Madagascar

Water, Sanitation and Hygiene (WASH) Sectoral and OR+ (*Thematic*) Report

January - December 2018

UNICEF has put in place infrastructures enabling children and families in the South to have access to safe and potable water. © UNICEF/UN0267014/Raoelison

Prepared by:
UNICEF Madagascar
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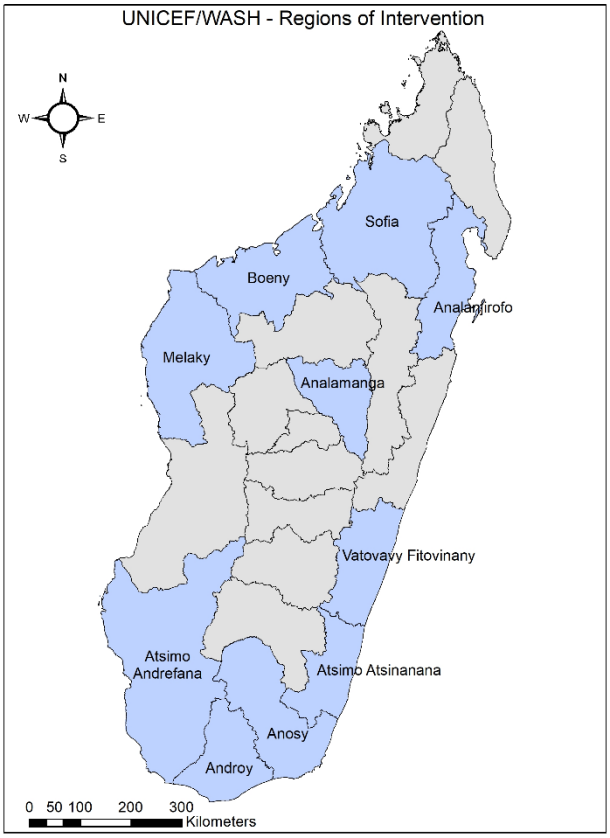
A. Abbreviations and Acronyms

ACF	Action Against Hunger
AFD	French Development Agency
AFDB	African Development Bank
ASWA	Accelerating Sanitation and Water for All
C4D	Communication for Development
CCC	Core Commitments for Children
CLTS	Community-Led Total Sanitation
CO	Country Office
CPD	Country Programme Document
DFID	Department for International Development
ECD	Early Childhood Development
ECHO	European Civil Protection and Humanitarian Aid Operations
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
GDP	Gross Domestic Product
IFAD	International Fund for Agricultural Development
JICA	Japan International Cooperation Agency
JMP	Joint Monitoring Program
MHM	Menstrual Hygiene Management
MICS	Multiple Indicator Cluster Survey
MoWASH	Ministry of Water, Energy and Hydrocarbons
ODF	Open Defecation Free
ORE	Other Resources - Emergency
ORR	Other Resources - Regular
RO	Regional Office
RR	Regular Resources
SDG	Sustainable Development Goals
SESAM	Evaluation and Monitoring Information System
SWA	Sanitation and Water for All
SWAp	Sector-wide Approach
UNDAF	United Nations Development Assistance Framework
USAID	United States Agency for International Development
WASH	Water Sanitation and Hygiene
WASHBAT	WASH Bottleneck Analysis Tools
WHO	World Health Organization

B. Executive Summary

The 2015-2019 UNICEF Madagascar Country Programme (CPD) places a great emphasis on tackling equity issues, focusing on the most disadvantaged children and contributing to the achievement of the 2030 Agenda for Sustainable Development. The UNICEF Country Office concentrated on five main areas for WASH in 2018: (i) Enabling environment, (ii) WASH in Institutions, (iii) Water access, (iv) Sanitation access and (v) WASH in emergencies and resilience. The UNICEF WASH programme integrates the most recent evidence and applies an equity focus in its interventions, targeting 10 out of Madagascar's 22 regions. These regions represent those with the lowest WASH indicators for many years and were identified as the most vulnerable by the Ministry in charge of Water, Sanitation and Hygiene. UNICEF provided support at regional and national levels, through diverse intersectoral strategies, adapted to address issues in a contextualised manner for more equitable impact and with a view to contribute to a sustainable WASH sector and resilience at household level.



The 10 interventions regions for UNICEF Madagascar's WASH programme

In 2018, UNICEF's support to the WASH sector resulted in more than 100,000 additional people abandoning open defecation and more than 86,000 people, including 44,000 women, having gained access to safe and sustainable water services. As the lead of the WASH cluster and provider of last resort UNICEF delivered in 2018 life-saving assistance to more than 290,000 people including 145,000 children. In total since the beginning of the programme in 2015, (i) more than 2.6 million people living in rural areas have ended practicing open defecation (including more than 1,3 million children), (ii) out of them 1,6 million have access to improved sanitation, (iii) more than 650,000 people gained access to safe water, (iv) 342,000 school children (including 164,000 girls) in 3,000 schools drink water and wash their hands with soap every day.

These results would not have been possible without flexible Thematic Funding's contribution to the following key activities, specifically:

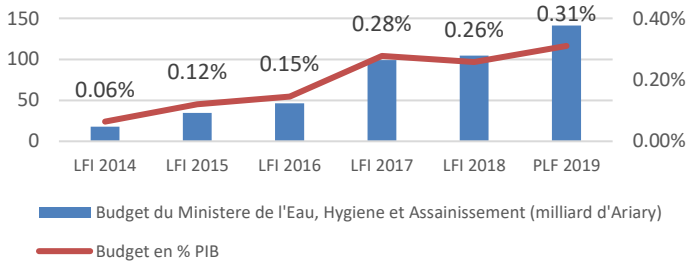
- A real-time monitoring system has been put in place for the 10 UNICEF priority regions
- Students in 64 certified One Star schools are regularly coached by their teachers on drinking safe water, washing their hands and using latrines
- More than 1,700 people gained access to safe and clean water. Major interventions, such as the pipelines, construction works are planned to be completed in 2019 when a significant increase in beneficiary numbers will be observed.
- Thematic funds allocated to the emergency response and those allocated to development programming have been pooled together to implement access to drinking water activities.

C. Strategic Context of 2018

The year 2018 in Madagascar was focused upon the presidential elections. In the built-up, in April 2018, following the population's perceived attempts by the government to modify the constitution in its favour, violent demonstrations broke out in the capital. These demonstrations and a consequent blockade of institutions, creating an atmosphere of political tension, led to the formation of a transitional technocratic government in June 2018. Strikes and public disruption were a feature of this period and major reshuffles took place in key ministries (Health, Water, Education, Justice, Social Protection), leading to a loss or shift of political will, institutional knowledge, and long-term engagement capacity. Andry Rajoelina was declared the winner of the presidential elections on January 8, 2019. UNICEF Madagascar hopes for a peaceful transition, a period of stability, and an enabling environment under the new President. This would allow Madagascar to emerge from the depths of poverty it currently finds itself in[1], and realize its development potential, leaving behind poor governance, weak public and private sector investments, slow human capital development, exploited and wasted natural resources, extremely high poverty and exposure to natural disasters.[2]

Madagascar faces a double challenge where a dire economic situation continuously lowered people's resilience levels and forced a large number of the population to resort to negative coping strategies detrimental to the protection and conservation of the environment. Madagascar's forest area continuously diminishes, from 137 thousand square km in 1990 to 125 thousand square km in 2016.[3] In addition, Madagascar is highly vulnerable to natural disasters and has high average recorded economic damage compared to peers. The average direct annual loss from earthquake, floods, and cyclones is approximately $100 million.[4] Over the past years, Madagascar was hit every year by at least one cyclone and one epidemic (Plague in 2017, Measles in 20018) further to the ongoing drought in the south (since 2015). This drought is a cyclical phenomenon, affecting the 3 southern most regions of the country; exacerbated by El Nino, it has had a severe impact on malnutrition, food security, water availability and consequently the capacity of children to survive and thrive.

This context directly and indirectly affects the water, sanitation and hygiene (WASH) sector. While progress has been made, the current investments on behalf of children, especially the most vulnerable, are not sufficient to ensure the long-term realisation of their rights and for Madagascar to achieve the vision of the 2030 Agenda for Sustainable Development. During the 5 past years, the Government's WASH budget allocation increased from 0.06% to 0.31% of the country's GDP. This represents an eight-fold increase, from 18 billion Ariary (US$5.2 million) in 2014 to 141 billion Ariary (US$40.3 million). The actual allocation per person having access to WASH services has increased from US$0.20 to US$1.50. Despite this positive development, if Madagascar is to realize Sustainable Development Goal (SDG) 6, Water for All, these efforts need to be reinforced. As for now, the country is still far away from the Ngor commitment[5] to allocate 0.5%

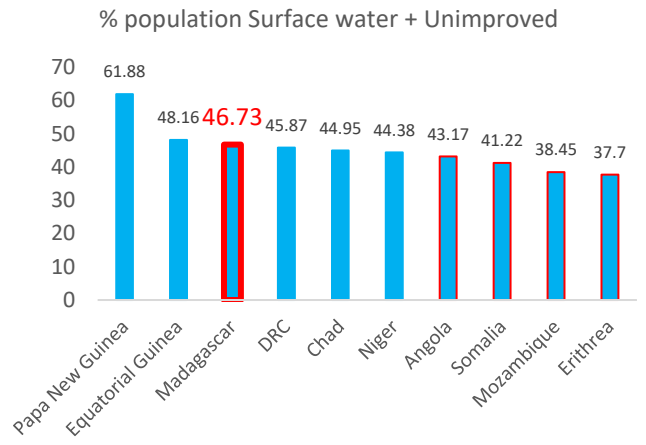


Ministry of Water budget allocation in total value and as percentage of the GDP (Source: Financial law 2014-2018)

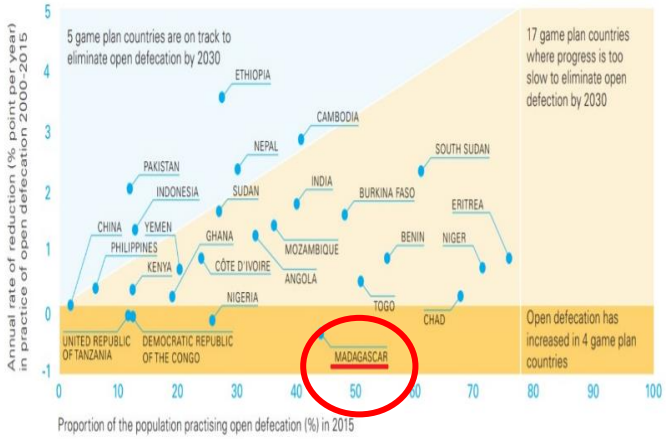
[1] 91 per cent of the population live on less than US$2/ day (Millennium Development Goal Survey 2012)
[2] World Bank, Systematic country diagnostic, 2016
[3] World Bank, World Development Indicators, 2016
[4] IMF Country Report No. 17/223; July 2017
[5] The Ngor Declaration on Sanitation and Hygiene defines clear, achievable commitments intended to deliver dignity and equity in sanitation and hygiene in Africa in the next fifteen years.

of GDP to the sanitation sector by 2020. Most of the budget is allocated for water services infrastructures, while no budget is foreseen for maintenance and very little for sanitation and hygiene. Moreover, to be able to achieve the SDGs, Madagascar will need an investment of at least US$8 to US$10 per person per year. With universal access to improved water, sanitation and hygiene, the estimated benefit for Madagascar is estimated at US$367 million per year, or US$567 million per year if the benefits of reduced stunting are included.[6]

The Ministry in charge of the WASH sector exists only since 2008 but has seen several changes since. Following a previous merger with the Ministry in charge of Energy and Hydrocarbons, in June 2018 it became yet again a standalone Ministry before being remerged with the Ministry in charge of Energy and Hydrocarbons in January 2019. These political instabilities created a significant turnover in the management team of the central ministry as well as in the regional directorates. These frequent periods of transition severely limited the effectiveness of the Ministry to achieve results and pursue a coherent policy.



Source: JMP 2017



Source: UNICEF Open Defecation Free Game Plan 2018

Madagascar is among the worst 10 countries worldwide where the population relies on surface water or unimproved water points to collect water. This concerns almost 47 per cent of the Malagasy population (compared to 28.6 per cent in Sub-Saharan Africa).[7]

The situation is similar for sanitation indicators, where Madagascar ranks among the 10 worst countries with the highest defecation rates: 44 per cent of the population practice open defecation and only 10 per cent have access to basic sanitation. Clearly, Madagascar is not making progress on open defecation and is in fact one of four countries where open defecation is on the rise.[8]

Regarding hygiene, 51 per cent of the population have a basic handwashing facility, which makes Madagascar the country with the highest coverage in Sub-Saharan Africa.[9]

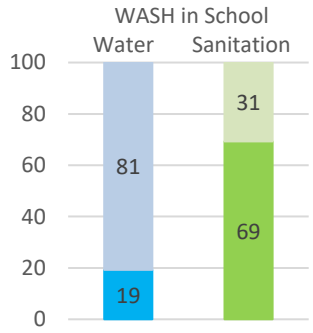
In this context of low water, sanitation and hygiene indicators, Madagascar ranks 4th in the world for the highest rate of chronic malnutrition.[10] Almost one out of two children under five is chronically malnourished, which has severe negative impact on children's

[6] WASH Investment case, MoWASH/UNICEF Madagascar, 2017
[7] WHO/ UNICEF Joint Monitoring Programme (JMP) for Water Supply, Sanitation and Hygiene 2017
[8] UNICEF ODF game Plan 2018
[9] JMP 2017
[10] Millennium Development Goal Survey (ENSOMAD), 2012

brain development and future capacity to learn and be able to live life to their fullest potential.

People in southern Madagascar looking for water at the bottom of a dried-up river bed © UNICEF Madagascar/UN0269082/ Ralaivita

Access to safe drinking water and sanitation is highly inequitable in the country.[11] The greatest inequities can be seen in wealth disparities and geographic location. The overall coverage rate of 51 per cent for access to basic drinking water in Madagascar masks the fact that access has been secured by almost 80 per cent of the top wealth quintile but less than 20 per cent of the bottom quintile. Rural populations are disproportionately deprived. People in rural areas in Madagascar are six times more likely to live without clean drinking water and more than twice as likely to have no access to adequate sanitation as those in urban areas. Only 6 per cent of the rural population in Madagascar have access to basic sanitation (compared to 10 per cent at national level) and 55 per cent practise open defecation (compared to 44 per cent at national level). Moreover, 64 per cent of the rural population in Madagascar relies on surface water and unimproved water points for drinking (compared to 14 per cent in urban areas and 47 per cent nationally), leaving them vulnerable to parasites that cause serious water-borne illnesses, preventing children from attending school and adult from working. The dire situation for water access is particularly felt by children in the drought-prone regions: Girls must spend hours every day accessing water instead of going to school; boys spend hours every day leading cattle to water instead of going to school; and children with diarrhoea can die from dehydration.



Source: JMP 2018

The latest WASH in schools[12] analysis demonstrates that 81 per cent of schools have no access to safe water and 31 per cent do not have basic latrines. Women and girls are disproportionately affected by the lack of access to clean water and basic sanitation. This has especially negative impacts on their health and safety, self-esteem, education and well-being. Women and girls are twice as likely as men to fetch water.[13] This is time that cannot be spent on more productive economic, social and educational activities.

Taking into account this context, and to better address the challenges, UNICEF streamlined its WASH programming under one main strategic outcome area: “By the end of 2019, households and communities have access to safe drinking water, sanitation and healthy environments and good hygiene practices are equitably improved in target regions.” UNICEF also promotes joint UN programming through the United Nations Development Assistance Framework (UNDAF) and delivering as one by partnering with other UN agencies, such as WHO to strengthen the UNDAF’s impact on sector analysis and water safety plan. For larger and sustainable impact, UNICEF partners with governement at all levels (local, regional and national) and works closley with the Ministry in charge of Water, Sanitation and Hygiene as well as the Ministry of Education and Health, municipalities and communities.

[11] JMP 2017 update on SDG baseline
[12] JMP 2017
[13] Stratégie sur l’intégration de l’approche genre et équité dans le programme eau assainissement et hygiène de l’UNICEF à Madagascar (2018)

Results in the Outcome Area

Outcome: By the end of 2019, households and communities have access to safe drinking water, sanitation, and healthy environments and good hygiene practices are equitably improved in target regions

Progress on this outcome is constrained.

Investments with Thematic Funds in 2018

Thematic funds were strategically invested into sustainable access to safe drinking water. UNICEF decided to prioritize and boost interventions in this area to accelerate the achievement of results. In 2018, thematic funds helped to prepare the ground and initiate a substantial number of water infrastructures (e.g. pipelines, mid-scale water systems). As such, thematic funds helped to bridge the gap between emergency responses to the drought in the South of Madagascar and structural responses (water supply facilities including water transfer pipeline projects). The final results, in terms of total number of beneficiaries, have not been achieved yet, as the complexity of these works requires more time. UNICEF expects that in 2019, a significant increase in beneficiary numbers will be observed, following the completion of several key projects to which thematic funds contributed.

UNICEF's theory of change for the WASH sector in Madagascar stipulates that by the end of 2019, households and communities will have access to sustainable safe drinking water, sanitation, and healthy environments and good hygiene practices are equitably improved in targeted regions, if:

- The Ministry in charge of Water and Sanitation and its partners have appropriate WASH policies, strategies, plans, budgets and monitoring systems (**Enabling environment**)
- Women, children, their families and students in targeted areas know the importance of ending the practice of open defecation, the critical times for handwashing with soap and water treatment at home and the use of sustainable water (**Demand**);
- Women, children, their families and students in targeted areas have access to improved and sustainable water and sanitation services (**Supply**)
- The Ministry in charge of Water and Sanitation and its partners have an increased capacity to respond in a coordinated way to emergencies related to WASH, including drought, flood, cyclone and plague; (**Emergency response**).

Out of the four outcome indicators, the ones for water access ("% of population drinking water from an improved source" and "% of population in rural areas using surface water") are on track. This achievement is the consequence of important investments made by the government and technical and financial partners, including UNICEF, in the water sector. It reflects the strategic interest for water interventions, which are always very tangible. Yet, there are still important challenges on operation and maintenance, areas that are far less visible and thus, do currently not receive the required attention and budget allocations that are required. The last Sustainability Check (2016) points out this mismatch, as 38 per cent of water systems in Madagascar are not functional. The Ministry in charge of Water, Sanitation and Hygiene (MoWASH) has acknowledged this situation and is keen to create supportive conditions for the private sector to take over the management of water supply services. The key challenge to obtain private sector buy-in will depend on increasing the demand for safe water and engage populations to pay for these water services.

The two outcome indicators on sanitation ("% of population using improved sanitation facilities" and "% of population practicing open defecation") are not on track. The percentage of the population using improved sanitation facilities is currently at 10 per cent (down 1 per cent from the baseline in 2013) while the planned target for 2019 was fixed at 50 per cent. Also, Madagascar planned to be an Open Defecation Free (ODF) country in 2019. However, according to the latest JMP data (2017), the rate stagnates at 44 per cent of the population still practice open defecation.

This lack of progress has various reasons. First of all, the lack of the government's leadership to develop a clear vision and road map to achieve ODF status for the country in 2019 did not create favourable conditions for stakeholder engagement and programme implementation. Contrary to water access, which requires mostly strong technical skills and expertise, the sanitation component relies on a deeper understanding of underlying socio-cultural conceptions and values that need to be addressed appropriately to create broad social buy-in. This requires a skillset englobing social engineering, nudges and participative approaches that is more difficult to find. These types of changes in mindset and behaviour are also taking a long time to achieve results. The data cited above is from sources dating to 2013 (Millennium Development Goal Survey) and 2015 (JMP 2017); hence, with the MICS data collected in 2018, it will be possible to analyse the real situation of the WASH sector and progress made in the last four years once the MICS is available in June 2019. A recently established baseline for the DFID supported Accelerating Sanitation and Water for All programme confirms the critical situation for the sanitation sector (see text box).

Accelerated Sanitation and Water for All

Phase 2 of the Accelerating Sanitation and Water for All (ASWA) programme started in 2017. UNICEF took the opportunity to establish a comprehensive baseline for WASH indicators in targeted municipalities across 5 regions. This provided a wealth of data on the particularities of beneficiary communities, allowing the development of tailored and inclusive strategies for the most vulnerable community members. According to this baseline survey:

- 72% of households practiced open defecation
- 0.4% of households used basic toilets
- 11% have access to handwashing with soap
- 49% of households drank surface water
- In 85% of households, women were responsible for fetching water, taking them around 11h/ week
- 7.3% of the population are living with a disability.

UNICEF has worked in its target areas since the beginning of the UNICEF Country programme in 2015. By now more than 2.6 million people living in rural areas have ended practicing open defecation (including more than 1.3 million children) and out of them 1.6 million have access to improved sanitation and more than 650,000 people gained access to safe water through UNICEF's development programme. In 2018, over 100,000 additional people abandoned open defecation and more than 86,000 people, including 44,000 women, have gained access to safe and sustainable water services (e.g. boreholes or mid-scale system managed by private sector operators) thanks to UNICEF's interventions. Furthermore, the implementation of the Star approach[14] allowed 342,000 school children (including 164,000 girls) to drink water and wash their hands with soap every day in their schools. 45% of schools and 31% Health centres are certified one star and in 2018 41 institutions reached the 3-star certification out of the 282 engaged in the programme since 2015. Therefore, the UNICEF WASH programme is covering 5.5 per cent of the rural population with no water access and 24.4 per cent of the

[14] The Star Approach helps schools to meet the essential criteria for a healthier and more protective learning environment for children.

rural population with no sanitation access.[15] In 2018, UNICEF's WASH programme reached more than 290,000 people including 145,000 children. UNICEF accounted for 83 per cent of Madagascar's emergency WASH response. Throughout the year, capacity reinforcement of WASH cluster members was a key strategy applied by UNICEF to ensure preparedness for future outbreaks.

A water seller is loading his cart with open surface water © UNICEF/UN0267017/Raoelison

The availability of flexible thematic funds was a critical element in responding rapidly to the needs of emergency-affected populations. Equity is an issue both between rural/ urban as well as rich/poor divides. Thanks to thematic funding received, UNICEF expanded its equity focus and supported a larger number of hard to reach children in poor rural areas who are deprived of basic social services (as in southern Madagascar).

In 2018, UNICEF's WASH programme has adapted its intervention strategies to meet the requirements of the SDGs and the UNICEF global strategic plan for WASH 2015 – 2030. Key strategies include:

- **Next Generation of Mayors**: aimed at making municipalities and communities more accountable and autonomous in the implementation of sanitation activities as well as in the planning and investment choices on their territories
- **Community Water Safety Plan**: enables communities to take the necessary actions to ensure water quality meets drinking water standards
- **Urban WASH**: expands UNICEF's WASH programme interventions to the semi-urban space (e.g. small towns) to increase sanitation coverage
- **WASH Gender and Equity**: to leave no one behind and reach SDG 6 to provide universal access to water, sanitation and hygiene services, UNICEF developed its gender and equity strategy for the WASH sector (see text box).

WASH Gender and Equity

The strategy aims to reduce inequalities between individuals or diverse groups of people in accessing and using WASH services. Key elements in relation to different identified needs which will be prioritized in future interventions include:

- Gender: systematic analysis of program activities' impact on men and women to better understand and identify solutions adapted to all, for example by
  - Providing men and women equal opportunities to access WASH services and participate in decision-making and income-generating functions
  - Involving men and boys in addressing hygiene issues (e.g. menstrual hygiene management).
- Equity: considering diverse needs of all disadvantaged, vulnerable or marginalized groups so that they can have access to WASH facilities, resources and opportunities in the same way as others, for example by
  - Setting up social tariffs (i.e. affordable prices for the most vulnerable populations) to access drinking water services
  - Installing ramps/ handrails to facilitate access for people with disabilities and elderly people to infrastructure (e.g. latrines).

[15] Considering the 2015 national baseline, percentages are based on estimated rural population in 2015. Therefore real % of beneficiaries of the UNICEF WASH programme at Outcome level might be lower due to population yearly growth estimated at 5%. Project outcome data not yet captured in the JMP data available.

Main challenges in the WASH sector are low budget levels and a lack of leadership to provide a clear vision and harmonized approach. The lack of coordination and planning capacities at decentralized level creates duplication of efforts rather than synergies and value for money across the country. Furthermore, the lack of updated data on existing infrastructure use and demand renders evidence-based programming and monitoring of impact difficult.

Therefore, UNICEF supports the discussions between the MoWASH and the Ministry of Finance for an increased allocation of the national budget to make the necessary investments in the WASH sector that will allow to progress and improve indicators. UNICEF supports government partners both at national and local level and strengthens inter-sectoral coordination to build the capacity of authorities in planning, budgeting, implementing, monitoring and involving local authorities to work for children's access to water, sanitation and hygiene. As the coordinating agency for the sector, UNICEF continues to advocate jointly with other partners (AfDB, AFD, JICA, WHO, EU, DFID, USAID, World Bank) for more systematic data collection and creation of evidence to inform future programming and especially, identify effective strategies to end open defecation, increase access to durable water and sanitation infrastructures and support decentralisation. WASH interventions have also been harmonized through sector coordination via the UN Development Assistance Framework (UNDAF) and UNICEF's lead of the WASH Emergency Cluster.

Community members building their own latrines © UNICEF Madagascar/UN0267006/ Raoelison

Output 1**: By the end of 2019, the government demonstrates increased political commitment and capacity to legislate, plan, budget, coordinate, deliver, monitor and evaluate WASH interventions at scale at national and sub-national levels**

Progress towards this output is constrained.

Investments with Thematic Funds in 2018

Thematic funds provided complementry funding to put in place a real-time monitoring system for the 10 UNICEF priority regions. Indicators were adapted to reflect the SDGs and the latest definitions from the Jonit Monitoring Programme. This has faciliated data collection and strengthend the quality of data available in the national WASH information system. Based on this system, the Ministry of Water and UNICEF were able to improve their analysis for decision-making, prioritization, monitoring and results-based management.

As part of this output concerning enabling environment and governance in the WASH sector, UNICEF works both upstream (monitoring national budget allocations to WASH and sector coordination) and downstream (construction and management of WASH infrastructure at municipality level).

At upstream level, UNICEF has supported the MoWASH in reframing a sector wide approach to reinforce the leadership role of government for the sector and address the lack of alignment among the sector partners. As a result, the National Platform for Information and Coordination of the Water, Sanitation and Hygiene Sector was established in 2018 to improve coordination of public and private partners. However, due to the Ministry reshuffle (in June 2018) following the creation of the platform, this coordination mechanism has not yet been fully operationalized.

In the meantime, UNICEF seized the opportunity to reinforce the coordination dynamic of the sector by advocating for the "Madagascar Madio 2025" initiative which was launched by the MoWASH and UNICEF at the end of 2018. The objective is to target Madagascar's tremendous sanitation challenges. Through the sector-wide mobilization of all WASH partners, this program aims to eradicate open defecation in 2025 on the basis of capitalized gains in recent years and adequate fundraising.

Throughout the year, UNICEF has worked with the Ministry and WASH partners to develop several key documents to support the sector:

- UNICEF has piloted with the Ministry the development of the new WASH Bottleneck Analysis (WASHBAT) whose final report will be published in early 2019. Carried out with the participation of all WASH stakeholders in Madagascar, this analysis makes it possible to identify bottlenecks in the development of the sector, their causes, and define actions to be implemented to remove them. The WASHBAT analysis was used as a basis for the development of the national WASH sector plan that was initiated in 2018 under the leadership of the Ministry with technical and financial support from UNICEF. This crucial document, eagerly awaited by the sector and the technical and financial partners, will set the objectives to be achieved by 2030 in response to the SDGs, and the strategies to be deployed to achieve them.
- In parallel, UNICEF developed the WASH Budget Brief 2018, which analyses the budget and expenditures of the sector and their allocation. This study shows the great inadequacy of the government budget allocated to the WASH sector (0.31% of GDP forecast in 2019), its stagnation compared to 2017, the very large gap with respect to investment needs (US $ 1 per inhabitant per year for a need of $ 8) and the significant shortfall in the budget allocated to the sustainability of water and sanitation services. The strong dependence of the Ministry on external aid is also confirmed.

- A new Sustainability Check for WASH services was launched at the end of 2018. This analysis will inform MoWASH and UNICEF about the level of sustainability of the services created for 5 years, the operating conditions of these services and the causes of the malfunctions noted. The results will be used to support the MoWASH and the sector in general to increase the sustainability of the services.
- In addition, the WASH program continued its support to the MoWASH in strengthening the monitoring of the WASH sector. The latest version of the national WASH information system was launched in 2018 but still requires significant ongoing updating efforts by the MoWASH and WASH actors.
- UNICEF spearheaded a dialogue with other sector stakeholders (USAID, WaterAid and others) on the need to standardize Community Led Total Sanitation (CLTS) approaches, implementation strategies, monitoring mechanisms, and government support modalities.

At downstream level, under the leadership of UNICEF in collbaoration with the MoWASH more than 200 municipalities were trained to strengthen their capacities on the management of water, sanitation and hygiene services as part of the decentralization process with the Ministry of the Interior and Decentralization. The objectives of this training were to help mayors and communities to plan, coordinate and monitor the implementation of water and sanitation activities and services. UNICEF and MoWASH deployed more than 200 mayor assistants to support WASH activities at municipality level. UNICEF is actively advocating with the Ministry of the Interior and Decentralization to ensure that the funding of these WASH mayor assistant positions is ensured by the Government.

A new water point brings safe water closer to the community © UNICEF/UN0267031/Raoelison

Output 2: **Community-level institutions improve the use of safe water, hand washing with soap and use of latrines by children and families through promotion of good hygiene practices and meeting of WASH infrastructure standards**

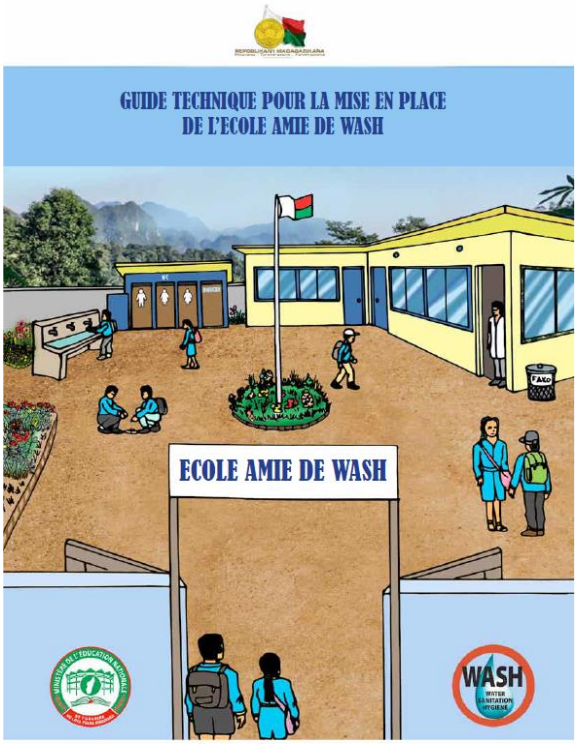
Progress towards this output is constrained.

Investments with Thematic Funds in 2018

Thematic funds supported the promotion of good hygiene practices and now, students in 64 schools are regularly coached by their teachers on drinking safe water, washing their hands and using latrines in the Atsimo Atsinanana region

UNICEF continued to support the Ministry of Education, Ministry of Health and MoWASH to ensure a paradigm shift in the way Madagascar approaches WASH in schools and health centres. Since 2015, UNICEF together with these partners, has implemented the Star approach[16] in more than 3,000 primary schools impacting more than 342,000 children (including 164,000 girls). In 2018, UNICEF rolled out the Star approach to 732 schools which were certified as One Star, bringing the percentage of certified schools in target regions to 45. A total of 91 health centres were also certified One Star in 2018. The percentage of certified health centres now reaches 31 per cent out of the 50 per cent target (for both schools and health centres) by the end of 2019. In addition, in 2018 UNICEF initiated its Menstrual Hygiene Management (MHM) component to ensure better hygiene conditions for girls in schools. Students in 1,140 schools have been reached so far with awareness raising activities on MHM (e.g. via information, education and communication materials, focus group discussions etc.).

In schools and health centres meeting the One Star standards, UNICEF supported in 2018 the connection to water systems in 38 schools and 14 health centres as well as the rehabilitation of 8 boreholes with hand pumps located near primary schools. Whenever possible, UNICEF tried to reduce the impact on the environment by installing solar water pumps. In addition, UNICEF ensured the construction of 63 sanitation facilities in schools, and 14 sanitation facilities in health centres. For the period 2015-2018, this brings the total number of schools that meet national standards to 208 (target: 250) and to 77 for health centres (target: 150).



The WASH friendly school strategy

[16] The Star Approach helps schools to meet the essential criteria for a healthier and more protective learning environment for children by taking simple steps to ensure that all students wash their hands with soap, have access to safe drinking water, and are provided with clean, gender-segregated and child-friendly latrines at school. The intervention is divided in three components: (i) the "One Star" schools promote healthy habits in daily routines at school (daily supervised group hand washing, use and cleaning of toilets and use of filtered water for drinking); (ii) the "Two Star" schools achieve incremental improvements through hygiene education and facilities, improved sanitation facilities and the introduction of improved water points; (iii) the "Three Star" schools meet national water, hygiene and sanitation standards.

In 2018, UNICEF supported the Ministry of Education with the development of the “WASH friendly school” strategy which integrates the Star approach and aims to support and scale up access to WASH in schools. Data from the latest Joint Monitoring Programme (JMP 2018) confirms the need to invest in improved sanitation conditions in schools as 81 per cent of schools have no access to safe water and 31 per cent do not have basic latrines. However, it needs to be pointed out that the JMP survey only looked at the existence of infrastructure but not its usage.

That being said, it is evident that besides infrastructure, a key strategy is the promotion of behavior change in schools or health centres. This is possible even in places where appropriate infrastructure is not in place yet. This is supported by intensive Communication for Development (C4D) campaigns to extend the reach to more school-aged children and health centre visitors (mostly women and children). Campaigns consist of the widespread distribution of posters and other promotional activities in schools and health centres. UNICEF worked cross-sectorally to coordinate sanitation and handwashing with soap in health centres where deliveries take place, in pre-schools and in primary schools, providing WASH infrastructure and training to encourage healthy hygiene practices.

The Star approach in schools and health centers is combined with the scale up of community-led total sanitation (CLTS) which targets the whole community and creates the necessary synergy for children, parents and community members to adopt behavior change that will lead to more sustainable infrastructure and good hygiene practices for the long-term benefit.

A major challenge to achieve the planned results for this output in 2018 was the general strike in the education sector, which began in April and lasted through July, delaying star certification activities and other soft interventions in UNICEF-targeted schools. While this prevented to make progress as planned, given the great needs in Madagascar, development donors did not prioritize WASH in institutions and consequently, UNICEF had only limited funding available for these activities. Therefore, the focus was shifted on preparing the ground and initiate behaviour change through awareness raising campaigns while resource mobilisation efforts continue.

Patients at a health centre have access to safe water thanks to the ceramic filters provided by UNICEF © UNICEF/UN0279355

Output 3**: Community demand for sustainable safe drinking water sources is improved and met**

Progress towards this output is on track.

Investments with Thematic Funds in 2018

Thematic funds have been crucial to increase the scope of Output 3, notably for interventions in the drought affected south in light of a severely underfunded humanitarian appeal.

More than 1,700 people gained access to safe and clean water thanks to the contribution from thematic funding.

For some of the interventions, such as the pipelines, construction works are only planned to be completed in 2019 when a significant increase in beneficiary numbers will be observed. Thematic funds contributed to these works with:

- 2 technical studies for the design of the Ampotaka and Sampona pipelines
- Procurement of equipment for Ampotaka pipeline
- 1 supervision contract of the Ampotaka pipeline works

Country-specific thematic funds were also invested in the programming of other interventions in the south along the nexus of humanitarian response and development. Particularly, they contributed to an innovative pilot on deep drilling in Southern Madagascar to find new sources of water in a geological very challenging context.

In 2018, more than 86,000 people, including 44,000 women, have gained access to safe and sustainable water services thanks to UNICEF's interventions. This brings the total number of beneficiaries since 2015 to over 657,000, already exceeding the planned target for 2019 of 600,000. During the year, UNICEF managed contracts for the construction of 12 new middle scale water schemes, the drilling of 111 new boreholes with handpumps and the rehabilitation of another 96 boreholes.

UNICEF installed different types of water supply systems, depending on the context and needs of the population:

- small scale and mid-scale water systems equipped with solar pumps for communities of 800 to 5,000 people
- boreholes equipped with handpumps for communities up to 300 people per facility
- rehabilitation of existing water systems.

The drought in the south was the main area of intervention for UNICEF's WASH programme and as stated above, efforts were made to link the emergency response with long-term development objectives to contribute to the resilience-building of vulnerable populations and to address the root causes of this protracted crisis to reduce the need for humanitarian assistance in the future.

Therefore, in 2018, UNICEF's WASH programme focused on increasing the sustainable access to safe and clean water for vulnerable populations in the south. Since the beginning of this latest drought cycle four years ago, UNICEF led the analysis on the root causes and possible solutions. The underground water resources of the coastal areas in southern Madagascar are limited and often unfit for consumption because of their high salinity. Families have to walk up to 30km per day to collect a 20l jerry can of water, often form stagnant water or unprotected wells. Also, water price speculation regularly creates hikes when water is sold for 200 times the price of water sold in the capital Antananarivo. Considering this critical

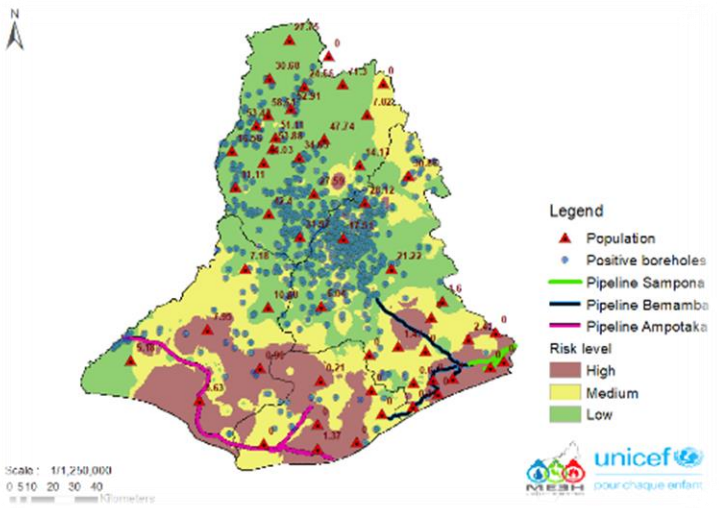
situation and the numerous failures of previous drilling programs, UNICEF and the MoWASH have focused on the reinforcement and construction of two water transfer pipelines, the only viable and scalable solution to cover the needs of this area.

These large-scale infrastructures make it possible to collect water from two permanent rivers and transfer it to the arid southern areas of the Androy region which is most affected by the drought.

- **Ampotaka pipeline, phase 1:** After the catchment and treatment of water, the pipeline will transport drinking water over a distance of 180 km through solar pumping stations, to ensure the water supply of 25 communities representing more than 30,000 people. UNICEF has managed these works which are expected to be finished by mid-2019. A Phase 2 has been planned but is not yet funded. It will continue to strengthen this pipeline and feed additional communities.
- **Sampona pipeline:** Construction has been managed by the MoWASH with technical and financial support from UNICEF. Works have advanced well but faced some delays so that the pipeline will only be operational in the second half of 2019.

Beyond these major infrastructure projects, in 2018 UNICEF continued to extend its work on climate resilient solutions. This included:

- Finalization of a groundwater resources mapping in the South of Madagascar (see case study below) to better identify areas where drilling is possible, constrained or impossible, and thus optimally use the available financial resources to obtain positive results.
- The development of a Community Water Safety Plan to enable communities and municipalities to become actively involved in the protection of water sources and the preservation of water quality.
- A pilot on deep drilling to mobilize alternative groundwater resources.
- A feasibility study for the construction of small-scale subsurface dams as potential solutions that can be implemented in 2019.
- A groundwater monitoring system for groundwater resources in the semi-arid areas of the South of Madagascar to protect the existing resources and ensure uninterrupted water services for the populations.



The current pipeline projects are the Ampotaka pipeline (red line on the left and centre) and the Sampona pipeline (green line on the very right)

A key strategy for resilience building in 2018 was the multiple uses for water approach. Almost 4,500 people benefited from the installation of 30 systems, allowing them to start farming activities. Since 2016, almost 100 systems are now in place, thanks to UNICEF's partnership with IFAD, FAO and the Ministries in charge of agriculture and water. Adopted to the context in the south of Madagascar, the multiple uses for water approach targets water points with sufficient yield to develop gardening activities via small-scale irrigation. Farming groups are created and trained on how to diversify their food sources, reduce their food insecurity and generate additional income, thus increasing their resilience to drought events.

A mother working in her vegetable field next to the UNICEF-built water point © UNICEF/UN0269089/Ralaivita

The sustainable management of all constructed infrastructures is essential for their long-term viability. Thus, UNICEF worked with the MoWASH to develop and put in place a water services management model which will be applied at national scale. A key objective of the model is to professionalize the management of water services through the selection of private operators. In 2018, 25 operators managing 98 mid-scale water supply systems were trained, equipped with management tools and accompanied by UNICEF and the MoWASH to follow up on the model's effectiveness. The water services provided by private operators are supervised by the municipalities.

For the time being, the private sector operators face challenges to collect the revenue from the population and thus, do not manage to recover sufficient funds to cover their costs for operation and maintenance. This is because demand for water services and willingness to pay is still low. To address this, UNICEF developed C4D campaigns to provide messages about the importance of drinking safe water and paying for the Operation & Maintenance services. The levels of poverty in households combined with competing priorities on how to use the limited income are also challenges related to the sustainability of services and UNICEF is closely monitoring the situation and working with the Ministry and the private operators to overcome these challenges.

Inside the pumping station of the water pipeline © UNICEF/UN0267541/Raoelison

Output 4**: All communities eradicate open defecation and the use of improved sanitation facilities in combination with appropriate hygiene practices is generalized**

Progress towards this output is constrained.

Investments with Thematic Funds in 2018

No thematic funds were used for this output.

In 2018, around 100,000 additional people abandoned open defecation, which is below the results obtained in the previous years (since 2015, 2,645,000 people abandoned open defection with UNICEF's support out of the planned target of 4,000,000). A total of 1,000 new communities with 85,000 people have been verified as open defecation free in 2018, bringing the number of people living in ODF certified villages since 2015 to 1.6 million (out of a planned 3,375,000). The low performance in the achievement of this output has two main reasons: a sharp drop in available funding for rural sanitation and new definitions for sanitation set forth by the Joint Monitoring Programme. For instance, shared latrines between several families is no longer considered to be a basic service level; however, in the past years family in Madagascar have come a long way from open defecation to constructing latrines even if they are shared between several families. While the new definition of the JMP does no longer consider this basic sanitation, in the context of Madagascar it shows an important step towards more hygienic behaviour.

The Community Led Total Sanitation (CLTS) Approach is championed by the MoWASH to make progress with the eradication of open defecation. UNICEF is supporting the Ministry at local and regional level and ensures an intersectoral approach, mobilizing around 1,000 community health workers in promoting change. In addition to their role in the implementation of the CLTS approach, they also monitor progress at local level.

While sanitation targets were not met, 2018 was a year of strategic planning (e.g. on the maintenance of ODF status) and development of new strategies for community mobilization and behaviour change, such as the development of the "Next Generation of Mayors" strategy (see text box below). It relies on local leadership and less external support to achieve ODF status. Thus, the savings made through this approach are reinvested in the participating municipalities to increase the availability of water infrastructure.

Also in 2018, UNICEF developed the Urban WASH strategy to address sanitation and hygiene in small towns. It will be implemented in 2019 by the MoWASH with the technical support from UNICEF and aims to bring the ODF status to scale, certifying whole districts rather than only municipalities (which is the current practice).

Families are building latrines © UNICEF/UN0267009/Raoelison

Total sanitation through THE NEXT GENERATION OF MAYORS

March 2019

In a country and sector with critical needs and limited resources, an innovative approach relies on dynamic municipal leaders to catalyze their communities to achieve sanitation outcomes with limited external support, increasing the value-for-money of external investment and forging a promising path for the sustainability of interventions.

CASE STUDY

In 2016, in the Anosy region in southern Madagascar, UNICEF modified the traditional community-led total sanitation (CLTS) process to test the concept of self-starting of municipalities (*communes*) by mayors and delegates.

The Anosy region in blue, with the two Next Generation communes highlighted

Normally, regional institutional triggering involves a half-day meeting of regional- and district-level officials, with the goal of gaining buy-in and developing a shared understanding of and objectives for the CLTS process. UNICEF then works hand-in-hand with communities for village-level triggering, monitoring and quality control by recruiting dedicated municipal coaches (ACC) and providing support from the regional-level.

In the modified, *Next Generation* process, mayors and delegates were invited to the regional institutional triggering. Of the 39 communes that participated in the activity, 35 went on to receive the full package of support, while four communes were selected to test the new approach. In these four communes, UNICEF did not recruit ACCs and coaches. Instead, *champion mayors/delegates received a brief CLTS training, then drove sanitation improvements in their own municipalities, coordinating triggering, follow up, and monitoring themselves*.

In Ampasimena, a latrine now stands in a previous open defecation site

Of the four communes in which CLTS was led by mayors and delegates, Ampasimena and Tsivory achieved open defecation-free (ODF) status within two months. More than two years later, the communes are still ODF, and UNICEF has begun investments in water supply, possible in part given the cost savings achieved through the self-starting CLTS process.

GUIDING PRINCIPLES OF THE APPROACH

A key challenge in ensuring access to basic WASH services, particularly in the semi-arid south, is securing sufficient resources to improve the quality of water supply services. Beyond the expected improvements in health, dignity, and convenience for people now living in ODF environments, the *Next Generation of Mayors* approach:

- strengthens local governance and accountability;
- places communities at the center of the behavior change process;
- allows for reallocating external resources that would have been spent on CLTS on other WASH priorities.

FACTORS OF SUCCESS

The *Next Generation* enablers of success were:

- Social and political prioritization of sanitation on the municipal development agenda, after triggering.
- Mayors' strong leadership and commitment, their feeling of moral responsibility to improve health in their community, and ability to communicate key messages.
- Momentum from a regional ODF status drive.
- Commitment of UNICEF support to further WASH improvements after ODF achievement.
- 'Spill-over effect' from learning from neighboring communes benefitting from UNICEF WASH support.

SCALING UP

Going to scale with a mayor-led approach to total sanitation is promising but poses potential challenges:

- Identifying dynamic champions who have the will and credibility to introduce a new sanitation initiative and rapidly achieve results.
- Maintaining the quality of the triggering and follow up processes, including the impacts on universality and equity of sanitation outcomes.

To address to these risks and challenges, a minimum level of support may still be required to diagnose and respond to challenges as they arise in the field.

The effective coordination, mobilization, and monitoring structures put in place lay a strong foundation to build resilient communities with a sustainable basic level of service for everyone.

Output 5**: Population affected by emergencies have access to water, improved sanitation facilities and appropriate hygiene practices (hand washing with soap and household water treatment).**

Progress towards this output is on track.

Investments with Thematic Funds in 2018

UNICEF has developed a humanitarian – development transition strategy to increase sustainable access to water and resilience for regularly affected populations in the south of Madagascar. The thematic funds allocated to the emergency response and those allocated to development programming, notably output 3 (access to drinking water) have been pooled together to carry out the activities described above under output 3.

In 2018, UNICEF provided a WASH response for cyclones, drought and epidemics. The overall cluster target for access to safe water was 450,000 people, with the final result reaching 328,122 people (73 per cent). Among these beneficiaries, 116,722 were assisted as part of the cyclone response and the WASH cluster, notably CARE international and UNICEF, supported a total of 211,400 people out of which UNICEF covered 186,400 people (149,400 for water trucking and 37,000 for WASH infrastructure) with the drought response. While UNICEF had planned to reach 400,00 people to provide access to safe water, the final result was 290,542.

Water trucking in southern Madagascar. © UNICEF/UN0267543/Raoelison

Regarding the adoption of good hygienic practices, 208,689 out of 270,000 targeted people (77%) adopted and practiced appropriate hygiene. Especially for the drought response in areas where UNICEF was already operating it was possible to link emergency and development programming by applying the Community-led Total Sanitation approach. In cyclone-affected areas, hygienic practices were promoted through mass media campaigns.

UNICEF's WASH response was able to reach 100% of people affected by cyclones Ava and Eliakim in early 2018 and provide access to water, sanitation and handwashing facilities. For the drought, the WASH response focused on the two districts classified in emergency phase (Ampanihy, Beloha). Yet, the result achieved by the WASH cluster makes up only 46 per cent of the affected population in need of WASH services in the south. Thus, the overall planned result for access to water could not be achieved, mostly due to a lack of funding for the response to the drought and because the number and impact of cyclones in 2018 was less severe than expected.

As the lead agency for the WASH cluster, UNICEF coordinated the emergency preparedness and response of all actors (Helvetas, Care International, Catholic Relief Services, Action Against Hunger, Medair and national NGOs such as the Malagasy Red Cross) and provided technical assistance, monitoring and evaluation of the WASH cluster's response via the UNICEF regional technical assistants and the WASH emergency specialist. Particularly for the response to the drought in the south, it was crucial to organize regular meetings to ensure effective overall coordination and harmonization of the approach at national and regional level.

Prepositioning: UNICEF strengthened the Ministry of Water's preparedness and capacity to respond quickly to a disaster by prepositioning WASH supplies for the needs of 80,000 people following a cyclone or flood in 16 warehouses across 11 high-risk regions. Stock was also prepositioned in 8 regions at high-risk of epidemics and in 3 regions for the drought response. Based on the agreement UNICEF has with the Ministry of Water and the regional directorates as well as the standby agreements with several NGOs (e.g. ACF, Medair), this stock can be quickly distributed in the event of a disaster. Furthermore, to ensure preparedness of national actors, UNICEF provided technical and financial assistance to update the national and 11 regional contingency plans for high-risk regions.

Epidemics: For the preparedness of national authorities to future epidemics, given the recent plague outbreak in the previous year, 106 directors and technicians (43 women, 63 men) from central and regional level of the Ministry of Health, Ministry of Water, Ministry of Education and NGOs were trained by UNICEF's technical experts on WASH-related actions to ensure infection management (prevention and control) in treatment centres. UNICEF also provided supplies including chlorine to disinfect treatment centres, public offices, prisons and other public places such as bus stations, and personal protection kits to be used by hygienists and health personnel in treatment and diagnosis centres. For the prevention of future outbreaks, UNICEF procured and prepositioned essential WASH supplies for 10 Plague Testing and Treatment Centres high-risk regions where infrastructure was also assessed to ensure an adequate care environment for plague cases.

A 360° video on UNICEF's WASH drought interventions to bring water to the south

Click on the icon to watch the video

Drought: As in the past years, the drought in the south has been the main emergency that required a humanitarian response. Given the protracted character of the crisis, UNICEF and its partners explored several initiatives to address the root causes.

Improving sustainable access to drinking water through the expansion of pipelines. © UNICEF/UN0267028/Raoelison

- UNICEF, in partnership with IFAD and FAO aims to increase resilience by providing micro-irrigation kits and training to communities surrounding the water points constructed by UNICEF. To date, more than 102 sites with 3,000 households (15,000 persons) in three districts in the south are benefiting from this initiative.
- Given the challenge to raise sufficient humanitarian funding, UNICEF developed a broader vision to develop resilience, rehabilitating and installing pipelines to bring water into areas that have no other access to safe water (given the geological context, boreholes often have elevated levels of salinity).
- As the WASH response is closely linked to the nutrition assistance for children suffering from severe acute malnutrition, an integrated approach has proven very effective, distributing WASH kits to encourage mothers to bring their children for treatment to the healthcare facilities while reinforcing messages about the value of proper sanitation, clean hands, and the importance of drinking clean water.
- The UNICEF WASH programme has also incorporated other lessons learnt based on the experiences from previous years. These include the mapping of groundwater suitability areas with satellite imagery, exploring deep groundwater using high-precision geophysical surveys and drought and groundwater monitoring systems for early warning.

WASH Results Assessment Framework

Outcome: By the end of 2019, households and communities have access to safe drinking water, sanitation, and healthy environments and good hygiene practices are equitably improved in target regions.

OUTCOME INDICATORS	BASELINE (% OR #)	TARGET (% OR #)	PROGRESS (% OR #)
Percentage of population drinking water from an improved source (or proportion of population drinking safe water) - National	35% (2013)	50% (2019)	51% (JMP 2017)
Percentage of population using improved sanitation facilities - National	11% (2013)	50% (2019)	10% (JMP 2017)
Percentage of population practising open defecation - National	48% (2013)	<1% (2019)	44% (JMP 2017)
Percentage of population in rural areas using surface water	38 (2013)	20%	23% (JMP 2017)

Output 1: By the end of 2019, the government demonstrates increased political commitment and capacity to legislate, plan, budget, coordinate, deliver, monitor and evaluate WASH interventions at scale at national and subnational levels.

OUTPUT INDICATORS	BASELINE (% OR #)	TARGET (% OR #)	PROGRESS (% OR #)
Costed Plans per Region (Regional objective based planning and budgeting)	5 (2015)	22	22
Updated and validated policy: 1) WASH Policy 2) WASH legislation/code 3) Integrated Water Resource Management regulations 4) WASH in Schools policy (including equity and gender considerations) 5) Development of Water Safety plans	0 (2013)	4	2 (Water safety plan; Gender and Equity strategy) Water code on hold; WASH policy and sector plan ongoing;
Sanitation and Water for All (SWA) biannual Action Plan is developed and implemented	No (2015)	Yes	Action plan to implement commitments of biannual SWA meetings is developed and partially implemented
Sector Wide Approach (SWAp) document and action plan	SWAp not available	SWAp document/ action plan available	A new coordination mechanism has been put in place in 2018 and is yet to start its work

Sector Information Management System (SESAM) provides complete information in reliable and timely manner in all 22 regions	No	Yes	SESAM is functioning and regularly updated
Sustainability strategy developed and implemented	No	Yes	Strategy developed, available and implemented
New sources of evidence generated for the sector (studies and research)	0 (2012)	6	MHM study, WASH Investment case update (2017); ASWA 2 baseline study (2018)

Output 2: Community-level institutions improve the use of safe water, hand washing with soap and use of latrines by children and families through promotion of good hygiene practices and meeting of WASH infrastructure standards.

OUTPUT INDICATORS	BASELINE (% OR #)	TARGET (% OR #)	PROGRESS (% OR #)
Percentage of children in certified primary schools that wash their hands, use a latrine and drink safe water supervised by the teachers (One Star Approach)	0% (2014)	100%	100%
Additional primary schools having WASH facilities meeting national standards	0 (2014)	500	208
Additional health or nutrition centres having WASH facilities meeting national standards	0 (2014)	200	74
Percentage of health, nutrition and education certified centres in target regions promoting change and generating demand (One Star Approach)	0% (2014)	50%	41%
Number of schools with Menstrual Hygiene Management (MHM) activities implemented	0 (2017)	1,000	1,140

Output 3: Community demand for sustainable safe drinking water sources is improved and met.

OUTPUT INDICATORS	BASELINE (% OR #)	TARGET (% OR #)	PROGRESS (% OR #)
Additional number of people using safe and sustainable water for drinking	0 (2014)	700,000	657,000

Additional number of people living in water safe communities	0 (2017)	200,000	0
Additional number of people living in climate resilient communities	0 (2017)	100,000	28,000

Output 4: All communities eradicate open defecation and the use of improved sanitation facilities in combination with appropriate hygiene practices is generalised.

OUTPUT INDICATORS	BASELINE (% OR #)	TARGET (% OR #)	PROGRESS (% OR #)
Number of additional people abandoning open defecation in targeted regions	0 (2014)	4,000,000	2,645,000
Cumulative number of people living in ODF certified communities	0 (2014)	2,500,000	1,604,000
Cumulative number of people using an improved sanitation facility	0 (2014)	3,000,000	714,000
Cumulative number of people using a basic+sanitation facility	0 (2014)	1,500,000	434,000
Number of people that have hand-washing facilities with water and soap/ash available	0 (2014)	3,000,000	1,740,000
Strategy to address sanitation and hygiene in small towns (district, commune)	0 (2017)	1	Ongoing

Output 5: Population affected by emergencies have access to water, improved sanitation facilities and appropriate hygiene practices (hand washing with soap and household water treatment).

OUTPUT INDICATORS	BASELINE (% OR #)	TARGET (% OR #)	PROGRESS (% OR #)
Percentage of affected people in humanitarian situations who access and use safe drinking water, adequate sanitation facilities, and use hand-washing facilities	N/A	100%	71% Water access 1% Sanitation 91% Hygiene (2018)
Percentage of affected people in humanitarian situations receiving critical WASH-related information	N/A	100%	100% (2018)
Percentage of WASH emergency interventions that comply with Core Commitments of Children (CCCs) and other emergency standards	N/A	100%	100% (2018)

Case Study - Improving Access to Safe and Clean Water for Households in the Southern Regions of Madagascar

Chronic lack of water in the semi-arid regions of southern Madagascar has been exacerbated by frequent droughts which led to food insecurity and malnutrition crises mostly affecting children. Implementing WASH-risk informed activities is essential for better planning of water resources and preparedness of responses to drought emergencies: 1) Raising skills of manual drillers has allowed the drilling of 45 cost effective boreholes which are providing clean water to 15,000 people; 2) Groundwater suitability maps help to identify best sites for positioning future boreholes, reducing the likelihood of drilling failure; 3) Geophysical surveys have proven their applicability in the exploration of deep groundwater; 4) Drought and groundwater monitoring systems revealed water depletion issues and allowed to take corrective actions to avoid shortage of water services.

Background

Madagascar is the fourth-lowest performing country in the world in terms of water, sanitation and hygiene. Only 51% of Malagasy people have access to an improved water supply compared to an average of 68% for sub-Saharan Africa.[17] In the rural areas of Madagascar, this number drops to 34% The southern regions have the country's lowest water supply coverage and are highly vulnerable to drought, which was aggravated in recent years by the El Nino phenomenon. Access to potable drinking water is a major challenge for the local population. Chronic droughts lead to annual emergency appeals to save the lives of acute malnourished children. Yet, the root cause for this situation is the availability and access to safe water. Families resort to negative coping strategies to the detriment of their children: taking them out of school allows for buying water at exorbitant prices (the price for a 20 liter jerry can of water increases from 200 Ariary to 2500 Ariary[18] during peak times).

Rationale

UNICEF's response to provide safe and clean drinking water through the drilling of boreholes has been challenged by: 1) the complex hydrogeology of southern Madagascar; 2) the low yield of boreholes and high-level salinity of water; 3) the lack of reliable groundwater data; and 4) the weak capacity of the drilling sector. These constraints result in a high rate of drilling failure in the south of Madagascar. To improve access to drinking water, change the lives of children, women and vulnerable people, and contribute to long-term resilience, it is essential to strengthen the capacity of the drilling sector, undertake reliable groundwater exploration and implement WASH risk-informed initiatives.

Strategy and implementation

The strategy implemented by UNICEF to overcome the issues outlined above include:

- Building the capacity of the water sector, improve its efficiency and ensure high-quality water management.
- Mapping the groundwater suitability areas to help understanding the hydrogeological context of southern Madagascar and reduce the likelihood of drilling failure.
- Exploring the use of new scientific solutions such as high-precision geophysical surveys to identify deep water resources inaccessible by traditional exploration methods.

[17] UNICEF/ WHO Joint Monitoring Programme (JMP) 2017
[18] From US$0.06 to US$0.72 during the drought period.

Developing WASH risk-informed systems to reduce vulnerability in the drought-prone regions and help building communities' resilience to climate change.

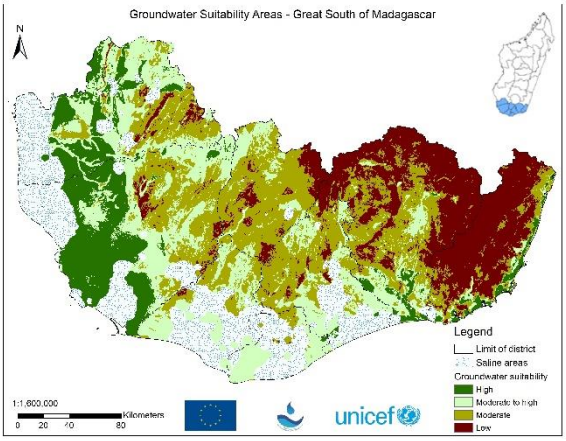
Progress and Results

- Raising skills of the drilling sector

Field-based training for manual drillers. © UNICEF/Madagascar/2017/Serele

UNICEF in collaboration with the MoWASH organized class and field-based trainings on mechanical and manual drilling techniques in July 2017 and February 2018. They targeted various stakeholders in the water sector, including government departments, drilling companies and consultancy firms who drill boreholes or manage water supply projects. UNICEF was encouraging the participation of female technicians and among the forty-five people who passed the class-based training were fourteen women. Participants were very committed and showed great enthusiasm to learning and improving their technical knowledge in borehole drilling and supervision. Eventually, UNICEF contracted ten trained companies to drill 45 manual boreholes for the provision of safe and clean water to 15,000 beneficiaries.

- Mapping of groundwater suitability areas



The limited knowledge of the regional hydrogeological context and lack of recent groundwater data are major challenges. UNICEF and the EU started collaborating on the use of innovative technologies to improve sector knowledge and access to safe and clean water for local communities of southern Madagascar. The EU supported UNICEF by making its expertise and capacities in satellite imagery available to produce thematic layers of groundwater suitability areas. Findings of these studies were very encouraging and showed the relevance of this approach. The produced maps are being used by UNICEF and partners to identify the best sites for positioning future boreholes and reduce the likelihood of drilling failure.

- Exploring deep groundwater using high-precision geophysical survey

In collaboration with the private sector, and with resources from the UNICEF Innovation Fund, UNICEF Madagascar explored the use of new scientific solutions to locate deep groundwater resources. This approach involves using high precision geophysics (commonly used in the oil/mining industry) combined with satellite imagery to investigate deep ground fractures potentially filled with water. The first UNICEF-supported deep drilling in a bedrock was

conducted in Tsihombe (Androy region) in May 2018. This deep borehole provided salty water at a depth of 85 meters. However, the level of salinity varied with depth; water from upper layers is highly saline, while this salinity dropped with depth until it stabilized close to an acceptable limit. But with the budget constraint, drilling could not continue beyond the depth of 85 m. The second-deep borehole drilled in Ambovombe (Androy region) reached the bedrock at a depth of 105 m. Yet, the borehole was dry; no water was found at this depth. As a result, both deep boreholes of this pilot were declared non-productive. Although the results of this study are not conclusive, this methodological approach has proven its applicability in the exploration of deep groundwater in fractured bedrocks. However, some adaptations are required to improve its performance.

Geophysical survey: data collection
© UNICEF Madagascar/2018/Serele

- Drought and groundwater monitoring system

UNICEF, in collaboration with the EU and the Ministry of Water, and with funding from ECHO has developed a drought/groundwater monitoring system for the south of Madagascar. It draws on satellite-based and borehole monitoring data to map the extent of drought and estimate the risks of groundwater depletion. UNICEF produces a monthly drought alert bulletin to provide information to all stakeholders. This pilot mechanism informs on drought impacts and possible water resources shortages in real-time during dry seasons. This has improved emergency response planning and allowed taking rapid and adequate actions to preserve water services during periods of drought and lowering water levels to ensure the continued access of the population to safe water. Current monitoring results revealed a gradually declining groundwater level in Sihanamaro (Androy) likely due to drought. As the borehole of Sihanamaro provides water to 1500 beneficiaries, in addition to supplying the water transport service (water trucking), UNICEF took corrective actions to avoid a shortage of water services. Indeed, the water trucking operation was shifted to other boreholes and the water withdraw rate slightly reduced.

Lesson learned

- The training provided participants with an overview of what is required to achieve professional and sustainable drilling in Madagascar. However, it highlighted the need to strengthen the government's manual of drilling procedures which lacks technical guidance on cost effective and sustainable boreholes.
- The mapping of groundwater has shown encouraging results, and the produced maps have been used in siting new boreholes. However, an integration of the groundwater suitability maps with demographics and water demand information will help identifying priority areas for detailed studies and help increasing the access to water.
- The deep groundwater geophysical approach has potential to develop new water sources. Although the identification of the pilot sites was done carefully, both holes did not yield drinkable water. Combining the survey with a detailed hydrogeological study and drilling logs is expected to increase the likelihood of finding quality water.

- The groundwater monitoring system has already proven its effectiveness and allowed to adapt emergency interventions. To target vulnerable populations affected by the drought even better, it is proposed to also include food security assessments.

Moving forward

All four strategies that have been implemented in the past year have contributed to finding innovative approaches to address the pro-tracked crisis and the drought emergency and strengthen climate-resilient solutions for the south of Madagascar. UNICEF will continue encouraging and supporting the drilling sector and the government by sharing all data gathered from the above studies. Also, the results from the groundwater suitability areas mapping, deep groundwater drilling and the drought and groundwater monitoring system will be replicated and scaled-up to other drought-prone regions. Building on these insights, UNICEF will not only refine the current strategies but continue its role as a leader in finding sustainable and innovative approaches by exploring other innovative climate change adaptation solutions such as the pipeline, sand dams, artificial underground reservoir and multiple use of water to improve the lives of children and families in Madagascar.

Women carrying safe drinking water from the nearby water point © UNICEF/UN0267547/Raoelison

D. Financial Analysis

In 2018, UNICEF Madagascar delivered a comprehensive WASH programme which achieved important results for children and women. Out of the planned budget of US$13,250,000, UNICEF's WASH programme spent 83 per cent and left a funding gap of $ 2,260,000 vis-à-vis the planned budget, explaining the lower results obtained in terms of sanitation. The main share of the WASH programme expenditure was covered by ORE funding (46 per cent) followed by ORR (34 per cent) and RR (20 per cent). This demonstrates the importance of the WASH emergency response in 2018. Out of the total ORR amount spent, thematic funding made up 11 per cent. As detailed in the report above, thematic funds were mostly used to achieve results for output 3 (access to safe water) in combination with the emergency response, thus demonstrating thematic funds' great flexibility to allow UNICEF to integrate resilience-building initiatives in its humanitarian response. Thus, thematic funding was much appreciated to complement available resources and bring key interventions to scale, ensure equity and pilot innovative approach for sustainable solutions, reaching more children and communities in the long run (pending the completion of the pipeline works), especially in the south of Madagascar.

Table 1: 2018 Planned budget by Thematic Sector (in US Dollar)

Output	Funding Type[19]	Planned Budget[20]
OP 1 - POLICY AND CAPACITY DEVELOPMENT	ORR	1,000,000
	RR	110,600
OP 2 - WASH IN HEALTH, NUTRITION, EDUCATION	ORR	1,250,000
	RR	106,700
OP 3 - SUSTAINABLE ACCESS TO SAFE WATER	ORR	8,000,000
	RR	287,600
OP 4 - SANITATION AND HYGIENE	ORR	1,500,000
	RR	376,100
OP 5 - WASH IN EMERGENCIES	ORR	-
	RR	55,300
OP 6 - DIRECT COST TO SUPPORT THE OUTCOME	ORR	250,000
	RR	313,700
Total Budget		**13,250,000**

Table 2: Country-level Thematic Contributions to Thematic Pool 6 - WASH received in 2018 (in US Dollars)

Donors	Grant Number	Contribution Amount	Programmable Amount
United States Fund for UNICEF	SC1899060005	261,250.00	248,809.28
Norwegian Committee for UNICEF	SC1899060013	69,055.52	65,767.10
Italian National Committee for UNICEF	SC1899060050	19,311.46	18,391.85
Carry forward from 2017	SC149903	390,416.00	390,416.00
Total		**740,032.98**	**723,384.22**

[19] RR: Regular Resources, ORR: Other Resources – Regular, ORE: Other Resources - Emergency
[20] Planned budget for ORR does not include estimated recovery cost (only programmable amounts)

In 2018, the UNICEF Madagascar WASH programme received US$ 333,049. This amount was added to the carry forward of the thematic fund SC149903 from the previous UNICEF Strategic Plan (2014-2017) of US$ 390,416.

Table 3: 2018 Expenditures by Key-Results Areas (in US Dollar)

Organizational Targets	Expenditure Amount			
	Other Resources - Emergency	Other Resources - Regular	Regular Resources	All Programme Accounts
24-01 Water	5,052,471	2,962,577	2,067,019	10,082,067
24-02 Sanitation	(11,741)	746,860	173,782	908,900
TOTAL	**5,040,729**	**3,709,436**	**2,240,801**	**10,990,967**

In 2018 UNICEF implemented a new Strategic Plan for 2018-2021. The Plan proposes 5 Goal Areas (Every Child Survives and Thrives; Every Child Learns; Every Child is Protected from Violence and Exploitation; Every Child Lives in a Safe and Clean Environment; Every Child has an Equitable Chance in Life) which are broken down into Result Areas, for example Water, Sanitation, Hygiene, WASH in institutions, WASH in emergencies for the Every Child Lives in a Safe and Clean Environment Goal Area. In order to align with global standards, UNICEF in Madagascar re-coded all its activities to align with these Result Areas and financial reports are now presented accordingly, with expenses by Result Area. The realignment allows UNICEF globally to track more effectively spending and results achievement against key organizational targets and provides UNICEF's donors greater visibility of how money is spent, and results achieved against key programmatic priorities.

Table 4: 2018 Thematic Expenses by Results Area (in US Dollars)

Results Area	Expense
Other Resources - Emergency	61,495
24-01 Water	61,495
OP 5 - WASH IN EMERGENCIES	46,694
MRE OP1 - MEDIA AND EXTERNAL RELATIONS	194
C4D OP3 - EMERGENCIES	3,043
PMU OP3 - DRR / EMERGENCIES	11,564
Other Resources - Regular	348,758
24-01 Water	348,691
OP 3 - SUSTAINABLE ACCESS TO SAFE WATER	327,761
OP 6 - DIRECT COST TO SUPPORT THE OUTCOM	4,304
MRE OP1 - MEDIA AND EXTERNAL RELATIONS	2,201
OP 2 - FINANCIAL STEWARDSHIP	14,426
24-02 Sanitation	67
OP 2 - WASH IN HEALTH, NUTRITION, EDUCATION	62
MRE OP1 - MEDIA AND EXTERNAL RELATIONS	1
OP 2 - FINANCIAL STEWARDSHIP	4
Grand Total	**410,252**

As presented above, thematic funding for WASH was mostly used to invest in access to safe water in humanitarian and development contexts. Therefore, these funds were used to complement available resources for major infrastructure works (e.g. the pipelines). These will have long-term impact for vulnerable populations in the drought-struck south of Madagascar to have sustainable access to safe and clean water. Mobilizing resources for these projects is not easy, and the flexibility of thematic funding is very appreciated as it allows to pool resources to carry out crucial work packages, such as technical studies, procurement of supplies and equipment and construction of water systems. Equally, thematic funding gave the WASH programme the means to invest in the discovery of novel solutions for both incremental and disruptive innovation, i.e. to improve existing systems (e.g. ground water monitoring) and to find new approaches (e.g. deep drilling for primary water).

Table 5: Expenses by Specific Intervention Codes (in US Dollars)

Specific Intervention Code	Expense
24-01-01 WASH - Enabling environment (policies/strategies, coordination, regulation, financing, planning-monitoring-review, sector capacity development and professionalization)	126,516
24-01-04 Water supply - sustainability checks	503,585
24-01-05 Water supply - institutions (schools, health care facilities, ECD centres)	215,800
24-01-06 Water supply - rural communities service delivery	2,007,936
24-01-08 Water supply - safety/quality/treatment (including household treatment and safe storage)	24,682
24-01-09 Water supply in emergencies - improving water supply services communities	5,861,110
24-01-99 Technical assistance - Water	438,628
24-02-04 Sanitation and hygiene - eliminating open defecation in rural communities	479,899
24-02-05 Sanitation - eliminating open defecation in peri-urban and urban communities	140,990
24-02-08 Sanitation and hygiene - institutions (schools, health care facilities, ECD centres) including menstrual hygiene management	215,971
26-01-01 Country programme process (including UNDAF planning and CCA)	6,952
26-03-01 Advocacy and partnership-building for social behaviour change	4,616
26-03-04 Community engagement, participation and accountability	22,985
26-03-06 Research, monitoring and evaluation and knowledge management for C4D	53,220
26-03-07 Strengthening C4D in Government systems including preparedness for humanitarian action	208,586
26-05-01 Building evaluation capacity in UNICEF and the UN system	48,281
26-06-01 Parliamentary engagement for policy advocacy	5,346
26-06-04 Leading advocate	18,504
26-06-05 Leading voice	22,447
26-06-06 Supporter engagement	4,210
26-06-07 Leading brand	49,069
26-06-08 Emergency preparedness (cross-sectoral)	43,384
26-06-12 Learning	5,067
26-07-01 Operations support to programme delivery	480,897

27-01-06 HQ and RO technical support to multiple Goal Areas	963
27-01-15 CO programme coordination	55,808
28-03-02 Leading voice at HQ	932
28-07-04 Management and Operations support at CO	-97,643
30-03-02 Private sector advocacy	42,224
Grand Total	**10,990,967**

Table 6: Planned budget for 2019 (in US Dollars)

Output	Funding Type	Planned Budget[21]	Funded Budget[23]	Shortfall[22]
Output 1 – Policy and capacity development	ORR	1,000,000	517,303	482,697
	RR	110,600	129,922	-19,322
Output 2 - WASH in health, nutrition, education	ORR	1,250,000	101,724	1,148,276
	RR	106,700	160,822	-54,122
Output 3 – Sustainable access to safe water	ORR	5,506,000	1,900,691	3,605,309
	RR	287,600	575,791	-288,191
Output 4 – Sanitation and hygiene	ORR	1,500,000	779,186	720,814
	RR	376,100	250,547	125,553
Output 5 – WASH in emergencies	ORR	0	0	0
	RR	55,300	86,256	-30,956
Output 6 – Direct costs	ORR	250,000	252,771	-2,771
	RR	313,700	426,151	-112,451
Sub-total Other Resources – Regular		**9,506,000**	**3,551,675**	**5,954,325**
Sub-total Regular Resources		**1,250,000**	**1,629,489**	**-379,489**
Total for 2019		**10,756,000**	**5,181,164**	**5,574,836**

For 2019, the gap for UNICEF's WASH programme is around 52 per cent, at US$5.74 million. The required amount might however change as it refers to the current Country Programme, initially planned for the period 2015 until the end of 2019. Discussions with the Government and the UN system are ongoing to extend the Country Programme for one year until 2020. Thus, total amounts and funding needs are likely to increase.

[21] Planned and Funded budget for ORR excludes recovery cost. RR plan is based on total RR approved for the Country Programme duration.
[22] Other Resources shortfall represents ORR funding required for the achievements of results in 2019.

E. Future Work Plan

For 2019, UNICEF's WASH programme will build on the achievements of the past year and focus for instance on:

Enabling environment

- Finalization of the national sectoral WASH plan which will constitute the roadmap for the Government and all WASH partners until 2030
- Develop the Open Defecation Free road map to support Madagascar Madio 2025
- Scale up strategies: Water safety plans, Next Generation of Mayors, Gender Equity for WASH, Urban WASH
- Continue to strengthen the models for the sustainability of WASH services

WASH in institutions

- Scale up MHM strategy at school and community levels

Water

- Start operation of the Ampotaka drinking water pipeline/ phase 1
- Launch innovative solutions identified in 2018 to expand water supply solutions in the semi-arid regions of southern Madagascar

Sanitation

- Intensify rural sanitation activities

Emergency and resilience

- Develop WASH in Nutrition Strategy
- Continue implementation of the climate change adaptation strategy (e.g. Multiple Uses of Water programme)

F. Expression of Thanks

UNICEF Madagascar would like to express its sincere appreciation to all its donors for their essential and highly valued support toward the Water, Sanitation and Hygiene programme. Your generous thematic contributions have allowed UNICEF to be flexible and provide comprehensive programmatic assistance to the WASH sector in Madagascar.

UNICEF also wishes to thank its WASH programme partners for their effective collaboration as part of the programme, and to all the communities in the target regions and its government partners, from central to regional as well as district and local level, without whom UNICEF's work to ensure the rights of all children are realised would not have been achieved.

A girl draws safe drinking water from a UNICEF-supported pump © UNICEF/UN0269085/Ralaivita

G. Annexes

Human Interest Story

SEVALAVA IS ENJOYING THE "RANO FITAHIA-NANAHARY", THE "DRINKING-WATER - BLESSING FROM GOD"

The new improved water source in the village of Sevalava has changed people's habits and raised confident to the population

On the edge of the national road 10, somewhere between Toliara city, in the south-west, and Taolagnaro in the south-east, live the 250 residents of Sevalava village; 92 of them are children under age of five.

People in Sevalava have always had a water source near the village to fetch water for drinking and irrigating the fields. But… this water source was just a pool of turbid water, that villagers drink despite vegetal and animal wreckage. And this open surface water source was shared between the 250 inhabitants of Sevalava and three other villages. Yet, half of the year, this source was not enough to irrigate even half of Sevalava village's arable land.

Over the years, as the south of Madagascar was affected by drought which was further aggravated by El Nino, water levels started to decrease and forced the villages to find alternative livelihoods, such as growing rice or cassava. They also had to revert to other strategies, including charcoal making, which provided some money in the short run, but contributed to the further depletion of locally available resources.

Sevalava residents are drawing drinking-water from their water point named "Rano fitahia-Nanahary"

This pool used to serve as a source of water for the village of Sevalava and also supplied three other surrounding villages

Charmille Vaha knows Sevalava village and its residents very well. At 53 years old, this health worker spent almost 20 years of her life caring for her fellow community members. “Our soil has always been very fruitful, but the main trouble is water availability”, she says. “More and more children fell sick with diarrhoea.”

Charmille, health worker of Sevalava poses in front of her house with her three children.

As elsewhere, children under five are the most vulnerable, and Charmille is on her own to provide immediate support while the nearest health centre is about ten kilometres away.

In 2018, the community has benefited from a water point setup by UNICEF. People started calling it “rano fitahia-Nanahary” or “drinking-water source, blessing from God” because it lets water flow naturally without pumping. This new water point has not only brought safe water, but it has also helped the people to change their habits and hygiene practices.

Charmille is drawing drinking-water from the water point in Sevalava

More than ever, motivated by this new source of life, Charmille has made it her mission to sensitize other villagers on the proper use of the water point and how to maintain it so that it works well and continues to provide safe water to the whole community. With the new water point, the residents of Sevalava have enough water to drink, enough water to wash themselves, and even enough water for agriculture. And Charmille is very confident for her children’s health.

Story: Maminirina Rakotomalala, WASH Regional Technical Assistant, Atsimo Andrefana region, UNICEF Madagascar

Credit photos: UNICEF/2018/Rakotomalala

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