



Kingdom of the Netherlands



NOURISHING A NEW GENERATION IN RWANDA

Scaling-up the point-of-use fortification programme nationwide



FIELD REPORTS

Lessons from improving
nutrition at scale

Rwanda is the first country in Africa to scale-up a national integrated point-of-use fortification programme, aiming to improve the diets of all children aged 6–23 months. Point-of-use fortification programmes provide micronutrient powders (MNPs) to enrich children’s foods with essential nutrients. They are an effective means of promoting healthy growth and can be a key component of comprehensive programmes to improve child feeding practices.

In just six years, Rwanda’s programme was scaled-up systematically to reach all 30 districts in the country as part of the National Food and Nutrition Strategy to improve child nutrition. Supported by a partnership between UNICEF and the Government of the Netherlands, this story of nationwide scale-up holds valuable lessons for other countries.

The imperative to improve the quality of children’s first foods

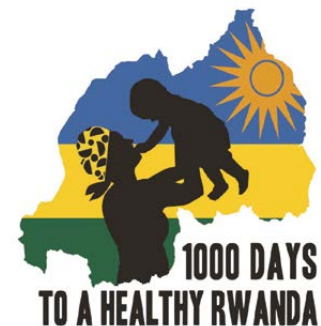
The nutritional status of children in Rwanda has improved steadily in recent years, with a decline in stunting from 44 per cent in 2010¹ to 38 per cent in 2014–2015.² Yet, faster progress is needed to achieve the Government of Rwanda’s target of reducing stunting to 19 per cent among children under age 5 by 2024.³ Micronutrient deficiencies continue to be a pressing challenge. Anaemia affects 37 per cent of children aged 6–59 months in 2014–2015.² Inequalities also persist between districts in the country and greater efforts are needed to ensure that all Rwandan children have the same opportunities to grow, develop and learn.

The Rwandan diet is primarily plant-based and consequently children’s diets tend to be low in calories, essential amino acids, fats and micronutrients. This low nutrient density makes it difficult to meet young children’s nutritional needs during a critical developmental period.⁴ Indeed, in 2014–2015, less than one in five Rwandan children aged 6–23 months was fed the minimum acceptable diet^{2,5} – that is, enough meals from a diverse range of food groups to ensure optimal growth and development.

A commitment to improving nutrition in the land of a thousand hills

The Government of Rwanda has made extensive efforts to improve maternal and child nutrition by equitably scaling-up nutrition programmes and strengthening national policy frameworks to foster

an enabling environment. The government has also supported innovations, including a national behaviour change communication initiative – the *Thousand Days in the Land of a Thousand Hills* campaign – to improve maternal and young child nutrition in the first 1,000 days of life.



Guided by global evidence and recommendations, the Government of Rwanda developed the 2013 National Food and Nutrition Strategy, with support from UNICEF and other partners, to eliminate stunting and other forms of malnutrition. A key component of this multisectoral strategy was improving infant and young child feeding practices and the quality of children’s diets. The strategy was translated into operational plans at the district level – known as District Plans to Eliminate Malnutrition – that brought together different stakeholders and sectors (including agriculture and water, sanitation and hygiene) and guided and monitored implementation.

Point-of-use fortification using micronutrient powders (MNPs) was prioritized as a key component of the Government of Rwanda’s plan to improve infant and young child nutrition, given the effectiveness of these programmes in improving the quality of young children’s diets and preventing vitamin and nutrient deficiencies (See box - ‘Why MNPs?’).

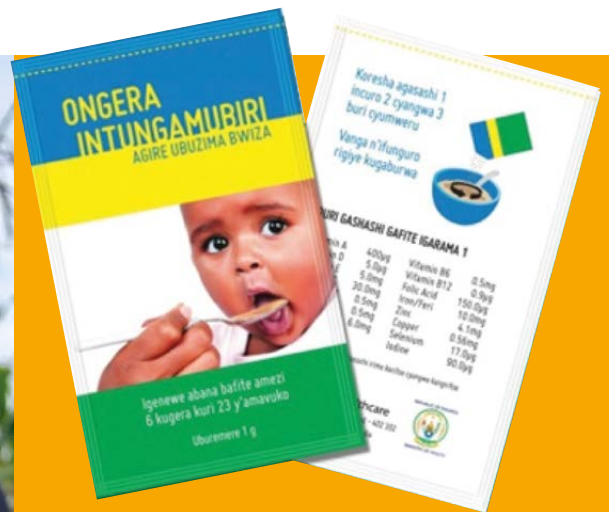


Why MNPs?

MNPs are single-dose packets of micronutrients (i.e., vitamins and minerals) in powder form that can be added to young children's foods to improve dietary quality. Given that MNPs can be used to fortify a range of homemade foods, their use is referred to as point-of-use fortification.

Children under age 2 should ideally receive all the vitamins and nutrients they need from breastmilk and nutritious complementary foods. However, in settings where access to nutritious diets is limited and breastfeeding and complementary feeding practices are poor, MNPs have the potential to improve the nutrient content of children's diets, prevent micronutrient deficiencies, such as iron deficiency and anaemia, and support growth and development. To maximize their reach and impact on nutritional outcomes, MNPs should always be integrated into broader strategies to improve foods and feeding practices for infants and young children.

Today, UNICEF-supported interventions with MNPs are improving the diets of more than 15.6 million children worldwide.⁶



Designing and packaging MNPs for impact

Aligned messaging and strong brand recognition are essential to ensuring that MNPs are identified, trusted and used.

During the acceptability phase, key informant interviews were used to inform the design of the MNPs package and training materials. The design adopted the colours of the national flag and included a photograph of a young healthy child being fed her first foods. Key informants also proposed names for the MNPs in the local language and agreed on *ongera Intungamubiri*, which means ‘increase of nutrients’ in the Kinyarwanda language. The name has since been shortened to *ongera*. The sachet of MNPs reads: *Increase nutrients for the child to be healthy.*

The design and branding of the sachets also identify the MNPs as a component of the Government of Rwanda’s broader strategy to reduce stunting in the first 1,000 days.

◀ “Nutritionists introduced us to MNPs and their advantages. They support children’s physical and mental growth,” explains Tuyisenge, mother to 23-month-old Delphine.



Experience has shown that it is not enough to simply distribute packets of MNPs to caregivers with instructions: Cultural and personal preferences must be addressed for MNPs to be adhered to and used correctly, with behaviour change communication being key to their successful adoption and use. In practice, this means that the distribution of MNPs should be integrated into existing infant and young child feeding programmes that use counselling and other interventions to improve the quality of foods and feeding and care practices.

Evidence drives strategy

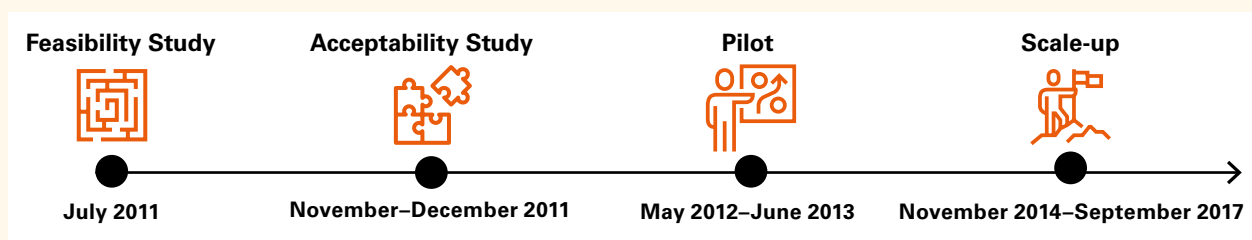
Driven by the strong global evidence base, the Government of Rwanda led and coordinated partners through a multi-phase process to assess the feasibility and acceptability of integrating MNPs into district nutrition plans. The process included: formative research in two districts with key informant interviews and focus groups that led to a 30-day acceptability trial; a year-long pilot project that included an effectiveness study; and a staggered national scale-up.

While MNPs have proven to be low-cost and easy to use, country-specific contextualization is critical for community acceptability of the product, integration into existing infant and young child feeding programmes and effective scale-up.⁷ Through a collaboration with the University of British Columbia, UNICEF provided technical assistance to design and test culturally acceptable strategies prior to implementation.

The multi-phase scale-up of the point-of-use fortification programme

The multi-phase process allowed for gathering data, which proved critical in advocating for support from key stakeholders and decision makers in the country. In particular, early formative research allowed stakeholders to make financial investments in the programme based on evidence about its effectiveness in the Rwandan context.

THE MULTI-PHASE SCALE-UP OF POINT-OF-USE FORTIFICATION IN RWANDA⁸



PHASE 1 → Feasibility

Objectives



- To document relevant knowledge, attitudes, and practices by caregivers, healthcare workers, and community leaders.
- To design and develop key messages for training and communications materials on MNPs.

Programme components



- Formative research in two districts, Musanze and Nyaruguru, including: focus group discussions with 180 mothers of children aged 6–23 months; and 97 key informant interviews with mothers, grandmothers, fathers and health care workers.

Key learnings



- Children's diets are low in animal-source foods (a key source of iron and essential fats);
- Caregivers' knowledge of basic nutrition and complementary feeding practices, such as the recommended meal frequency and consumption of animal-source foods, was weak;
- Caregivers expressed a willingness to add MNPs to their children's food;
- Preferred information sources included community health workers, local leaders, radios, handouts or posters in health centres and newspapers. Messages must be consistent, clear and frequently delivered if they are to be effective at changing behaviours.

PHASE 2 → Acceptability

Objectives



- To determine the acceptability of MNPs at the household and community levels, and document the relevant infant and young child feeding knowledge.
- To test package designs and the information, education, and communication materials developed in phase 1.

Programme components



- 30-day acceptability trial, where caregivers of children aged 6–23 months from 60 households received MNPs to add to their children's foods. Community health workers were trained to counsel on optimal complementary feeding practices, including the age-appropriate diversity, consistency and quantity of foods, and the use of MNPs. Community health workers then counselled caregivers, using cooking demonstrations and education sessions. Questionnaires were administered to caregivers at baseline, after 10 days of MNPs usage, and after 30 days of MNPs usage to assess knowledge, attitudes, and practices related to complementary feeding and MNPs. Product branding was also developed with feedback from the focus groups (*See box - 'Designing and packaging MNPs for impact'*).

Key learnings



- Many mothers noted an improvement in their child's appetite and activity level after the 30-day period and perceived this as very positive.
- Messaging promoted the addition of MNPs to 'family foods' including potatoes, ideally mixed with other vegetables and oil, or available animal-source foods when possible.
- Training of community health workers must be repeated in regular refresher sessions to build their capacities as nutrition educators.



PHASE 3 → Piloting

Objectives



- To evaluate the effectiveness of protocols for home fortification with MNPs at reducing anaemia in children aged 6–23 months and improving caregivers' knowledge about infant and young child feeding.
- To identify opportunities and challenges with acceptability, utilization, and adherence.

Programme components



- Findings from phases 1 and 2 were used to refine training materials and strategy. A year-long pilot programme was undertaken, including an effectiveness study with 1,066 children. A quasi-experimental design was used to compare two pilot districts (Musanze and Nyaruguru) with two comparison districts (Nyamagabe and Burera). The pilot programme targeted children aged 6–12 months to ensure they would remain in the target group throughout the entire pilot. Caregivers of the children in pilot districts were provided with MNPs and an adherence schedule. Questionnaires were used to assess feeding practices, morbidity, acceptability of MNPs, anthropometric measurements and iron levels at baseline, 6 months and 12 months of implementation.

Key learnings



- Most caregivers (>84 per cent) reported that children receiving MNPs had increased appetite and activity levels, and improved health.
- MNPs were widely accepted by caregivers, with >95 per cent reporting that they would continue giving MNPs to their children. All caregivers reported that their community and family members were supportive. There was increased awareness about anaemia and iron-rich foods among caregivers in the pilot group (50 per cent could identify iron-rich foods, versus 33 per cent in the control group) and significantly greater positive change in hemoglobin levels among anaemic children in the intervention group than in the control group at both mid-line and end-line assessments.
- Early on, issues with supply management resulted in stockouts and overstocking, which were later resolved through improvements in monitoring systems.
- Community health workers needed to be well supported by training, reference guides and supportive supervision to facilitate scale-up.



PHASE 4 → Scaling-up

Objectives



- To implement the programme at national scale in Rwanda, and to transition towards a sustainable system supported by the Ministry of Health.

Programme components



- Results from the earlier phases were used to design a national integrated point-of-use fortification strategy, including: 1) capacity building of health service providers; 2) monitoring and evaluating supply and distribution; 3) and social mobilization via the Thousand Days in the Land of a Thousand Hills initiative and the District Plans for Elimination of Malnutrition.
- Seven implementing partners facilitated integration of MNPs within infant and young child feeding programmes through supervision. Health centre staff were trained on MNPs, child feeding and care, and sanitation and hygiene practices using a cascade model (see page 8). Community health workers were supported with regular supervisory visits by health facility staff.
- Implementation was staggered over three years. UNICEF delivered MNPs to district hospitals; and district hospitals and implementing partners distributed supplies to health centres, which community health workers then delivered to communities.
- MNPs were provided to caregivers during monthly nationwide growth monitoring and promotion activities and cooking demonstrations. Community health workers trained caregivers on the use of MNPs, during counselling sessions on nutritious diets and recommended feeding practices. Health workers provided monthly reports on participation, which were consolidated at health centres and district hospitals.
- An April 2016 survey assessed caregiver practices and the acceptability of MNPs; and a programme assessment reviewed delivery channels, adherence, usage and coverage to guide future operations. The supply chain was examined for efficiency, and improvements were made to trainings and reporting.

Key learnings



- Full integration of MNPs into routine systems takes time and should be part of a larger effort to strengthen supply chain management for nutrition and health commodities.
- Continuous advocacy is needed to sustain the commitment of government and partners.

District by district, from pilot to scale-up

The programme has expanded year after year, covering 12 districts in 2015, followed by 19 districts in 2016, achieving nationwide coverage of all 30 districts by 2017.

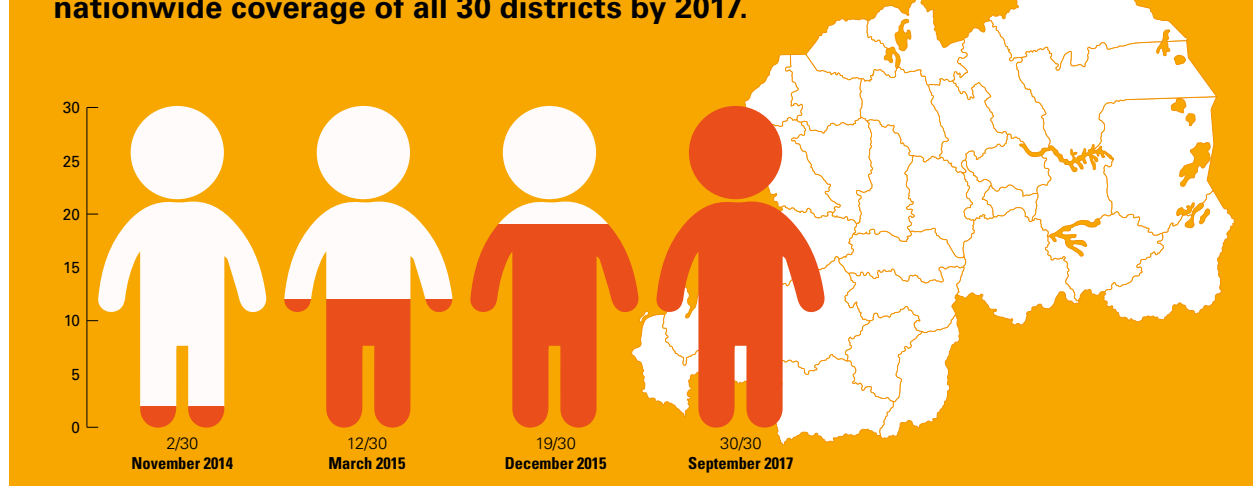


Figure 1: Led by the Government of Rwanda, several partners were involved in the scale-up of the national MNP programme. Funding partners were: Government of the Netherlands, IKEA foundation, Swiss Development Cooperation and UNICEF. The Government of Rwanda supported programme implementation in 14 districts and NGO partners supported implementation in 16 districts: Access to Health Project (4 districts), Adventist Development and Relief Agency [ADRA] (2 districts), CARE (2 districts), Catholic Relief Services (2 districts), Concern Worldwide (2 districts), World Relief (2 districts), World Vision (2 districts).

District by district, from pilot to scale-up

Scale-up began in 2014, with the two districts included in the initial pilot. By March 2015, the programme was being implemented in an additional ten districts, and by September 2017 the programme had reached full scale, covering all of Rwanda's 30 districts and ensuring equitable access to this intervention (*Figure 1*).

The three-year scale-up involved training and capacity building of health service providers using a cascade model, where master trainers from the Ministry of Health trained hospital staff, who then trained health centre staff, who then trained community health workers, who then counselled caregivers. At district level, community health workers were further supported by regular supervisory visits from health facility staff, who reinforced knowledge and messages.

The process for selecting districts for scale-up was based on programme funding and levels of stunting, poverty and household food insecurity. Learning meetings between all stakeholders were organized to discuss progress and challenges encountered

during the implementation phase, allowing partners working in different districts to learn about best practices for improving the coverage and quality of the programme.

As of September 2017, Rwanda became the first African country to achieve national coverage of a point-of-use fortification programme. UNICEF provided technical support to the Government of Rwanda throughout its programme scale-up, with investments from the Government of the Netherlands, IKEA Foundation and the Swiss Development Cooperation.

In 2017, more than 1.6 million boxes of MNPs were procured and distributed to about 432,000 children aged 6–23 months, reaching almost 80 per cent of all targeted children nationwide (*Figure 2*).

The knowledge transferred to government through cascade trainings reached more than 30,000 service providers between 2014 and 2017 (including facility and community health workers, from central to district level), increasing their capacity to support point-of-use fortification and improved infant and young child feeding practices. More than 430,000 caregivers benefitted from cooking demonstrations with

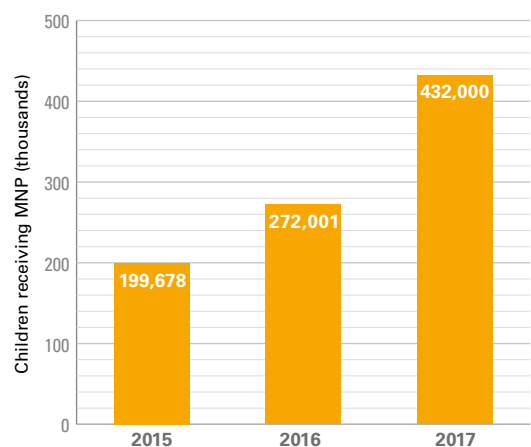


Figure 2: Number of children aged 6–23 months reached with MNPs (2015–2017)⁹

community health workers throughout the scale-up period, providing an opportunity to reinforce messages about the recommended age-appropriate diversity, consistency and quantity of foods for young children.

Indicators on the use of MNPs were also integrated in the national information system, with data being collected at community and health facility level. Leveraging the existing information system was an efficient use of resources and helped to maintain the consistency and quality of the data.

Fostering national ownership and sustainability

The scale-up of Rwanda’s point-of-use fortification programme was designed with transfer to full government ownership in mind. Specific plans and investments were made to ensure that national systems were strengthened and communities were engaged to foster sustainability. UNICEF took the lead in supply management of MNPs at the start of the programme, covering forecasting, procurement, warehousing, distribution to caregivers and reporting, until national scale was reached. Plans were in place from the beginning to transfer leadership to the

government, and gradually, these functions were assumed by national systems, funded partially by domestic budgets (See *Key Pillars below*).

Cascade trainings were critical in transferring knowledge to government and health workers. UNICEF also advocated for MNPs to be included in the list of essential medicines and tracked within the electronic logistical management information system. This allowed for their requisition at the same time as other commodities and medicines. Various trainings were organized for district pharmacists to inform them about the new product and the process of requisition and distribution. A monitoring exercise was also conducted to assess the supply chain of MNPs (along with other nutrition commodities) from central level to caregivers, with findings and recommendations for improving the supply chain disseminated to stakeholders.

The Government of Rwanda’s strong commitment to this approach – combined with the backing of partners, especially the Government of the Netherlands – drove each step of the process and fuelled momentum for scale-up. Moving forward, it will be important to establish a predictable and sustainable funding stream to support this national programme.

Better diets, brighter futures

Three years after the programme was introduced, a survey conducted in two of the initial districts showed improvement in feeding practices.¹⁰ Children receiving MNPs were more likely to be fed the minimum acceptable diet than children not receiving MNPs. Indeed, 23 per cent of children who received MNPs were eating the minimum acceptable diet, compared with 12 per cent of children who did not receive MNPs.

The survey findings from the two districts also showed a significant decline in anaemia prevalence among children aged 6–23 months, from 40 per cent at baseline to 22 per cent after an average of 27 months of programme implementation.

KEY PILLARS OF NATIONAL OWNERSHIP:

- MNPs included in the **essential medicines list**
- MNPs distributed through a government-led **supply chain**
- MNPs included in **district implementation plans**
- MNPs integrated as part of **trainings and messaging** on child feeding

Bottlenecks: Clearing the path for quality scale-up

The scale-up journey in Rwanda was not always smooth, and at each stage, UNICEF and partners responded to important bottlenecks:

Supply – Stock-outs of MNPs occurred in some areas, while other areas experienced problems with spoilage due to overstocking or poor storage conditions. To improve the supply and coverage of MNPs in these areas, UNICEF and partners provided technical assistance and supportive supervision to sensitize health workers on storage safety.

Distribution – Delays in distribution to district hospitals and health centres at times meant caregivers were not receiving their MNPs in a timely manner. In response, UNICEF and implementing partners provided support to streamline distribution and facilitate a continuous supply.

Monitoring – Community health workers initially found the programme monitoring tools complicated to use, leading to delays in reporting. Following feedback, the monitoring tools were revised to be more user-friendly.

Adverse effects – There was a misconception among some caregivers that MNPs could cause undesirable side effects, such as diarrhoea and vomiting. UNICEF and implementing partners responded promptly to dispel these concerns through community sensitization and education, aided by health workers.

Communication – Inconsistencies in messaging were observed among districts, and in response, a reference guide was developed to align communication from community health workers.

Lessons learned

The nationwide scale-up of Rwanda's point-of-use fortification programme offers important lessons for countries:

Use formative research to inform programme design: Understanding the context, knowledge, attitudes and practices around infant and child feeding is critical. This includes assessing the acceptability of MNPs and considering how to best integrate their use into infant and young child feeding programmes. The more contextually appropriate the messaging, the higher the compliance with the guidelines for the use of MNPs.

Integrate MNPs into a wider approach to improve child feeding: Rwanda's experience has shown that integrated programmes, as part of a comprehensive national policy, can improve both dietary quality and feeding practices.

Develop strong communication messages and use multiple complementary channels: A communication strategy based on formative research should be developed and implemented to achieve wider recognition and better understanding of the programme and its benefits for child nutrition, health and development. Caregivers must see the use of MNPs as an intervention supported by the government and health professionals, not only community health workers.

Build community participation: Involvement of local government, community and religious leaders is crucial for programme uptake. Community health workers should actively inform users about potential undesirable effects of MNPs, such as dark stools, that may affect compliance and acceptance. Awareness raising in the community and testimony from district and health centre staff about improvements to child nutrition, health and development can be beneficial.

Invest in district-level capacity: Strengthening district-level capacities to implement District Plans to Eliminate Malnutrition helped translate national policy goals into tangible actions. All facility and community health workers were specifically trained in point-of-use fortification using MNPs to support integration into infant and young child feeding programmes.

Monitor regularly, follow up closely: Routine analysis of monthly data and supportive supervision visits are important to assess the quality of the data and identify reporting errors. Indicators of MNPs use should be included in local and national management information systems to track progress more effectively.

Coordinate and nurture diversified partnerships to support scale-up: UNICEF mobilized donors to address funding gaps and coordinated different civil society groups and non-governmental organizations to support implementation at district level. This coordinating role is demanding, requiring skills and resources, and should be planned and supported throughout the process.

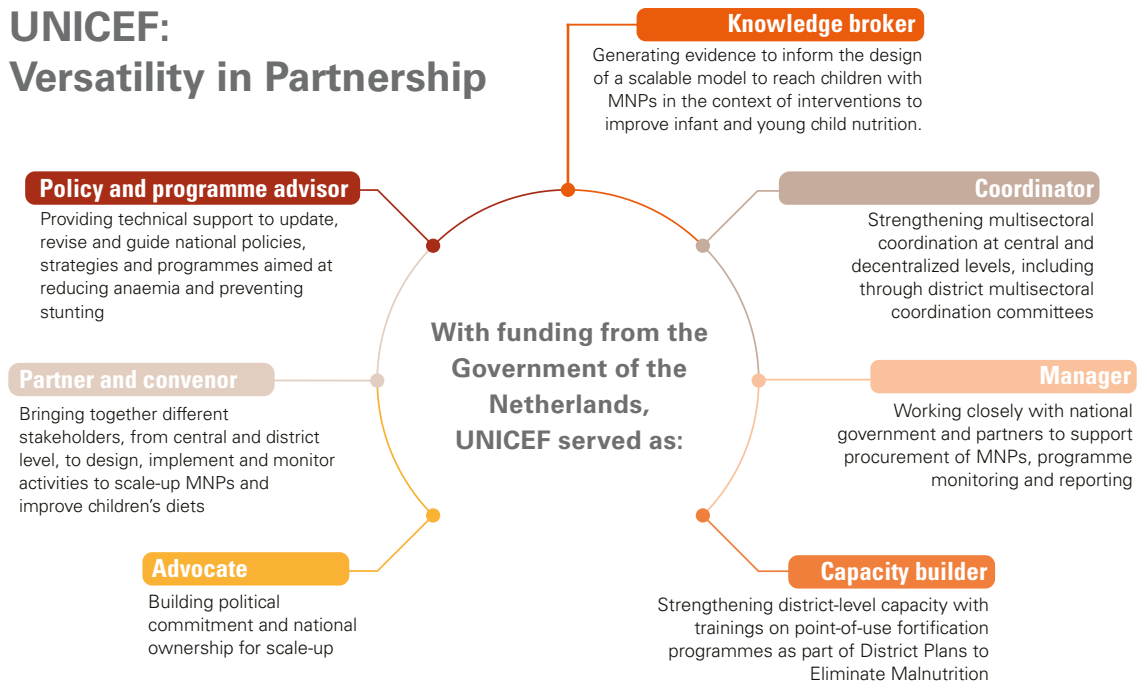
Deliver through national systems: UNICEF planned the programme with the intent to transfer the distribution of MNPs to national systems, which was key to securing government ownership and fostering sustainability.

Every district, every home, every child

With the nationwide scale-up of MNPs, Rwanda is closer than ever to guaranteeing its children a healthy and prosperous future. While the integrated point-of-use fortification programme is reaching every district, work remains to improve coverage and ensure that no child is left behind.

UNICEF will continue to support the Government of Rwanda by mentoring health providers to improve capacity; bolstering the national supply chain to improve the distribution of MNPs; and strengthening the health management information system to ensure that data related to MNPs are collected in a timely manner and used to inform decision-making. Moreover, UNICEF will continue to advocate for a predictable funding stream to sustain this national programme.

UNICEF: Versatility in Partnership



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UNICEF FOCAL POINTS:

Josephine Kayumba, UNICEF Rwanda – jkayumba@unicef.org

Youssef Koita, UNICEF Rwanda – ykoita@unicef.org

COUNTRY TEAM:

UNICEF Rwanda: Kristine Dandaneil Garn; Beatrice Kampirwa; Fortunee Mukamusanga; Denise Uwera; and Ted Maly.

Rwanda Ministry of Health: Alexis Mucumbitsi

PARTNERS:

Government ministries: The Government of Rwanda (Ministries of Health, Gender and Family Promotion, Local Governments, Agriculture and Education).

Implementing partners: Access to Health Project, ADRA, CARE, Catholic Relief Services, Concern Worldwide, World Relief, World Vision.

Research team: University of British Columbia (Canada), Home Fortification Technical Advisory Group

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Nutrition Section, Programme Division
United Nations Children’s Fund
3 United Nations Plaza
New York, NY 10017 USA
Email: nutrition@unicef.org
www.unicef.org

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