Landcape Analysis on Countries' Readiness to Accelerate Action to Reduce Maternal and Child Undernutrition: the Madagascar Assessment

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Nutrition situation and actions in Madagascar

Madagascar has seen major improvements in health and nutrition indicators over the past decade. Between the two Demographic and Health Surveys in 1997 and 2003 (DHS 1997, 2003), the mortality rate for children under five decreased from 139 to 94 per 1,000 live births, the exclusive breastfeeding rate among children 0-6 months increased from 42% to 64%, and stunting among children under three years decreased from 48% to 45%. However, the stunting prevalence of 45% is still unacceptable, along with high malnutrition rates among women of reproductive age where 19% of women are underweight (BMI<18,5) and 6.5% are of low height (<145 cm). The main causes of this widespread maternal and child undernutrition are inadequate newborn and infant feeding, micronutrient deficiencies, inadequate hygiene and sanitation practices, food insecurity, low awareness, poverty and natural disasters.

A series of steps have been taken to address malnutrition, in terms of setting up a robust institutional framework and implementing actions to prevent malnutrition and to treat cases of severe malnutrition. Nutrition and food security are explicitly addressed in the Malagasy Poverty Reduction Strategy Paper, and the Madagascar Action Plan (Madagascar 2006). The National Nutrition Policy adopted in 2004 outlines fourteen strategic axes ranging from infant feeding and micronutrients to emerging problems and policy development, as well as norms and communication (Madagascar 2004). It is multisectoral, spelling out roles and responsibilities of lead agencies and cooperating partners. Linked to the policy, the National Action Plan for Nutrition (PNAN) is being implemented (Madagascar 2005). The National Nutrition Office (ONN) functions as the operational coordination mechanism and works closely with the Department of Nutrition in the Ministry of Health and other stakeholders in nutrition.

Major ongoing activities include food and nutrition surveillance, promotion of breastfeeding, community nutrition activities, prevention of micronutrient deficiencies, promotion of food security for vulnerable households, school nutrition programmes, treatment of severe malnutrition at health centre (CSB) or community level as well as at clinic or hospital level, and nutrition support in emergency situations. The National Community Nutrition Project (PNNC) is extensive and still expanding, with 3,470 sites covering 694,000 (24%) children under five in 2004 and 5,550 sites covering 1 million (34%) of children under five in 2007.

Aims of the Madagascar country assessment

Against this background the major nutrition actors in Madagascar ONN and the MOH Department of Nutrition along with the United Nations Children's Fund (UNICEF) and the World Health Organization (WHO), decided to undertake an in-depth country assessment for the Landscape Analysis. This exercise would constitute a mid-term review of the national nutrition plans and a review of sector cooperation, and was seen as an opportunity to merge together existing databases from different ministries.

The assessment aimed to review and outline the current nutrition situation in Madagascar, especially with regards to the set of proven nutrition actions identified by the Lancet Nutrition Series, and to identify activities that need to be prioritized in order to act at scale and accelerate the reduction of maternal and child undernutrition. The expected outcome at the end of this process was a strategic plan for accelerating the reduction of maternal and child undernutrition in Madagascar, that could and should be used as a basis for incorporating increased resources that must be invested if the MDGs are to be achieved in Madagascar.

Country assessment methodology

The Madagascar assessment was carried out jointly by a national team which included representatives of the government at both national and regional levels, ONN, the MOH Department of Nutrition, SEECALINE and

CISCO\(^1\), a national interagency team made up of UNICEF and WHO, and an international interagency team represented by Helen Keller International (HKI), UNICEF, SCN and WHO from 30 March to 7 April 2008. The assessment team met with the Bureau Permanent of the National Nutrition Council (CNN)\(^2\) for a briefing session on the first day and used the opportunity to set up an interview with its members.\(^3\) Other stakeholders were interviewed at the national level in the capital Antananarivo, and included representatives from public sector, private sector companies and development partners.\(^4\) At the regional and district level, the assessment teams met with local government in the sectors of ONN, Ministry of Health, Education, Water and Sanitation, and Environment and Forestry. The teams visited hospitals, primary health care centres, schools, SEECA\(^\text{LINE}^\text{\textregistered}\) centres at three different field locations: Analamanga Region in the Central part of the country, Boeny Region in the North-West, and Anosy Region in the South (Figure 1).

The assessment team reviewed the country assessment tools and the common analysis framework and adapted them to the Madagascar context. The findings and recommendations were presented on 7 April 2008 to the Permanent Bureau of the CNN as well as to the Prime Minister in a special audience.

**Findings**

**Commitment to scale-up nutrition actions**

Political commitment for nutrition in Madagascar is very strong. The CNN and its Permanent Bureau, with its broad representation, provides a good forum for discussion and advocacy for nutrition in development at the national level. The ONN, operating at both national and regional levels, is a very positive force, and the location of the ONN in the Prime Minister's Office contributes both a strong political commitment and dynamic leadership. A National Nutrition Policy and a Nutrition Plan of Action not only exist, but are well known by the main actors across sectors at the national level. Nutrition is also well anchored in the national MAP, and in at least some regions nutrition objectives are also reflected in Regional MAPs. There is also broad partner involvement in nutrition at the regional level, including Government, donors, bilateral partners, NGOs and the private sector.

Furthermore, the successful World Bank financed project SEECA\(^\text{LINE}^\text{\textregistered}\) (Galasso and Umapathi 2007), which has a coverage of about a third of the population, will now be taken forward with Government funding as the PNNC under the ONN.

The strong political commitment to act is, however, diluted by a poor perception of what nutrition problems really are, as well as the interventions needed. This is especially so at the sub-national level. The commonly held view is that malnutrition can only be solved through increased food production, better education and poverty reduction, i.e. dealing with the more basic and underlying causes and not the immediate ones. "Undernutrition" is commonly seen as a humanitarian problem not a developmental one, i.e. it is associated

1. CISCO (Circomcription Scolaire);  2. Bureau Permanent de Conseil National de Nutrition (CNN);  3. Members interviewed included representatives from the Prime Minister's Office (Primature), and from Ministère de la « décentralisation et de l’aménagement du territoire » (decentralisation and Environment development), Ministère du financement et du budget (finance), Ministère de l’agriculture, de l’élevage et de la pêche (agriculture, husbandry and fisheries), Ministère de l’éducation nationale et de la recherche scientifique (education and research), and Ministère de la santé, du planning familial et de la protection sociale (health, family planning and social protection). The NGOs were: Association pour l’Education et la Récupération Nutritionnelle (ASERN), Fiombonan’ny Fiagonona Protestanta eto Madagasikara (Groupe des Églises Protestantes à Madagascar) Association Eglise Protestantes de Madagascar, FFPM, and Sampan’Asa Fampandrosoana / Fiagonona’ i Jesoa Kristy eto Madagasikara Département pour le Développement au sein de l’Eglise de Jesus Christ Madagascar, SAF/FJKM;  4. Including World Bank, CARE International, Catholic Relief Services, Food and Agricultural Organisation (FAO), Groupe de recherche et d’échanges technologiques (GRET), World Food Programme (WFP), Population Services International (PSI), and United States Agency for International Development (USAID).
with the images of "starving" children commonly seen in the South of Madagascar. There is little or no common understanding that small stature (which affects most of the population) is caused by undernutrition, not genetics. Furthermore, poor maternal nutrition is not seen as part of the problem of child malnutrition.

Most stakeholders seemed to think that insufficient financial resources are being directed at tackling the nutrition problem. The use of national funds in nutrition programmes is very limited. Furthermore, the donor base as well as their contributions to the national nutrition plan are small. Despite the existence of budget lines for nutrition at the district level, the programme budget for nutrition activities relies almost completely on donors and not on governmental funds. A lack of respect for national authority under ONN was also detected amongst donors. In addition, public-private partnerships are insufficiently developed.

At the regional level, although there is a regional MAP, little coordination exists among partners and nutrition is not well integrated into sectoral plans. Although there is a food security component in the agriculture plan, it is very much focused on increasing production and not on improving nutrition.

Capacity to scale-up nutrition actions

Madagascar has considerable strengths in terms of human resources to accelerate nutrition actions. Both ONN and MOH are working on nutrition at the local level, and although it is unclear who reports to whom, the cooperation seems to be smooth. The ONN has a Regional Technical Manager to oversee PNNC, and the existence of a large network of community health/nutrition agents greatly facilitates the outreach of nutrition education activities into the community. The training on Management of Severe Acute Malnutrition in the rehabilitation centres is ongoing in the MOH.

However, there is a poor capacity for advocacy for nutrition at the national level. Little or no capacity exists that would permit efforts to change the existing perceptions that undernutrition is largely determined by nature. Staff with a formal training in nutrition are in very short supply, especially at regional and district levels. In the health sector, nutrition activities tend to be everybody's business but nobody's responsibility. In sectors other than health nutrition activities are largely absent. The number of community nutrition agents is insufficient, and needs to be increased in order to expand coverage of PNNC.

Regarding management systems, the existing multisectoral coordination architecture at the national level is greatly appreciated. The outreach achieved for nutrition services during the Mother Child Health Week (SSME¹) held twice a year allows periodic high coverage of a limited number of essential nutrition actions. Growth monitoring data are collected at local level and sent to district/regional/national levels on a quarterly basis. DHS data exists and is widely used as the authoritative source of information on nutrition. Yet, nutrition activities are not integrated into sectors other than health. Furthermore, the roles and responsibilities of the various actors are sometimes not clearly defined, especially at the lower levels. The reporting lines for growth monitoring data from the local level are unclear and to some extent parallel.

In terms of supplies, all mothers observed had the booklet on child health with a growth chart, which is distributed through the PNNC and has appropriate space for nutrition information as well as key messages in the local language. Ready-to-use therapeutic food (RUTF) is readily available in certified rehabilitation centres, along with length measuring boards and child weighing scales. Access to iron-folic acid supplements is however, very poor, requiring the mother to purchase these herself from the central pharmacy. The availability of scales and length measuring boards in CSBs is inadequate and limited to 100 of the 2,000 CSBs that are certified as nutrition rehabilitation centres.

Recommendations arising from the assessment

Based on these observations, the assessment team formulated eight suggested recommendations, summarized in Box 1, to bring forward to the Bureau Permanent of the CNN:

1. Expand coverage of existing community-based nutrition activities (PNNC): While PNNC is targeted at the most severely affected third of the population, the undernutrition problem extends across the whole population (Van de Poel et al 2008), suggesting that greater coverage is required to increase impact. Indeed
as the impact of PNNC seems to be greater among mothers with a higher education (Galasso and Umapathi 2007), extending coverage to the less affected segments of the population would likely permit even greater impact for these behaviour change activities.

2. **Strengthen maternal nutrition components (to address LBW and maternal anaemia):** The Lancet Nutrition Series indicates that half of stunting originates during the intra-uterine period and half in the first two years of life (Victoria et al 2008). Maternal nutrition is a serious problem in Madagascar. 20% of women of reproductive age are underweight, and 50% of mothers are anaemic. Maternal nutrition is a serious problem in Madagascar with 20% underweight in women of reproductive age, low birth weight rates of 17% and 50% of mothers anaemic. Currently very little is done about maternal malnutrition and few perceive it as a problem. The provision of iron/folate tablets for tackling anaemia relies on mothers purchasing them at the central pharmacy. To counter this, micronutrient supplements (preferably multiple micronutrients) should be made universally available to all mothers during pregnancy, and delivery of the supplements should be through aggressive outreach delivered by community based nutrition facilitators of PNNC. In food insecure areas, with the highest rates of maternal undernutrition, food supplements for the mother during pregnancy will improve birth weights. How to provide such food supplements needs to be solved, probably in relation to suggestion 4 below. As a third of all women become pregnant before twenty years of age, and the total fertility rate is high at 5.1, every effort should be made to prevent teenage pregnancies and control fertility.

3. **Nutrition capacity in the operational health system should be strengthened, with better orientation of resources and increased national budget contributions for nutrition:** Perhaps the most vital element needed is professionals whom are adequately trained in public health nutrition. These resources need to be employed to expand the base of operations at the district level and below rather than to strengthen the central level. Employing staff will require improved national budget contributions, which should also then envisage support for nutrition programme activities, thus reducing dependence on donor funding. Such national funding would also allow far greater benefit to be achieved from donor funding. There is a higher degree training programme producing graduates in public health nutrition that could well be employed in the public system.

4. **Integrate nutrition in non-health sectors, in particular agriculture where increased food production must reach mothers and young children in food insecure areas:** Increasing food production and achieving food security is a presidential priority which should also have a nutritional component. Food production should not only be developed to assure food exports, but should also be oriented to the provision of a variety of foods (fresh fruit, vegetables, milk, eggs, poultry) for local consumption. Indeed, the relatively poor impact of community based nutrition activities upon less educated mothers could be a reflection of increased food insecurity in such families. How to tie the PNNC participation of mothers from food insecure households to a cash transfer or food supplementation using locally produced foods is something that should be explored.

5. **Rationalize the collection and use of nutrition information for decision-making purposes at regional, district and commune level:** The current situation allows for a multitude of information to be mechanically collected, processed, and passed upwards. Where such data goes and whether it is used for decision making is very unclear. The presence of suitable trained nutrition professionals at the sub-national level would increase the potential for using such information for local decision making. This suggestion is very much linked to suggestions 3, 4 and 6.

6. **Strengthen nutrition coordination and leadership across sectors at lower levels and clarify the roles and responsibilities of different actors:** While nutrition coordination at the national level is already strong and leadership is assured by the nature of the national nutrition architecture, this is yet to happen at the lower levels of the system. The absence of trained nutrition professionals tends to mean that in the health system at least, nutrition is everybody's business and nobody's responsibility. As development planning is decentralized, Regional MAPs should have strong nutrition components. These should draw on the priorities identified at the national level and be adapted to local circumstances. Such measures can help assure local level funding support for nutrition activities. For this to happen the roles of the different sectors need to be defined and responsibilities assigned.
7. Strengthen consistency of nutrition communication messages from pregnancy through to two years of age linking to other activities such as WASH: Communication for nutrition is currently very much "small issue" driven, focusing on, for example, breastfeeding and vitamin A capsules. Successful campaigns including radio and print material have been developed for these parts of nutrition. Some thought should be given to communicating a "bigger picture" for nutrition, with an overarching theme that covers all from stunting to starving. The idea would be to not only focus on changing particular behaviours, but to improve the public perception of the nutrition problem.

8. Strengthen public-private partnerships for improved nutrition: There are various areas where public-private partnerships (PPP) could be further strengthened and amplified. The iodization of salt is one ongoing area where PPP needs to be further strengthened if the coverage is to increase above the current 75%. Another area is the production of nutrient dense foods, be it for supply to the health system for the treatment of severely malnourished children, or through market channels for improving complementary feeding among infants in upper income brackets.

Follow-up and next steps
At the consensus meeting held on 7 April 2008, it was agreed that the Bureau Permanent of the National Nutrition Council would consider the suggested recommendations and the further dimension of what each of them might mean in terms of the National Action Plan for Nutrition. It was noted that most of these suggestions, with the exception of maternal nutrition improvements, were already included in the Plan, and as such the suggested recommendations were an endorsement of the Plan and a further incentive to try to get it fully implemented.

The multipartner country assessment in Madagascar was communicated to the highest political level. Representatives of the landscape analysis assessment team met with the Prime Minister on 7 April 2008 to brief him on the Landscape Analysis and how Madagascar came to take part in it, the Lancet Nutrition Series, and the roll-out of the assessment in the country with the participation of national stakeholders and international experts. The Prime Minister welcomed the initiative and expressed great interest in the problem of malnutrition in general and in the Landscape Analysis assessment in particular. The Prime Minister further reflected on how various underlying and basic causes of malnutrition played different roles in different parts of the country, emphasizing intra-household distribution of power and resources, women's role in society, and family planning. It was noted that Madagascar has the architecture and structure in place for implementing nutrition actions, especially at the national level. However the structure base where interaction with communities takes place need to be scaled up to ensure full coverage.

Representatives of the ONN and the MOH Nutrition Department presented the results of the Madagascar assessment at a ministerial level meeting at the World Health Assembly in Geneva on 19 May 2008. They emphasized the next steps planned, including:

- consolidating nutrition information for decision making; reinforcing coordination and leadership in all sectors and clarifying the roles and responsibilities of different actors;
- considering nutrition throughout the life-cycle and linking it with other child survival interventions;
- ensuring effective integration of nutrition with other sectors beyond health;
- reinforcing public-private partnership for better nutrition;
- extending the coverage of evidence based interventions already carried out such as the PNNC, the Community Management of Acute Malnutrition (CMAM\(^{12}\)) and the Baby-Friendly Hospital Initiative in order to reach all children throughout the country;
- reinforcing efforts to reduce micronutrient deficiencies; giving greater priority to actions directed towards severe acute malnutrition; and,
- reinforcing nutrition in the operational health system.

The Government of Madagascar has committed to contributing about 10 million USD per year to these activities, amounting to 36.8 million USD for the period 2008-2011, while partners have pledged a total of 9.3 million USD. This leaves a funding gap of 82.7 million USD, given the estimated 134.4 million USD total budget needs.

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12. Prise en charge de la malnutrition Aigue au niveau Santé de Base et Communautaire
Later, UNICEF also contributed additional financial resources to mitigate the effects of the food price crisis. These funds were linked to the recommendations arising from the Landscape assessment and were mainly used to reinforce the early warning system through rationalization of data collection in the PNCC sites, thereby contributing to meeting recommendations 2 and 5 to expand the coverage of the PNCC; to introduce the multi-micronutrients supplementation in pregnant and lactating women in the most affected areas as part of recommendation 2; and, to provide blanket distribution of Ready Use Food (Plumpy-doz). The PNCC sites will have a key role in ensuring coverage and adherence to the intake. These actions will be supported by a communication campaign as stipulated in recommendation 7.

Conclusion

Madagascar indeed has the potential and assets to go to scale in the fight against malnutrition. This will be done by developing and integrating a road map towards the vision of «Madagascar without Malnutrition». The recommendations formulated in the Landscape Analysis country assessment will be an important input in this process.

References


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Box 1: Summary of recommendations arising from the assessment

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