



# REPORT ON HUMAN-CENTERED DESIGN WORKSHOP MADAGASCAR: INTEGRATION OF IMMUNIZATION AND NUTRITION TO REACH ZERO DOSE CHILDREN

An extract from the main workshop report

MOMENTUM Country and Global Leadership



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MOMENTUM works alongside governments, local and international private and civil society organizations, and other stakeholders to accelerate improvements in maternal, newborn, and child health services. Building on existing evidence and experience implementing global health programs and interventions, we help foster new ideas, partnerships, and approaches and strengthen the resiliency of health systems.

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MOMENTUM Country and Global Leadership is part of a suite of innovative awards funded by the U.S. Agency for International Development (USAID) to holistically improve voluntary family planning (FP) and maternal and child health (MCH) in partner countries around the world. The project focuses on technical and capacity development assistance to ministries of health and other country partners to improve outcomes.

# 1. INTRODUCTION

Nearly 20 million infants have insufficient access to vaccines each year globally. In Madagascar, 33% of children 12–23 months of age are zero dose, and these children suffer a higher risk of poor health outcomes.<sup>1</sup> Zero dose vaccination refers to children who have never received a vaccination and are therefore entirely missed by the Expanded Programme on Immunization (EPI) system and potentially the health system. There were approximately 462,000 zero dose children in Madagascar in 2021.<sup>1</sup> Operationally, zero dose is defined as children 12 to 23 months who have not received the first dose of the pentavalent vaccine. In 2018–2019, Madagascar experienced a large measles outbreak that affected all 22 regions. A total of 24,4641 cases and 1,080 deaths were reported in the epidemic.<sup>2</sup> A reactive vaccination campaign was organized in three phases and reached 100% of target children from 6 months to 9 years old, according to administrative data. A measles risk assessment was conducted in 2021, which showed that in 114 districts, 32 (28%) were categorized as high and very high risk, 46 (40%) as medium risk, and 36 (32%) low risk. Since 2020, Madagascar has been experiencing an epidemic of circulating vaccine derived polio virus type 1 (cVDPV1) which is indicative of low immunity in the population. As of 2022, a total of 26 cVDPV1 were reported from human surveillance and environmental surveillance.<sup>2</sup> A 2021 policy brief by Gavi, the Vaccine Alliance and Scaling Up Nutrition (SUN) about integration of immunization and nutrition services indicates that malnutrition and infectious diseases together cause millions of preventable child deaths every year and contribute to a vicious cycle of poor health, stunted growth, poverty, and exclusion.<sup>4</sup>

According to the 2021 Madagascar Demographic and Health Survey (DHS), the prevalence of underweight among children under five years (0–59 months), and prevalence of wasting, or acute malnutrition, among children in this same age group were 23% and 8%, respectively.<sup>3</sup> In addition, 4 in 10 children under five years old suffers from stunted growth.<sup>3</sup> Other indicators from the 2021 DHS include: 40% of children 6–59 months received vitamin A supplements in the past 6 months,<sup>3</sup> the prevalence of low birth weight was 13%, and the prevalence of children 0–5 months exclusively breastfed was 54.4%.<sup>3</sup>

According to the State of Food Insecurity Report 2021, 45.4 million children under five years globally suffered from wasting.<sup>4</sup> By 2022 alone, the COVID-19 pandemic impact could cause an additional 9.3 million suffering from wasting. In 2020, COVID-19 pandemic-related disruption of the health system resulted in 22.7 million children missing out on vaccinations—3.7 million more than in 2019 and the highest number since 2009.<sup>4</sup> Acutely malnourished children are 2.5 to 15 times more likely to die from pneumonia, and up to eight times more likely to die of diarrhea, with repeated bouts of diarrhea associated with up to 43% of child stunting cases.<sup>4</sup> Nearly half of all deaths from vaccine-preventable diseases in Gavi-supported countries occur among “zero dose” children.<sup>4</sup> Because vaccine coverage is often higher than coverage of other essential services, the existence of zero dose children indicates that their communities are deprived of most, if not all, essential health interventions, including nutrition services.<sup>4</sup>

According to Madagascar’s nutrition investment case of 2017, malnutrition contributes to 45% of deaths among children under five, and 30% of all child mortality annual deaths are linked to a mother’s nutrition

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<sup>1</sup> World Health Organization and United Nations Children’s Fund. (2021). *WHO/UNICEF estimates of national immunization coverage*. <https://www.who.int/teams/immunization-vaccines-and-biologicals/immunization-analysis-and-insights/global-monitoring/immunization-coverage/who-unicef-estimates-of-national-immunization-coverage>.

<sup>2</sup> Republic of Madagascar. (2022). *National Immunization Strategy 2022–2026*.

<sup>3</sup> Institut National de la Statistique and ICF. (2022). *Enquête démographique et de santé à Madagascar 2021*. <https://www.dhsprogram.com/pubs/pdf/FR376/FR376.pdf>.

<sup>4</sup> Gavi and Scaling Up Nutrition. (2021). *Equity from Birth: An integrated Approach to Immunisation and Nutrition Policy Brief*.

status, breastfeeding behavior, low birthweight, or vitamin/mineral deficiencies.<sup>5</sup> Routine immunization and improved nutrition have played a critical role in reducing child under-five mortality by 67% over the last 30 years.<sup>5</sup> Severe acute malnutrition remains one of the main causes of infant mortality in Madagascar. Cases of moderate acute malnutrition are managed at the community level through Outpatient Nutrition Recovery and Education Center for Malnutrition Acute Moderate (CRENAM) during a cyclical food and nutrition crisis, and severe acute malnutrition cases are managed at the basic health center in Outpatient Nutrition Recovery and Education Center for Severe Malnutrition (CRENAS).<sup>6</sup>

Madagascar pledged to reduce under-five mortality to 20 or fewer deaths per 1,000 live births by 2035 by reducing the leading preventable causes of child mortality, including undernutrition.<sup>7</sup> Some programs and projects that have supported or are supporting nutrition effort in Madagascar include:<sup>8</sup>[Error! Bookmark not defined.](#)

1. Project SANOI: this project is funded by the European Union and The Commission of Indian Ocean.
2. Project PENIM: This education project on nutrition in urban areas is implemented by GRET and is now closing.
3. Tosika Fameno: This government initiative is financed in part by the World Bank and implemented by the Fonds d'intervention pour le développement (FID), which is a public institution. It was a post-COVID project aimed at supporting vulnerable households and is part of the unconditional cash transfer project of the World Bank. The focus of the project is mainly on the nutritional status of children in vulnerable households.
4. Filets Sociaux Urbains, or HARATONAINA: this project (2021–2024) is financed by the World Bank and implemented by the FID. It targets the protection of children's health and nutritional status by supporting urban households.
5. Vasty Tsinjo: This is a government project initiated by the Presidency and aimed at supporting victims of disasters. It was last active in 2022 during the cyclone BATSIRAI and similar initiatives are expected soon.
6. Kaly Tsinjo: This is a government initiative (also by the Presidency) that consists of selling very cheap cooked foods to people in multiple places (mainly in vulnerable sites).
7. Tsena Mora ("cheap market" in English): This is also a government initiative by the Presidency, consisting of selling very cheap goods (including foods) to the general population. It happens each semester, but the date is not yet known.
8. Fiovana: This USAID Bureau for Humanitarian Assistance (BHA) Resilience and Food Security Activity (2019–2024) is designed to achieve sustainable improvement of food and nutrition security and resilience of vulnerable populations in two regions of southeastern Madagascar (Vatovavy-Fitovinany and Atsimo-Atsinanana).
9. Maharo: This BHA activity prevents and reduces acute food insecurity among the most vulnerable people, households, and communities in the Androy and Atsimo-Andrefana regions.
10. Supporting Health Outcomes through Private Sectors (SHOPS) Plus Activity-SHOPS Plus: This project (2019–2024) focuses on expanding access to and use of priority family planning and reproductive health products.

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<sup>5</sup> Office Nationale de Nutrition and United Nations Children's Fund. (2017). *Madagascar Nutrition Investment Case*.

<sup>6</sup> Republic of Madagascar. (2017). *National Action Plan for Nutrition-III 2017–2021*.

<sup>7</sup> United Nations Children's Fund. (2020). *Nutrition, for Every Child: UNICEF Nutrition Strategy 2020–2030*.

<sup>8</sup> The nutrition profile conducted by USAID in 2021, using the Multiple Indicator Coverage Survey 2018.

11. Improving Nutrition Outcomes using the Multiphase Programmatic Approach: This World Bank-funded program (2018–2023) seeks to increase utilization of an evidence-based package of reproductive, maternal, and child health and nutrition interventions and to improve key nutrition behaviors known to reduce stunting in targeted regions, as well to provide immediate and effective response to an eligible crisis or emergency. The program supports nine regions in Phase 1 and the additional four regions of Androy, Anosy, Atsimo-Atsinanana, and Atsinanana.
12. Accessible Continuum of Care and Essential Services Sustained (ACCESS): This five-year project (2018–2023) seeks to accelerate sustainable health impact in 78 districts across 14 regions.
13. BHA contribution to UNICEF: This work was implemented from 2021–2022.
14. BHA Contribution to the World Food Programme: This was also implemented 2021–2022.
15. Community Capacity for Health Program (Mahefa Miaraka): This USAID program (2016–2021) increases access to and use of key health services, including maternal, neonatal, and child health; family planning and reproductive health; malaria prevention and treatment; water, sanitation, and hygiene; and nutrition.
16. Fagnavotse program: An integrated social protection program, funded by the UN Joint SDG Fund, and the Foreign, Commonwealth and Development Office of the United Kingdom and Norway (program has ended).<sup>9</sup>
17. Other projects/programs include: Health Policy Plus, Frontier Health Markets, and Country Health Information Systems and Data Use (all funded by USAID).

According to the UNICEF Nutrition Strategy 2020–2030, which is guided by the Convention of the Rights of the Child and supports the goals of the 2030 Agenda for Sustainable Development, the health system is a key delivery platform for the prevention and treatment of malnutrition, providing multiple contact opportunities with children, adolescents, and women. As such, health systems need to promote nutritious and safe diets, deliver preventive nutrition services, treat severely undernourished children, and foster positive nutrition practices in households and communities.<sup>7</sup>

A two-pronged approach of rolling out immunization and nutrition programs together significantly increases the number of people reached and reduces delivery costs.<sup>4</sup> The integration of immunization and nutrition interventions increases the chances of countries to reach missed communities with a full course of primary health care interventions. An example is the administration of vitamin A during polio vaccination campaigns across Angola, Chad, Côte d’Ivoire, and Togo, where coverage for both vitamin A and polio vaccination the second year exceeded 90%.<sup>4</sup> Through an integration approach, countries can gain efficiencies and multiply their strengths to identify and reach missed communities and vulnerable populations. This approach also makes it easier and less costly for families and children to access these services.<sup>2</sup> Moreover, immunization has proven to lower rates of child malnutrition in high-risk populations. A study in areas with high proportions of refugees in Ethiopia found that high measles vaccination coverage was linked to lower rates of acute malnutrition in children under five. For every percentage point increase in measles vaccination coverage, there was an associated 0.65% decrease in the rate of acute malnutrition in these areas.<sup>4</sup> In Kenya, children who were up to date with routine immunization were 27% less likely to be stunted, and in Indonesia children who lived in communities with higher levels of immunization were also less likely to be undernourished.<sup>4</sup> For these reasons, Gavi and SUN partnered to launch the innovative two-pronged health care approach, a game-changer in supporting communities to be resilient to future pandemics, especially for vulnerable people including women and children.<sup>4</sup>

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<sup>9</sup> World Food Programme. (2022). Madagascar, Formative Evaluation of Integrated Social Protection Programme in the South of Madagascar (Joint SDG Fund).

Therefore, it is important to understand the current practices to reaching zero dose children through the integration of immunization program with nutrition services in Madagascar, its associated challenges, and the right tools that can be leveraged to reach zero dose children with immunization and nutrition services. **To achieve this, the immunization team of the MOMENTUM Country and Global Leadership project (MOMENTUM) conducted a human-centered designed (HCD) workshop in four different pro-equity areas of zero dose, birth dose, missed opportunities for vaccination, and urban vaccination, by bringing together key stakeholders in immunization from Antananarivo and Moramanga districts to a brainstorming session.** Antananarivo and Moramanga districts were selected because they are among the 41 districts with the highest number of zero dose children in Madagascar and are mostly likely among the districts with high prevalence of malnutrition among children under five years of age.<sup>4</sup>

## 2. WHO SHOULD USE THIS REPORT

This report is to be used by the EPI team, including partners and donors, at national, regional, and district levels (Antananarivo and Moramanga districts) of Madagascar. The report will be shared with the nutrition team and partners in nutrition and food program in Madagascar. It will also be shared with MOMENTUM teams at their headquarters and with the immunization and nutrition focal persons at USAID headquarters and the USAID Mission in Madagascar. The purpose of sharing this report with these stakeholders is to stimulate the initiation of discussions on how to improve integration of nutrition and immunization services in Madagascar.

## 3. OBJECTIVES AND EXPECTED OUTCOMES

### 3.1. OBJECTIVES

1. To establish from EPI managers, health facility service providers, community leaders, and caregivers, the current practice of integration of immunization and nutrition services in Antananarivo and Moramanga districts of Madagascar.
2. To understand from EPI managers, health facility service providers, community leaders, and caregivers, the challenges, or barriers to the integration of immunization services with nutrition services in Antananarivo and Moramanga districts of Madagascar.
3. To facilitate the design of co-created solutions or ideas and enablers from EPI managers, health facility service providers, community leaders, and caregivers, for the integration of immunization services with nutrition services in Antananarivo and Moramanga districts of Madagascar.

### 3.2. EXPECTED OUTCOMES

1. Established from EPI managers, health facility service providers, community leaders, and caregivers, the current practice of integration of immunization and nutrition services in Antananarivo and Moramanga districts of Madagascar.
2. Understood from EPI managers, health facility service providers, community leaders, and caregivers, the challenges, or barriers to the integration of immunization services with nutrition services in Antananarivo and Moramanga districts of Madagascar.
3. Design of co-created solutions or ideas and enablers from EPI managers, health facility service providers, community leaders, and caregivers, for the integration of immunization services with nutrition services in Antananarivo and Moramanga districts of Madagascar.

## 4. METHODOLOGY

### 4.1. PLANNING MEETINGS

The MOMENTUM team in Madagascar and Baltimore met several times to plan for the HCD workshop. A team was assigned to Antananarivo district and another team to Moramanga district. Each team was comprised of MOMENTUM members and national EPI representatives. A note taker was assigned to the team of facilitator to assist with note taking during the workshop and the compilation of the final output from the workshop.

### 4.2. LOCATION AND DELIVERY STRATEGY

The HCD workshop was conducted in Antananarivo and Moramanga districts, and the session in Antananarivo included the component of integration of immunization and nutrition. The districts were selected because they are among the 41 districts with the highest number of zero dose children in Madagascar. The MOMENTUM team worked with the district EPI managers from Antananarivo and Moramanga and identified a suitable venue within the district for the workshop. The workshop took place in October 2022 and each session lasted for three days.

The facilitators at the workshops were the MOMENTUM members in Madagascar and Baltimore, USA, and representatives of the national EPI team in Madagascar. Participants at the workshops were the regional and district EPI managers (2) and UNICEF, the health facility immunization service providers, the community leader, and caregivers and representatives from civil society organizations (CSOs). Nutrition focal persons were among the expected participants; unfortunately, they could not participate because of competing priorities. Integration of immunization and nutrition was one of the thematic areas in routine immunization that participants discussion. Some of the thematic areas discussed at the workshop for zero dose vaccination include: 1) identify (zero dose children and zero dose communities); 2) reach/access to vaccination (geographical, political, cultural etc.); 3) service delivery (human resources, vaccines, and logistics); 4) advocate/demand for service/community engagement; 5) measure, monitoring, and use of data for action; 6) integration with nutrition interventions/program; 7) integration with other health interventions/programs; 8) private health facilities engagement in immunization; and 9) market vaccination. This is aligning with and builds upon the IRMMA Framework (Identify, Reach, Measure, Monitor, Advocate) used by Gavi to address zero dose status.





## 4.3. AGENDA

The outline of the agenda for the three-day workshop sessions was as follows.

### DAY 1:

1. Presentation of key findings from key informant interviews (KIIs) based on a pro-equity area conducted in a district
2. Synthesis and analysis of information from the KIIs
3. Identification of key challenges/barriers to reaching the un-reached children in the communities, referring to other source of data aside from the KIIs (e.g., surveys, supportive supervisory findings, monitoring, and life experiences on the field)

### DAY 2:

1. Recap of Day 1
2. Generation of ideas to address the key challenges identified
3. Selection of key ideas
4. Prototype design for each idea

### DAY 3:

1. Recap of Day 2
2. Prototype testing and evaluation
3. Collation of key challenges or barriers based on agreement/feedback
4. Collation of solutions or ideas based on final challenges or barriers
5. Collation of prototypes to ideas or solutions
6. Next steps

The modes of delivery of the workshop sessions were: presentations, group exercises, plenary, and discussion. Items used at workshop were: flip charts, boards, marker, writing notes for each participant, pen for each participant, projector, and printer and photocopier.



## 4.4. TEMPLATE FOR DOCUMENTATION AT THE WORKSHOP

A template was designed to document key challenges, enablers, and initial ideas or solutions for each persona on the integration of immunization and nutrition services in addition to other themes. The personas at the workshop were EPI managers (national, regional, and district); health facility service providers; community leaders and caregivers; and representative of CSOs. There were four groups, with each group representing a persona. The personas reported on this template in Malagasy. The note taker assigned to each team of facilitators translated from Malagasy to French and then to English. The English version was reviewed and finalized by the MOMENTUM immunization team.



Each groups made presentation at plenary. Presentations were discussed and feedback provided to each group. The groups then incorporated the feedback into their work and submitted the final work to the note taker, who compiled all of the work into a template. Once compiled, it was further reviewed, edited, and formatted by the MOMENTUM team in Madagascar and Baltimore, USA.

## 4.5. WORKSHOP EVALUATION

An evaluation of the workshop was carried out by the participants on the last day of the workshop. Participants were asked to provide feedback on what went well, what did not go well and make recommendations. A compilation of the feedbacks is as shown below.

### 1. WHAT WORKED WELL:

1. Presence of competent facilitators and trainers, who had good knowledge of the topics discussed. They guided discussion in the workshop well.
2. The workshop was more participatory, as more time was given to group work and discussion. There was an in-depth probe of problems.
3. The workshop provided an opportunity for participants to understand the concept of personas and the views on immunization services, and stimulated discussion on the barriers and ideas on demand and supply of the immunization service to reaching the zero dose children and communities. It was an opportunity for a co-creation of ideas or solutions by the personas to identify problems.
4. The workshop was excellently organized and conducted, and materials were sufficient.

### 2. WHAT DID NOT WORK WELL

1. Poor time management.
2. Many thematic areas to be addressed for zero doses.
3. Poor quality of food.

### 3. RECOMMENDATIONS

1. In subsequent workshops, involve mothers of un- and under-vaccinated children, religious leaders, and private health facilities and other CSO entities.
2. Extend each training session to four or five days to have effective ideas.
3. Stick to four themes per program area of intervention per workshop.
4. Scale up the workshop so all districts of Madagascar benefit from the HCD approach.
5. There should be a workshop every three months.
6. Training of EPI team on zero dose concept and the strategies.

### 4.6. FACILITATORS EVENING MEETING

Every evening, facilitators met to review and discuss what went well and what did not go well. Issues raised were discussed and solutions given for better performance the next day.

### 5. WORKSHOP FINDINGS

The challenge with integration of immunization and nutrition services is that integration of immunization and nutrition services occurs only in few health care centers (CSBs). The services that were integrated were administration of vitamin A supplements, breast feeding counseling, growth monitoring, referral of severe acute malnourished children to the center for management of severe acute malnutrition and conduct of joint monthly meetings between immunization service providers and nutrition focal persons. A key solution and how to carry the solution as identified by the stakeholders in the workshop are in the table below.



**TABLE 1: INTEGRATION OF IMMUNIZATION AND NUTRITION**

Thematic Area	Solution	How to carry out the solution
<b>Integration with nutrition interventions/ program</b>	<ol style="list-style-type: none"> <li>1. Integration of nutrition services in CSBs that do not yet integrate nutrition and immunization services</li> <li>2. Community engagement</li> </ol>	<ol style="list-style-type: none"> <li>1. Train health workers in all health facilities on integration of immunization and nutrition services.</li> <li>2. Hold monthly meetings between immunization and nutrition officers at district and health facility levels.</li> <li>3. Conduct quarterly coordination meetings at the national and regional levels between EPI team and nutrition team.</li> <li>4. Conduct mapping of nutrition/food programs existing in the country.</li> <li>5. Develop a road map for integration of immunization and nutrition services.</li> <li>6. Sensitize community leaders on available nutrition and immunization services, so they can mobilize their community to demand for these services.</li> <li>7. Make nutrition supplements available to caregivers during immunization sessions. Caregivers will feel appreciated and motivated to ensure their children complete their vaccination schedule, and will help mobilize other caregivers to have their children vaccinated against vaccine-preventable diseases. Ultimately, the micronutrient requirements of the children will be boosted.</li> </ol>

## 6. SWOT ANALYSIS OF THE WORKSHOP

### 6.1. STRENGTHS

- Participation of EPI Department (DPEV) leadership at national, regional, and district levels in the planning and coordination of HCD workshop at Antananarivo
- Provision of translators attached to non-French speaking facilitators
- Logistical and administrative support provided by Jhpiego office in Madagascar
- Participation of community leaders
- Participation of CSOs

### 6.2. CHALLENGES

- Language barrier for the non-French facilitators, despite the presence of translators, making the sessions require additional time for translation

### 6.3. THREATS

- Several competing activities distracted some of the national, regional, and district managers at the workshops

## 6.4. OPPORTUNITIES

- Existence of non-health ministries for integration of services
- Existence of nutrition/food programs in the country for integration with immunization
- Existence of radio station owned by CSOs that are ready to provide free services for immunization and nutrition

## 7. CONCLUSION AND WAY FORWARD

The HCD workshop provided a platform for key immunization stakeholders in Antananarivo to come together to brainstorm on the challenges and solutions for the integration of immunization and nutrition services to reach the zero dose children in Antananarivo district. The MOMENTUM immunization team is proposing the following way forward following the HCD workshop:

1. EPI team in Antananarivo to meet with key nutrition stakeholders and deliberate on how to implement the co-designed solutions in the district.
2. National EPI managers to call for a meeting with the national nutrition team to review the findings from the HCD workshop to agree on a roadmap or action plan for the integration of immunization and nutrition services.
3. National EPI team to conduct mapping of partners in nutrition or food programs for possible engagement meeting to identify areas of integration of the two programs.
4. MOMENTUM immunization team and nutrition team to review the findings from the HCD workshop to identify solutions or activities they can implement that are covered or can be accommodated in their Year 4 workplan and budget.



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