

Towards an Anticipatory Action Plan for Food Security Crises in Somalia

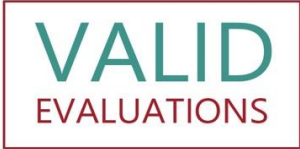


Anticipatory Action Plan - Water Sector Report

A report commissioned by Valid Evaluations

Centre for Humanitarian Change July
2020





Executive Summary

This report reviews the existing risks in the water sector and outlines the opportunities for system-strengthening and anticipatory action.

Somalia has undergone more than thirty years of insecurity, mass displacement, drought, famine and floods. The establishment of a widely accepted Federal Government and Somalia's imminent qualification for access to IDA funds under the 19th replenishment is tempered by the three threats of floods, locust infestation and the Covid-19 pandemic. The Famine Action Mechanism with its Crisis Response Window and Early Response Financing provides the opportunity to act in anticipation of an expected water- and food-security crisis.

Water is at the core of investment needs in Somalia. It is the essential prerequisite for a rural economy, where human and livestock needs require continuous balancing, and the main determinant for the viability of fast-growing urban centres. After many years of short-term relief interventions, there has been a significant shift in the water sector towards durable solutions, aiming to provide sustainable, permanent water supplies and mitigate the impacts of frequent natural disasters.

However, there is a risk that investments in infrastructure development in the absence of an accompanying investment in systems for the water sector to anticipate and respond to regular shocks will result in development losses.

The proposed Famine Action Mechanism (FAM) provides an opportunity to fill the gap in both water risk-informed and shock-responsive systems by providing much needed support to activities that anticipate the frequent disasters in Somalia and strengthen resilience at system, as well as individual household, level.

Recommendations

While many of the actions discussed in the report aim at medium-term activities to strengthen capacity for anticipatory action, there are a number of interventions that can be made immediately to mitigate the combined impact of floods, locust infestations and the Covid-19 pandemic. These are listed in Box 1 below.

Box 1 - Recommended Anticipatory Action in the Water Sector 2020-21

- Provide technical assistance to water authorities in FMS to work with private sector water providers and put in place pre-agreed systems for scaling up supply to critical areas (Covid-19 hotspots, IDP settlements with no permanent water supply, communities in locust- and flood-affected areas). These should be supported by risk financing agreements, including:
 - a. Subsidies to run strategic water supplies.
 - b. Community and individual water vouchers to incentivise vendors to serve remote areas.
 - c. Disaster insurance to cover infrastructure and services in locust- or flood-affected areas.
- Strengthen capacity at local level to pre-identify the ‘hot spot’ areas and communities, and develop local contingency plans for continuity of water and sanitation services.
- Fast-track construction of small-scale water harvesting structures to secure water supplies in strategic areas (through the WB Biyoole project if possible)
- Work with the Ministry of Health to develop a modified version of the WASH cluster supply-hub model for critical infection prevention and control (IPC) items, including soap. Transition the system to a more market-based approach which supports local suppliers and ensures access for a wide group of beneficiaries, e.g. through cash subsidies to SME to provide soap, hand sanitiser etc at affordable prices.
- Fast track the establishment of multi-hazard risk mapping and surveillance systems for monitoring water stress and related indicators (climate, conflict etc) and embedding these in a government led early warning and early action mechanisms (through the WB SCRP?). This can build on experience from the Building Resilient Communities in Somalia (BRCiS) consortium and making use of new WASH severity assessment tools (Somalia WASH Cluster/REACH)

Actions in the medium term

An anticipatory action plan in the water sector must consider a package of *risk informed system-strengthening* as part of water programming over the next few years. Specifically:

1. **Achieving anticipatory action to mitigate the risks in the water sector requires a combination of system-strengthening and basic preparedness (including risk financing).** In a multi-dimensional risk scenario like Somalia this is underpinned by pre-identifying the problem areas (water scarcity, flood water/contamination risk, access/affordability issues, crisis credentials for disease outbreak).

This type of risk-mapping and advanced planning needs to be complemented by surveillance to track the severity and scale of a water crisis. Components of this are carried out by FSNAU and SWALIM and brought together as decision making tools for the humanitarian community. However, this is heavily focused on *food security* and flood surveillance rather than *water insecurity* and needs to be transitioned to a more sustainable, government-based surveillance system.¹

¹ Support for a government-led surveillance system is planned under the Somalia Crisis Recovery Project (SCRCP) and should include specific support to the water sector.

- 2. Anticipatory water action needs to consider what interventions are appropriate, where and when - 'do the right thing in the right place at the right time'.** This phased, scale-up or 'surge' approach requires a good understanding of the dynamics of water resources and the socio-economic situation of users in a particular area. Specifically, this is best implemented by local institutions (local authorities, NGOs and/or civil society) with access to flexible financing to adapt plans and re-orientate activities in response to an anticipated crisis.

The current pattern of external support in the sector leaves a gap between those providing durable solutions to water shortage through investment in infrastructure (usually through government) and those providing emergency water supplies during a crisis (usually NGOs coordinated by the WASH cluster). The World Bank has the institutional comparative advantage to bridge the gap by building capacity, and providing resources and technical support for existing water service providers to plan for a crisis, and be able to flex and scale up their supply systems to meet demand when it occurs. Quick, flexible and targeted risk financing is needed to support water anticipatory action by existing water service providers and this cannot be provided by existing, humanitarian systems.

The surge model approach can create capacity for the right action in the right place at the right time, embracing anticipatory action, early action and emergency response.²

- 3. The final, and possibly the most important, part of anticipatory water action is strengthening water supply systems to withstand shocks and provide expanded services when needed.** This should consider the water supply system as a whole, including community management committees, private water providers and government regulatory and coordination mechanisms. The aim is to ensure that the system is both *resilient enough* to deliver reliable water supplies to the majority of the population and critical facilities, and is *shock responsive* (able to expand to meet different demand patterns in a coordinated response).

Based on the current portfolio of projects and strategic interests of World Bank in the water sector in Somalia the Bank is well placed to lead on system-strengthening activities which are essential to anticipatory action.

This approach to anticipatory action is summarised in the diagram below.

² The strengths and weaknesses in the system that this would address are well illustrated in the Beletweyn Case Study at Appendix E

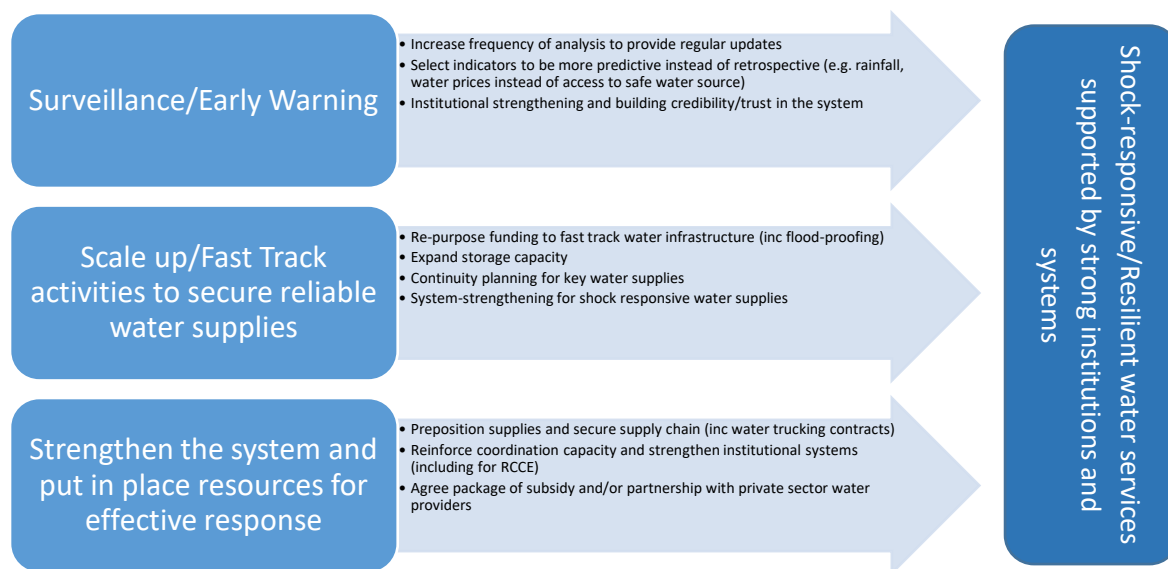


Figure 1 - Summary of Recommended Approach for Anticipatory Action in the Water Sector

The World Bank's considerable technical expertise and experience in the water sector gained through many years of support in the region could be applied through the SCRП and Biyoole projects to strengthen the capacity of water authorities to prepare for and manage risk, including price stabilisation and private sector partnership.

The Bank can leverage its convening power to

- bring together the different parts of the humanitarian and development systems to fill the gap in longer term risk planning and
- work towards a common goal to strengthen water systems to deliver *shock-responsive* water supplies in Somalia.

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Background to the sector in Somalia

Development and investment

Water is at the core of investment needs in Somalia. It is the essential prerequisite for a rural economy, where human and livestock needs require continuous balancing, and the main determinant for the viability of fast-growing urban centres. Water has traditionally been seen as an *economic good* in Somalia, and “willingness to pay” is relatively well established in society³. It is at the same time regarded as a *social good*, and access to water in Somalia has consequently been closely associated with traditional power structures and access to land. Conflicts over water, therefore, generally have both an economic and a social dimension. With water so much at the core of Somali society and its economy, the envisaged road to reconciliation, recovery and economic growth will be impossible without significant investments in the water sector.

Water resources in Somalia are scarce, and their replenishment is to a large extent outside the direct influence of the Somali people. Development projects in neighbouring countries (e.g. hydropower dams) potentially affect the water regime of the two trans-boundary river basins (Juba and Shebelle). Strong water resources management frameworks and active engagement in regional water resources management agreements are vital to safeguarding a key economic asset for the country.

Since the collapse of the central government in 1991, the delivery of water services has, increasingly been in the hands of vibrant small and medium-sized enterprises and rural communities. Their viability is constrained by limited access to technology, poor revenue management, and by a capacity gap (both in and beyond the water sector), due to the fact that the required vocational skills have not been taught for over 20 years. Despite these constraints, such decentralised service delivery models have provided and maintained basic access for the majority of the population, thus offering an established platform for engagement by investors and the formation of a more structured enabling environment by government.

In the last 10 years, donor-funded water sector projects have shifted from short-term, water relief interventions, to longer-term engagement with communities, local government and utilities, and investment in sustainable water supply systems which improve community and system resilience. Amongst the recent interventions, the following stand out as considered investment in building resilient water systems:

- **UNICEF’s programmes to build urban and rural public-private partnerships (PPPs).** Working with local authorities, private water providers and users’ groups, UNICEF and its partners have developed successful models for water supplies which have proven to be robust enough to survive shocks and operate independently of donor support (UNICEF,2019)
- **BRCiS Consortium work on durable solutions** working with communities to develop infrastructure and management systems that provide durable solutions to problems of seasonality and unreliable water supplies.⁴

³ Recent surveys show that a large majority of households (71%) pay for water (REACH, 2019). This is a sharp contrast to neighbouring countries

⁴ For example, boreholes have been fitted with hybrid solar/generator pump systems and community committees are using revenue from water sales to stockpile fuel and spare parts (KI interview, 2020).

- **World Bank Biyoole Project.** This project on water for agro-pastoral productivity for resilience takes a more 'holistic' approach to water sector development, combining large scale investment in sustainable rural water infrastructure with institutional development and capacity building, and linking this to land management and livelihood support around the water points. (World Bank, 2019)
- **The Global Environment Facility Fund and UNDP Project** is an **Integrated Water Resources Management project** for rural communities focusing on improved water supply systems and disaster risk reduction. The project aims to support the establishment of a National Hydro-Meteorological and Monitoring Service and expand Somalia's existing flood and drought forecasting and early warning tool. The project is also supporting the development of a National Water Resource Management Strategy. (UNDP, 2019).
- **The AFDB Urban Water Supply and Sanitation Project** focuses on access to safe and reliable water supply and improved sanitation particularly for IDPs in major towns. The project utilizes solar powered Nano-filter desalination plant and solar powered boreholes to improve the water supply system. The project targets also include catchment conservation, protection of water sources and construction of appropriate sanitation facilities. AFDP Project Document, 2018.
- **GIZ Sustainable Water Resource Management Project in Somalia** focuses on improving centralised and decentralised management of water resources in the Shabelle catchment area and their use for agricultural rehabilitation. Other key significant areas the project tries to strengthen is the institutional framework and hydrological information basis for sustainable management of water resources. (GIZ project document, 2019).
- **There are also some other traditional donors.** The Islamic Development Bank has funded the drilling of strategic boreholes in south central, Puntland and Somaliland. In the last five years the bank funded the drilling of over 61 boreholes and also supported Puntland and Somaliland on the sustainability of the boreholes by providing training and maintenance rigs, vehicles for monitoring of the boreholes and facilitation to the Ministry of Water in Puntland through the Puntland Water Development Authority and the Ministry of Water in Somaliland.

In a country with extreme fragility (climatic, security and socio-economic) the challenge is to design water sector investment to be risk informed and shock-responsive. Water service systems need to mitigate risk from droughts and floods, with infrastructure that is robust enough to withstand shocks and services that can scale up to meet additional demand during crises.

Current Status of Water Services

In remote communities, access to a functional groundwater source is insufficient either because the coverage is limited or because facilities have broken down due to overuse. In urban and sub-urban communities, including IDP settlements and host communities, water is often microbiologically contaminated and unsafe for drinking due to improper planning and a high concentration of sources of pollution such as toilets and septic systems. In Puntland and Somaliland, recent droughts and abnormal dryness have inflicted important damage to water supply systems and depleted aquifers. Infrastructure built to retain runoff water are also either under-sized or poorly constructed to cover the population needs between rainy seasons.

Consequently 49% of Somalis do not have access to a regular and stable improved water source for drinking and only 52% among them walk less than 15 minutes to reach their main drinking water source.

36% of Somali do not have enough water per day to cover their basic needs for drinking and domestic use (REACH, 2019). Challenges to access to a daily minimum quantity of safe water are mainly faced in Lower Juba, Gedo, Hiraan, Bakool, Middle Shabelle, Mudug and some parts of Bari, Sool and Sanaag.

When water is scarce, people reduce domestic water consumption (32%), reduce drinking water consumption (9%) and/or rely on seasonal unsafe water sources (9%) as a main negative coping mechanism. Worryingly, 8% of households request their children, especially girls, to walk longer distances and/or fetch water more frequently than when water is more available.

Challenges and Opportunities

The water sector faces multiple challenges, and most stakeholders agree that there is a long way to go to reach the levels of maturity of water service delivery systems that are emerging in neighbouring countries. An arid, water-scarce environment and increasingly unreliable rainfall lead to regular water insecurity for the majority of households. Fragility and fractured governance make it difficult to establish the necessary enabling environment to support effective water sector development. Specific challenges highlighted during this study include:

- There are 1,778 registered IDP sites in Somalia (more than 400 in South West State alone), housing over 800,000 IDPs. Coverage of minimum WASH services is low, with 55% of sites having no safe water supply available to residents. Crowded conditions and poor sanitation coverage make these sites high risk for disease outbreaks and transmission (CCCM Covid-19 Risk Mapping, 2020). Mostly peri-urban, these sites should be included in water utility service areas but typically they rely on NGO projects to provide water.
- The climate oscillates between *excess rain and flooding*, causing displacement and outbreaks of disease and *extreme dry weather* and water scarcity. Historically, severe droughts in Somalia occurred every five to ten years but the frequency is increasing, with 3 major droughts in the last 10 years. Coverage with permanent, risk-proof water supply infrastructure is low (55% of households have access to an improved water supply, REACH 2019) and the common response to relieve shock impacts is water trucking to affected communities.
- The water governance system is too weak to regulate the price of water. Currently all the water pricing is decided by the private sector. Sometimes, NGOs will develop new water supplies and hand them over to the community, either in the shape of an organized group or unorganized committee members but, unfortunately, these groups charge any price that they want. The unregulated water market is seen as exploitative by many and increases the vulnerability of the poorest households.
- Water quality is a problem, especially in flood areas, and there is a strong preference for free, 'sweet' rainwater which is often contaminated. There has been very little investment in water treatment at the point of supply, and treatment at the point of use is dependent on handouts of water treatment chemicals.
- Insecurity constrains provision of sustainable water sources to the most vulnerable people in some areas, especially in Gedo region, Galmudug and Lower and Middle Juba. Within these 'hard to reach' (HTR) areas there are communities with acute water shortages, but access to non-government-controlled areas for drilling of the boreholes and other strategic water sources is difficult, and there are few partner organisations working there. The marginalisation of these areas means people rely on water trucked over long distances during the drought period and there appear to be proportionally higher incidences of AWD and other water related diseases.

- Institutional capacity to govern the water sector has collapsed over the past 20 or more years. At national Level the FGoS is yet to put in place a vibrant institutional framework for effective water services delivery and sector coordination. Fragmentation of institutional responsibilities and lack of adequate legislation has resulted in an uncoordinated development of the sector. Institutions remain weak, staffed by professionals with inadequate qualifications and skills and requiring capacity enhancement. However, in Somaliland and Puntland, relevant sector policies have reached various stages of development and adoption and the experience and lessons learnt can inform institutional strengthening in FGoS. The Ministry has no contingency fund during times of disasters and no disaster emergency response capacity. Prior to the civil war, relevant sector Ministries operated through their regional and district offices that had been established to provide the needed support for development, operation and maintenance of water supply and sanitation infrastructure. Currently, FMS are trying to revive these offices but the majority are not fully operational, are understaffed and lack supportive infrastructure such as office space and equipment.

Despite these multiple challenges, there are opportunities to build on localized models of successful water systems that are based on a culture of entrepreneurship and social networks. With better regulation of tariffs and water quality, water supplies run by private companies and local committees can contribute to a strong system for water service delivery.

World Bank portfolio review

Water Sector Projects⁵

The Biyoole project is a 4-year programme which builds on an earlier, successful pilot project in Somaliland and Puntland. The programme started in 2019 and focuses on water for agro-pastoral productivity and resilience, using small-scale water-harvesting and -storage technologies (mainly sand dams). Its scope covers 4 FMS, including Galmudug and SW and aims to construct and/or rehabilitate 100 water points. With an investment of \$42M it is probably the biggest programme of water development in Somalia in the last 10 years.

The evaluation of the pilot project made some constructive recommendations which resulted in the new project, including a substantial institutional capacity-building component (from community up to the Ministry of Energy and Water (MoEW) as well as a more conflict-sensitive approach. There is, therefore, potential for the project to contribute to anticipatory action through significant system-strengthening, particularly in water governance.

Other water projects under the WB portfolio include:

1. **Transboundary water management project**, linking Somalia, Ethiopia and Kenya around sharing water resources in Shebelle, Juba and Dawa
2. **Technical support** to MoEW policy development through a TA who is helping to develop a National Water Strategy.
3. **Water resource modelling** project (using 'Hydro ram' modelling systems) aimed at strengthening early warning and links to humanitarian action. This is intended to complement what SWALIM is doing but establishing a more Somali government owned monitoring system.

⁵ The Bank has invested significant amounts in sanitation projects in the East Africa region but currently has no sanitation or hygiene projects in Somalia

All these projects apparently include the possibility of using the Contingency Emergency Response Components (CERC) to pivot to activities in response to an emerging crisis. However, project managers consider this to be too cumbersome and slow to be of much use for anticipatory or even early action.

Somalia Crisis Response Programme (SCRP)

The recently approved SCRCP was originally designed as a WB disaster recovery project. However, in line with the fragile, multi-hazard risk context of Somalia it has been expanded to include substantial components on long-term disaster management and preparedness (see Box). This mirrors the proposed approach for anticipatory action in the water sector, so there is obviously huge potential to contribute to the AAP through Component 3 of the SCRCP.

Lessons learnt from preparedness and early action

Focus on durable solutions

The resilience approach that emerged from the 2011 famine in Somalia redirected efforts towards more sustainable water supplies, including engaging with community committees and local government to create durable solutions. This approach appears to be having an impact on reducing the risk of drought and the scale of the response required. According to several key informants, investment in durable or resilient water supplies is synonymous with anticipatory action because it secures access to water for a large number of people through a shock event.

The challenge of a mobile population

While only a small proportion of the Somali population are fully nomadic pastoralists, the predominant livelihood is pastoralist or agropastoral (Food Security and Nutrition Analysis Unit [FSNAU] and Famine Early Warning Systems Network, [FEWSNet] 2016) and mobility is the most common coping strategy for any shock or stress (Maxwell et al, 2016). Planning and targeting anticipatory action for the highest risk communities and households is difficult in such a mobile population. Communities who are stressed by increasing water shortage may have moved before planned actions have been completed. However, experience from the 2011 and 2016 droughts has shown that concentration of humanitarian action around urban centres (e.g. WFP/Scope safety nets and rehabilitation of major water supplies) tends to

Component 3: Longer-term disaster risk management and preparedness (US\$ 24 million).

This component will have a national scope and focus and will set the analytical and policy groundwork and capacities to enable a government-led, integrated approach to flood and drought risk management and preparedness. This will include: (a) piloting Integrated Flood-Drought Preparedness and Response Solutions at a national level including community level structural and non-structural interventions; (b) Flood Risk Management including the strengthening of the enabling policy and institutional framework, flood risk assessment and hazard mapping, and pilots for structural flood risk reduction interventions; (c) Supporting Hydromet and Early Warning Systems for generating and disseminating hydromet data; (d) Supporting the operationalization of the National Drought Recovery and Resilience Framework (RRF) Secretariat including the institutionalization of investment planning processes for drought recovery and resilience building and strengthening systems for aid tracking, institutional coordination and programmatic monitoring and evaluation; (e) Supporting the setting up of a National Emergency Operations Centre (NEOC) and developing and operationalizing a Longer-term Public-Civil Society Collaboration Model for Crisis Response and Preparedness; (f) Capacity Building and Technical Assistance to MDAs for resilience building; (g) Establishing locust early warning systems, and; (h) Establishing an Integrated Disease Surveillance and Response System to Detect Pathogens at a national level (including for Covid-19).

act as an incentive for migration, with negative consequences on land tenure, security and health. Continuing to channel efforts to improving remote, rural water supplies is therefore important, despite the challenges.

Over-reliance on water trucking as the first response option

Supporting commercial water trucking to areas affected by shocks is the predominant action of government and aid agencies alike. Key informants acknowledge that this is problematic, and exploitative commercial water trucking enterprises often force water prices up with negative consequences for the whole population. Lessons learnt by the BRCiS consortium during the 2016/17 drought resulted in a change of approach to

- i) focus more on developing sustainable water supplies for the most high-risk communities, and
- ii) anticipate the need for temporary water supply and develop systems (including pre-positioning services) for community water vouchers in advance.

This meant that supplementary water supplies were mobilised quickly in the extreme dry season in early 2019 (see BRCiS Case Study, 2019).

Multi-dimensional nature of disasters

The severe droughts of 2010/11 and 2016/17 were both accompanied by cholera outbreaks requiring a multi-layered response in the WASH sector. In the last 12 months, Somalia has faced flooding, locust invasions and a (pandemic) disease outbreak (Covid-19). Each of these have a different but compounding impact on affected households. The design of effective action based on early warning of at least one hazard event therefore needs to anticipate that this will be accompanied by other disasters. This multi-dimensional pattern of disasters requires multi-dimensional and context-specific action plans.

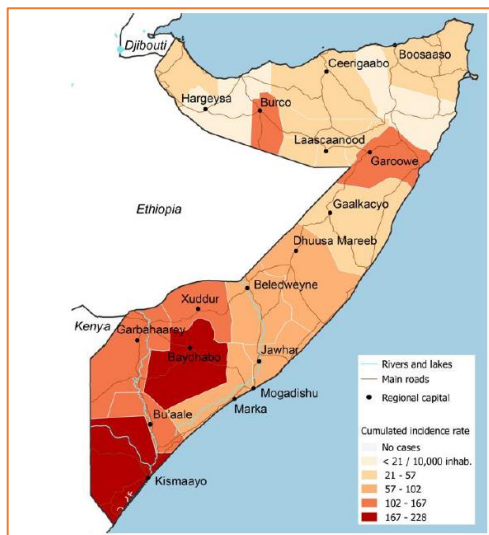
Understanding crisis risk and mitigation “best practices” (Water lens)

Water- or Food- Security Crises?

Emerging evidence from recent research in multiple countries (Brewis et al., 2019) suggests that water security crises are a predictor of food security crisis and should therefore be viewed independently, rather than as a feature of food security crisis. This is evident in Somalia, as addressing drought- or flood- related water insecurity is often the first priority for Somali communities. The proposed use of food security predictions to ‘trigger’ early or anticipatory action in the draft OCHA Anticipatory Action Plan and WB FAM concept is problematic for the water sector as more water-specific tools are needed, potentially in advance of food security indicators.

Tools for independently measuring water insecurity have been developed and tested over the last few years and a new system for classifying WASH severity and predicting likely, future severity are also under development by the global WASH Cluster and partners. This plan should therefore focus on anticipatory action for a water or WASH crisis separately to water sector action to mitigate a food security crisis.

Who is at risk? And how?



Urban and rural communities face different water, sanitation and hygiene risks in a crisis and different communities are at risk from different shocks. The WASH cluster has developed a vulnerability map which overlays the risks from different hazards (flood, drought and disease outbreaks). This shows clearly that there are ‘hot-spots’ where communities are at risk from multiple hazards and should therefore be prioritized in any anticipatory action (see Appendix A). This analysis is influenced by cholera incidence as shown in Figure 1. Notable are hotspots in Jubaland region which are prone to flooding and AWD/Cholera outbreaks, and parts of Southwest State which are repeatedly affected by drought and AWD/Cholera.

Figure 2 - Cumulative cholera incidence by region in Somalia, 2016-18

Broadly speaking the water, sanitation and hygiene related risks are as follows:

- The recurrent climate shocks all result in limited water availability. Most of Somalia is arid or semi-arid and the rainy seasons are increasingly unreliable and extreme. Households which rely on seasonal water supplies are most at risk from drought as water supplies dry out (usually by February or March) and women are forced to travel long distances to fetch water or pay for water from private vendors. In March 2016 to March 2017, the Shebelle river dried out completely, unseen in over 30 years, resulting in the drying up of shallow wells along the riverine areas which typically have good water security
- There are seasonal flash floods that displace households and destroy houses and other properties. The cyclones affecting the coastal areas and riverine flooding (along the Shebelle and Juba rivers) damage water infrastructure and latrines, and households which resort to using contaminated flood water are at risk of AWD/Cholera.
- Sanitation and hygiene are a major problem especially in rural communities and for people who are living in congested areas (including IDP settlements). The hygiene around water *berkhads*, which are commonly used by the pastoralist communities, is poor. The water catchments are not protected, and open defecation is common⁶. Risk of diarrheal disease from drinking contaminated water is therefore high.
- Coverage of permanent water supplies is constrained by limited ground water availability and high salinity levels in some parts of the country. Pastoralists are scattered in remote settlements or family groups and women walk long distances to collect water in the dry season. This workload has impacts on women’s health as well as child care practices with consequential effects on malnutrition rates.

Displaced populations are singled out as highly vulnerable in all humanitarian needs assessments. But the way migrant households settle in urban areas, often integrated with the host community, means that their water risks are similar to the host community. It is more useful to look at water risks and

⁶ nearly 50% in rural households, WASH Joint Monitoring Project, 2017

equitable durable solutions for a neighbourhood rather than to design separate actions for displaced and non-displaced households. However, households in IDP camps with crowded living conditions and inadequate latrine coverage are at much higher risk of infectious disease outbreaks.

What are the structural issues at hand?⁷

Rural and Urban Disparities

There is a big difference between how rural and urban areas experience shocks. Structural issues like low coverage of permanent water supplies are the main problem in rural areas and bridging the gap between rainy seasons and availability of water from seasonal water sources is the challenge. In this dry season period, many households rely on private water vendors, but there is no regulation of prices and quality. This makes households more vulnerable in a food security crisis, because they may have to choose between buying water and buying food or reduce their consumption of both. Urban communities are more affected by floods and disease outbreaks and the structural issues are more around regulation of water quality and price within established water supply systems. Urban households have similar vulnerabilities to high food and water prices.

Weak water governance and institutional capacity

Weak water governance systems are often cited as the main constraints to the development of resilient water supplies and mobilization of anticipatory action to mitigate the impacts of shocks. In the water sector it is important to break down governance into different components, with different roles and responsibilities. Typically, national and regional government should lead in the development of *strategic and regulatory frameworks*, whereas local institutions will govern *the provision of services*. In Somalia formal government systems were destroyed by nearly 30 years of war. Institutions that are being re-established at national and regional levels are still fragile, under-resourced and lack legitimacy across the whole population.

Somaliland and Puntland states have already implemented legal frameworks for water service delivery. National legislation is further behind, but the National Water Act is drafted and is with Parliament for approval, and a National Water Strategy is at the drafting stage. The National DRR Policy is also drafted. Other FMS are likely to require their own legal frameworks and strategies in the near future. The capacity of the regional governments is very weak in terms of leading the development of the water sector. Puntland has shown commitment to service delivery and invested in the development of a strong Public Private Partnership (PPP) model compared to the other member states. In the chaos of the conflict the private sector, often supported by diaspora technical and financial support, emerged as the dominant force in the water sector operating large-scale water utilities as well as small-scale water vending businesses. These have proven to be robust and resilient water provision systems but the lack

“The spike in water prices is estimated to have added around USD 20 million to the cost of water in non-riverine regions over the critical 4-month drought period. While only crude estimates of the volume of vended water can be made, the need to heavily rely on borehole water for the critical 4-month drought period could have generated costs in the region of USD 60 million.” (DINA 47)

⁷ see also Sectoral and Institutional Context section, pages 7-11 of Biyoole Project Appraisal Document

of regulation leaves room for exploitative pricing (see Box for example). There is therefore a need to strengthen the role of the 'public' in the PPP models.

Rural water supplies are typically governed by community committees. In the past, these committees were self-appointed and lacked management capacity, including technical and financial skills. More investment in durable solutions in recent years has resulted in efforts to build sustainable management systems, linked to local authorities.⁸

There is very little evidence that any of these governance systems take into account the risks of shocks and include capacity for anticipatory action or response. Where institutional capacity is so weak, it is ambitious to expect these systems to expand to mitigate a crisis, but this should be the goal. At present, contingency planning and pre-positioning of supplies is led by humanitarian agencies, specifically the WASH Cluster, and this is mostly independent of the existing sector governance systems.

Embedding Anticipatory Action in Water Supply Systems

Despite the progress made to orientate donor-funded projects in Somalia towards durable solutions there is still a clear divide between humanitarian and development systems. Development actors such as the World Bank and, to some extent, UNICEF, attempt to work with government and invest in institutional strengthening. Emergency and resilience programmes are coordinated within the humanitarian system and largely guided by WASH cluster guidance with a focus on mitigating disease outbreaks and acute water shortages. These siloed systems make it difficult to build risk awareness and capacity for anticipatory action across the whole system.

Anticipatory action is currently everyone and no-one's business in the water sector. It is seen as outside the mandate of emergency-facing, humanitarian systems which focus on early warning and early action as a crisis emerges through FSNAU analysis. And it also regarded as beyond the mandate of the development system which is focused on infrastructure development on a 4-5 year schedule. The system resents the 'disruption' in the programme workplan when a crisis occurs and sees no advantage in mobilising resources to mitigate the anticipated impacts to minimise the 'disruption'. Exceptions to this siloed approach can be seen in DFID's strategy with the BRCiS programme which has invested in a strong, community based early warning/early action system supported by a crisis modifier and the associated Immediate Response Fund (IRF). This showed positive results in mobilising early action in 2019 (BRCiS Case Study, 2019) but, looking at the timeline of the extended dry season in early 2019, this was very much 'early' rather than 'anticipatory' action.

Trigger mechanisms for Anticipatory Action

A number of contingency plans have been developed in recent years. Most notable for the WASH sector is the Somalia WASH and Nutrition Contingency Plan (FGoS, UNICEF/ECHO, 2014). This looks at preparedness and early response and references how and when action should be initiated, based on the *scenario* trigger indicators and *intervention* trigger indicators. As the contingency plan document points out, the plan's effectiveness is dependent on:

- The availability and credibility of early warning information (see Box)

⁸ Successes can be seen in UNICEF's work under the Joint Programme for Local Governance (JPLG), area-based approaches by the BRCiS consortium and the World Bank-financed Water for Agropastoral Livelihoods Pilot Project.

- A funding stream to support the planned action triggered at each stage.

Key actors have also suggested that effectively triggering anticipatory action requires a shift in attitude and behaviour in the humanitarian and development systems towards greater flexibility and agility.

The OCHA Anticipatory Action plan also recognises this potential weakness but still proposes to use the FSNAU analysis as the trigger for action. Typically, FSNAU early warning is based on an analysis of data from a *post-rains* survey. Allowing for delays in producing verified results this means the ‘warning’ of drought is typically 2 months after the first failed rains. By this stage, communities are already experiencing considerable water stress so it is difficult to see how this would act as a trigger for anticipatory action in the water sector.

This Contingency Plan (CP) depends substantially on the early warning and needs assessment systems that would trigger a scenario and intervention. Poor/inconsistent data from the early warning or needs assessment system (such as the Food Security Nutritional Analysis Unit (FSNAU), World Health Organization (WHO) and Somalia Water and Land Information Management (SWALIM)) will impact the timeliness and accuracy of the response. (Nutrition & WASH Contingency Plan, 2014)

Despite the challenges with reliable information to trigger anticipatory action, it is possible to build a conceptual model for a ‘surge’ mechanism in the water sector in which Anticipatory Action can be triggered by agreed indicators (see Appendix B for an example developed for Kenya drought scenarios). Standard emergency WASH indicators, such as the percentage of people with access to improved water, are not very useful for this, but the Somalia WASH cluster is already tracking alternative indicators, e.g. water prices and a water severity index, which may be more useful in forecasting a deteriorating WASH situation and triggering anticipatory action.

What are the specific interventions that should be used to help mitigate the risk?

What does Anticipatory Action look like in the Water Sector?

It can be argued that anticipatory action in the water sector is just good, risk-informed programming and the examples collected for this study suggest that the investment in durable WASH solutions and/or resilient water supplies has provided a safety net for communities at risk of water scarcity and water related disease outbreaks. Similarly, partnership with government and deliberate efforts to provide resources and capacity development to strengthen water and disaster management institutions will eventually provide a stable base on which to build well-coordinated, timely and effective action to emerging crises. However, there are additional preparedness actions which could contribute to the overall aim of reducing the impact of the shock and preventing famine. These are discussed in the section below.

Another way to look at anticipatory water action is to consider what interventions are appropriate, where and when or ‘*doing the right thing in the right place at the right time*’. This requires a good understanding of the dynamics of the water resources and the socio-economic situations of users in a particular area. Specifically, this is best implemented by local institutions (local authorities, NGOs and/or

civil society) with access to flexible financing to adapt plans and re-orientate activities in response to an anticipated crisis. What this looks like will be very context-specific. For example:

- Programmes in riverine, flood risk areas like Beletweyn might pivot to protecting wells and reinforcing riverbanks in anticipation of a heavy rainy season
- Programmes in pastoralist areas might focus on desilting pans and expanding *berkhads* to maximise water storage from a rainy season that is expected to be below average.

Ideally this risk informed programming should be the normal in areas where shocks are frequent and predictable and should not require a specific AA plan. However, there are many areas in Somalia not covered by a donor-funded programme, and these flexible anticipatory activities should be led by government with a suitably phased risk-financing plan.

An important component of anticipatory action in a multi-dimensional risk scenario like Somalia is pre-identifying the problem areas (water scarcity, flood water/contamination risk, access/affordability issues, crisis credentials for disease outbreak). WASH cluster vulnerability mapping (see Appendix A) has gone some way towards this but a more detailed analysis at district and regional level is required. Once problem areas are identified, a package of timely interventions can be planned to reduce specific impacts anticipated for each area. This has to include pre-positioning the necessary resources and capacity in appropriate local institutions. The WASH-Nutrition contingency plan (UNICEF/ECHO, 2014) includes scenario mapping for different hazards. Interestingly, this was based entirely on local knowledge rather than using advanced technologies like satellite imagery.⁹ This didn't secure funding and now needs updating and the engagement of FMS.

This type of risk-mapping and advanced planning needs to be complemented by surveillance to track the severity and scale of a water crisis. This type of surveillance is carried out by the NDMA in Kenya and provides credible information for decision-making on anticipatory and early action. Components of this are carried out by FSNAU and SWALIM and brought together as decision-making tools for the humanitarian community. It is not clear how/when this can be transitioned to a more sustainable, government-based surveillance system but the World Bank is already working on some parts of this in their water resource modelling project.

The final and, possibly the most important part of anticipatory water action is strengthening the water supply systems to withstand the shock and provide expanded services when needed. This should consider the water supply system as a whole, including community management committees, private water providers and government regulatory and coordination mechanisms. The aim is to ensure that the system is both *resilient* enough to deliver reliable water supplies to the majority of the population and critical facilities, and *shock responsive* (able to expand to meet different demand patterns in a coordinated response). Investment in this system-strengthening is increasing, particularly through the World Bank water projects (see below), but there are still major gaps, with confusion over roles and responsibilities between federal and state water departments, and across water technical Ministries (MoEWR), disaster management Ministries (MoHADM) and coordination Ministries (MoPIED).

⁹ It would be interesting to re-develop these scenario maps using remote surveillance techniques as is done by the National Drought Monitoring Authority in Kenya and compare with the maps produced with local knowledge.

The diagram below summarises this picture of anticipatory action in the water sector. Suggestions of specific activities to be included in an anticipatory action plan are given in the next section.

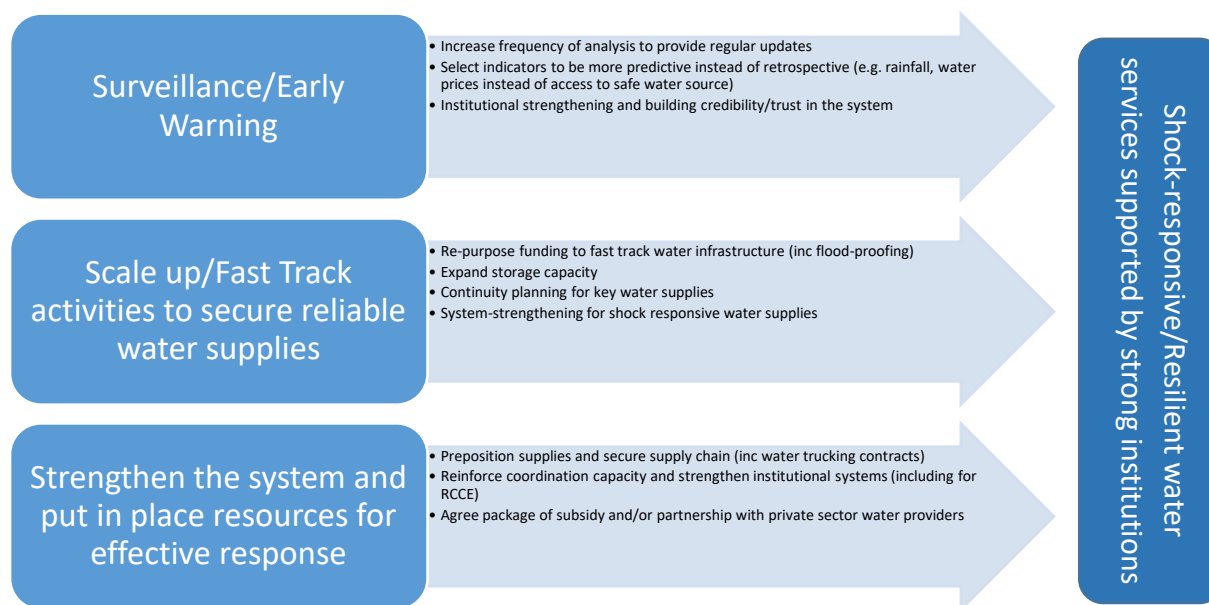


Figure 3 - Proposed Three Track Approach for Anticipatory Action in the Water Sector

List of AA activities at different stages/trigger points – surge model

As discussed above, the approach recommended for the water sector is to consider a package of risk informed system-strengthening which should be part of water programming over the next few years. This should aim to create capacity for *the right action in the right place at the right time*, including anticipatory action, early action and emergency response in a ‘surge model’ approach. Specific actions which could be implemented more than 6 months ahead of a shock event and reduce the risk of severe impacts such as famine include:

- *Establishing surveillance systems* for monitoring water stress and related indicators (climate, conflict etc) and embedding these in a government led early warning and early action mechanisms. Building on experience from BRCiS consortium and making use of new water insecurity measurement tools (HWISE¹⁰). Ideally this should be part of a more comprehensive national database and monitoring system for water supplies (see Appendix D for more detail on this).
- *Developing institutional capacity* to effectively regulate the water sector, especially tariffs and equitability of supply as well as developing systems to prepare for and coordinate emergency responses
- *Work with private sector providers* to put in place pre-agreed systems for scaling up supply to critical areas (water scarce or high disease risk, including IDPs) and controlling prices. These should be supported by risk financing agreements, including:

¹⁰ The household water insecurity experience scale makes use of qualitative data on how households experience of water insecurity and combines these into a water insecurity score to allow temporal and spatial comparison (Brewis et al, 2019)

- a. *Subsidies* to run strategic water supplies and extend service areas with lower revenue¹¹
 - b. *Community and individual water vouchers* to incentivise vendors to serve remote areas
 - c. *Disaster insurance* to cover drought or flood affected infrastructure and services¹².
- *Scale up/fast track interventions* to secure reliable water supply (and safe excreta disposal) in identified risk areas (hotspots), including prioritising drought prone areas for investment in small scale water harvesting.
- *Build on the WASH cluster supply-hub model* to pre-position critical items for infection prevention and control (IPC) but transition the system to a more market based approach which supports local suppliers and ensures access for a wide group of beneficiaries.
- *Strengthen risk analysis at local level* to pre-identify the problem areas and communities (water scarcity and/or lack of access/affordability as well as disease risk in times of crisis) and develop local contingency plans for continuity of water and sanitation services.

Which ones can be taken up by the World Bank (given the existing / pipeline portfolio)?

Based on the current portfolio of projects and strategic interests of World Bank in the water sector in Somalia the Bank is well placed to lead on **system-strengthening activities** which are essential to anticipatory action. The learning-by-doing approach embedded in the Biyoole project builds capacity and establishes systems for essential water service provision functions in government, particularly at state level.

The Biyoole project aims to create sustainable water infrastructure based on appropriate, small-scale technology which contributes to mitigating the impacts of drought; but the programme design is not particularly risk-informed. The components on institutional capacity development are aimed at strengthening technical and management skills, and there is little attention to building capacity to manage early action or response in the sector. However, the proposed approach to strengthening community-based planning and project management can easily be adapted to contribute to a stronger system for risk management and response. There are also opportunities for synergies between water information management systems that will be established within Biyoole (and the water resource modelling project?) and surveillance systems needed for anticipatory action.

There is considerable scope for the recently approved Somalia Crisis Recovery Project (SCRCP) to incorporate several of the components of water anticipatory action proposed above. The SCRCP is focused on multi-sectoral action to recover from and mitigate future impacts of droughts, floods and locust invasions, but it could be expected that some of the proposed Component 3 activities would focus on the water sector (see also section on WB projects below). Specifically, the two tracks in the AAP diagram on i) Surveillance and Early Warning and ii) Putting in place resources for effective response.

¹¹ Local authorities (with support from partners) could intervene to stabilise the water prices (Puntland did this in 2016/17 drought) and/or provide subsidies in the form of vouchers for households or compensating water providers for lost revenue due to lower tariffs (this is being done for water utilities in Ghana and Kenya during Covid)

¹² This could be an innovative insurance scheme which works a bit like IBLI (<https://ibli.ilri.org/>) in paying out to water providers who loose revenue due to water supplies failing in a shock or users unable to pay

Currently SCRP focuses on three, flood affected states of Hirshabelle, South West, and Jubaland but includes some strengthening of national institutions.

These potential World Bank anticipatory actions within the existing project portfolio are summarised in Table 1 below:

AA Component	Relevant planned activities in Biyoole or SCRP	How/what to adapt/expand	Comments
Surveillance/EW	SCRP (and transboundary water management project)		
	Supporting Hydromet and Early Warning Systems for generating and disseminating hydromet data	Expand to include long-range forecasting to provide early warning for anticipatory action. Establish transboundary flood warning systems (with Ethiopia)	WB has experience of this from its Hydromet projects in other African countries WB influence with Ethiopian and Somalia governments provides an opportunity to facilitate cooperation on flood warning.
Securing Reliable Water Supplies	Biyoole		
	Construction of new water supplies	Consider re-prioritising multi-purpose water supplies to areas affected by locusts	Activities are already designed to mitigate drought and flood impacts. No expansion required if targeted areas are selected through a risk assessment approach
	Rehabilitation of existing water supplies	Prioritise water supplies damaged by floods	
	SCRP		
	Rehabilitate flood damaged water and sanitation systems	Focus on water infrastructure in urban areas to secure water for hygiene and potential drought	
Health CERC	Bring forward to fill gaps in Covid response, specifically subsidising water supply to the urban poor	There are major gaps in providing adequate water for hygiene during the COVID outbreak, especially in IDP and informal settlements around major cities.	
System strengthening and pre-positioning resources	Biyoole		
	National and state institutional capacity building <ul style="list-style-type: none"> Developing Standards, plans and guidelines 	Include risk assessment and contingency planning at all levels Build in 'surge' mechanism for	Planning and management coaching currently assumes water supplies are built and operated in 'normal' times with no consideration of how operation and management needs to change/scale up in anticipation of a shock.

AA Component	Relevant planned activities in Biyoole or SCRP	How/what to adapt/expand	Comments
	<ul style="list-style-type: none"> TA support (via a technical agency) 	water supply management	Understanding and managing the risks should be part of the capacity building
	Holistic community engagement for sustainable management	Develop community disaster risk management plans & budget with risk financing attached	Communities can be engaged in monitoring water resources and agreeing on action to be taken at trigger points (part of surge mechanism)
	M&E, Learning and knowledge management	Extend planned MIS for the project to a full water resource management information system for the sector	WB has experience from other countries of developing MIS for the water sector and could provide TA support to FGoS and FMS to establish this in partnership with SWALIM (this is a priority of FGoS)
SCRP			
	Piloting Integrated Flood-Drought Preparedness and Response Solutions at a national level including community level structural and non-structural interventions	Develop and pilot a water surge mechanism for anticipatory and early action to drought in water sector	Existing drought preparedness plans are over-dependant on water trucking as a response. Including anticipatory action to provide more sustainable structural solutions to temporary water shortage should be built in. Multi-level water surge mechanisms could provide a model for pre-positioning resources and triggering action in response to EW.

Which ones can be taken up by the UN?

The UN humanitarian system, led by OCHA, is orientated towards emergency response and, where possible, early action. In the recent version of the OCHA AAP, anticipatory water activities aim to “sustain clean water provision for animals by rehabilitating water points and optimal water capture and storage”. These are really early actions and good programming options for drought risk-prone areas (and hence the focus of most resilience programmes), rather than the comprehensive forward-looking anticipatory action proposed here. Individual organisations within the UN system, such as UNICEF and WHO, are working with government to strengthen some of the systems for surveillance and local water governance. The FAO SWALIM and FSNAU units have worked alongside government at national and state level for many years and have the potential to transition these advanced analyses and early warning tools to a more centralised surveillance system within government.

In general, the UN system in Somalia is best positioned to address the track on **Scaling up/Fast Tracking activities to secure reliable water supplies** in the proposed AAP approach above.

Building a coordinated and complementary system of aid

Many key informants in this study identified gaps in the coordination of anticipatory action and preparedness. The UN Cluster system focuses on humanitarian response and activities aimed at the population in need based on their annual analysis (HNO and HRP). Government involvement in this is mostly through representation at cluster meetings and specific institutions established to coordinate emergency action, such as NEOC and DOC at national and state government levels respectively. Responsibility for operationalising contingency plans (and anticipatory action plans in future) appears to fall between the gaps of technical Ministries, MoHADM and MoPIED.

There is a clear gap between development projects such as the World Bank Biyoole and water resource modelling projects which are seen to work more closely with government, while the projects implemented under the HRP are firmly within the UN system. Multi-year resilience programming implemented by BRCiS and SOMREP include components aimed at building local institutions and creating shock-responsive systems, and provide a useful model for an inclusive aid approach. The proposed FAM mechanism is seen as cutting across the divide, providing an opportunity to bring together the different actors and establish the necessary institutional framework for a more collaborative approach.

Synergies between WASH and other sectors, especially nutrition and health, have been strengthened through joint monitoring and targeting within the cluster system. This cross-sectoral collaboration is difficult to achieve in government systems where capacity is too low to even manage individual sector operations. Projects which take a more holistic approach to development (such as Biyoole) linking water development to range, livestock and agriculture improvements have the potential to increase collaboration across sectors at state level.

Building institutional and human capacity

As outlined above there are many capacity gaps in both government and informal, private and community-based water service provision. The MoEWR highlighted the following priorities for capacity building¹³:

- **Priority I)** Enhancing the human resources through capacity and skills mapping and development.
- **Priority II)** Institutional capacity development. This will be achieved through development of laws and policies that encompass an inclusive climate-sensitive and sustainable water, hygiene and sanitation services in Somalia.
- **Priority III)** National water sector assessment completed to provide updated vital information on water resources in the country.
- **Priority IV)** establishment of a robust water information management system; and finally
- **Priority V)** Establishment and equipment of National water laboratory system. This is to ensure that high quality, sustainable national water-quality testing, monitoring and surveillance is provided and utilized.

In the water systems as a whole there are gaps in the technical, financial and management skills required for sustainable water service delivery. Service providers also need to have contingency plans which are backed up by finance which can be triggered in anticipation of a shock. Capacity to design and manage a water 'surge' mechanism would help to solve the critical problems with water shortage and water quality caused by regular climate shocks.

¹³ Identified during a proposal development process spearheaded by Islamic Relief in 2019

Despite experience with managing cholera outbreaks, serious capacity gaps in infection prevention and control (IPC) remain. In the WASH sector there is a need to strengthen response systems and capacity, particularly to scale up WASH services for IPC in health and education facilities. Pre-positioning of hygiene and water treatment items and capacity to manage the supply chain needs to transition from the UN Cluster system to FGoS and FMS public health departments. Lessons from the current Covid-19 outbreak will be important in shaping the public health system in future.

Recommendations

While many of the actions discussed in the report aim at medium-term activities to strengthen capacity for anticipatory action, there are a number of interventions that can be made immediately to mitigate the combined impact of floods, locust infestations and the Covid-19 pandemic. These are listed in the Box below.

Recommended Anticipatory Action in the Water Sector 2020-21

- Provide technical assistance to water authorities in FMS to work with private sector water providers and put in place pre-agreed systems for scaling up supply to critical areas (Covid19 hotspots, IDP settlements with no permanent water supply, communities in locust- and flood-affected areas). These should be supported by risk financing agreements, including:
 - a. Subsidies to run strategic water supplies and extend service areas with lower revenue.
 - b. Community and individual water vouchers to incentivise vendors to serve remote areas.
 - c. Disaster insurance to cover infrastructure and services in locust or flood affected areas.
- Strengthen capacity at local level to pre-identify the 'hot spot' areas and communities and develop local contingency plans for continuity of water and sanitation services.
- Fast-track construction of small-scale water harvesting structures to secure water supplies in strategic areas affected by locusts and/or covid19 related impacts (through the Biyoole project?)
- Work with the Ministry of Health to develop a modified version of the WASH cluster supply-hub model for critical infection prevention and control (IPC) items, including soap. Transition the system to a more market-based approach which supports local suppliers and ensures access for a wide group of beneficiaries, e.g. through cash subsidies to SME to provide soap, hand sanitiser etc at affordable prices.
- Fast track the establishment of multi-hazard risk mapping and surveillance systems for monitoring water stress and related indicators (climate, conflict etc) and embedding these in a government led early warning and early action mechanisms (through SCRCP?). This can build on experience from the Building Resilient Communities in Somalia (BRCIS) consortium and making use of new WASH severity assessment tools (Somalia WASH Cluster/REACH)

Actions in the medium term

1. **Achieving anticipatory action to mitigate the risks in the water sector requires a combination of system-strengthening and basic preparedness (including risk financing).** In a multi-dimensional risk scenario like Somalia this is underpinned by pre-identifying the problem areas (water scarcity, flood water contamination risk, access/affordability issues and crisis credentials for disease outbreak).

This type of risk-mapping and advanced planning needs to be complemented by surveillance to track the severity and scale of a water crisis. Components of this are carried out by FSNAU and SWALIM and brought together as decision making tools for the humanitarian community. However, this is

heavily focused on *food security* and flood surveillance rather than *water insecurity* and needs to be transitioned to a more sustainable, government-based surveillance system.¹⁴

- 2. Anticipatory water action needs to consider what interventions are appropriate, where and when or ‘do the right thing in the right place at the right time’.** This phased, scale-up or ‘surge’ approach requires a good understanding of the dynamics of water resources and the socio-economic situation of users in a particular area. Specifically, this is best implemented by local institutions (local authorities, NGOs and/or civil society) with access to flexible financing to adapt plans and re-orientate activities in response to an anticipated crisis.

The current pattern of external support in the sector leaves a gap between those providing durable solutions to water shortage through investment in infrastructure (usually through government) and those providing emergency water supplies during a crisis (usually NGOs coordinated by the WASH Cluster).

The World Bank has the institutional comparative advantage to bridge the gap by building capacity, and providing resources and technical support for existing water service providers to:

- plan for a crisis; and
- be able to flex and scale up their supply systems to meet demand when it occurs.

Quick, flexible and targeted risk-financing is needed to support water anticipatory action by existing water service providers, and this cannot be provided by existing, humanitarian systems.

- 3. The final, and possibly the most important, part of anticipatory water action is strengthening water supply systems to withstand shocks and provide expanded services when needed.** This should consider the water supply system as a whole, including community management committees, private water providers and government regulatory and coordination mechanisms. The aim is to ensure that the system is both *resilient enough* to deliver reliable water supplies to the majority of the population and critical facilities and is *shock responsive* (able to expand to meet different demand patterns in a coordinated response).

Based on the current portfolio of projects and strategic interests of World Bank in the water sector in Somalia, the Bank is well placed to lead on system-strengthening activities which are essential to anticipatory action.

¹⁴ Support for a government-led surveillance system is planned under the Somalia Crisis Recovery Project (SCRCP) and should include specific support to the water sector.

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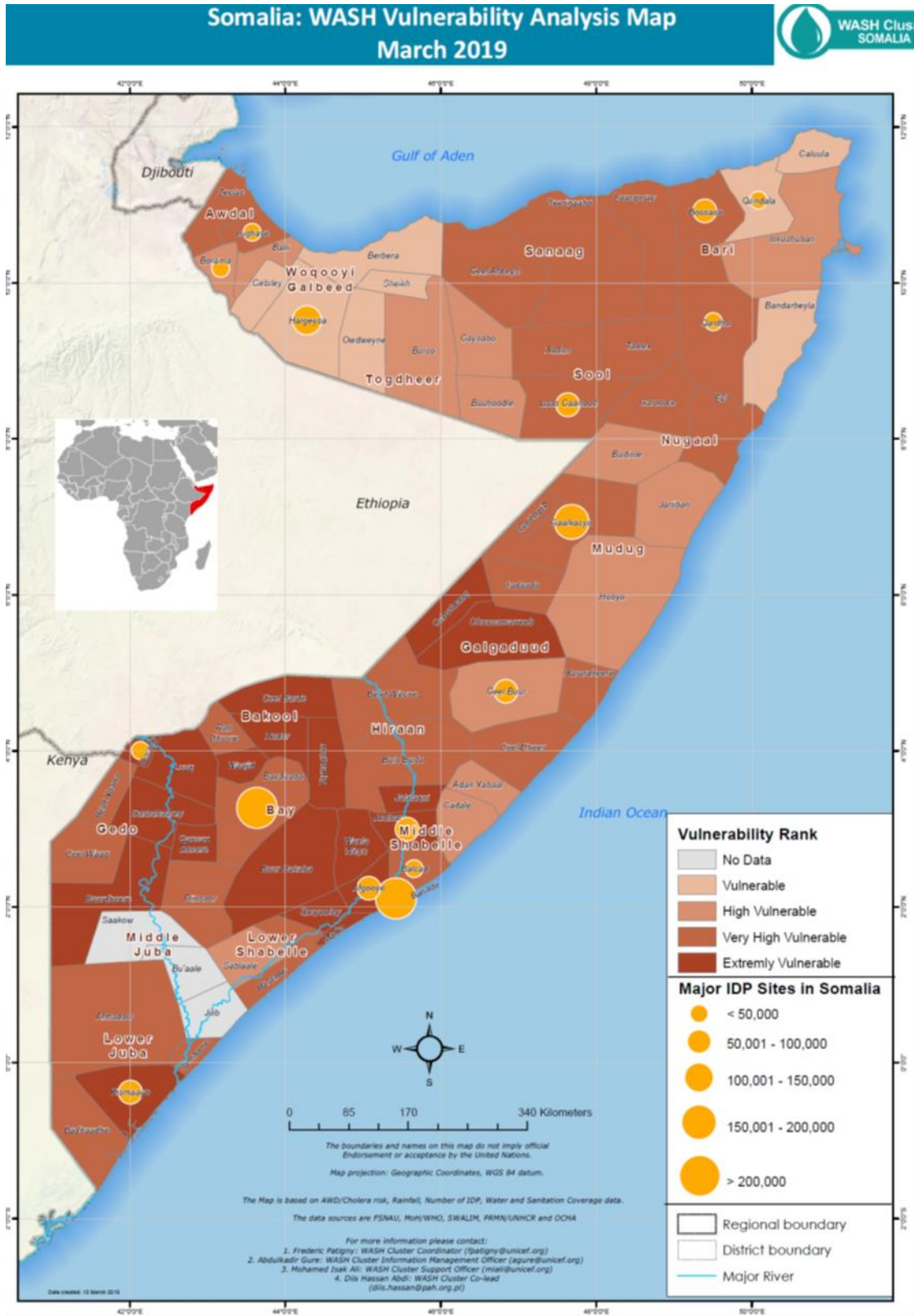
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Appendix A – List of Key Informants Consulted

No.	Name	Title	Department	Agency	Email address	Tel No./Skype ID	Notes & comments
Federal Government							
1	Ahmed Mohamed	Director of Hydrometrology department	GEF Project Coordinator/ Lead Strategy Development	Ministry of Energy and Water Resources	kurweyne2000@gmail.com	617543459	Available for interview. He is leading the Water Strategy Development and the GEF Project across the country.
2	Sahra Abdi	Director of Durable Solutions Secretariat / Lead Balatweyne Flood Response	DS Secretariat	Ministry of Planning	zahra.abdi@mop.gov.so	613363600	Can easily be reached/ need official email. She is leading the current flooding responses and durable solutions initiatives.
3	Khadar Sheikh Mohamed	Director of DRR unit	DRR	Ministry of Humanitarian Affairs and Disaster Management	kadriinki@gmail.com	615817982	Can easily be reached/ need official email. He is leading the DRR policy and is member of the National Emergency Operation Center.
Federal Member States							
4	Liban Ahmed	Director	Water Resource Department	Ministry of Water, South West State	libanahmed858@gmail.com		
5	Adan Sheikh Barre	Head Water Sector Team	Baidoa	Ministry of Water, South West State	sheekhbarre@gmail.com		
6	Omar mohamed Jama	Director of planning	Ministry of energy, mineral and water- Puntland state	Ministry of energy, mineral and water- Puntland state	omarmj9750@gmail.com	907799750.00	Available for interview
NGOs/ Cluster Coordinators							
7	Abdikadir Gure	IM WASH cluster	WASH cluster	UNICEF-Cluster	agure@unicef.org		Available for interview
8	Mohamed Diis	Sub zonal WASH cluster	WASH cluster	PAH/Cluster	diis.hassan@pah.org.pl	252616202321.00	Available for interview
9	Mohamed Mohamud	WASH Officer	WASH cluster	IMC/cluster	sheikh@InternationalMedicalCorps.org		Available for interview
INGOs, UN & Donors							
10	Mahboob Ahmed Bajwa	Chief of WASH	WASH	UNICEF	mabajwa@unicef.org		
11	Noor Pwani	Watsan Coordinator	Regional Office	IFRC	noor.pwani@ifrc.org		may delegate to WASH lead in Somali Red Crescent
12	Surein Peiris	Head of Somalia Office	Somalia office	IFRC	surein.peiris@ifrc.org		
13	Phoebe Shikuku	DRR Advisor	Regional Office	IFRC	Phoebe.SHIKUKU@ifrc.org		
14	Morten Petersen	Technical Advisor (watsan)	ECHO Somalia	ECHO	Morten.Petersen@echofield.eu		
15	Seb Fouquet	Humanitarian Team Leader	Humanitarian	DFID	s-fouquet@dfid.gov.uk		interviewed as a team
16	Jake Peters	Humanitarian Advisor	Humanitarian	DFID	j-peters@dfid.gov.uk		interviewed as a team
17	Yolanda Chakava	Infrastructure Advisor	Humanitarian	DFID	y-chakava@dfid.gov.uk		interviewed as a team
18	Paz Lopez	Resilience Programme Coordinator	WASH/Resilience	Concern Worldwide	paz.lopez@concern.net	+254 7 01 39 62 85	Main WASH lead for BRCIS consortium
19	Haron Emukule	WASH Coordinator	WASH	Concern Worldwide	haron.emukule@concern.net		
World Bank							
17	Tesfaye Bekalu	Technical Team Lead (TTL)	Water	World Bank	tbekalu@worldbank.org		
18	Chantal Richey	Dep TTL	Water	World Bank	crichey@worldbank.org		
Private Sector and Community Water Users							
19	Mohamud Ahmed Farah	Operation Manager		Alkowther Water Supply		+252 618451652	Balcad town water supply
20	Sheikh Omar	Operation Manager		Arafaq Borehole		+252 615853680	Rural water supply near Balcad

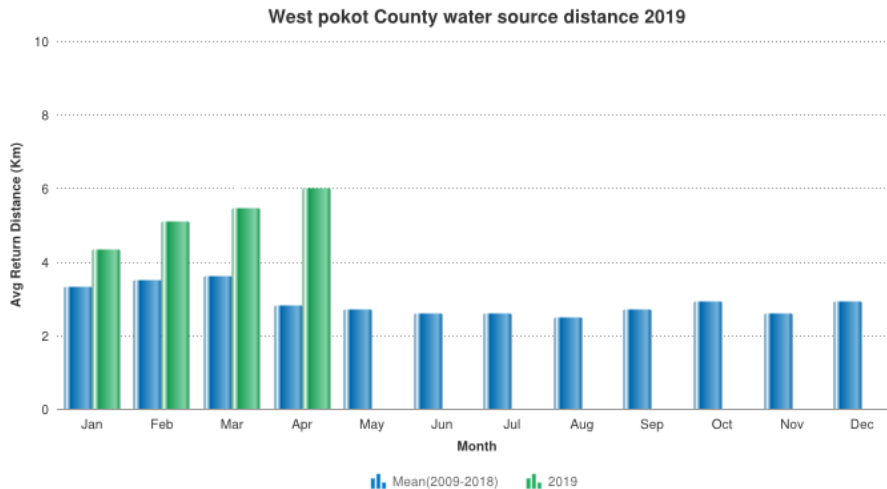
Appendix B – WASH Cluster vulnerability map



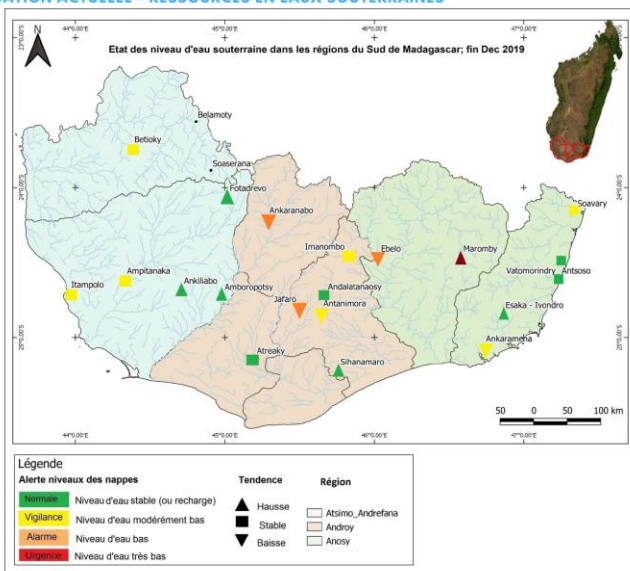
Appendix C - Examples of Drought Early Warning Monitoring – NDMA Kenya & Madagascar

The current FSNAU, SWALIM and FEWSET systems monitor cumulative rainfall against the normal for that month (or season) which indicates whether there is a rainfall deficit and therefore likely to be a crisis with water shortage, crop failure and range depletion. But by the time this is reported (usually 1-2 months after the post rainy season assessment) the dry conditions have already been endured for 6 months (since previous rainy season) so the window for anticipatory and/or early action has already passed.

Early warning (EW) for Anticipatory action needs to look at long range climate forecasts (notoriously unreliable) and track actual conditions on the ground – NDVI, water insecurity, groundwater levels and water price (as a proxy for water resource shortage). Both Kenya (NDMA) and Madagascar have a drought monitoring system that attempts to do this through surveillance of key indicators on a monthly basis. But.... this is still lagging an ‘anticipation’ of a crisis. More regular monitoring of water insecurity in hotspots could provide data for trend analysis which could be useful in more forward-looking EW.

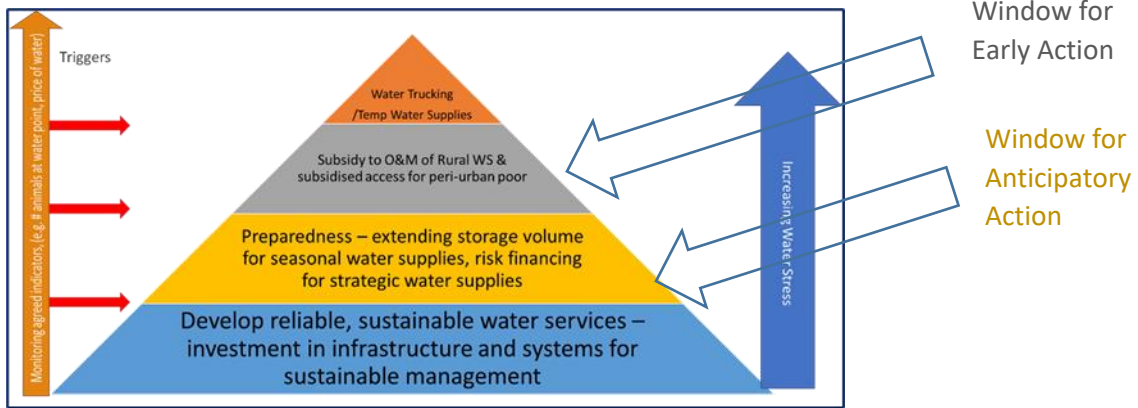


SITUATION ACTUELLE - RESSOURCES EN EAUX SOUTERRAINES



System de monitoring de la secheresse, Madagascar

Appendix D - WASH Surge Model for Drought Scenarios



Appendix E -Case study on the risks and constraints in the water sector related to drought, floods, and food security crisis in Beletweyn- Hiraan Region



@ flood list

River Flooding is a perennial problem in Beletweyn district of Hirshabelle State in Somalia with devastating impact on the livelihood of people and the water infrastructure in the city. The October 2019 floods in the Beletweyn affected about 231,000 people and washed away thousands of hectares of farmland. A large proportion of Beletweyn population lost their livestock and houses were destroyed. In May 2020 the city faced another flooding exacerbating the living condition of people recovering from the effects of the previous damages bringing misery to the livelihood of households and aggravating their poverty level. These effects are more pronounced in women, children, and elderly who are also exposed to food insecurity and water-borne diseases during flooding seasons. The effects of damages to life and property caused by recurrent flooding were severe for several years, resulting in livelihood vulnerability of a large section of the farming populace in the city.

The floods have also had devastating effects on the water supply systems. The force of the water during the flooding disrupted the distribution network of the water systems and resulted in contamination of the water sources especially the unprotected wells that are common in Beletweyn.

Other factors that contributed to the severity of the flood impact include:

- High vulnerability of populations limiting the capacity of affected community to take actions to mitigate the flood impact
- Limited access to information and knowledge on the flood early warning and mitigation methods
- Lack of preparedness, contingency plan and resources that can be mobilized within short period of time at a local or national level
- Lack of proper coordination and collaboration between local community, authority and national government
- Poorly managed water supply systems and privatization of the water sector with no regulations in place
- Absence of quality control and data management institutions

Key issues identified from the recent interventions include; i) poor coordination and decision making at all levels of government, evidenced by the lack of a permanent flood response committee, ii) funds from donors focus on humanitarian responses and don't address longer-term impact, different agencies offer fragmented responses, and iii) there is need to engage local authorities and communities in coming up with local plans to address key challenges in the water sector.

The Ministry of Humanitarian Affairs and Disaster Management (MoHADMD) developed both the national disaster risk management policy and a national contingency plan but both are *not operational and adopted due to funding limitations. There are no state level or local plans to address the flooding impact.*

However, the discussions with government officials raised concerns on the level of government institutions preparedness to address the longer-term impact of the droughts and the neglected role of local communities and districts. The coordination between the interests and activities of different stakeholders and FGoS and FMS in disaster risk reduction has been observed to be ineffective. This is partly attributed to the unclear specification of responsibilities within the disaster management system and partly to weak communications systems and unharmonized intervention.

There were some underlying strengths that were identified, including existing local knowledge and information, local community experience and having a Ministry dedicated to disaster management. Weaknesses that can be exploited were noted as; lack of consistent plans and information products and proper coordination of efforts and inadequate funding from within the government.

Although significant challenges confront the implementation of the FAM anticipatory action plan in the water sector, the establishment of reliable systems for data collection, dissemination of information on time, incorporating community plans, proactive use local indigenous knowledge and a joint programming and financing strategy hold the key to effective and efficient interventions.