>
<td>-0.085</td>
<td>-0.072</td>
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</tr>
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<td>Tuléar</td>
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</tr>
<tr>
<td>Diégo</td>
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</tr>
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<td>Antananarivo rural</td>
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<tr>
<td>Fianarantsoa rural</td>
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<td></td>
<td>0.148</td>
</tr>
<tr>
<td>Toamasina urban</td>
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<td></td>
<td>0.149</td>
</tr>
<tr>
<td>Toamasina rural</td>
<td></td>
<td></td>
<td>0.117</td>
</tr>
<tr>
<td>Mahajanga urban</td>
<td></td>
<td></td>
<td>-0.102</td>
</tr>
<tr>
<td>Mahajanga rural</td>
<td></td>
<td></td>
<td>-0.035</td>
</tr>
<tr>
<td>Tuléar urban</td>
<td></td>
<td></td>
<td>0.044</td>
</tr>
<tr>
<td>Tuléar rural</td>
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<td></td>
<td>0.100</td>
</tr>
<tr>
<td>Diégo urban</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Diégo rural</td>
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<td></td>
<td>0.027</td>
</tr>
<tr>
<td><strong>Statistics</strong></td>
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</tr>
<tr>
<td>Number of observations</td>
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<td>6,140</td>
<td>12,689</td>
</tr>
<tr>
<td>Pseudo R-squared</td>
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<td>0.26</td>
<td>0.36</td>
</tr>
<tr>
<td>Chi-squared</td>
<td>2.975</td>
<td>2.260</td>
<td>6.240</td>
</tr>
</tbody>
</table>

**Source:** 2010 EPM, INSTAT.

**Note:** * Significance at 5 percent confidence level.
Table 2.7: Determinants of Per-Capita Consumption
(Deppendant variable: Log of per-capita consumption – Feasible Generalized Least Square)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Household demographics</strong></td>
<td></td>
</tr>
<tr>
<td>Household size (people)</td>
<td>-0.1105 ***</td>
</tr>
<tr>
<td>Number of children under 5 years (ind)</td>
<td>-0.0855 ***</td>
</tr>
<tr>
<td><strong>Head of Household Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Age (years)</td>
<td>0.0182 ***</td>
</tr>
<tr>
<td>Age squared</td>
<td>-0.0167 ***</td>
</tr>
<tr>
<td>Female single-headed household</td>
<td>-0.2054 ***</td>
</tr>
<tr>
<td><strong>Human Capital</strong></td>
<td></td>
</tr>
<tr>
<td>Child not in school</td>
<td>-0.1391 ***</td>
</tr>
<tr>
<td>Adults with disabilities</td>
<td>-0.0460</td>
</tr>
<tr>
<td>Primary education (head of household)</td>
<td>0.1415 ***</td>
</tr>
<tr>
<td>Secondary education (head of household)</td>
<td>0.2562 ***</td>
</tr>
<tr>
<td>University level (head of household)</td>
<td>0.6247 ***</td>
</tr>
<tr>
<td><strong>Household Economic Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Farmer head of household</td>
<td>-0.2261 ***</td>
</tr>
<tr>
<td>Number of workers in informal sector</td>
<td>0.0101 **</td>
</tr>
<tr>
<td>Number of workers in public sector</td>
<td>0.2186 ***</td>
</tr>
<tr>
<td>Number of workers in formal sector</td>
<td>0.1321 ***</td>
</tr>
<tr>
<td>Non-farm business ownership</td>
<td>0.1204 ***</td>
</tr>
<tr>
<td>Transfers received per person (Log)</td>
<td>0.0243 ***</td>
</tr>
<tr>
<td>Access to potable water</td>
<td>0.1482 ***</td>
</tr>
<tr>
<td><strong>Agricultural Assets</strong></td>
<td></td>
</tr>
<tr>
<td>Livestock (number)</td>
<td>0.0013 ***</td>
</tr>
<tr>
<td>Total area (are equivalent to 10,000 square meters)</td>
<td>0.0006 ***</td>
</tr>
<tr>
<td><strong>Geographic Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Rural area</td>
<td>-0.1493 ***</td>
</tr>
<tr>
<td>Infrastructure (number)</td>
<td>0.0123 ***</td>
</tr>
<tr>
<td>East Coast cyclonic area</td>
<td>-0.1469 ***</td>
</tr>
<tr>
<td>Dry South area</td>
<td>-0.4554 ***</td>
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<tr>
<td><strong>Constant</strong></td>
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<tr>
<td>Number of observations</td>
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<tr>
<td>R-squared</td>
<td>12,460</td>
</tr>
<tr>
<td></td>
<td>0.9929</td>
</tr>
</tbody>
</table>

Source: 2010 EPM, INSTAT.

Note: *** Significance at 1 percent confidence level, ** Significance at 5 percent confidence level, * Significance at 10 percent confidence level.

56. While poverty is a source of vulnerability, it is also noteworthy that some non-poverty households are vulnerable to poverty. This highlights the fact that, while a large proportion of households are in chronic (structural) poverty, others move in and out of poverty, depending on the extent to which they are affected by temporary shocks. INSTAT (2011a) has estimated that, while 77 percent of the population was below the poverty line in 2010, 87 percent of the population had a more than 50 percent probability of being poor in the following year. According to this analysis, in 2010, 71 percent of the population was in chronic poverty, 16 percent was vulnerable to transitory poverty and only 13 percent was not vulnerable to poverty. As Figure 2.3 shows, the vast majority of the rural population (78 percent) lived in a state of chronic poverty, but this was less true in urban areas (51 percent for secondary urban centers and 19 percent for the major urban centers).

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24 These estimates are based on the methodology developed by Harttgen and Günther (2006).
Figure 2.3: Distribution of Population by Chronic Poverty, Vulnerability to Transitory Poverty and Non-vulnerability to Poverty (%)

Source: 2010 EPM, INSTAT.

57. Chapter 2 shows that the Malagasy population faces a large number of risks. It provides evidence that, systematic and individual shocks have a considerable negative impact on the welfare of the population and that, although people have some means to mitigate the impacts of these shocks, the means are very limited – so that individuals still face a considerable level of residual risks. It also establishes that the high levels of vulnerability that prevailed before 2009 have been compounded by the deep and prolonged political crisis. It analyzes the very fundamental risk of falling into destitution and establishes links between disparities in assets and probabilities of becoming destitute.

58. This chapter reviews Madagascar’s social protection policies, the institutions responsible for social protection and the financial resources allocated to social protection programs by the government, donors and NGOs. The next chapter provides a more detailed description of the main social protection policies and programs presently under implementation in Madagascar.

A. Social protection policies

59. Before the inception of the current political crisis in early 2009, the overall development policy of the Government of Madagascar was outlined in a document called the Madagascar Action Plan (MAP). After a deep political crisis that lasted for six months in 2002, the newly instated government embarked on an ambitious development agenda outlined in a first Poverty Reduction Strategy (PRSP) in 2003, followed in 2006 by a second PRSP: Madagascar Action Plan (MAP) 2007-12. MAP reaffirmed the commitment of the government to social protection. It outlined a strategy to reach the Millenium Development Goals (MDGs) and to support the poorest and most vulnerable segments of the population. Social protection was one of the eight commitments of MAP where it was included under the broad designation of “national solidarity.” This commitment included four “challenges,” of which the last was to “improve support to the very poor and vulnerable,” by: (i) improving the management of social protection and access of vulnerable groups to basic social services; (ii) improving the targeting and monitoring of social protection expenditures and their impacts on the well-being of population groups; (iii) mitigating and responding to the impacts of catastrophes; and (iv) guaranteeing an equitable legal framework for the vulnerable. The High Transitional Authority (Haute Autorité de la Transition, or HAT) established in early 2009 did not refute MAP, which remains nominally in application until it expires in 2012. However, in practice, MAP is associated to the Ravalomanana regime and has ceased to be a reference for guiding government actions.

60. At the present time, there is no national social protection strategy to guide the development of social programs and resource allocations. While MAP provided a sound overall framework for strengthening social protection, it was supposed to be complemented by a more detailed social protection strategy. In 2007, a Risk Management and Social Protection Strategy was drafted as an overall framework to orient social protection. Its objective was to “help households better manage the risks that lead to the loss of life or irreversible losses of assets, and to improve access to basic social services for the most vulnerable segments of the population” (Republic of Madagascar and World Bank, 2007, Vol. 1, pp.12-13). The elaboration of the strategy was led by the Technical Committee on Social Protection (TCSP) created in April 2002 with technical support from the World Bank and involved ministries, civil society organizations and donors, yet it was never officially adopted due to a lack of high-level political ownership. The 2009 political crisis further relegated social protection on the agenda.

61. That being said, a number of additional, more specific strategies and plans with components relevant to social protection do exist – although the current government’s commitment to them remains uncertain. These include:

i. National Nutrition Policy and National Nutrition Action Plan 1 (2005-2009). The National Nutrition Policy includes a wide range of strategies, from measures to improve food security to the growth monitoring of children, communication of good nutritional practices to mothers,
preventive supplementary feeding and therapeutic interventions to rehabilitate young children with severe acute malnutrition. The first National Nutrition Action Plan has fourteen strategic components, of which two (Number 6 on strengthening the food and nutritional security of vulnerable households and Number 10 on post-disaster responses) form the basis for the public works program implemented by the National Nutrition Office (Office National de Nutrition or ONN). A second National Nutrition Action Plan is currently under preparation;

ii. **National Policy for Management of Risks and Catastrophes**, established by law in 2003, which provides a comprehensive framework for disaster management, and is complemented by operational guidelines, notably the national contingency plan for cyclones and floods (see below);

iii. **National Employment Policy**, established by law in 2005, and the **National Employment Support Program**, which aim in particular at improving the employment opportunities and income of disadvantaged and vulnerable groups;

iv. **Education for All (EFA) Plan**, adopted in 2005, which includes a range of demand-side measures to lessen the burden of school enrolment and attendance on parents, stem drop-out and achieve universal primary education by 2015;

v. **National Plan for Rural Development** adopted in 2005, which aims at increasing agricultural productivity and rural incomes by improving rural infrastructure, access to microcredit and management of natural disasters;

vi. **National Microfinance Strategy** for 2008-2012, which aims at improving the legal and institutional framework for microfinance, developing microfinance and extending its geographical coverage;

vii. Various policy, planning and legal frameworks for the social inclusion and empowerment of specific vulnerable groups, including the **National Policy for the Promotion of Women** and the related **National Plan of Action on Gender and Development** and the **Law on the Protection of Persons with Disabilities** (Law 97-44).

62. **Anti-Trafficking Law No. 2007-038** prohibits all forms of human trafficking. Yet, according to the U.S. Department of State (2011), the de facto Government of Madagascar does not fully comply with the minimum standards for the elimination of trafficking and is not making significant efforts to do so.

63. **Madagascar has also ratified major international conventions relevant to social protection.** These include the Convention on the Rights of the Child (CRC) and the Convention on the Elimination of all Forms of Discrimination against Women (CEDAW). It has signed but not yet ratified the Convention on the Rights of Persons with Disabilities. While a protective legal framework is largely in place, its effective implementation remains a major challenge. In addition, a draft law on the elderly, which was approved by the two parliamentary chambers in 2006-07, has not yet been promulgated, apparently out of concern regarding the financial implications of the concessions provided to the elderly for subsidized access to public transport, health care and other services.

B. **Institutions responsible for social protection**

64. Although MAP addressed social protection, the overall responsibility for this sector was never fully effective. Even before the 2009 crisis, political ownership of the process to develop a national social protection strategy was weakened by the fact that, the lead ministry, the Ministry of Population, Social Protection and Leisure (created in 2004) remained one of the weakest ministries in terms of capacity, influence and resources. When this ministry was dissolved in January 2007, responsibility for social protection moved to a Directorate of Social Protection in the new Ministry of Health, Family and

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25 Chapter 4 provides a description of the public works programs currently under implementation in Madagascar.
Social Protection. Following the change in government in 2009, however, this organizational fusion was undone, giving rise to the present Ministry of Population and Social Affairs with a mandate to “execute government policy on population and social affairs as well as humanitarian action in order to ensure the social protection and inclusion of the population, in particular vulnerable and marginalized groups, in the process of economic and social development” (Republic of Madagascar, 2010). Before and since its dissolution and re-establishment, this ministry has focused primarily on small-scale, short-term interventions in support of certain vulnerable groups. In terms of leading the design and implementation of an overall social protection strategy, it remains largely ineffective. In particular, it is only present in about 80 percent of the districts (there are 110 districts in Madagascar) and has no presence below the district level.

65. The government did create institutions to respond to natural disasters including cyclones. The disaster preparedness unit (Cellule de Prévention et Gestion des Urgences, or CPGU) under the Prime Minister’s Office and the national risk management bureau (Bureau National de Gestion des Risques et des Catastrophes, or BNGRC) created in 2006 (Decree No. 2006 – 904) under the Ministry of Interior are the main agencies responsible for disaster risk management in Madagascar. CPGU is responsible for policy and technical coordination on behalf of the Inter-Ministerial National Council for the Management of Risk and Disasters (established in 2005) and is chaired by the Prime Minister. BNGRC is responsible for preparedness and emergency response. In 2007, it organized an effective training in early warning and community emergency preparedness at the district level. A National Contingency Plan was prepared in October 2007 by the disaster preparedness committee (Comité de Réflexion des Intervenants en Cas de Catastrophes, CRIC), the local humanitarian aid platform managed by the BNGRC. Following the 2008 cyclone season, the government and donors recognized the need to shift the national strategy from one that responds to natural disasters to a strategy that manages recurrent disasters more efficiently through the adoption and implementation of mitigating measures (cyclone-resistant building norms, awareness and information campaigns and early warning systems) and the implementation of emergency operations to alleviate the most devastating immediate effects of catastrophic events. However, the capacity of BNGRC and its units at the levels of regions, districts and communes have weakened since the emergence of the political crisis. In late 2011, a crisis management center (Centre d'Etudes, de Réflexion, de Veille et d'Orientation, or CERVO), financed by the French bilateral agency (Agence Française de Développement, or AFD), was created within BNGRC to strengthen its capacity.

66. The absence of effective government leadership in social protection has led to the creation by donors of ad hoc forums called clusters. Strong coordination is especially important in social protection because of its inherently cross-cutting, multi-sectoral nature, with various government bodies involved as well as many non-governmental actors financed by donors. In the absence of strong government leadership, the interventions in social protection have been developed on an ad hoc basis, often at the initiatives of donors. As a result, they have remained scattered and uncoordinated across a number of ministries and agencies. To fill this vacuum, ad hoc forums called “clusters” have been created under the leadership of donors to discuss and coordinate selected social protection programs. There is a cluster for food security and livelihoods, coordinated by the World Food Program (WFP), a social protection cluster led by UNICEF, and other clusters in the areas of water and sanitation, education, shelter, logistics, nutrition and health. These clusters provide a forum for discussion and coordination among donors, NGOs and other actors. For example, the food security and livelihoods cluster has helped define geographical priorities and division of zones of interventions across agencies, including for cash-for-work and food-for-work programs. Even so, the decision-making power of these clusters is limited and cannot substitute for government action.

26 On February 17, 2008, the eastern coast of Madagascar was hit by cyclone Ivan, a category 4 cyclone with winds exceeding 230 km/h. In early 2008 two other cyclones (Fame and Jokwe) affected the west coast of Madagascar.

67. *Coordination between partners and the government, including on social protection, has suffered from the halt in a government–donor dialogue at the political level since 2009.* Theoretically, fourteen sector and thematic working groups exist to discuss and coordinate strategies, programs and projects. In practice, since the emergence of the political crisis, the absence of political-level dialogue between the government and donors, along with weak political leadership, has accentuated the difficulties of coordination. Some sectoral and thematic working groups, including the group on employment and social protection, which existed prior to the crisis, are inactive; government participation in any of these groups, even at a technical level, is rare. The umbrella donor coordination group (*Groupe de Concertation des Partenaires Techniques et Financiers*) was recently revived and is trying to breathe new life into the sector groups: It is not clear what this group can achieve beyond coordinating among partners in the absence of direct policy discussions with an internationally-recognized government. Importantly, the impetus to adopt cyclone-mitigating measures, implement awareness and information campaigns and develop early warning systems all waned as the driving forces of the the implementation and financing of this strategy – the donors – pulled out with the onset of the latest political crisis. At the beginning of 2012, FID was the only institution with readily available institutional capacity and financial resources to respond to the destruction brought about cyclones.28

68. *As a result of the political crisis, donors bypass the government which is further eroding state systems.* While government capacity was already weak in many fields, state systems have been further weakened by the crisis, which has led to a lack of policy direction, budget cuts, demoralization among civil service staff and the development of aid-funded parallel systems. Non-recognition of the transitional authority has led donors to finance activities at arms’ length, which has undone much of the progress previously made in implementing the Paris Declaration on Aid Effectiveness and risks leading to a severe erosion of state systems (World Bank, 2011a). Social protection, due to its heavy dependence on external aid, is acutely affected. Donors, in particular USAID, have halted direct funding of the central government and have their programs managed by NGOs to deliver services to the population. While this provides partial short-term solutions to the situation, it also raises concerns regarding the consequent fragmentation of service delivery, the weakening of public systems and the sustainability of project-financed services.

69. *The political crisis has also halted the decentralization process with important consequences for social protection.* Decentralization in Madagascar has been under way since the beginning of the 1990s, focusing mainly on the approximately 1,550 communes but also more recently on the 22 regions created in 2004. As part of the decentralization process, communes were expected to take increasing responsibilities in the provision of core social programs including the delivery of basic services (schools, health posts, water systems, communal roads, etc.). However, the decentralization process including the transfer of incremental financial resources to communes that was supposed to take place in early 2009 did not materialize as donors suspended their financial contributions to Madagascar.29 As a consequence, in practice, Madagascar remains a highly centralized state where communes have very limited resources and the few public services provided at the local level are carried out by the deconcentrated representations of line ministries.

70. *In practice, the political crisis has increased the role of local authorities.* The de facto power and influence of *fokontany,* of which there are about 17,500, has increased since 2009 due to progressive weakening of the central government and the channeling of external resources to *fokontany* and communities through NGOs. These structures have been playing an increasing role in the implementation

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28 US$8 million of the US$40 million of the Emergency Food Security and Reconstruction Project financed by IDA is allocated to post-cyclone reconstruction.

29 In early 2009, several donors including the European Commission, the World Bank and the Swiss cooperation were in the final stage of preparation of an important program aiming at strengthening communes and transferring block grants for investment to all communes in Madagascar. This program was going to be implemented by the Local Development Fund (*Fonds de Développement Local*, or FDL). The preparation of this US$130 million Commune Development Support Program was suspended as a result of the political crisis.
of the few social protection programs that are still under implementation, such as the issuance of solidarity cards for free drugs in Basic Health Posts (Centre de Santé de Base, or CSB), the approval of local public works projects and the targeting of Tsena Mora beneficiaries (see Chapter 4). The role of communes has been weakened as mayors’ mandates expire on December 31, 2012 and a recent law prohibits them from making any new investment.

C. Expenditures on social protection

71. **There are definitional challenges to measure expenditures on social protection.** There is no universal and consistent definition of social protection expenditures. The definition of social protection that corresponds to the internationally adopted “classification of the functions of government” (COFOG) used for the purposes of national accounts and government financial statistics by the UN, the IMF and the World Bank excludes expenditures related to education, health or agriculture even when these expenditures have social protection features.

72. **There are also technical difficulties to measure expenditures on social protection.** First, there is no functional budgetary classification of expenditures in Madagascar, so the government itself does not produce data on social protection as a function. To get around this difficulty, Ralaivelo (2011a) reviewed the expenditures related to each program and administrative classification and estimated those expenditures that are related to social protection. However, such review is further complicated by the fact that the nature or purpose of much of these expenditures remains unclear. Also, the budget lines do not consistently include the same expenditures from one year to the next, which makes it difficult to compare expenditures across time. Second, the program budgets exclude general administration costs which cannot easily be attributed to specific programs. Third, some expenditures from international donors are not included in the government accounts. Fortunately, there is a comprehensive database on aid flows managed by the Aid Coordination Unit in the Prime Minister’s Office (Primature, 2010 and World Bank, 2011a). Yet, this database only includes the major donors and does not include the flows of funds from a myriad of small NGOs and faith-based organizations. In light of these challenges, the total expenditures on the social sectors reported in this section have been derived by adding: (i) estimates of expenditures on the social sectors derived from the budget documents as reported in the background paper by Ralaivelo (2011a); (ii) estimates of disbursements by external donors from the aid flows database as reported in the background paper by Ravelosoa (2011); and (iii) estimates of expenditures by NGOs that are not included in the aid-flow database as reported in the background paper by Kone (2011).

73. **Under the caveats just mentioned, government expenditures on social protection have fallen dramatically since the emergence of the current political crisis.** Based on a review of budget documents, Ralaivelo (2011a) estimates that public spending on social protection (on a commitment basis) has decreased considerably from US$145 million in 2008 to US$56 million in 2010 (Table 3.1). In part, this reflects the general decline in public expenditure by a government that has been intent on preventing major budget disequilibria arising from the sharp decline in revenue and aid in the aftermath of the political crisis. The dramatic decline in the relative share of social protection in total government expenditure from 13.4 percent in 2007 to 2.9 percent in 2010 also suggests that social protection has had less priority than other spending areas as budgets are cut. The incompleteness of the data, notably with respect to the financing of the Tsena Mora program is unlikely to modify this conclusion (see Chapter 4).

74. **Consequently, government expenditures on social protection are low by international standards.** At 0.6 percent of GDP in 2010 (down from 1.5 percent in 2008), Madagascar’s spending on social protection is low by international standards (Table 3.1). Comparisons across countries need to be

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30 This section draws on Ralaivelo (2011a).
31 Due to data unavailability, Table 3.1 does not include three crucial categories of social protection expenditures: (1) expenditure on salaries, which are not part of the program budgets from which the data are drawn; (2) some off-budget donor-funded expenditure; and (3) some government social protection expenditure that is not readily “visible” in the government accounts, notably the Tsena Mora program implemented by the Presidency.
taken with caution as it is notoriously difficult to quantify spending on social protection and compare expenditure data across countries. Nonetheless, spending on safety nets typically represents 1 to 2 percent or less of GDP in developing countries while average spending levels tend to be higher in middle-income countries than in low-income countries. Spending levels also vary by region, with Sub-Saharan Africa and South Asian countries spending less than those in Latin America and the Caribbean while countries in Eastern and Central Europe and the Middle East spend relatively more (Grosh and al., 2008, p. 63). Using data from 87 countries between 1996 and 2006, Weigand and Grosh (2008) report mean spending on safety nets of 1.9 percent of GDP, and median spending of 1.4 percent of GDP.

Table 3.1: Government Expenditures on Social Protection, Commitment Basis (2007-10)

<table>
<thead>
<tr>
<th>Government Expenditures on Social Protection</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>In Ariary (million)</td>
<td>171,000</td>
<td>247,650</td>
<td>189,550</td>
<td>116,550</td>
</tr>
<tr>
<td>In US$ (million)</td>
<td>91.3</td>
<td>145.0</td>
<td>96.9</td>
<td>55.8</td>
</tr>
<tr>
<td>% of GDP</td>
<td>1.2</td>
<td>1.5</td>
<td>1.1</td>
<td>0.6</td>
</tr>
<tr>
<td>% of total expenditures</td>
<td>10.1</td>
<td>13.4</td>
<td>9.3</td>
<td>2.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Government Expenditures on Social Protection (% of total expenditures)</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social security for public employees</td>
<td>55.7</td>
<td>44.3</td>
<td>65.4</td>
<td>86.0</td>
</tr>
<tr>
<td>Health and nutrition</td>
<td>10.2</td>
<td>5.6</td>
<td>11.0</td>
<td>1.1</td>
</tr>
<tr>
<td>Education</td>
<td>21.4</td>
<td>31.8</td>
<td>11.6</td>
<td>4.0</td>
</tr>
<tr>
<td>Public works</td>
<td>4.1</td>
<td>7.9</td>
<td>2.6</td>
<td>5.8</td>
</tr>
<tr>
<td>Natural disasters</td>
<td>4.0</td>
<td>8.4</td>
<td>5.5</td>
<td>2.8</td>
</tr>
<tr>
<td>Vulnerable groups</td>
<td>4.6</td>
<td>2.0</td>
<td>3.8</td>
<td>0.3</td>
</tr>
</tbody>
</table>

Source: Ralaivelo (2011a).

75. The composition of government expenditures on social protection has also dramatically changed since the beginning of the crisis. For the past three years, the government has been paying the social security of public employees while dramatically cutting all other social protection expenditures, thus raising important equity concerns. In fact, the share of social protection spending allocated to public employees’ social security has increased from 44 percent in 2007 to 86 percent in 2010 (Table 3.1). Consequently, outside payments to cover the pension of public employees, the government spent only US$7.8 million on social protection in 2010 (equivalent to US$0.4 per person).

76. Public spending on health-related social protection measures has been deeply cut. The government finances very little of the limited social protection measures that are in place to facilitate access to health services. Under FANOME procedures, the equity funds in the CSB are financed entirely from a fixed 3 percent deduction from the 35 percent mark-up on the sale of drugs. Consequently, it is those who buy these drugs (i.e., exclusively those who are sick and use public health providers) who finance most social protection in the health sector. In effect, neither the non-sick nor the government fund this mechanism, which helps explain why its coverage remains so limited. The equity funds in the hospitals are somewhat different in so far as the government pays for about half of their financing, but the

32 For more on intra-country comparison, see Chapter 3 in Grosh and al. (2008).
33 This compares with spending levels of 2 to 4 percent of GDP in industrial countries (Atkinson, 1995).
34 The reported average of 3.5 percent of GDP for Sub-Saharan Africa is not a robust number as it is based on only six observations and includes external financing (Grosh et al., 2008, p. 65).
35 Ralaivelo (2011a) includes a detailed description of the programs.
36 Chapter 4 provides a detailed description of these measures.
37 While the equity fund financing mechanism introduces the principle of solidarity between the non-poor who finance the system and the identified poor beneficiaries, it does not introduce the principle of solidarity between the sick and the non-sick (Poncin and Le Mentec, 2009). Also, those who use private health providers are excluded from the pool of contributors.
balance is provided by fixed deductions on the mark-up of drugs sales and revenue from consultations, again falling on the sick using government hospitals.\textsuperscript{38} Regionally limited hospital funds that provide free access to emergency obstetrical and pediatric care are funded entirely by aid (World Bank and UNFPA) but disbursements were suspended in early 2009. Mutual Health Organizations (MHO), where they exist, are funded entirely on a contributory basis by their members, although donors assist with administrative and start-up costs, as in the case of the AFAFI (“Let’s Protect Family Health Together”) initiative (see Chapter 4).

77. **Public spending on education-related social protection programs has been severely reduced, as well.**\textsuperscript{39} The September 2010 budget revision law brought large cuts in spending on social protection measures by the Ministry of National Education. The ministry’s overall budget was slashed by 56 percent from the amount allocated in the original budget for 2010. Among the consequences were the cancellation of the distribution of free school kits at the start of the 2010/11 school year and a large reduction in the transfer of funds to schools (\textit{caisses écoles}), which are intended to reduce the burden of school levies and charges on parents.

78. **Moreover, government spending on public works ceased due to the closure of the HIPC debt relief fund, which constituted its main funding source.** Government expenditure on labor intensive public works programs, mainly through the National Nutrition Office (\textit{Office National de Nutrition} or ONN), decreased from Ar3.2 billion (equivalent to US$1.9 million) in 2008 to Ar10 million (less than US$5,000) in 2010.

79. **Allocations to the Ministry of Population and Social Affairs have also declined sharply since 2009.** Budget execution data by the Ministry of Population and Social Affairs, the “core” government agency that has been responsible for social protection since 2009, show that expenditure commitments (\textit{engagements}) dramatically declined in 2010 (Table 3.2). On a commitment basis, expenditure by the Ministry of Population and Social Affairs as a proportion of total government expenditures declined from 1.4 percent in 2009 to only a quarter of one percent in 2010 (about US$4.8 million). However, not all expenditures were reduced: If investments were dramatically cut, expenditure on salaries did increase in 2010.

Table 3.2: Expenditures on the Ministry of Population and Social Affairs, Commitment Basis (Ariary million)

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries</td>
<td>1,990</td>
<td>2,403</td>
</tr>
<tr>
<td>Non-salary recurrent expenditure</td>
<td>4,372</td>
<td>3,119</td>
</tr>
<tr>
<td>Investment</td>
<td>21,005</td>
<td>2,594</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>29,375</td>
<td>10,127</td>
</tr>
</tbody>
</table>

As % of total budget expenditure commitments

\begin{tabular}{lcc}
 & 2009 & 2010 \\
\hline
Salaries & 1.44 & 0.25 \\
Non-salary recurrent expenditure & & \\
Investment & & \\
**Total** & & \\
\hline
\end{tabular}

\textit{Memo}

80. **Tsena Mora is now the main government social protection program.** Launched in October 2010 to provide subsidized basic food community to the urban poor,\textsuperscript{40} The program sought to alleviate the negative impacts of the political crisis including job losses in peri-urban areas. Although no data on actual expenditure by \textit{Tsena Mora} is available, this program has reportedly received an allocation of Ar25 billion (equivalent to about US$12 million), which exceeds the overall government social protection expenditures in 2010 (Ralaivelo, 2011b). This program is exclusively implemented in large cities which means that the

\textsuperscript{38} For example, financing from the government represented 44 percent and 51 percent of the expenditures of the Mahajanga and Fianarantsoa CHUs in 2008, respectively (Poncin and Le Mentec, 2009).

\textsuperscript{39} Chapter 4 provides a detailed description of these measures.

\textsuperscript{40} Chapter 4 includes a detailed description of the Tsena Mora program.
overwhelming majority of extreme poor, who live in rural areas, do not benefit. The implementation of *Tsena Mora* has been reportedly suspended since July 2011 with the exception of the Vary Mora (cheap rice) sub-program, which was implemented during the 2011 end-of-the-year season.

81. Overall expenditures on social protection by government, donors and NGOs has considerably decreased since the emergence of the 2009 political crisis. As mentioned above, public spending on social protection has decreased considerably since the beginning of the political crisis (Table 3.3). This decline has been offset very partially by increased donor aid. According to the Aid Coordination Unit in the Prime Minister’s Office, aid disbursements for social protection increased from US$26 million in 2008 to US$37 million in 2010 (World Bank, 2011a). This includes social protection measures in the education sector that are now largely financed by donors, notably through the Catalytic Fund of the Education for All Fast Track Initiative, managed by UNICEF, and through WFP’s support for school feeding. Also, increased aid for labor intensive public works type projects, notably from the World Bank through the FID, has more than offset the sharp fall in government financing (through ONN), making it possible to expand coverage of public works. On the other side, additional resources provided directly by NGOs have declined to US$5.1 million in 2010 (Kone, 2011). In the end, total spending on social protection decreased from 1.9 percent of GDP in 2008 to 1.1 percent in 2010.41

**Table 3.3: Estimated Spending on Social Protection by Government, Donors and NGOs**

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Expenditures on social protection by</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government</td>
<td>91.3</td>
<td>145.0</td>
<td>96.9</td>
<td>55.8</td>
</tr>
<tr>
<td>Donors</td>
<td>n.a.</td>
<td>26.0</td>
<td>40.7</td>
<td>36.8</td>
</tr>
<tr>
<td>NGOs</td>
<td>6.8</td>
<td>8.0</td>
<td>7.2</td>
<td>5.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>n.a.</td>
<td>179.0</td>
<td>144.8</td>
<td>97.7</td>
</tr>
<tr>
<td><strong>Memo</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total as percentage of GDP</td>
<td>1.9%</td>
<td>1.7%</td>
<td>1.1%</td>
<td></td>
</tr>
</tbody>
</table>

*Source: Ravelosoa (2011), Ralaivelos (2011a) and Kone (2011).*

41 Some expenditure reported by donors may be recorded in Budget documents, while some NGO resources may be also recorded in the donor aid data-base, as most NGOs act primarily as contractors for official aid agencies. As such, the total expenditure reported in Table 3.3 is an upper bound.
4. Social Protection Programs

82. Chapter 3 shows that before 2009, Madagascar’s overall social protection policy was outlined in the 2007-12 Madagascar Action Plan while the mechanism to translate the policies into action, the Risk Management and Social Protection Strategy, was drafted but never officially adopted. Since the emergence of the political crisis in early 2009, MAP – associated with the former regime – has ceased to guide government actions and the public resources necessary for its implementation are no longer available. Overall expenditures on social protection have considerably decreased respectively, although the sharp decline in public spending has been offset very partially by an increase in donor aid at least until 2010.

83. This chapter reviews Madagascar’s interventions in social protection. First, it describes and analyzes the primary policies aimed at reducing the impacts of the main systematic shocks described in Chapter 2 including those originating from international commodity price crises. Second, it reviews the Tsena Mora program, a consumer subsidy program that was introduced in October 2010 by the High Transitional Authority (HAT) as a flagship program to alleviate the impact of the crisis on the urban poor. Third, it surveys the other main social protection programs currently under implementation in Madagascar including costs, coverage and effectiveness. Based on this analysis, the next chapter outlines the main principles of a social protection strategy and recommends priority actions towards its implementation.

A. Policies to alleviate systematic shocks

A.1 Governance

84. As noted in Chapter 2, the single most critical shock affecting the Malagasy population is recurrent governance crises. These crises are deeply rooted in the political structure of society and impart shifting alliances among the elite families. In the end, it translates not only into an absence of economic development but also, and worse, into a progressive and steady long-term economic decline: Per-capita GDP has decreased by 40 percent between 1960 and 2010. This makes Madagascar the third worst performer among 29 Sub-Saharan countries for which data is available (after Liberia and the Democratic Republic of Congo – both affected by civil wars) and the worst performer among countries at peace. An analysis of the factors that prevent growth goes beyond the scope of this report. However, the alleviation of these constraints would be the single most effective manner to lift the population out of extreme poverty and generate the fiscal resources necessary to finance any effective social protection strategy. If it properly tackles its deeply rooted governance issues, Madagascar should be able to reverse its secular downward economic trend and grow at least as much as neighboring countries, Sri Lanka, which had a per-capita comparable to that of Madagascar in 1960, or Cape Verde, an island state on the west coast of Africa (Graph 4.1).
A.2 International commodity prices

85. **Price of Rice.** Madagascar’s economy is characterized by a high level of dependence on the price of rice (see Chapter 2). Because rice is the most important staple, any increase in the international price may have substantial welfare impacts on Malagasy households. As such, the government’s rice policy is a fundamental component of any social protection strategy. Since the 1970s Madagascar has been a structural rice importer. From 2000 until 2004, rice imports were subject to both an import tariff of 20 percent and an ad-valorem tax of 21 percent, together yielding a tariff rate of 45 percent. In 2005, the import tariff was lowered to 10 percent. These tariffs on rice imports increased the domestic price of rice above world prices and were essentially a subsidy to rice net producers financed from a tax on rice net consumers. In 2007, the government eliminated the tariff on rice imports and set the ad-valorem tax at 18 percent. The former most probably resulted in substantial efficiency gains; these accrued mainly to higher-income households, effectively making poor net rice sellers the losers. In July 2008, the government eliminated the ad-valorem tax on rice imports to mitigate the pressure on domestic prices brought about by a spike in international food prices. Since then, the policy eliminating both the tariff and ad-valorem tax on rice imports has been maintained and domestic prices have been broadly aligned with import parity prices (Graph 4.2).

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42 At 114 kg per inhabitant per annum, per-capita rice consumption in Madagascar is one of the highest in the world (Carimentrand, 2011).

43 The other main crops grown in Madagascar (maize and cassava) are not traded internationally and not subject to taxes or subsidies.

44 The ad-valorem rate was increased to 20 percent in January 2008.
86. **Oil price.** Madagascar’s economy is also characterized by a high level of dependence on the international price of oil (see Chapter 2): Higher petroleum prices result not only in higher prices for the petroleum products themselves but also for the numerous other goods and services that use petroleum as an intermediate good like transport. The domestic prices of petroleum products fluctuate with the international prices, the exchange rate and domestic taxes (Graph 4.3). The level of taxation (including excises and VAT) on petroleum products (1.1 percent for kerosene, 27 percent for diesel and 38 percent for gasoline) is about average by international standards (IMF, 2007). The fact that kerosene is very little taxed while it represents over 90 percent of poor households’ expenditures on energy indicates that petroleum product taxation is largely redistributive.

**Graph 4.3: Domestic and International Prices of Oil (March 2005-Dec. 2010)**
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B. Consumer subsidies: *Tsena Mora program*

87. **Description.** *Tsena Mora* (cheap food?) was introduced in October 2010 as the flagship program of the High Transitional Authority (HAT) to mitigate the impacts of the political crisis on the urban poor, who were acutely affected. The program has the formal status of a cooperative and is overseen directly by the Presidency; it provides subsidized basic food commodities to the urban poor. Special *Tsena Mora* sales points have been established in Antananarivo and the five other former provincial capitals. As Table 4.1 indicates, *Tsena Mora* seeks to provide rice, oil and sugar at about half the market price. It has been reported that the *Tsena Mora* program, with the exception of the *Vary Mora* (cheap rice) sub-program, has been suspended since July 2011.

### Table 4.1: Subsidized Sales of Essential Food Commodities by Tsena Mora

<table>
<thead>
<tr>
<th>Product</th>
<th>Subsidized Sales Price</th>
<th>Rate of Subsidy (% of Average Retail Price)</th>
<th>Amount Sold Per Beneficiary (Once Every 2 Weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rice</td>
<td>Ar500 per kg</td>
<td>57%</td>
<td>2-5 kg</td>
</tr>
<tr>
<td>Oil</td>
<td>Ar2,500 per litre</td>
<td>43%</td>
<td>1 liter</td>
</tr>
<tr>
<td>Sugar</td>
<td>Ar1,000 per kg</td>
<td>56%</td>
<td>1 kg</td>
</tr>
</tbody>
</table>

Source: Ralaivelo (2011b); price data from INSTAT.

88. **Coverage.** *Tsena Mora* has wide coverage in the six provincial capitals where it is implemented. Beneficiaries are selected by the staff of the sales points based on the pre-existing lists of vulnerable residents provided by *fokontany* officials. Partnerships have been established with NGOs working in poor neighborhoods to complement this pre-existing information with local surveys. Officially, the program targets households with three to five non-working age dependents, households with unstable income from casual labor or the informal sector, and women who work in the informal sector.

89. **Cost.** The program had reportedly received Ar25 billion in government funds (about US$13 million) in 2011, although this allocation was not included in the state budget (Ralaivelo, 2011b). Recent evidence indicate that the program was scaled back considerably due to financial constraints.

90. **Effectiveness.** By subsidizing key food commodities, *Tsena Mora* seeks to improve food security and reduce vulnerability in the capital cities of the six provinces where it operates. Households in secondary urban centers or in rural areas (where the bulk of poverty is concentrated) have no access to the program, which raises equity concerns. Also, available evidence suggests that *Tsena Mora* benefits a large number of non-poor. Ralaivelo (2011b) estimates that 250,000 households benefitted from *Tsena Mora* (equivalent to about 6 percent of total households, or two thirds of households in the six covered cities). As the urban poverty rate is 54 percent and the urban extreme poverty rate is 35 percent (see Chapter 2), this suggests significant leakage to the non-poor. Information is limited regarding beneficiaries, program implementation and targeting efficiency. Based on interviews with a limited number of beneficiaries, Ralaivelo (2011b) notes that *Tsena Mora* may have subsidized about one third of beneficiaries’ total expenditures on rice. In mid-2011, beneficiaries generally expressed a high level of satisfaction with the program although there were complaints related to lack of transparency, alleged diversion of some commodity stocks to the informal market and inadequate supplies of subsidized products, in particular oil.

C. Social protection programs

91. This section describes the main social protection programs under implementation in Madagascar and, for each program, reviews its coverage, cost and efficiency. These programs include the formal social security schemes as well as the social protection programs related to education, health and nutrition, labor

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45 For more detail on the *Tsena Mora* program, see the background paper by Ralaivelo (2011b).

46 In Antananarivo, all 192 *fokontany* (neighborhoods) are covered.

47 In 2004, each *fokontany* established a list of indigent people to benefit from free basic health services (see below).
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intensive public works, post-catastrophe reconstruction programs and programs targeted to specific vulnerable groups including the disabled, at-risk youth, children and the elderly. The end of the section touches upon Madagascar’s decentralization process as it could represent a promising effective mechanism to deliver social protection to the population once the political situation normalizes.

C.1 Social security

92. **Description.** In Madagascar, social security coverage is provided by three institutions: Caisse Nationale de Prévoyance Sociale (CNaPS) for private sector workers, Caisse de Retraite Civile et Militaire (CRCM) for civil servants and armed services personnel, and Caisse de Prévoyance de Retraite (CPR) for auxiliary public sector staff. However, these systems protect against a limited number of risks. CNaPS covers only a subset of the nine types of risks envisaged under the 1952 International Labor Organization’s “minimal standards” social security convention, namely employment injury, retirement, disability and survivors pensions, and family allowances. Medical insurance and unemployment insurance are not covered, although some medical services are provided to a small number of formal sector employees through the Services Médicaux Inter Entreprises (SMIE), which are geographically-based associations located in the six provincial capitals. Civil servants and armed forces personnel also receive some medical benefits.

93. **Coverage.** Social insurance covers only a limited number of formal sector employees along with their dependents; it excludes the large majority of the population. With about 500,000 affiliated members, CNaPs can be estimated to cover 2.4 million individuals equivalent to 12 percent of the population (Table 4.2). CNaPS also provides small family allowances to about 220,000 children. According to the 2010 household survey, only 3.1 percent of Malagasy workers contribute to a social security scheme while, among them, 35 percent belong to the formal private sector and 65 percent to the public sector. Consequently, while CNaPS and the schemes for state employees do provide pensions and some other benefits to those enrolled, they exclude the vast majority of the population. SMIEs cover only a tiny proportion of their respective provincial populations. For example, coverage in Analamanga Province, which is far higher than in any other province, reaches 7 percent of the population (CGA, 2009).

| Table 4.2: Number of Employers and Employees Affiliated to CNaPS (2006-08) |
|---------------------------------------------------------------|-----|-----|-----|-----|-----|
| Number of employers affiliated                          | 18,601 | 18,279 | 22,429 |     |     |
| Number of employees affiliated                           | 487,627 | 472,099 | 517,610 | 526,700 |     |


C.2 Social protection programs related to education

94. **Description.** In 2003, the newly established government of President Ravalomanana sought to reduce the financial barriers to education: it abolished formal school fees and started the distribution of free school kits. In 2005, the government adopted its first Education for All plan and subsequently obtained substantial financial support under the Fast Track Initiative and its Catalytic Fund. This helped finance a range of measures on both the supply and demand sides of education with the objectives of raising enrolment and reducing drop-out.

95. **The main social protection programs in the area of education are as follows:**

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48 Despite the lack of unemployment insurance, CNaPS has taken some measures to alleviate the hardship suffered by recent job losses in the formal sector brought about by the political crisis, notably by extending coverage for six months after a loss of employment and by sponsoring a retraining scheme in partnership with the Canadian mining company Sheritt. CNaPS has also established a partnership with microfinance institutions to deliver pension payments and facilitate pensioners’ access to microcredit (Donati et al., 2011; CNaPS, 2011).

49 This assumes an average household size of 4.8 members.
i. **Reduction of parents’ payments for the salaries of community teachers.** A characterizing feature of the Malagasy public education system is that a high and rising proportion of teachers are not formally employed by the government but instead are hired and paid by local parents’ associations (FRAM). These “community teachers” represented two-thirds of the teaching staff at the primary level in 2010/11, up from 56 percent in 2007/08 (Table 2.3). The government, with support from the Catalytic Fund, subsidized the salaries of a large number of FRAM teachers. For example, during the 2009/10 school year, 70 percent of FRAM teachers’ salaries were subsidized at a cost of Ar23.2 billion equivalent to US$12.5 million of which Ar23.2 billion was financed by the government and Ar18.6 billion by the Catalytic Fund. Funds were also supposed to subsidize the salaries of teachers in private schools, with the same objective of reducing the burden on parents, but this program was not implemented in 2010 due to budget cuts. Disbursements from the Catalytic Fund were slow due in part to government delays in paying its share of teachers' salaries.50

Table 4.3: Subsidization of FRAM Teachers (2008/09-2010/11)

<table>
<thead>
<tr>
<th></th>
<th>2008/09</th>
<th>2009/10</th>
<th>2010/11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of teachers in government primary schools, of which:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government-employed teachers</td>
<td>69,613</td>
<td>82,954</td>
<td>78,632</td>
</tr>
<tr>
<td>FRAM teachers</td>
<td>28,611</td>
<td>27,498</td>
<td>26,385</td>
</tr>
<tr>
<td>FRAM teachers (as percentage of total)</td>
<td>58.9</td>
<td>66.9</td>
<td>66.4</td>
</tr>
<tr>
<td>FRAM teachers subsidized</td>
<td>35,886</td>
<td>38,583</td>
<td>39,885*</td>
</tr>
<tr>
<td>FRAM teachers subsidized (as percentage of total FRAM teachers)</td>
<td>87.5</td>
<td>69.6</td>
<td>76.3*</td>
</tr>
</tbody>
</table>

Source: MEN, 2011.

Note: * Planned.

ii. **Distribution of free school kits.** School kits are distributed to pupils free of charge at the beginning of each school year, but are quite limited in their composition and coverage. In 2009/10, they consisted of schoolbags (for pupils starting grade 1) and exercise books for pupils in grades 1, 2 and 5. However, no kits were distributed at the start of the 2010/11 school year due to a drastic reduction in the budget allocated to the Ministry of Education introduced in the revised budget adopted in September 2010 (MEN, 2011).

iii. **School funds.** School funds are budget allocations to schools done on a per-pupil basis to cover the basic operating costs of schools. They were originally intended to compensate schools for the abolition of school fees and deter informal school levies. However, these funds have been sharply reduced as the result of the post-crisis budget cuts: the revised budget adopted in September 2010 has resulted in a drastic reduction in per-pupil allocation from Ar3,000 during the 2009/10 academic year to Ar800 in 2010/11 (Ministry of Education, 2011). Supplemental funds to cover the purchase of school materials for highly vulnerable pupils, in addition to teaching materials, other consumables and school maintenance and repairs, were provided by the Catalytic Fund for schools in regions with the poorest education indicators (Ministry of Education, 2011). These disbursements were slower than anticipated.

iv. **School feeding.** School feeding programs provide another incentive for food-insecure households to send their children to school. The World Food Program (WFP) provides for school meals in most parts of southern Madagascar. WFP currently reaches about 200,000 pupils in 1,150 schools with meals provided throughout the academic year. The government

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50 Under the agreement, the government pays eight months of salaries while FTI pays the remaining four months.
implements a smaller scheme to provide food rations for slightly over 60,000 pupils in the periphery of Antananarivo (MEN, 2011). There are other school feeding programs although they are limited in scale.

v. Cash transfers and scholarships. There are limited experiments with conditional cash transfers. Some local initiatives attempt to condition cash outlays on school attendance by the children. Other programs have provided scholarships to girls who make the transition from primary to secondary education, particularly in areas without colleges, which requires them to board away from home. A background paper describes one such experiment (Box 4.1).

Box 4.1: NGO-led Experiment with Conditional Cash Transfers: Case of the Education Action Support Program

The Jeunesse du Troisième Age – JTA Association was one of the first NGOs in Madagascar to experiment with an innovative cash transfer program conditioned on students’ academic performance. Thanks to the financial and technical support of senior members of the JTA, the Education Action Support Program (Programme d’Appui à l’Action Scolaire, or PAAS) was launched in 2005. After a careful examination of education institutions in some of Madagascar’s poorest districts, the program selected two elementary schools: a publicly-run school located in the outskirts of Antananarivo and a privately-owned school located in a rural area. The program is limited in scale and scope. However, it demonstrates how grass-roots initiatives can foster human development in local communities.

Every school year, the program offers different forms of financial and material incentives to students with superior academic performance. As such, this program is not typical; usually programs aim at reducing drop-out and not at enhancing performance. Although the bundle of benefits available in each of the targeted schools varies, it generally includes a subsidy to cover school fees for elementary school, together with a grant in the form of cash to cover additional educational expenses. Students who maintain a satisfactory academic record may be assisted during both the first and second cycles of secondary school. Once PAAS beneficiaries finish elementary school, the JTA monitors their subsequent evolution across the secondary cycle.

The number of beneficiaries has been limited: since its creation, PAAS has provided benefits to 902 students. However, the program has still managed to create a previously inexistent atmosphere of competition that rewards academic success. The different modalities of the cash transfer are conditioned on the pupil’s performance, overall completion of the primary cycle, subsequent enrolment and more gradually, performance in high school. The following table shows the average cash transfer per student:

<table>
<thead>
<tr>
<th></th>
<th>Elementary School</th>
<th>Secondary School First Cycle</th>
<th>Secondary School Second Cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition/Enrolment fee</td>
<td>18,000</td>
<td>107,000</td>
<td>96,000</td>
</tr>
<tr>
<td>Grants</td>
<td>56,000</td>
<td>9,000</td>
<td></td>
</tr>
</tbody>
</table>

The implementation of the program has met some challenges. Data matching inconsistencies between JTA and the partner schools, limitations and, in some cases, abuses in the delivery of benefits, and biased reporting of student results have not been uncommon. However, the joint mechanism by which responsibilities are shared and information is collected has improved over the years. Also, despite the efforts and goodwill of the JTA, the performance level of students in the secondary level reflects a declining trend. For example, 17 percent of students (4 out of 23 students) who won a scholarship to advance to the secondary level abandoned school. Many beneficiaries perform less satisfactorily when advancing from one course to the next. This suggests that demand-side measures to alleviate the cost of education on their own are insufficient to increase education attainment.

Source: Background paper by Randrianasolo (2011).

96. Efficiency. Although the measures outlined above have not undergone any assessments, the initial benefits have probably been offset by the fall-out from the current crisis. The abolition of formal school fees in 2003, along with the introduction of some of the measures listed above, is likely to have
contributed to the rapid increase in the net primary school enrolment ratio from 72 percent in 2002/03 to 86 percent in 2004/05 (Schüring, 2005). However, other measures such as classroom construction also helped address bottlenecks on the supply side of education while the reduction in poverty during this period may have eased the burden on parents and increased the expected return on education. Likewise, the partial reversal of the gains in school attendance since 2009 may reflect the widening and deepening of poverty, along with a sharp decline in public expenditures. Most demand-side measures (school fee abolition, distribution of school kits, etc.) are universal and benefit all pupils including those from non-poor households. The subsidization of FRAM teachers is not targeted either, although the number of teachers covered is adjusted according to a quota system that aims to equalize the pupil–teacher ratio across the country at a ratio of 50:1. WFP targets its school feeding program to districts with poor education and food security indicators, using education and food security vulnerability maps. In fact, all pupils attending the assisted schools benefit. It is uncertain whether the transfers to schools from the Catalytic Fund were used to assist highly vulnerable pupils and how these pupils were identified.

C.3 Social protection programs related to health and nutrition

97. **Description.** In 1998, the Government of Madagascar abolished free primary health care and introduced a system of cost recovery for drugs. In 2002, the government of President Ravalomanana abolished user fees for primary health. As a result, the demand for health services surged and quickly outstripped the supply of drugs and other essential inputs. User fees were reinstated in 2004 under a new drug management system known as the *Fonds d’Approvisionnement Non-stop en Médicaments Essentiels* (Fund for the Non-Stop Supply of Essential Drugs) also referred to as FANOME.

98. **At the present time, users pay out-of-pocket for the overwhelming majority of health services including medical consultations (above the primary level), drugs, laboratory tests and other services.** The main exceptions are medical consultations in primary health centers and some preventive services (notably child vaccination during vaccination campaigns), therapeutic treatment of severe acute malnutrition in young children, some family planning services and treatment of certain chronic diseases (such as tuberculosis, HIV/AIDS, leprosy and bilharzias) that are provided free of charge. So too, insecticide-treated bednets are distributed in health centers free of charge to pregnant women and households with children under 5, whereas they are usually sold at a subsidized price. That being said, most of these programs are heavily dependent on funding by donors and their coverage is limited.

99. **A few other social protection programs have been introduced to facilitate access to health services including:**

i. **Drug fee waivers through health center equity funds for the ultra-poor.** Equity funds were created in 2005 in the *Centres de Santé de Base* (CSB) to provide free drugs for the registered indigent, entirely financed from a 3 percent deduction on the sale of drugs by the CSB pharmacies (see Chapter 3). Since medical consultations are free at the primary level, the equity funds intended to provide free access to primary health care to the ultra poor by providing access to free medications. However, the system is financed by a 3 percent share of the gross revenue from drugs sales which considerably limits its coverage (see below);

ii. **Hospital equity funds fee waivers for the ultra-poor.** In 2007, the Ministry of Health and Family Planning launched a pilot scheme to set up hospital equity funds in university hospitals (*Centres Hospitaliers Universitaires*, or CHU) and regional hospitals (*Centre Hospitalier*

51 Since the 1970s, UNICEF and several bilateral donors supported experiments in community-managed pharmacies to cope with drug shortages in government health centers.

52 For example, while therapeutic treatment of children with severe acute malnutrition, in the *Centres de Récupération Nutritionnelle Ambulatoire* (CRENA) and the *Centres de Récupération Nutritionnelle Intensive* (CRENII) of the Ministry of Health, is theoretically free, effective services are often only available in districts supported by external agencies such as UNICEF and the World Bank.
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Régional de Référence, or CHRR) in 10 of the 22 regions. The funds aim at increasing the utilization of hospital services by the ultra-poor by covering all costs of hospitalization, including drugs, medical procedures, accommodation and meals. As outlined in the previous chapter, each fund is financed from the sale of drugs provided free to the hospital by the central drug agency (SALAMA), 6 percent of the profits from other drug sales and 5 percent of the revenue from consultation charges;

iii. The Fonds de Prise en Charge Universelle (FPCU). Between 2007 and 2009, the World Bank, through the Sustainable Health System Development Project, financed a third party payment system that was managed by a contracted faith-based organization to provide free access to emergency obstetrical, neonatal and pediatric health services in hospitals in three regions (Diana, Boeny and Atsimo Andrefana). The FPCU covered all hospital-related costs. Financing was discontinued when the project closed in December 2009. A similar scheme was supported by UNFPA in Toliara and is also closed;

iv. Mutual Health Organizations (MHOs). Locally based initiatives to set up MHOs began in the 1970s, particularly in Fianarantsoa, in response to the stock-out of drugs in public health facilities. These MHOs managed alternative drug supplies, based on cost recovery at a time when drugs were theoretically free but in practice often unavailable in government-run health centers. After the introduction of cost recovery in the government health system in 1998, these structures went into decline. According to the Ministry of Health, efforts are under way to relaunch MHOs, but information is not readily available except on the development of urban-based MHOs linked to microcredit. This latter approach is being supported by the French NGO Inter Aide with financing from the European Union and the French bilateral agency (Agence Française de Développement, or AFD).

v. There are other health-related social protection programs but they tend to be small or temporary. For example, the UNICEF/WHO/UNFPA joint emergency fund provided selected free drugs for six months to children under 5 and pregnant women in eight districts in the south of Madagascar.

Social protection initiatives in the health sector select beneficiaries differently:

i. With the CSB equity funds, the Ministry of Health and Family Planning aims officially to reach only 1 percent of the population, a very modest target. The selection criteria, as set out by the Ministry, are general and flexible, allowing communes to define them more precisely. Each fokontany is responsible for proposing a list of beneficiaries and for then sending it to the commune authorities, who issue “solidarity cards” to approved beneficiaries. However, in many communes, this selection process has never been carried out or has been carried out only

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53 This initiative started in poor neighborhoods of Antananarivo in 2009 with the establishment of AFAFI (“Let’s Protect Family Health Together”). AFAFI is linked to the microfinance institution Crédit Epargne et Formation (CEFor). Borrowers are automatically enroled in the MHO, which is seen by CEFor as a means of reducing the credit risk related to sickness. Premiums average €6.5 per family per year but vary according to loan size and are automatically deducted from the loan amounts. AFAFI provides for 100 percent reimbursement of hospital costs, including transport and meals, up to Ar300,000 per person per year (about US$150), under a third party payer mechanism, as well as reimbursement of consultation costs charged by accredited health centers and private doctors. Drugs are not covered, but price reductions have been negotiated with local pharmacies. About 30 health providers have been accredited in Antananarivo. Inter Aide employs a participatory approach to MHO development and management, and also provides training for administration of the scheme and informational sessions on preventive health practices. Similar initiatives are planned by Inter Aide in Antsirabe and Mahajanga (Inter Aide and AFAFI, 2011).

54 The national guidelines suggest, on an indicative basis, that beneficiaries should meet four out of the six following criteria: homelessness, unemployed, without means of support, disabled or suffering from a chronic disease, in a household with more than seven members or a head over 60 years of age.
partially, due to a combination of factors including lack of training, uncertainty regarding the eligibility criteria and time unavailability. Furthermore, the stigma associated with the status of indigent is so strong in Malagasy culture that even the poorest segments of the population are reticent to accept and use the solidarity cards, particularly in the rural areas in the north of the country. In the end, even the modest target of 1 percent coverage has not been met (Poncin and Le Mentec, 2009);

ii. In the case of the hospital equity funds, there are no clear rules to select beneficiaries so that the selection process varies across hospitals. Hospitals generally exempt patients with the CSB solidarity cards, but they also tend to exempt on an ad hoc basis those patients who do have adequate means to pay for the totality of their hospital costs. In addition, the funds are used to cover the costs of emergency patients who have been treated but have left the hospital without paying their bills. As in the case of the CSB solidarity cards, cultural concerns about stigmatization limit take-up (Poncin and Le Mentec, 2009);

iii. In light of Fonds de Prise en Charge Universelle’s objective to reduce maternal and neonatal mortality, all women who required emergency obstetrical care and children under six months who required emergency neonatal and pediatric services were eligible under the scheme. No socioeconomic selection criteria were used. Poncin and Le Mentec (2009) argue that this is a major advantage of the FPCU, as it avoided the difficulties encountered by the CSB and hospital equity funds while responding to a major public health priority;

iv. Finally, in the case of mutual health insurance, AFAFI is based in the poor neighborhoods of Antananarivo and targets those unable to obtain medical insurance through formal sector mechanisms (SMIE). It is unlikely, however, that this MHO is reaching the poorest and most vulnerable, since its sole focuses is on those able to take on debt through microcredit.

101. The social protection initiatives in the health sector are largely unable to provide access to health care to a large segment of the population:

i. Regarding the services provided free or heavily subsidized, Ravelosoa (2011) argues that the poorest are the least likely to use them due to travel costs and loss of work-time, as well as the constraints of distance and lack of information. These conclusions are corroborated by both the most recent demographic and health survey (DHS 2008/09) and the 2010 household survey (EPM 2010) (see also Chapter2);

ii. The CSB equity funds are heavily underutilized and benefit only a very small proportion of the poor. One study of a sample of communes found “a general massive underutilization of the equity funds” (Poncin and Le Mentec, 2009: 14), due to the targeting problems mentioned above, stigma-related reluctance to use the solidarity cards, lack of publicity (to avoid high demand) and various restrictive rules imposed by the communes on the use of funds. Utilization of health services by card-holders in rural areas is especially low, possibly because of other barriers (use of traditional medicine, lack of information, distance) as well as stigma. The Ministry of Health and Family Planning recognizes that nationally the funds benefit far less than the 1 percent of the population targeted; 55

iii. Regarding the hospital equity funds, Poncin and Le Mentec (2009) found that only between 2.0 percent and 3.4 percent of hospital admissions were covered by the funds and that there

55 The consultation rate of beneficiaries of the solidarity card was 48 percent in 2008, compared to 30 percent for the general population, which provides further evidence of demand-side constraints for access to health services (Ravelosoa, 2011).
were substantial unused balances. They attributed this to: (i) patients’ concerns about stigma; (ii) hospital management’s uncertainty of fund availability as its replenishment depends on uncertain government subsidies to SALAMA; (iii) lack of personal incentives for hospital staff to use the funds; and (iv) non-inclusion of transport costs, which is an important access constraint for those who live in remote areas.56

iv. Since the Fonds de Prise en Charge Universelle covers all emergency obstetrical and neonatal/pediatric services, without reference to socioeconomic status, this fund avoids the stigma problem and covers a much higher proportion of patients. However, as in the case of the hospital equity funds, transport costs are not reimbursed, which limits in practice its access to those patients who live within a relatively close radius of the hospitals. The fact that these mechanisms are in place in only four regions (out of 22) also limits their access. Poncin and Le Mentec (2009) also argue that the fixed rate reimbursement system does not adequately cover all costs, including the hospital mark-up, and that the system is undermined by drug stock-outs that force patients to purchase drugs privately;

v. Given that MHO activities appear to be limited to one relatively new initiative in Antananarivo, the number of beneficiaries is still extremely small. By the end of 2010, AFAFI had 9,219 members in 2,838 families (Inter Aide and AFAFI, 2011). It is unclear whether AFAFI will succeed in retaining its members once they cease to be microcredit borrowers.57

Also, the small size of the average yearly premium is likely to limit coverage, particularly when expensive drugs and laboratory procedures are required.

C.4 Labor intensive public works

102. **Description.** Several labor intensive public works (travaux publics à haute intensité de main d’oeuvre or HIMO) programs are currently under implementation in Madagascar. All these programs provide a wage (in cash or in kind) in return for participation in public works. If the specific modalities vary across programs, all the programs share the common objectives of improving income and food security among participants while providing basic labor intensive public goods. In Madagascar, typical micro-projects include the building, repair and maintenance of simple infrastructure (rural feeder roads, small bridges, granaries, water systems, irrigation systems, dykes, wind barriers), reforestation, garbage collection, cleaning of canals, and building of latrines, all of which are labor intensive and technologically simple. HIMO programs are also well suited to respond to immediate post-disaster recovery needs. Although the labor content varies across programs and micro-project types, payments of wages to beneficiaries represent between 65 percent and 80 percent of total project costs (Andrianjaka and Milazzo, 2008).

103. **More specifically, the main labor intensive public works programs currently under implementation in Madagascar are as follows** (Table 4.5):

i. **Cash-for-work component of the Emergency Food Security and Reconstruction Project financed by IDA.** This US$40 million three-year project includes a US$12.3 million cash-for-work component. It is being implemented by the Fonds d’Intervention pour le Développement (FID), which was created in 1993 as an independent agency.58 The project is expected to close in June 2013. This component seeks to increase access to short-term employment in targeted food-insecure areas. By providing short-term employment, mainly during the lean period

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56 Eighty five percent of beneficiaries come from within a 30 km radius of the hospitals.
57 To date about 20 percent of former borrowers have remained in the scheme, according to Inter Aide.
58 FID started to implement public works in 2002 as part of an additional financing to the Community Development Fund project which aimed at reconstructing and rehabilitating basic infrastructure in the aftermath of two major cyclones.
before harvests, the aim is to raise disposable income and thus improve the food consumption of vulnerable groups, including women. Public works projects are selected by local authorities in consultation with communities and focus on prevention of soil erosion and the maintenance and repair of small irrigation systems, feeder roads and small bridges. This component aims to provide 7.8 million person-days of cash-for-work manual labor to poor beneficiaries in food-insecure areas, with women making up over half of the beneficiaries, and complete 1,600 public works projects (World Bank, 2008). More recently, the program has substituted requisite days of work with attendance at awareness programs like family planning, HIV/AIDS awareness, hygiene and water usage and environment protection delivered by specialized NGOs. Furthermore, the Ministry of Health is working with FID to provide immunization and nutrition measures to children in communities during the implementation of cash-for-work micro-projects;

two. WFP Protracted Relief and Recovery Operations food-for-work program. WFP is implementing a food-for-work program as part of its emergency response to natural disasters (drought, floods and cyclones) programmed through its Protracted Relief and Recovery Operations (PRRO) for 2010-12;

three. WFP Country Program food-for-work program. This program, known as “improve Food Security and Protect the Environment” is a component of the WFP Country Program for the period 2005-13. It focuses on the areas in the south of Madagascar, which are chronically affected by droughts. The aims is to provide temporary employment during the lean season (October-April) and build sustainable livelihoods through food-for-work projects for reforestation, water systems, wind barriers and other infrastructure. The program also aims at strengthening the resilience of the population and is regarded as a preventive approach to disaster risk management;

four. Food-for-work component of the SALOHI program financed by USAID. SALOHI is the acronym for “Strengthening and Accessing Livelihoods Opportunities for Household Impact.” It is a US$85 million five-year integrated development program that started in 2009 with the aim of reducing food insecurity and improving the livelihoods, health and nutrition of 98,500 vulnerable households in 21 eastern and southern districts regularly affected by cyclones, floods and droughts. The program includes a small food-for-work component that seeks to strengthen resilience to shocks. The program is implemented by a consortium of international NGOs (Catholic Relief Services, Adventist Development and Relief Agency, CARE and Land O’Lakes);

five. Cash/food/seeds-for-work program of the Office National de Nutrition (ONN). The Prevention and Nutritional Security Unit of ONN manages a labor intensive public works program with the triple objective of: (i) improving the lives of the most vulnerable households by creating temporary employment through public works remunerated in cash, food and seeds; (ii) improving the productive capacity and health of communities through the building or rehabilitation of hydro-agricultural infrastructure, community granaries, water systems, latrines and other community infrastructure; and (iii) mitigating the effects of disasters on nutrition through emergency interventions, including community works. Micro-projects are proposed by communities themselves and should in principle be inscribed in their communal development plan. This program was large until 2009 when it was drastically reduced due to the expiration of funding from HIPC debt relief, its main source of financing;

vi. Community HIMO program of the International Labor Organization (ILO). This program, implemented in 2006-09, focused heavily on the southern region of Anosy, because

59 The program includes components in health and nutrition and for the development of livelihoods (through field-based participatory farmer groups).
of its high level of food insecurity, while also investing in developing the capacity of local actors to apply the labor intensive public works approach;

vii. Others. Other agencies are also involved in highly labor intensive public works, including the Unit for Coordination of Projects for Economic Recovery and Social Activities (Cellule de Coordination des Projets pour la Relance Economique et des Activités Sociales, or CCPREAS) which is under administrative oversight of both the Ministry of Finance and the Ministry of Agriculture. Implementation of the individual public works micro-projects is invariably sub-contracted by the managing agencies to NGOs.

Table 4.5: Employment Created by Labor Intensive Public Works Programs (2007-10)

<table>
<thead>
<tr>
<th>Number of Beneficiaries</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDA: Cash-for-work program (implemented by FID)</td>
<td>14,850</td>
<td>12,450</td>
<td>2,930</td>
<td>222,995</td>
</tr>
<tr>
<td>WFP: Food-for-work (PRRO)</td>
<td>66,939</td>
<td>45,276</td>
<td>92,665</td>
<td>68,301</td>
</tr>
<tr>
<td>WFP: Food-for-work (country program)</td>
<td>9,646</td>
<td>6630</td>
<td>14,685</td>
<td>12,005</td>
</tr>
<tr>
<td>USAID: Food-for-work (SALOHI)</td>
<td>0</td>
<td>0</td>
<td>16,400</td>
<td>16,400</td>
</tr>
<tr>
<td>ONN: Cash/food/seeds-for-work</td>
<td>54,060</td>
<td>47,468</td>
<td>45,777</td>
<td>2,354</td>
</tr>
<tr>
<td>ILO: Communal HIMO</td>
<td>1,134</td>
<td>1,134</td>
<td>1,134</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>146,629</td>
<td>112,958</td>
<td>127,814</td>
<td>319,701</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Person-days of Employment Created</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>IDA: Cash-for-work program (implemented by FID)</td>
<td>411,119</td>
<td>178,523</td>
<td>24,576</td>
<td>4,102,350</td>
</tr>
<tr>
<td>WFP: Food-for-work (PRRO)</td>
<td>2,556,519</td>
<td>1,802,147</td>
<td>2,662,174</td>
<td>3,585,800</td>
</tr>
<tr>
<td>WFP: Food-for-work (country program)</td>
<td>214,609</td>
<td>119,826</td>
<td>262,815</td>
<td>161,926</td>
</tr>
<tr>
<td>USAID: Food-for-work (SALOHI)</td>
<td>0</td>
<td>0</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>ONN: Cash/food/seeds-for-work</td>
<td>1,036,126</td>
<td>884,787</td>
<td>852,974</td>
<td>31,174</td>
</tr>
<tr>
<td>ILO: Communal HIMO</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>4,218,373</td>
<td>2,985,283</td>
<td>3,802,539</td>
<td>7,881,250</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Average Number of Days of Employment per Beneficiary</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>IDA: Cash-for-work program implemented by FID</td>
<td>27.7</td>
<td>14.3</td>
<td>8.4</td>
<td>18.4</td>
</tr>
<tr>
<td>WFP: Food-for-work (PRRO)</td>
<td>38.2</td>
<td>39.8</td>
<td>28.7</td>
<td>52.5</td>
</tr>
<tr>
<td>WFP: Food-for-work (country program)</td>
<td>22.2</td>
<td>18.1</td>
<td>17.9</td>
<td>13.5</td>
</tr>
<tr>
<td>USAID: Food-for-work (SALOHI)</td>
<td>...</td>
<td>...</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>ONN: Cash/food/seeds-for-work</td>
<td>19.2</td>
<td>18.6</td>
<td>18.6</td>
<td>13.2</td>
</tr>
<tr>
<td>ILO: Communal HIMO</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td><strong>Average (all programs)</strong></td>
<td><strong>28.8</strong></td>
<td><strong>26.4</strong></td>
<td><strong>29.8</strong></td>
<td><strong>24.7</strong></td>
</tr>
</tbody>
</table>

Source: Ravelosoa (2011) and FID.

104. Coverage. Although labor intensive public works are one of the largest components of social protection, their coverage is limited. The main programs supported by IDA, WFP, USAID, ONN and ILO have created about 4 million person-days of employment per year between 2007 and 2009 and close to 8 million in 2010. The latter figure is due to the implementation starting in mid-2010 of the IDA-financed Emergency Food Security and Reconstruction Project, which includes a substantial cash-for-work component (Table 4.5). The programs have benefited about 130,000 direct beneficiaries per annum.
between 2007 and 2009 and 320,000 in 2010.\textsuperscript{60} Assuming 150,000 beneficiaries per annum, an average household size of seven persons among beneficiaries and optimal intra-household allocation of resources, the cash-for-work programs can be estimated to benefit 1 million people equivalent to 6.4 percent of the poor or 8.7 percent of the extremely poor.\textsuperscript{61} However, the amount transferred to beneficiaries (about 25 days of labor employment) is largely insufficient to lift them out of poverty.

105. **Selection of micro-projects.** All the public works programs use participatory methods for the selection of labor intensive public works micro-projects. The programs typically require that communities identify their own priorities, usually through general assemblies, that projects are included in community development plans and that projects obtain the prior approval of local authorities. Except in urban areas, public works projects are invariably scheduled during the lean period (October-April in the south) or in the aftermath of natural disasters including cyclones. Public works projects also contribute to improve the long-term resilience of communities by focusing on environmental protection and infrastructure which promote agricultural production.

106. **Targeting.** The public works programs are based on a multi-stage targeting mechanism that typically includes: (i) selection of the most vulnerable geographic areas, (ii) within each geographic area, selection of the most vulnerable districts, communes and communities (typically at the fokontany level, which is a group of rural villages or urban neighborhoods), (iii) self-targeting of participants by the advertisement of a wage rate and a number of working days that in principle only attracts the poorest segments of the population, and (iv) when demand for work exceeds supply, selection of beneficiary households by the community itself through a process of consultation with community leaders (including teachers and NGO representatives). Geographical targeting is based on an analysis of vulnerability based on all available surveys, using poverty, food security and nutritional indicators. While some agencies, notably FID and ONN, operate in all 22 regions, others like WFP, SALOHI and ILO concentrate their actions in specific regions with endemic nutritional deficiency, mainly in the south and southeast. Targeting of food-for-work programs implemented in the aftermath of natural disasters, for example under WFP’s PRRO or FID, is determined by the location of natural disasters and so responds mainly to drought in the south, cyclones along the eastern coast and floods in the southeast. The implementing agencies liaise among themselves informally and within the UN’s humanitarian cluster on “food security and means of subsistence” to maximize synergies and avoid overlapping interventions. In addition, FID and WFP emphasize the participation of women. For instance, the cash-for-work program implemented by FID requires that 50 percent of beneficiaries be women and to this end, provides on-site childcare.

107. **Wage rate.** In 2009, the government adopted a decree to set the minimum daily wage to be paid by all cash-for-work programs at Ar2,000 (about US$1) for five hours of work. Although this wage rate is above the Ar1.500 daily rate paid to unskilled workers in rural areas,\textsuperscript{62} it does not distort the local job market. First, the transparent selection of beneficiaries by community representatives ensures that the poorest, who predominantly are unemployed, are selected. Second, the benefits of the public works programs are limited (the average length of employment per beneficiary was on average 25 days in 2010) so that any incentive to leave a job to benefit from the program is reduced. Indeed, access to cash-for-work programs is so limited that it is unlikely to modify individuals’ job behavior.

108. **Efficiency.** Available evidence suggests that these programs are effective instruments to increase access to short-term employment and raise disposable income for vulnerable groups in targeted food-insecure areas. Quick beneficiary surveys conducted by FID show that the targeting mechanism is

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\textsuperscript{60} The large number of beneficiaries under the IDA project is due to the fact that FID initially allowed a rotation among workers in order to spread benefits. This practice was stopped in July 2010 so that, from this date until project completion in mid-2013, the number of beneficiaries is expected to be around 120,000 per annum.

\textsuperscript{61} The numbers of poor and extremely poor were estimated at 15.6 million and 11.5 respectively in 2010 (see Chapter 2).

\textsuperscript{62} The daily wage rate of unskilled workers in rural areas was approximately Ar1,500 before the 2009 political crisis. However, in addition to this rate, workers were also provided lunch estimated at Ar200 per worker. In the aftermath of the political crisis, some employers have stopped providing lunch, which has resulted in a decrease in the workers’ net gains.
appropriate to reach the targeting population. The fact that beneficiaries use almost all the incremental income for food consumption provides further evidence of effective targeting. However, by design, public works projects are not first-best instruments to reach the most vulnerable as they exclude some of the most deprived segments of society including the disabled or the elderly, pregnant women, orphans and single females of households (although FID does provide for some limited on-site child care during public works implementation). Furthermore, FID’s and ONN’s project requirement to operate in all regions may not be socially optimal as some regions, notably in the south, are in dire need while others are relatively better-off. Third, the targeting methods themselves are questionable. Targeting criteria vary widely across programs and are applied with varying degrees of community participation. ONN, for example, gives priority to households with children under 5, large households, households with disabled or old people, very poor households and low paid casual workers. WFP favors women heads of households, large-sized households and households cultivating less than one hectare, among other criteria. As statistically valid and sufficiently up-to-date data are not available for most indicators, the ability of the programs to fine-tune targeting at the level of communes or fokontany is brought into question. In the absence of robust impact evaluations, it is currently not possible to tell how well agencies’ selection criteria have been applied in practice and whether they are successfully identifying the most vulnerable. It is acknowledged that a rotation system is often used to spread the benefits of HIMO projects to as many people as possible and thereby respond to the high level of demand. Finally, there has been criticism of the quality and durability of the infrastructure created or rehabilitated by some programs, due to the poor technical competence of the small local NGOs hired as executing agents by the managing agencies (Andrianjaka and Milazzo, 2008).

C.5 Post-catastrophe reconstruction programs
109. As noted in Chapter 3, most post-catastrophe reconstruction programs are developed in the aftermath of catastrophic events. A notable exception is the post-catastrophe rehabilitation and reconstruction component of the Emergency Food Security and Reconstruction Project financed by IDA. In addition to the cash-for-work program described above, this project includes a US$12.8 million component to restore access to social and economic services (school, health centers, small roads, water systems, etc.) in the aftermath of catastrophic events. The targeting mechanism involves: (i) the elaboration by the National Bureau for Risk and Catastrophe Management (Bureau National de Gestion des Risques et des Catastrophes, or BNGRC) of a list of areas that have been affected by a catastrophic event; (ii) the identification by BNGRC of all infrastructures in need of rehabilitation or reconstruction; (iii) the prioritization of these infrastructures through a transparent process of consultation with authorities at the region, district and commune levels, including those responsible for catastrophe management; and (iv) the rehabilitation and reconstruction of high-priority infrastructures. The mechanism also includes a limit on the number of infrastructures rehabilitated per commune, to help spread benefits.

C.6 Social programs for vulnerable groups
110. A number of small-scale social protection interventions target specific, highly vulnerable groups:

i. **Nutrition-related transfers in kind.** Several agencies, including WFP, USAID (through the SALOHI program – see above) and the Research and Technology Exchange Group NGO (Groupe de Recherche et d’Échanges technologiques, or GRET), supported by AFD and the EU, provide supplementary foods to pregnant and lactating women and very young children, as a preventive nutrition measure complemented with nutritional screening and communication activities. WFP and the National Nutrition Office (ONN) also support the distribution of food rations composed of rice, pulses, oil and enriched flour to tuberculosis patients for two months after they leave the hospital in order to increase their adherence to TB treatment and to raise recovery rates.
ii. **Conditional cash transfers.** UNICEF piloted the first conditional cash transfers (CCT) in Madagascar, on a very small scale, using short-term project funds. Two pilots have been implemented. The first, which ran for one year starting in February 2009, provided transfers of AR40,000 per family per month (about US$20) to approximately 500 families in two districts of Antananarivo, conditioned on school attendance by their children (UNICEF, n.d.). The second small project, also in Antananarivo, began in 2010 and provides transfers over a two-year period to 150 families who earn a living from recycling waste; its links are to school enrolment (which increased from 22 percent in 2010 to 58 percent in 2011), civil registration of children and improved access to medical facilities (UNICEF/ATD Quart Monde, n.d.).

iii. **Free access to water for the urban poor.** Another innovative pilot experience, initiated by UNICEF in 2010, is a scheme to provide free access to community water taps for very poor families in the peripheral neighborhoods of Antananarivo. The beneficiaries are selected using targeting criteria developed by WFP and are then issued with water cards.

iv. **Services for vulnerable children and women.** A large number of fragmented projects, supported by faith-based organizations and donors and executed by NGOs, provides assistance to highly vulnerable children and women, sometimes in partnership with the Ministry of Population and Social Affairs, which has the official mandate to coordinate these types of assistance programs. There are too many such projects to cite all of them in this report, but the following provide examples of the kind of social welfare services provided:

   - WFP provides food and other assistance under the form of health care, reintegration into primary education and professional training for out-of-school orphans and vulnerable children in urban areas, through NGOs working in about 150 centers accredited by the Ministry of Population and Social Affairs;
   - Catholic Relief Services (CRS), supported by USAID through the SALOHI program (see above), provides support for vulnerable single mothers in 15 centers in Antananarivo, Tamatave and Fianarantsoa. This program combines food assistance with counseling, medical assistance, the preparation of individual “life-plans,” training, the establishment of small savings and loans groups, the registration of land titles, links to other services (schools and health centers) and the development of revenue-generating activities;
   - UNFPA has assisted the Ministry of Population and Social Affairs to set up centers for counseling and legal advice for girls and women who are victims of violence and other rights abuses;
   - UNICEF supports “child protection networks” in about 700 communes, in partnership with the Ministry of Population and Social Affairs. These activities seek to protect children from the risks of violence and exploitation and involve the commune and fokontany authorities, the police, local NGOs, schools, health centers and other local services. However, the system has never been fully institutionalized and, according to UNICEF, the networks have been undermined by a general loss of motivation of officials at the local level since the onset of the political crisis in 2009.

v. **Services for the elderly and persons with disabilities.** Despite the increasing number of elderly living in isolation without family support, especially in the south, and the risks of social exclusion and marginalization faced by those with disabilities, these initiatives are very limited and mostly led by churches. A law has been drafted to protect the rights of the elderly, including the issuance of a “green card” that would provide access to medical services, drugs, public transport and some other basic necessities at reduced prices, but the law has not yet been adopted. The government
has set up recreational centers for the elderly, and also provides limited financial support for the socioeconomic integration of persons with disabilities.

111. **Coverage.** The social programs for vulnerable groups are small and depend largely on donor assistance. The nutrition-related activities are the largest, but they still cover only a small minority of those in need of assistance. WFP’s support for orphans and vulnerable children in social assistance centers reaches 22,000 children, but is limited to the main urban centers. WFP’s supplementary feeding activities benefit about 52,000 mothers and young children, mainly in the south, while its food rations to complement tuberculosis treatment benefit about 8,000 patients, mainly in the south and urban areas. The UNICEF water card scheme currently benefits 9,000 residents in the poor neighborhoods of Antananarivo. Most of the other projects, such as the UNICEF conditional cash transfers and the CRS integrated support for single mothers, are extremely small, often with only a few hundred beneficiaries. It is estimated that programs for the disabled reach 3 percent of those incapacitated for work (Ravelosoa, 2011).

112. **Targeting.** Nutrition-related transfers in kind tend to focus on geographical areas with high levels of food insecurity. For example, WFP’s supplementary feeding for mothers and young children targets high-risk areas of the south. WFP’s distribution of food rations to TB patients is also concentrated in the south and southeast. In both cases, there is no socioeconomic targeting of individual beneficiaries, as nutritional criteria are paramount. Some programs target vulnerable groups in the major urban areas, for reasons that seem to be based mainly on ease of program delivery. WFP’s support for orphans and vulnerable children is delivered through social centers in urban areas, mainly in Antananarivo, Tamatave, Toliara, and Fianarantsoa. CRS’s program to build the self-reliance of single mothers and UNICEF’s water card project and CCTs are limited to the capital city. The individual selection of beneficiaries for many of these programs is based on the pre-existing lists of highly vulnerable households maintained by *fokontany* authorities and churches, supplemented by additional targeting criteria.

113. **Efficiency.** There has been no formal evaluation of these programs, yet their overall efficiency is likely to be very high as they deliver life-saving assistance to beneficiaries. It is not clear whether the criteria to select beneficiaries are the most appropriate and how these criteria are applied in practice. However, there is no doubt that those who receive the services are in dire need. The nutrition-related programs provide supplementary food as a preventive nutritional measure for young children and expectant and lactating mothers, especially during the lean season, and contribute to reducing malnutrition. Conditional cash transfers programs improve access to primary education and deter drop-out. Although it is geographically limited to the capital, the provision of water cards also responds to a very real need.

D. **Delivery of social protection through decentralization**

114. **While Madagascar engaged in a decentralization process in the 1990s, little concrete progress has been made despite its potential to improve service delivery at the local level.** In November 2004, the government adopted an ambitious Policy Letter on Decentralization and Deconcentration (LP2D) (Government of Madagascar, 2005), which was followed by an implementation program covering the years 2007-08 (Government of Madagascar, 2006). The program outlined a decentralization strategy based on three core principles. First, local governments, comprising approximately 1,550 communes and 22 regions, would be placed at the center of the development process, and would be responsible for providing basic social and economic services at the local level. Second,

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63 However, WFP plans to introduce a household food ration for TB patients, based on assessment of households’ food security starting in January 2012 to complement the present individual rations.

64 In CRS’s case, the criteria are as follows: households headed by women, large household size, large number of children, low income, poor quality housing and dependence on daily labor. The UNICEF education-related CCT used different selection criteria in the two districts it covered, including household income below AR2,000 per day (in both districts), single parent households, households with orphans, households with more than eight members and households not receiving other sources of assistance.

65 According to the Antananarivo MeCRAM II survey conducted in November 2010, 13.6 percent of Antananarivo residents are unable to procure adequate water (UNICEF, 2011).
deconcentrated services (*Services Techniques Déconcentrés*, or STDs) that is, local representation of central ministries, would be strengthened to provide support to local governments. Third, partnerships between local governments and the private sector would be fostered to enhance the provision of services at the local level.

115. **Before the outset of the crisis in early 2009, action was taken to implement the LP2D** including: (i) creation in January 2005 of a ministry responsible for decentralization (*Ministère de la Décentralisation et de l’Aménagement du Territoire*, or MDAT),\(^{66}\) (ii) simplification of the institutional landscape so that communes and regions are the only levels of sub-national governments;\(^{67}\) (iii) development of a fiscal decentralization strategy including the creation of estate tax bureaus (*guichets fonciers*) in communes; (iv) adoption of measures to deconcentrate the state apparatus and create linkages between the deconcentrated technical services of central ministries (*Services Techniques Deconcentrés* or STDs) and the local governments (*Collectivités Territoriales* or CTs), including through the creation of Commune Support Centers (*Centres d’Appui aux Communes*, or CACs) on a pilot basis to provide technical assistance to communes; (iv) the creation of decentralization and deconcentration units (*cellules 2D*) in key ministries to accompany the deconcentration process; and (v) creation in 2007 of a public agency, the Local Development Fund (*Fonds de Développement Local*, or FDL), as a mechanism to strengthen the capacity of communes and transfer block grants to communes to invest in basic economic and social services under their mandate including schools, health centers and water systems (Table 4.6).

**Table 4.6: Responsibilities of Local Governments**

<table>
<thead>
<tr>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Regions</strong></td>
</tr>
<tr>
<td>• Economic development;</td>
</tr>
<tr>
<td>• Junior and senior high schools (<em>collèges and lycées</em>);</td>
</tr>
<tr>
<td>• Regional roads;</td>
</tr>
<tr>
<td>• <em>Centres Hospitaliers de District</em> (CHD)</td>
</tr>
<tr>
<td><strong>Communes</strong></td>
</tr>
<tr>
<td>• Basic social and economic services including:</td>
</tr>
<tr>
<td>• Construction and maintenance of primary schools (<em>Ecoles Publiques Primaires</em>, or EPP)</td>
</tr>
<tr>
<td>• Construction and maintenance of basic health care centers (<em>Centres de Santé de Base</em>, or CSB)</td>
</tr>
<tr>
<td>• Construction and maintenance of communal roads</td>
</tr>
<tr>
<td>• Construction and maintenance of water and sanitation systems</td>
</tr>
<tr>
<td>• Construction and maintenance of other communal public works (small bridges, markets, public square, etc.)</td>
</tr>
<tr>
<td>• Delivery of building permits and building site development permits</td>
</tr>
</tbody>
</table>

116. **The Local Development Fund (FDL) is intended to be an important mechanism to deliver social and economic services**, and has two main functions: (i) build the capacity of communes including in public finance management, and (ii) provide block grants to communes to build the basic social infrastructures that fall under their mandate (Table 4.6). The Government of Madagascar also created FDL to harmonize donor support for decentralization, which had been provided through such instruments as ACORDS financed by the EC, SAHA by the Swiss Agency for Development and Cooperation (SDC) and FID by IDA. In 2010, the government decided to channel domestic resources to FDL to implement labor intensive public works. FDL is currently operational and to the extent its limited funding allows, does build the capacity of communes. However, the large amount of financing (in the order of US$140 million) that donors were planning to provide in early 2009 never materialized due to the onset of the political crisis. As the consequence, FDL does not currently channel block grants for investments to communes.

\(^{66}\) In September 2011, the *Ministère de la Décentralisation et de l’Aménagement du Territoire* was divided in the *Ministère de la Décentralisation* and the *Ministère de l’Aménagement du Territoire*.

\(^{67}\) This is currently changing as the six provinces are being reinstated.
5. Principles, Priorities and Actions to Enhance Social Protection

Chapter 2 shows that the Malagasy population faces a large number of risks while Chapters 3 and 4 provide evidence that the social protection policies and programs financed by the government, donors and NGOs remain largely insufficient to mitigate the devastating impacts of these risks on an already impoverished population – so that individuals face an enormous level of residual risks which has heightened since the onset of the current political crisis. This chapter builds on the previous chapters but also on the experience of other low income countries, especially in Africa. It outlines the main principles of a social protection strategy and recommends priority actions for implementation including in the immediate aftermath of the current political crisis. As such, this chapter is intended to contribute to future governments’ own formulation and implementation of a social protection strategy.

A. Main principles of an effective social protection strategy

In Madagascar, successive governments have so far largely failed to provide social protection to the population. In 2002, the newly instated government of President Ravalomanana initiated an ambitious development agenda and outlined it in 2003 in the first Poverty Reduction Strategy Paper (PRSP) followed in 2006 by a second PRSP: Madagascar Action Plan (MAP) 2007-12. MAP confirmed the commitment of the government to social protection. In 2007, a social protection strategy translating policies into actions was drafted but never officially adopted while the dissolution in January 2007 of the ministry responsible for the definition of social policies, the Ministry of Health, Family and Social Protection, further weakened the standings of social protection. Since the onset of the political crisis in early 2009, MAP has ceased to guide government actions while fiscal resources have considerably decreased so that currently no social protection strategy guides government actions.

Chapters 3 and 4 evidenced that the interventions in social protection are ad hoc, scattered and uncoordinated across a number of ministries and agencies. The Ministry for Population, Social Protection and Leisure used to implement a number of small-scale interventions to target vulnerable groups. When it was dissolved in January 2007, these interventions were spread across several ministries. Currently, the Presidency is responsible for the government’s main social protection program: the Tsena Mora program was created in 2010 to provide subsidized basic food securities to the poor in the six province capitals. The Ministry of Health is responsible for the equity funds and other measures to improve access by the ultra-poor to health services; the National Nutrition Office (Office National de la Nutrition, or ONN), which is administratively linked to the Prime Minister’s Office (Primature), is responsible for coordinating the National Nutrition Action Plan and manages directly some programs, including labor intensive public works; the Ministry of National Education and Scientific Research is responsible for the demand-side measures on school access as part of the Education for All (EFA) plan; the Ministry of the Interior oversees the National Office for Management of Risks and Catastrophes (BNGRC) while the Prime Minister presides over the National Council for Management of Risks and Catastrophes (CNGRC). The Ministry of Finance plays an important role in budget allocations, which can widely vary from one year to the next, while the Ministry of Decentralization and Territorial Planning (now divided in two ministries – see previous chapter) is responsible for strengthening local authorities (provinces, regions and communes) and transferring funds for local development. There is also little coordination between the National Statistics Agency (INSTAT) responsible for the analysis of vulnerability and the government and, within the government, between the Presidency and the line ministries. For example, the EPM 2010 was not designed to assess the existing social protection programs and the technical analysis of vulnerability conducted by INSTAT does not feed into the policy formulation process.

In lieu of this and given the enormous social protection needs, the existing programs despite their weaknesses are extremely valuable. At the same time, the population continues to confront residual risks of a magnitude far beyond the combined capacity of the existing programs. Donors and NGOs have been trying to fill this gap, but the result has been a large number of scattered and generally small...
initiatives driven primarily by the donors’ own agendas. Expenditures under the many programs vary widely from one year to the next; new programs are regularly created while others are phased out; and, coordination across programs remains a challenge while their efficiency is largely unknown. Since 2009, the absence of communication between donors and the government has further weakened the provision of social protection.

121. As a result, the post-crisis government may want to develop a comprehensive social protection strategy founded on sound principles with clear objectives and priorities for translating this strategy into action.

122. The social protection strategy proposed in this report is designed to increase the overall social protection of the population while decreasing its vulnerability, taking into consideration the existing programs and the differences in exposure to risks. The underlying principles for such a strategy could include:

- Resolution of the current political crisis in the short term and the deep-rooted governance issues in the longer term,
- Macroeconomic stability with low internal (fiscal) and external (balance of payments) deficits and low inflation to create the foundation for strong and sustainable economic growth,
- Adoption of measures to increase domestic revenues to generate the fiscal resources necessary to finance an effective social protection strategy,
- Implementation of economic reforms for sustained broad-based economic growth to enhance social protection and reduce vulnerability,
- Definition of a social protection strategy including the adoption of mitigating measures, prioritization among poverty groups, evaluation and rationalization of the existing social protection programs and reallocation of the corresponding savings toward the priority groups,
- Decentralization of decision-making authority and financial resources for the delivery of social services,
- Establishment of links between the public and private sector,
- Development and use of targeting mechanisms to reach priority groups, and
- Monitoring of vulnerability and the implementation of the strategy itself.

123. The strategy also includes a plan for interventions in key areas, including: education, health, nutrition, social protection programs and basic infrastructure.

B. Priorities for translating these principles into actions

B.1 Resolving issues of governance

124. As evidenced in previous chapters, the recurrence of political crises may be the single major systematic risk affecting the Malagasy population. These crises are deeply rooted in the political structure of society including shifting alliances among a few elite families.68 The resolution of the current political crisis and the establishment of a more viable social contract among ethnic and geographic groups are fundamental prior-conditions to improve population welfare and prevent backsliding against reforms initiated by one government but not pursued by the next one.

68 Madagascar is divided into eighteen or twenty ethnic groups, each with its own distinct territory. Malagasy society is also divided between the so-called côtiers, or peoples living in coastal areas, and those who live in the central highlands. The division between the central highlands peoples and the côtiers has increased in importance to explain social and political competition while the salience of ethnic group identity has declined.

B.2 Implementing economic reforms to enhance social protection and reduce vulnerabilities

125. Once the issues of governance are resolved, the implementation of structural reforms is key to promote broad-based economic growth, reduce the vulnerabilities outlined in Chapter 2 and
reduce the social protection institutional and policy shortcomings that adversely impact the population evidenced in Chapters 3 and 4. The agenda of reforms to promote economic growth is large, encompassing reforms to modernize the state including public finance management, enhance the business investment climate, improve the provision of basic infrastructure and services and create the conditions to develop tourism to an island considered as one of the world's most geographically diverse destinations on the planet.69 As experienced by countries all over the world, a timely implementation of key economic reforms can be expected to lead to sustained economic growth over a long period of time with considerable impacts on poverty. Some key structural reforms for reducing vulnerabilities are:

- **Modernizing the state.** The implementation of a state modernization strategy is an absolute prerequisite to enhance the capacity of the state to deliver social protection to its citizens. The strategy could seek to transform the role of the government and its relation with civil society, including the vulnerable, through the redefinition and transformation of public institutions. Initiatives to improve the efficiency and transparency of government and selected public services started to be implemented, although imperfectly, in Madagascar in 2004 in line with the Madagascar Action Plan (MAP). The process has been discontinued as the result of the political crisis.

- **Increasing social protection.** Scaling up investment in social protection could involve a concerted effort aimed at mobilizing domestic revenues, increasing donor assistance and creating an enabling environment conducive to foreign direct investment. Increasing tax revenues is particularly important in Madagascar where domestic revenues amount to about 10 percent of GDP, one of the lowest ratios in the world. Madagascar’s poor tax performance is deeply rooted in the complexity of the tax system and the weakness of the tax administration.

- **Enforcing mitigation measures.** The occurrence of catastrophic events including hurricanes and droughts has major impacts on the population, especially the most vulnerable segments. The government could actively conduct awareness and information campaigns, define hurricane-resistant standards, enforce compliance of public but also private infrastructure with the building codes and stand ready to implement emergency operations to alleviate the most devastating immediate effects of catastrophic events.

B.3 Defining a social protection strategy

B.3.i Defining and strengthening the institutions responsible for social protection

126. **The incoming post-crisis government could develop a social protection strategy.** The preparation of such a strategy under government leadership and following a participatory approach could provide a strong signal to the population of the new government’s political commitment to social protection. The Prime Minister’s Office or even the Presidency may take responsibility for designing such a social protection strategy as they are in a better position to coordinate across the multiple institutions involved in social protection. The Ministry of Population and Social Affairs could then be responsible for the regulation of social protection and the implementation of specific social protection programs.

127. **The elaboration of the strategy could benefit from inputs from the donor-led social protection clusters and working groups described in Chapter 3.** In the absence of a dialogue between the government and donors at the political level for the past three years, these forums have served as a useful mechanism to coordinate the social protection programs. For example, the social protection working group that was revived in May 2011 may provide useful inputs to design a social protection strategy. Also, the food security and livelihoods cluster could contribute to the design of the strategy regarding public works, given its accrued knowledge of the definition of wages and targeting methods.

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69 Madagascar contains an immense diversity of endemic flora and fauna including seven of the world's nine species of the iconic Baobab tree and lemurs which are all native to Madagascar.
128. **The strategy could also seamlessly translate into a useful framework for future donor assistance to social protection.** The strategy preparation could be done in close coordination with civil society organizations (NGOs and churches) and donors. It could be used to mobilize external financial resources and be a vehicle for all donors to align their support with government priorities, as well as harmonize programs and the overall provision of aid to social protection.

**B.3.ii Prioritizing among vulnerable groups**

129. **Resources are limited while needs are enormous so that any social protection strategy would require prioritizing among vulnerable groups.** Back-of the-envelope calculations help provide perspective on the magnitude of the programs needed: with a poverty rate of 76.5 percent in 2010, a poverty gap ratio of 34.9 percent and a poverty line at AR468,800 per annum (US$224), it would cost US$1.2 billion (equivalent to 14.1 percent of GDP) per annum to lift all Malagasy out of poverty — a highly unrealistic amount to expect under the form of foreign aid. With an extreme poverty rate of 56.5 percent, an extreme poverty gap ratio of 20.8 percent and an extreme poverty line at AR328,200 per annum (US$157), it would cost approximately US$380 million (equivalent to 4.3 percent of GDP) per annum to lift all Malagasy out of extreme poverty that is, to provide access to a minimal basket of food to fulfill the minimum caloric intake. In fact, the resources are extremely limited (far below 4.3 percent of GDP), and imply that any credible social protection strategy cannot seek to alleviate extreme poverty in the short term. Instead, priority would have to be placed on a few most vulnerable groups among the extreme poor.

130. **The government could prioritize vulnerable groups among the extreme poor according to the depth of their extreme poverty and their exposure to risk** (Table 5.1). Based on the vulnerability analysis conducted in Chapter 2, first priority could be given to the rural extreme poor who are very vulnerable with particular attention to those who live in the “deep south,” malnourished children in all areas, extremely poor head-of-household mothers in urban areas and all those who have been affected by a catastrophic event such as a cyclone. Second priority could be assigned to combating extreme poverty among the peri-urban poor, the elderly who are extremely poor and at-risk children who have left the formal education system. Finally, third priority could be given to programs that target the remaining extreme poor who live in urban areas, and the extreme poor who are unemployed.

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70 This also assumes the availability of a mechanism to perfectly identify the poor and transfer lump-sum amounts.

71 This number is derived as follows: population (20.5 million) x poverty ratio (76.5%) x poverty line (US$224) x poverty gap ratio (34.9 %) = US$1,226 million.
Table 5.1: Priority Vulnerable Groups

<table>
<thead>
<tr>
<th>Geographic Groups</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Extreme poor in rural areas with particular attention in the “deep south.” A large share of the rural population is extremely poor and vulnerable. The rural population in the “deep south” is particularly vulnerable. The Early Warning System (Systeme d’Alerte Précoces, or SAP) could help identify the districts and communities likely to be most affected.</td>
<td>***</td>
</tr>
<tr>
<td>• Extreme poor who have been affected by a catastrophic event such as a cyclone.</td>
<td>***</td>
</tr>
<tr>
<td>• Extreme poor in peri-urban areas. The peri-urban poor constitute an important group. Overall, however, vulnerability in urban areas tends to be less extreme and severe than rural poverty.</td>
<td>**</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Demographic and Economic Groups</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Malnourished children. About half the children under the age of five are chronically malnourished. The development status of children renders them extremely vulnerable to the risks of living in an impoverished environment that perpetuates the poverty cycle. Childhood is the point in the lifecycle when physical, cognitive and psycho-social development occurs at its most accelerated pace and is most susceptible to abnormal development from poverty conditions.</td>
<td>***</td>
</tr>
<tr>
<td>• Single, woman-headed extreme poor households, particularly in urban areas.</td>
<td>***</td>
</tr>
<tr>
<td>• Children who are not in the education system. Vulnerability is strongly correlated to a lack of education. However, re-integrating the children back into the education system after they have left is an expensive strategy.</td>
<td>**</td>
</tr>
<tr>
<td>• Extreme poor elderly. Though a smaller share of the elderly are extremely poor, this is due mainly to their lower life expectancy. There is currently no program in place to assist poor elderly citizens who fall outside of the social assistance system and have to rely on donations from neighbors and family.</td>
<td>**</td>
</tr>
<tr>
<td>• Extreme poor in urban areas and unemployed extreme poor. The vulnerability analysis identifies these groups as priorities for intervention. Indeed, vulnerability is strongly correlated with extreme poverty and unemployment particularly among urban women and youth. Although these groups are most likely captured by the aforementioned priority group classifications, they may have specific needs, as well.</td>
<td>*</td>
</tr>
</tbody>
</table>

Note: *** = Top priority, ** = Medium priority, * = Priority.

B.3.iii Evaluating, rationalizing and scaling up expenditures on social protection

131. **Public spending on social protection could be rationalized in the short term and then increased in the medium term.** In the medium term, a strong social protection strategy would eventually require an increase in overall government resources, but it should take place only within the context of an overall modernization of the state. Indeed, a lack of information systems, inadequate mechanisms to monitor government expenditures, an excessively centralized process of resource allocation and administration, outmoded procurement practices, together with a lack of mechanisms to target the vulnerable, render it unlikely that additional funds alone would efficiently decrease vulnerability among priority groups. Consequently, it could be advisable to increase the size of the state only if strong efforts are simultaneously taken to improve implementation capacity.

132. **In this context, a thorough evaluation of the existing social programs along the lines of Chapter 4, followed by a rationalization of social protection expenditures and a reallocation of resources towards the priority groups, could be a top priority for the implementation of a strong social protection program.** A thorough review of public spending on the social protection could guide the rationalization of the existing programs and could generate some fiscal savings, even though these may be limited. For example, the system of social security for public employees could be reviewed. The Tsena Mora program could also be assessed taking into account that the most vulnerable segments of society, who live in rural areas, do not benefit from it. The government could reallocate these savings towards
programs that benefit the targeted groups, boost cost recovery for services used by the population in the top quintile (tertiary education and health services) and improve efficiency in service delivery. The development of targeting mechanisms (see below) in program and service delivery plans could also help ensure that more resources are channeled to the most vulnerable. The analysis of the 2010 household survey on which this report is partially based, already provides some insight to reallocate the limited resources devoted to social protection to the targeted population.

133. **Public spending on education could seek to reduce the burden of FRAM teachers and other education costs for households who are extreme poor.** Chapter 2 evidences that education-related risks are key causes of vulnerability for children while Chapter 3 indicates that public spending on education-related social protection programs has dramatically declined since the beginning of the 2009 crisis. Keeping children in school may be the principal lever to reduce vulnerability in the current context where the education financing burden is increasingly falling on households and the most vulnerable children are dropping out of school. In this context, the following actions could help reduce vulnerability:

- Reduce the burden on the most vulnerable households of the costs of hiring community-hired FRAM teachers. The provision of subsidies for FRAM teachers, from the government budget and the Education for All – Fast Track Initiative Catalytic Fund (which has now officially become the Global Partnership for Education) could play an important social protection function. To achieve free primary education in practice would require phasing out the community teacher system by integrating qualified FRAM teachers into the regular teaching corps so that their costs no longer fall on parents;
- Provide adequate capitation grants to schools (*caisses écoles*) to reduce the levying of charges on households to pay for school materials, textbooks and other education-related costs;
- Distribute free school kits and textbooks to further reduce the costs of education born by households;
- Implement school feeding programs in areas with high levels of food insecurity to provide an incentive for households to send children to school while simultaneously improving nutrition;
- Pilot a cash transfer program conditional on school attendance as an additional measure to keep the most vulnerable children in school (see below).

134. **Distance learning may also offer a viable alternative** (Box. 5.1).

**Box 5.1: Mutual health insurance and national health insurance**

At the primary level, distance education rarely provides a suitable alternative on its own because it usually relies on the ability of learners to manage their own learning. Where distance education has been effective with young children, as in the Australian outback in the 1950s, parents provided the supervisory structure for its success. But there are many substitutes for educated parents: Even in remote areas of Madagascar, radios are usually available. Primary education programs that combine radio delivery of a high-quality curriculum with local monitoring of children’s progress have been rigorously evaluated and found to boost learning.

The most widely evaluated program is interactive radio instruction, which has broadcast professionally developed curricula to children in remote regions of Belize, Bolivia, Cape Verde, Costa Rica, the Dominican Republic, El Salvador, Guatemala, Honduras, Lesotho, Papua New Guinea, South Africa, Thailand, and Venezuela. Lessons teach core instructional material; each curriculum is designed according to proven instructional design principles; and each 30-minute lesson incorporates sound pedagogical principles, including the active participation of students. Randomized control evaluations have found that the programs increase learning by as much as 2.1 standard deviations for rural children, compared with an increase of 2.8 standard deviations from a year of traditional schooling, with 70 percent greater cost-effectiveness. Despite its proven effectiveness and cost-effectiveness the fact that interactive radio instruction was largely donor driven means its take-up was curtailed when donor support ended.

*Source:* Lewis and Lockheed (2006, p. 125)
135. **More equitable health financing mechanisms could be implemented to reduce vulnerability.** Chapter 2 shows that the Malagasy population faces numerous risks of morbidity, malnutrition and mortality and that these risks have increased since 2009. Chapter 3 evidences that Madagascar has had a highly regressive health financing system since the reintroduction of generalized cost recovery in the health system in 2004 and that public spending on health-related social protection measures has been dramatically reduced in the aftermath of the political crisis. Today, very few health services are provided free and the fee exemptions introduced for the indigent through the equity funds in health centers and hospitals reach only a tiny proportion (less than one percent) of the extreme poor. This is partly because of the limited financing available but also because of low levels of take-up resulting from the stigma attached to poverty-based fee exemptions (Chapters 3 and 4). In the end, elevated costs of health care are the major cause of non-utilization of health services. These costs are serious barriers to utilization of the secondary and tertiary levels of care (district and teaching hospitals) since health costs at these levels are much higher (Ravelosoa, 2011). In order to reduce health-related risks, the government could consider the following actions:

- **Abolition of health fees for prioritized vulnerable groups.** A few African countries – Sierra Leone, Uganda, and Zambia (and recently Côte d’Ivoire) – have abolished all health service fees in order to facilitate access, while Mauritius has maintained generalized free services since independence, without ever introducing cost recovery. Other countries have abolished fees for such specific services as the treatment of malaria, deliveries or caesareans or for high-risk groups (children under 5 or pregnant women). However, the abolition of health fees for prioritized vulnerable groups would need to be carefully planned to cope with the expected increased rates of utilization in order to avoid repeating the negative consequences of fee abolition experienced in 2002-04;

- **Emergency obstetrical and neonatal/pediatric services.** The government may want to consider a nationwide scale-up of the free emergency obstetrical and neonatal/pediatric services that have been piloted in four regions through the FPCU, financed by the World Bank and UNFPA (Chapter 4). By adopting a universal approach, based on medical rather than socioeconomic criteria, this scheme has responded to urgent medical needs while avoiding the targeting problems that have beset the equity funds;

- **Extension of fee exemptions for maternal and child health care services.** A selective extension of fee exemptions aimed at reducing under-5 and maternal mortality could be considered, provided financial resources are available. Here also, the abolition of maternal and child health fees would have to be carefully planned to avoid overwhelming health facilities.

136. **Neither community-based risk pooling through mutual health insurance nor a larger national health insurance scheme is likely to be a viable strategy to reduce health-cost risks at least in the short and medium term (Box 5.2).**

**B.4 Decentralizing and increasing community participation**

137. **Decentralization of, and community participation in, service delivery could improve the effectiveness of social protection interventions.** Previous chapters have evidenced that a lack of capacity and budget at the local level impedes effective delivery of services. The social protection strategy could emphasize decentralization of services at the commune level in order to improve the delivery of social protection services. The strategy may also highlight the importance of community participation as a way to boost local ownership and client satisfaction, mobilize additional resources, improve accountability among social protection services providers and build social capital. Some key actions include:

- Clarifying the mandates and financing of local governments (regions but also communes and possibly provinces) and deconcentrated bodies of central government institutions, such as the
Ministry of Population and Social Affairs, in order to obtain the most efficient division of responsibility, financing arrangements and program implementation at the local level;

- Building capacity at the local level to improve service delivery for social protection across all sectors;
- Greater reliance on the Local Development Fund (Fonds Local de Développement, or FDL) to strengthen commune capacity and channel block investment grants to communes for social and infrastructure projects registered in their Communal Development Plan (Plan communal de Développement). The FDL approach to respond to the demand of communes could help mitigate some important risks related to the lack of supply of important social services (schools, health centers, water systems, etc.) to the population thereby decreasing their vulnerability.

**Box 5.2: Mutual Health Insurance and National Health Insurance**

**Mutual health insurance.** Little developed in Africa, mutual health insurances are community- or professionally-based micro-insurance schemes where people pay health insurance fees and are reimbursed for a share of health care costs. The scale of mutual health insurance schemes in Africa tends to be circumscribed. Population coverage rarely exceeds 4 percent (Mali), and is below 1 percent in most countries (Ouattara and Soors, 2007). Many community-based schemes suffer from management problems and require substantial technical assistance from aid-funded “promoters.”

**National health insurance.** An alternative approach is to set up national health insurance schemes, subsidized by the state. Two Sub-Saharan African countries have made substantial progress in setting up national insurance schemes: Rwanda, where coverage was 76 percent of the population in 2007 (OPM, 2011), and Ghana with 62 percent coverage in 2010 (National Health Insurance Authority, 2011). There are three major arguments in favor of this approach. First, compared with fee abolition, the national insurance model aims to increase efficiency by creating a split in functions between (public and private) health service providers and payers (the insurance authority) (see Witter and Garshong, 2009, regarding the Ghanaian case). Second, these schemes are compulsory and therefore avoid adverse selection problems, although in practice enforcement is impossible in the informal sector. Third, state subsidies make it possible to reduce premiums to more affordable levels, introduce exemptions for vulnerable groups or widen the range of services covered. In Ghana’s National Health Insurance Scheme, for example, the scheme is financed mainly by a special tax, the National Health Insurance Levy, which represents 2.5 percent of the value of goods and services, which covers about 95 percent of health services (including the full costs of hospitalization) and provides extensive premium exemptions for children under 18, pregnant women, the elderly (over 70) and the ultra-poor. However, even in this scheme, there is evidence of lower coverage of the bottom quintiles (NDPC, 2009), as well as concerns about the long-term financial viability of the system.

Other countries that have attempted to set up similar schemes, such as Côte d’Ivoire, Gabon and Nigeria, have been largely unsuccessful. It is indeed extremely difficult administratively to achieve high population coverage in countries with large informal sectors where households or individuals have to be enrolled one by one and the deduction of premiums at the source is impossible. These administrative challenges would be formidable in a country like Madagascar with a very large informal sector and weak capacity.

**Source:** Background paper by Hodges (2011).

**B.5 Developing and using targeting mechanisms to reach priority groups**

**Mechanisms are necessary to concentrate program resources on the targeted population.** A good targeting method improves cost-effectiveness and impact. The main targeting mechanisms currently used in Madagascar involve some mix of categorical targeting, geographical targeting, self-targeting and community-based targeting (Box 5.3).
Box 5.3: Targeting Methods

Madagascar is a country with very small differences in economic well-being between deciles, except at the top, where poverty is extensive and where the near-poor are only slightly better-off than the poor. In these conditions, any targeting method risks producing large exclusion errors (non-selection of those who in theory should be eligible) and inclusion errors (inclusion of those who in theory should not be eligible). This box reviews briefly the main available targeting methods and their relative advantages/disadvantages in the Malagasy context.

**Means testing.** Regarded as the “gold standard” for targeting (Coady et al., 2004), this method, which requires direct verification of income through pay slips and other documentation, is impossible to apply in countries like Madagascar where the vast majority of the poor work on family farms and other parts of the informal sector with no documentary evidence of income.

**Proxy means testing.** In the absence of documents to evidence income, in some developing countries, though not yet in Madagascar, methods have been devised to assess eligibility through proxies of vulnerability, poverty or extreme poverty. These proxies are visible characteristics of households (assets, household materials, household composition, etc.) that allow identifying households living below a certain eligibility threshold. The thresholds are generally derived from regression analysis of data from national household surveys and then weighted in a formula that can be used for beneficiary selection. Because the variables used in the formula are visible, they are in principle verifiable by social workers and the information can be recorded on a standard form used to support eligibility applications. In practice, it is difficult to construct a formula of weighted proxy variables that accurately identifies targeted households, especially in countries where differences between deciles are very small. Inclusion and exclusion errors tend to be high. However, this method is generally more accurate than using a small number of un-weighted purely categorical criteria. The main drawback of this method is its high administrative capacity requirements in terms of information collection and processing.

**Categorical (demographic) targeting.** This method selects households or individuals on the basis of simple demographic characteristics, such as large household size, the presence of disabled or chronically sick household members, a lack of labor capacity, female head of household or having children under a certain age or elderly members. These selection criteria are frequently used in Madagascar, sometimes along with geographical and community-based methods, although the criteria tend to vary across programs. The risks of large inclusion and exclusion errors are high.

**Geographical targeting.** This method is also a commonly used method in Madagascar, with many programs focusing largely on specific regions in the south for example, where poverty and food insecurity tend to be the most serious. Geographical targeting also tends to be highly exclusionary, because vulnerability is often only marginally higher in the targeted areas compared with other areas. For example, a program focusing mainly on the south, such as school feeding, would automatically exclude all highly vulnerable school-children who live in other areas.

**Community-based targeting.** Community participation in beneficiary selection has been used in Madagascar, particularly to supplement wage-based self-selection in labor intensive public works. Communities have specific knowledge of the characteristics of its members and can play an important role in legitimizing selection decisions. However, this targeting method may allow local elite capture or a tendency by communities to spread program benefits as widely as possible to avoid having to select beneficiaries as is the case of rotating jobs in some public works projects, for example. Community-based targeting can be usefully implemented in combination with other methods, such as self-selection or proxy means testing.

**Self-selection.** This method is used in labor intensive public works programs, in principle by setting wages at a level below local market rate so that only the neediest apply to the program. However, the wage rate rarely acts as a perfect selector, making it necessary in practice to supplement self-selection with other methods, usually involving a degree of community participation.

Source: Background paper by Hodges (2011).

The implementation of an effective social protection strategy could benefit from the creation of a common registry of indigents. This registry could be used to determine eligibility for different social protection programs, such as enrolment in public works, fee exemptions in health centers (solidarity cards), access to school kits and access to free water (water cards). The development of such a registry would essentially expand and formalize the list of indigents maintained by each fokontany. However, this is likely to be challenging in Madagascar due to the fact that extreme poverty is broad-based and that the differences in living standards between the extreme poor and the near-extreme poor are minute.
B.6 Monitoring vulnerability and the implementation of the social protection strategy

Monitoring both the vulnerability of the population and the implementation of the social protection strategy is necessary, and adequate resources should be made available for these tasks. As such, the protection strategy could include two main components:

- **Monitoring vulnerability.** It could be desirable for the government to develop a risk monitoring system to track vulnerabilities and provide the data for the evaluation of the impact of public interventions. The system could be a module of the household survey that could be repeated every two years. The household survey could incorporate key elements to generate information on the status of key risk groups and on the targeting outcomes and efficiency of the main social programs. The incidence and coverage of all social protection programs, including food subsidy programs, public works programs, health support transfers as well as any new programs could be included in the survey. The survey could also monitor particularly vulnerable groups;

- **Monitoring and evaluating the social protection strategy.** Once it has adopted a social protection strategy, the government could adopt a number of measures to monitor its implementation, including the elaboration of an action plan with specific actions and a timeline, and the development of monitoring indicators that could be tracked by each implementing agency. To monitor overall vulnerability, program-specific questions could be included in household surveys. As outlined above, a specific institution could be responsible for the implementation of the social protection strategy; INSTAT could be responsible for monitoring the overall vulnerability situation while each ministry or agency could be responsible for the implementation of its own social protection programs. Resources could also be made available for evaluating the impact of specific interventions including cost and efficiency, and feeding back lessons to improve program design.

C. Road map of key immediate actions for social protection

Immediate measures to strengthen social protection are urgently needed. A normalization of the political situation may take some time. Even after a political settlement is reached, it could take time for elections to be held, a new government to take office and a social protection strategy to be developed and adopted. In the meanwhile, the vulnerability of the population has been steadily increasing so that, pending a resolution to the political crisis, the government and technical and financial partners may want to immediately implement a few actions including: (i) scaling up existing public works program, (ii) complementing the public works program with a cash transfer program for those who are labor deprived, and (iii) piloting a conditional cash transfer in peri-urban areas. The remainder of the chapter reviews these proposed actions while the background papers provide additional implementation details.

C.1 Scale up public works

Scaling up the existing labor intensive public works programs could be the most appropriate way to reduce the vulnerability of the groups previously identified as priority targets. The main arguments to support this approach are as follows:

i. The scope for expanding this type of labor is enormous. On one side, the level of underemployment among the rural poor is extremely high and the number of those seeking employment on existing labor intensive micro-projects vastly outstrips the number of jobs on offer. On the other side, the coverage of the existing labor intensive public works programs is very limited. Chapter 2 showed that, under reasonable assumptions, existing public works programs reach less than 10 percent of the extreme poor;

ii. As a social protection instrument, labor intensive public works programs can target two of the top priority vulnerable groups identified (Table 5.1). Public works programs can provide support to
the extreme poor in rural areas. They can also target geographic areas like the “deep south” region of Madagascar or regions that have been affected by a catastrophic event like a cyclone;

iii. Labor intensive public works programs could also be used to target the extreme poor who live in peri-urban areas and constitute a medium priority group (Table 5.1);

iv. Labor intensive public works programs can be scheduled to take place during the lean season before harvests when food insecurity and the risks of malnutrition are highest;

v. Labor intensive public works have the potential to decrease vulnerability by reducing exposure to environmental risks (reforestation, wind barriers, maintenance of dykes, etc.) while improving productivity and access to markets and services in addition to providing short-term revenue support to households;

vi. Labor intensive public works would contribute to fundamental developmental needs in rural Madagascar: construction and maintenance of feeder roads, irrigation systems and other rural infrastructure in addition to the need for periodic post-cyclone reconstruction in eastern coastal areas and the environmental protection micro-project types cited above. Micro-projects could contribute to address the challenge of water management for agriculture and increase productivity;

vii. Labor intensive public works are culturally accepted in the Malagasy context as they do not carry the risk of stigma that has hindered take-up of the CSB equity funds, for example;

viii. There is political support for labor intensive public works partially explained by the requirement on beneficiaries to work and the developmental character of micro-projects;

ix. There is extensive experience with labor intensive public works including from the government. Several government agencies have developed experience in this field, notably ONN and the Coordination Unit for Economic Recovery and Social Action Projects (Cellule de Coordination des Projets de Relance Economique et d’Action Sociale, or CCPREAS) while the labor intensive public works approach has been endorsed in both the MAP and the National Employment Support Program;

x. Labor intensive public works could be scaled up relatively quickly, since experienced program management structures are already in place;

xi. Labor intensive public works may be combined with days of training on HIV/AIDS, family planning, nutrition, and environment protection and therefore present a good vehicle to develop synergies at the level of communities with other activities and programs.

142. The government may also want to harmonize the existing public works programs. The adoption of a common manual of procedures could be useful to avoid duplication across projects, harmonize beneficiary targeting methods, selection of micro-project and micro-project contractors and unify wage rates, quality standards and other aspects of management. Ultimately, a national agency could be established to implement public works activities backed up possibly by a common fund to mobilize donor resources to supplement government financing.

143. Targeting mechanism. The targeting mechanism for the cash-for-work program could continue to follow a multi-stage procedure: (i) identification by the food security cluster of the areas of intervention based on all available instruments,72 (ii) validation by the National Bureau for Risk and Catastrophe

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72 These instruments include the Early Warning System (Système d’Alerte Précoce or SAP) in the South, the Multi-cluster Rapid Assessment Mechanism (McRAM) Surveys conducted by UNICEF in peri-urban areas of Antananarivo and Tulear; the surveys conducted in rural areas by the Rural Observatory Networks; the Comprehensive Food Security and Vulnerability Analysis carried
144. **Selection of sub-projects.** The program could continue to finance highly intensive manual labor (haute intensité de main d’œuvre) sub-projects selected by communities. Sub-projects would benefit the targeted population and would receive the prior approval of local authorities (communes and fokontany).

145. **Wage rate and duration.** There is no easy recipe to define the appropriate wage rate or the duration of a cash-for-work program. However, as beneficiaries of cash-for-work programs are selected among the extreme poor, a policy objective may be to ensure a total payment just sufficient to lift the beneficiary out of extreme poverty. The 2010 household survey indicates that US$33 is necessary to lift the average extreme poor above the extreme poverty line (Box 1.1). With a daily wage at Ar2,000 (about US$1) for five hours of work, 30 days of work per annum would be approximately enough to lift the average beneficiary out of extreme poverty. These are the approximate parameters (30 days of work paid US$1 per day) used by FID for the implementation of its cash-for-work program. As explained in Chapter 4, the cash-for-work programs are so limited in scope that they do not distort the local job market.

146. **Implementation arrangements.** The implementing agency could be responsible for the overall coordination, management and financing of this activity. It would contract executing agencies (NGOs or faith-based organizations) to implement sub-projects on the ground including payments to beneficiaries.

C.2 **Complement public works with a cash transfer program to labor-deprived households**

147. **The labor intensive public works programs could be complemented by a cash transfer program for households without labor capacity or a very high dependency ratio.** Households with no labor capacity, where the only adults are elderly, chronically sick or disabled, and woman-headed households with children cannot participate in labor intensive public works. Some social transfers have been conceived specifically to assist those types of households. In Ethiopia, for example, 20 percent of the wage budget of the Productive Safety Net Program is reserved for social transfers to households in which no one is able to work (Samson et al., 2006). The Social Cash Transfer Programs in Malawi and Zambia specifically target ultra-poor households with no labor capacity or a very high dependency ratio on the grounds that other households should be assisted through productive social protection methods such as labor intensive public works (Schubert, 2008). The Food Subsidy Program (Programa de Subsidios de Alimentos, or PSA) is the main basic social protection program of the Government of Mozambique and focuses on households with elderly, disabled and chronically sick adults with no other means of support (Hodges and Pellerano, 2010). The Government of Madagascar may want to consider similar cash transfer programs that could reach two of the medium priority vulnerable groups, woman-headed households and the elderly (see Table 5.1).

C.3 **Pilot a conditional cash transfer program**

148. Eventually, the Government of Madagascar may want to introduce on a pilot basis a conditional cash transfer (CCT) program to reach extreme poor households conditional on household’s behavioral decisions (school attendance, nutrition and vaccination of children, for example). This type of program

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73 The BNGRC is the national office responsible for officially defining the catastrophe-affected areas.
could increase the likelihood that the children who are out of school, and have been identified as a priority group for intervention (see Table 5.1), remain in or return to school.

149. The following factors support the creation of a conditional cash transfer program on a pilot basis:

i. Conditional cash transfers could potentially boost investment in human capital and help reduce long-term vulnerability. Cash transfers to the extreme poor, whether linked or not to behavioral conditions, could enable beneficiary households to increase investment in the nutrition, schooling and health care of their children. It may be particularly appropriate in the current context where drop-outs have increased as the result of the political crisis (see Chapter 2). Conditional cash transfers could increase human capital during the rest of the lifecycle and could help break the inter-generational transmission of poverty (Samson et al., 2006; Barrientos and De Jong, 2004);

ii. There is substantial and increasing evidence worldwide, including in Africa, of the positive impact of CCT programs on a range of human development indicators. Drawing on experiences in Latin America, Rawlings and Rubio (2005) found that CCT programs have positive effects on school enrolment, nutrition and vaccination rates. Evaluations of unconditional cash transfers in Africa, for example in Malawi (see Miller et al., 2008), have also shown positive human development impacts;

iii. CCT programs have already been tested in Madagascar albeit on a very small scale. UNICEF has piloted two small pilot cash transfer schemes (see Chapter 4). Some NGOs like JAT Association have also experimented cash transfers conditional on student’s academic performance (see Box 4.1);

iv. In Madagascar, some preparatory work has already been undertaken. Before the 2009 political crisis, GTZ, UNICEF and the World Bank, among other donors, initiated work to develop a cash transfer program aimed at promoting access to basic social services and investment in human capital by highly vulnerable households on a pilot basis. This initiative originated in the positive international experiences with CCT, particularly in Latin America. In 2005, a feasibility study was conducted in Madagascar, focusing in particular on the impact of CCTs for raising enrolment rates and stemming drop-out in primary education (Schüring, 2005). In 2008, UNICEF commissioned a study to develop a proposal for a cash transfer pilot scheme (Ayala Consulting, 2009). Also, as part of the background work for this social protection strategy;

v. As evidenced in the background paper by Rakotomanga (2011), a number of payment methods could be used to reach beneficiaries: the post office network, micro-finance institutions, mobile phone transfers, smart cards and mobile payment points. Each has its advantages and disadvantages with respect to accessibility, flexibility and administrative charges, suggesting that several payment mechanisms could be tested during the pilot phase of the program depending on the characteristics of beneficiaries.

150. The Government of Madagascar may also want to consider the following factors especially when deciding to scale-up a CCT:

i. Conditional cash transfers may be effective in the short term as households have taken children out of school and decreased their demand for health services as a result of the impacts of the current political crisis including a decrease in disposable income. However, in the medium term, CCTs require reforms to increase supply. For example, households can send their children to school only to the extent that schools can absorb additional children. In Madagascar, the supply

74 However, it is unclear whether it is the transfer or the conditionality (or both) that are responsible for the observed changes (Barrientos and De Jong, 2004).
response may be automatic as the cash transfers may be used by households to pay the salaries of the FRAM teachers;

ii. Targeting may pose a challenge given the extensive nature of extreme poverty. As noted in Chapter 2, Madagascar has the highest poverty headcount of all Sub-Saharan countries. In addition, human development indicators are often poor across the four lowest quintiles, rather than heavily concentrated in the bottom quintiles as is the case in Latin America countries. Targeting in such a context may pose both problems of equity (beneficiaries are likely to become much better-off than non-beneficiaries) and affordability. Also, targeting peri-urban areas may be questionable as the extreme poor are mostly located in rural areas. In the end, CCTs may be appropriate to reach a particular subset of the extreme poor (like UNICEF’s CTT which targets the families who live from recycling waste – see Chapter 4);

iii. There is a risk that a conditional cash transfer limited to the indigents would carry a stigma. As evidenced in the low take-up among the extreme poor of the solidarity cards for fee exemptions in health centers, there is a cultural antipathy to being labeled as indigent or ultra-poor in the Malagasy society. This could deter enrolment in a cash transfer program even by the neediest, as well;

iv. The administrative capacity to implement a CCT is limited. Conditional cash transfers require substantial administrative capacity, especially for targeting, enrolment of beneficiaries, management information systems, payments and monitoring and evaluation. The application of behavioral conditions require substantial additional capacity for the monitoring of compliance, not only in the implementing agency but also in schools and health centers, while staff time may not easily be freed up for this purpose. Capacity is generally weak in Madagascar, particularly in terms of social workers at the local level. Finally, the necessary capacity could be assembled for a pilot project, but it would be a major challenge to scale it up nationally without major long-term investments in staffing in all agencies involved in its implementation.
Bibliography


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