



Table of Contents

Executive Summary	2
1.0 Introduction	5
2.0 WASH in the Policy Issues of Canada's International2.1 WASH for Health and Rights of Women and Children	7
i. The Importance of WASH in Health Systems Streng ii. WASH: An Integrated and Comprehensive Approac iii. WASH in Economic Development: Prosperity for W	h to MNCH 9
iv. Equality and Empowerment through WASH and Edv. WASH for Realizing Improved Nutrition Outcomes	
2.2 Refining Priorities for Clean Economic Growth & Clim i. Climate Change as a Stand-Alone and Cross-Cuttin	g Priority15
ii. Defining Clean Economic Growth	ation19
2.4 Peace and Security: WASH in Conflict2.5 Responding to Crises: WASH Interventions for Disast	
3.0 Delivering Results through Integrated Approaches: WASH as a Foundation of Health and Development.	
3.1 An Integrated Approach for WASH	31
3.3 Sanitation and Water for All: The Global WASH Partn 3.4 Innovation at Home and Abroad	33
3.5 Universality of WASH: Engaging Canadians3.6 Tools and Mechanisms for Achieving WASH Priorities	s35
4.0 Conclusion	38
Definitions	



This submission to Global Affairs Canada's International Assistance Review is the result of a WASH stakeholders' roundtable convened by WaterAid Canada, a review of the literature, and an online consultation coordinated by the Centre for Affordable Water and Sanitation Technology (CAWST) during which the following organizations and experts from across Canada participated in contributing their knowledge and expertise:

Africa Community Technical Service (ACTS)

Amref Health Africa in Canada

Canadian Association of International Development Professionals (CAIDP)

Canadian Council for International Cooperation (CCIC)

Canadian Foodgrains Bank

CARE Canada

Centre for Affordable Water and Sanitation Technology (CAWST)

Clean Water for Haiti

Cowater

One Drop

Plan International Canada

R.I. Burnside International Ltd.

RESULTS Canada

Rotary International - Water and Sanitation Rotarian Action Group (WASRAG)

University of Ottawa Centre for Global Health, WHO Collaborating Center for Knowledge Translation and Health Technology Assessment in Health Equity

UniWater Education Ltd.

WaterAid Canada

Caetano Dorea, Université Laval

Clarissa Brocklehurst, WASH Specialist

Alan Etherington, WASH Specialist

Edwin MacLellan, Cape Breton University

Simon Mead, WASH Specialist

Corinne Schuster-Wallace, McMaster University



Water is arguably Canada's most precious natural asset and central to our identity as a nation and in the world. The Global Affairs Canada International Assistance Review (IAR) recognizes that "Access to clean water deserves special mention, as its scarcity affects health outcomes, food security, economic growth and conflict." This recognition goes further, to state that water "must also be a fundamental consideration in our international assistance efforts. Indeed, water has a direct bearing on so many of the issues critical to promoting sustainable development."

The objective of this collaborative submission to Canada's *International Assistance Review* is to provide a compelling case for including water, sanitation, and hygiene (WASH) as a strategic element of the Canadian development agenda. We present, through a feminist lens, the evidence for the role of WASH in addressing complex public health and development challenges and offer several recommendations for how WASH can maximize and sustain the impact of Canadian development aid.

Investing in WASH is essential to fulfilling basic human needs and realizing the health and rights of women and girls. Canada can demonstrate its leadership by advancing the human right to water and sanitation and supporting women and girls as key actors in the WASH sector and decision-making process. Furthermore, Canada can promote a blend of innovative and evidence-based WASH solutions for building climate-resilient health systems, economies, and delivering essential services for all, and by prioritizing access for the poorest and most vulnerable.

Why WASH? This evidence-based submission consolidates the expertise of Canadian academic, civil society, philanthropic and private sector actors and presents the case for stronger policy and capacity for WASH within Canadian international assistance efforts.

We summarize this in the following *Key Statements*:

- 1. Water, sanitation and hygiene (WASH) are essential for reversing the cycle of disempowerment experienced by individuals, especially women and girls, in three ways:
 - i. through WASH in health care facilities to alleviate disease and reduce death among mothers and newborns;
 - ii. through WASH in schools to support girls' education with private and safe toilets that allow for menstrual hygiene; and
 - iii. through water sources closer to home to reduce the drudgery of water collection.
- 2. Water, sanitation and hygiene are foundations of public health and sustainable development. Approaches to health, nutrition, economic development, and protection of individuals, especially women and girls, must also integrate appropriate WASH interventions.
- 3. Restoring state institutions and governance after conflict or crises is essential to provide basic protections for the poorest and most vulnerable; WASH service delivery is an important first step.
- 4. Water policy advances climate policy climate adaptation and disaster risk reduction require integration of climate resilient approaches to WASH with sound policy structures and investment to optimize sustainability, address context specific risks, ensure good practice and provide prudent risk mitigation strategies.
- 5. Increasingly, water access, resources, and quality, can bring societies together or present a source of conflict. The universal right and human need for water and sanitation provides a basis on which to overcome division, encourage collaboration, and strengthen governance to reach the poorest and most vulnerable populations.

What Needs to Be Achieved: Abundant opportunities exist to leverage WASH as an integral element of Canada's international development priorities and for Canada to lead by example in championing the human right to water and sanitation at home and abroad. A strong WASH policy and a multi-sector approach that includes WASH, would underpin Canada's commitment to achieving the Sustainable Development Goals. By focusing on Canada's leadership in maternal newborn and child health and the rights of women and girls and adding stronger support for WASH, Canada could deliver real gains in global development priorities.

Where to Support WASH: The universal nature of water, sanitation and hygiene crosses all borders and affects all people. Prioritizing WASH provides an opportunity to educate Canadians about the SDGs and raise awareness of common challenges within Canada and abroad. WASH is a critical step towards reaching the poorest and most vulnerable. WASH can be the first step towards mitigating risk of food insecurity, restoring or establishing governance processes, and providing women and girls with a fair chance to prosper in fragile and conflict affected environments.

Who Canada Should Work With: Canada needs a gateway to the global WASH sector for knowledge sharing, establishing strong development partnerships, and demonstrating leadership for the human right to water and sanitation. In becoming a partner in the Sanitation and Water for All (SWA) Partnership, Canada would join five other G7 countries as an External Supporter to achieve universal access to clean water and adequate sanitation. In turn, Canadian WASH policy can be harmonized with that of donors and aid recipients and strengthen Canada's voice at the table.

How to Deliver Results:

For sustained results and maximum impact, Canadian development aid policy and practice should:

- Support WASH as a foundational element of Canada's development programs and prioritize the poorest and most vulnerable, especially women and girls.
- Invest in strengthening country systems for WASH in order to strengthen local capacity, contribute to reduced dependence on development assistance, and enhance sustainability.
- Promote climate-resilient WASH with a blend of innovation, adaptation, and evidence-based solutions.
- Utilize mechanisms for WASH knowledge sharing among Canadian and international academic, civil society, philanthropic, private sector, and government actors.
- Establish specific funding allocations for innovative, short-term pilot projects with potential for scale-up based on evidence of success, effective risk mitigation, and transferability of ideas and lessons.

Canada now has an opportunity to be a catalyst for change by leveraging the role of WASH and integrating it to its international assistance priorities in improving global health and sustainable development.



Water, sanitation and hygiene are foundations of public health and development. The Global Affairs Canada International Assistance Review Discussion Paper importantly recognizes "Access to clean water deserves special mention, as its scarcity affects health outcomes, food security, economic growth and conflict." Water, sanitation and hygiene (WASH) thread throughout these critical issues and play a fundamental role in adaptation and resilience to climate change. WASH is critical for health, empowerment and livelihoods for mothers, newborns, children and adolescent girls. Importantly, the role of women and girls as custodians of water cannot be underestimated.

Canadian WASH sector stakeholders welcome Global Affairs Canada's review of Canada's international assistance framework and the recognition that water "must also be a fundamental consideration in our international assistance efforts. Indeed, water has a direct bearing on so many of the issues critical to promoting sustainable development."

The objective of this collaborative submission to Canada's *International* Assistance Review is to build on the noted importance of water and demonstrate water, sanitation and hygiene as interrelated global health and development issues. The evidence base for WASH is presented across the five thematic priorities identified by Global Affairs Canada. While the focus of this submission is sustainable WASH across Canada's international assistance priorities, it is recognized that Integrated Water Resource Management (IWRM) and emergency WASH are critically linked with sustainable development of resilient WASH systems.

During the public consultation period of the Global Affairs Canada International Assistance Review, civil society, private sector, academic and philanthropic stakeholders of the Canadian water, sanitation and hygiene sector came together to develop a holistic, evidence-based case for Canadian WASH policy. Through an in-person roundtable working session, an online survey and additional literature review and desk study, Canadian experts in WASH, IWRM, environment and climate change, humanitarian assistance and global health contributed their experience and knowledge to this submission.

WASH interventions are essential to realizing health and rights of women and girls and a feminist approach to Canada's development priorities. While water is "a key element for ensuring environmental sustainability and addressing climate change," innovative and sustainable WASH is critical for building climate-resilient health systems, economies and services for the poorest and most vulnerable.

Global Affairs Canada's International Assistance Review is a welcome opportunity to renew and enhance Canada's policy and priorities. Sustainable Development Goal (SDG) 6 of ensuring availability and sustainable management of water and sanitation for all is fundamental to achieving the many targets interconnected with WASH for health, equity, education and sustainable development. In order to achieve its commitments to the SDGs and reach the poorest and most vulnerable with a fair chance to prosper, Canada must strengthen investment and policy for integration of WASH across priorities.





2.1 WASH for Health and Rights of Women and Children

Water, sanitation and hygiene (WASH) are essential for reversing the cycle of disempowerment experienced by individuals, especially women and girls, in three ways:

- through WASH in health care facilities to alleviate disease and reduce death among mothers and newborns;
- ii. through WASH in schools to support girls' education with private and safe toilets that allow for menstrual hygiene; and
- iii. through water sources closer to home to reduce the drudgery of water collection.

i. THE IMPORTANCE OF WASH IN HEALTH SYSTEMS STRENGTHENING

The role of water, sanitation and hygiene in achieving positive health outcomes and preventing maternal and child morbidity and mortality cannot be underestimated. The WHO *Water Quality and Health Strategy 2013-2020* sets a priority to realize the largest possible reduction in waterborne and water-related disease. In doing so, it sets out to "foster collaborative actions at international, national and local levels to promote a stewardship role for the health sector to foster policy coherence across other sectors impacting the safety of water" (WHO, 2013).

In health care facilities, WASH is essential for health-promoting conditions and hygienic environments. "The provision of WASH in health care facilities serves to prevent infections and spread of disease, protect staff and patients, and uphold the dignity of vulnerable populations including pregnant women and the disabled." (WHO and UNICEF, 2015). Despite this:

- 38% of health care facilities surveyed by WHO and UNICEF in 54 low- and middle-income countries lack water, sanitation and hygiene resources (WHO and UNICEF, 2015).
- In Tanzania, based on aggregated results, only 30.5% of births occur
 in "WATSAN safe environments", as defined by the study parameters,
 while 7,900 women die each year from largely preventable or treatable
 complications during childbirth (Benova et al, 2014a).



Strengthening health systems with the provision of access to safe water, sanitation and promotion of positive hygiene behaviours is vital for reducing the burden of disease, improving care-seeking behaviour and realizing the full potential of investments in health. The WHO introduced the *Clean Care is Safer Care* policy aimed at reducing healthcare-associated infection. The policy indicates that the ability to measure this risk in developing regions is quite limited and "...basic infection control measures are virtually non-existent in most settings as a result of a combination of numerous unfavourable factors" including poor hygiene and sanitation (WHO, 2010).

Importantly, access to private and clean toilets, safe water and hygienic environments are seen as motivating factors in a mothers' choice between home or healthcare facility births. An integrated and comprehensive approach to MNCH that includes WASH at home and in health care facilities is essential to fully realize the potential of Canadian investments in healthcare settings and maternal, newborn and child health.

An integrated and comprehensive approach to MNCH that includes WASH at home and in health care facilities is essential to fully realize the potential of Canadian investments in healthcare settings and maternal, newborn and child health.

ii. WASH: AN INTEGRATED AND COMPREHENSIVE APPROACH TO MNCH

As a leader in maternal, newborn and child health, Canada must closely examine the elements that ensure health-promoting conditions for mothers and children and invest in integrative approaches to WASH and MNCH. There is an ever-growing body of evidence that supports the integration of WASH in MNCH programming in order to reduce maternal, newborn and child mortality and morbidity:

- Research into maternal mortality in Afghanistan indicates that expectant
 mothers in households without access to improved water sources were
 1.91 times more likely to die of pregnancy-related causes (GON et al, 2014).
- Women with poor sanitation at home carry a three-fold risk for maternal mortality (Benova et al, 2014b).
- A study in Nepal showed that hand washing by birth attendants and mothers increased newborn survival rates by up to 44% (Brocklehurst and Bartram, 2010; Rhee et al, 2008).
- Incidence of diarrheal disease is strongly linked with malnutrition, stunted growth and cognitive impairment, in addition to causing one in every five child deaths (Brocklehurst & Bartram, 2010; Humphrey, 2009; Subramanian, 2016; Wardlaw et al, 2010).

The WHO Every Newborn Action Plan (ENAP) calls for "...attention to household access to water and sanitation, WASH within the domains of quality-of-care for maternal and newborn care and infection prevention and control, and the importance of cross-sectoral action to improve newborn health" (WHO and UNICEF, 2014).

In a 2010 article titled *Hygiene*, *Sanitation and Water: Forgotten Foundations* of *Health*, the authors point out that "It is essential that those involved in disease-specific programs incorporate hygiene, sanitation and water in their work" (Bartram and Cairncross 2010). Inadequate hygiene conditions are also a contributing factor to psychological distress for displaced populations, especially women and girls. WASH can be a valuable entry point for psychosocial care, menstrual hygiene management and the promotion of healthcare seeking behaviour by the poorest and most vulnerable (ACF, 2013).

iii. WASH IN ECONOMIC DEVELOPMENT: PROSPERITY FOR WOMEN AND GIRLS

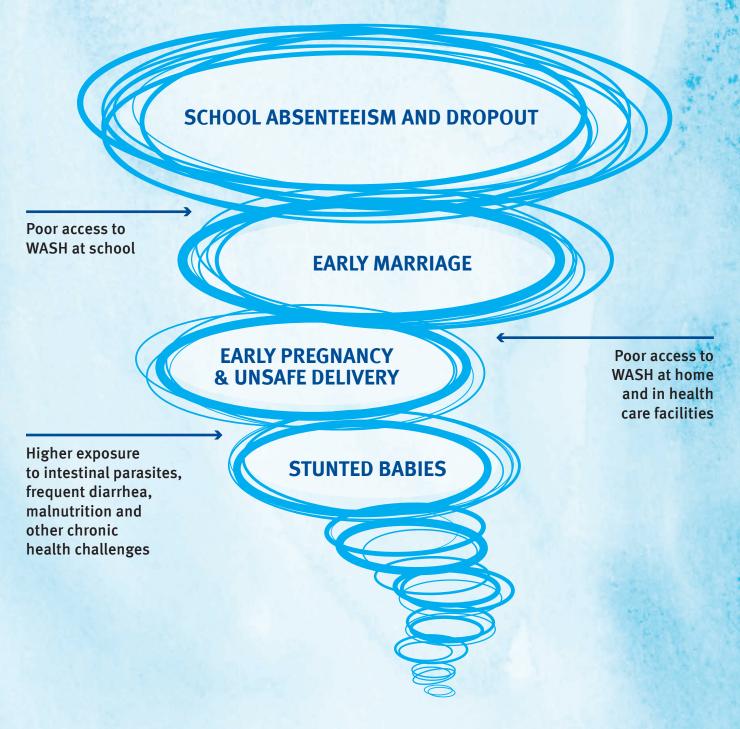
Women and girls experience a cycle of disempowerment that often starts with carrying water each day for their household. This duty at home often keeps girls out of school, as does the lack of clean and private toilet facilities in schools. With no education, opportunities for future prosperity diminish rapidly. Early marriage, early childbearing and lack of income-generating opportunities continue throughout a woman's life. This cycle continues into the next generation with each girl being tasked with collecting water once she is old enough to walk and carry a jerrycan. Improved WASH is an essential element in creating "a fair chance to prosper" for women and girls.

Of the estimated economic benefits of WASH, 70% are related to time saving which allows for greater income-generating activities, leisure, education and other economic and livelihood promoting activities. This time saving is most critical for women and girls, especially adolescent girls. In half of all households worldwide, water is carried into the home and, in 72% of those households, it is carried by women and girls (JMP, 2015). Different assessment methods might result in a range of estimated economic returns for WASH, but one fact remains: safe water supply, hygiene behaviour change and sanitation interventions in particular must be part of the agenda to achieve and sustain economic opportunities for women and girls. Indeed, WASH investments are key to economic development in general.

"Resolving water related challenges requires that the costs for improved water supply, sanitation and water resource management be seen as sound public and private investments and key to a strategy that boosts economies, enables individuals and businesses to explore new income opportunities and provides them with a fair chance to prosper. Simply put, water and related services must be made part of the economic development business." (SIWI and WHO, 2005)



THE WASH CYCLE OF DISEMPOWERMENT



Annually, 315,000 children under the age of 5 will die from diarrhoeal disease due to poor WASH

iv. EQUALITY AND EMPOWERMENT THROUGH WASH AND EDUCATION

School settings are key environments for investing in a child's future. By ensuring a safe, clean learning environment with access to WASH services, children, especially girls, have the opportunity for a more prosperous future. With global school water coverage estimated at 71%, sanitation at 69%, and limited data indicating just 21% for hygiene (UNICEF, 2015), there is much work to be done to increase access, strengthen monitoring and ensure sustainability of services in schools.

WASH in schools can improve gender equality by ensuring safety and dignity for girls of all ages, and providing facilities for menstrual hygiene management (MHM) for girls who have reached menarche. This helps reverse the cycle of disempowerment that forces girls into limited education, early marriage, early childbearing and lack of economic opportunities.

Researchers and advocates have documented the multi-sectoral nature of menstrual hygiene and have advocated for engagement of education, gender, sexual and reproductive health sectors to address the needs of adolescent girls for menstrual hygiene (Sommer et al, 2015).

"Among its many benefits, WASH in Schools (WinS) significantly reduces hygiene-related disease, increases student attendance and contributes to dignity and gender equality. Despite increasing awareness of the benefits of WinS, almost half of all schools in low-income countries still lack access to water and sanitation facilities." (UNICEF, 2014)

A systematic review of health and education outcomes concluded:

"In order to achieve universal access to education as a right for all children, the underlying factors of water and sanitation provision in the school environment and their impacts on health and educational outcomes must be addressed through more rigorous investigation, political attention, and effective intervention." (Jasper et al, 2012)

Evidence suggests that national governments, donors, and civil society should prioritize WASH in Schools, especially for the poorest and most vulnerable (Jordanova et al. 2015).

v. WASH FOR REALIZING IMPROVED NUTRITION OUTCOMES

As of 2008, the WHO estimated that "50% of malnutrition is associated with repeated diarrhea or intestinal worm infections as a result of unsafe water, inadequate sanitation or insufficient hygiene" (WaterAid, SHARE and London School of Hygiene & Tropical Medicine, 2013). There is a growing research base that links undernutrition to fecally transmitted infections that are spread through open defecation and poor sanitation. (DFID, 2013; Humphrey, 2009). Open-defecation and fecally transmitted infections are "undernutrition's blind spot" and emerging research highlights that "...in many environments, a half to two thirds of undernutrition can be attributed to open defecation and fecally transmitted infections with environmental enteropathy¹ the most significant of many" (Chambers et al, 2014).

The USAID Multi-Sectoral Nutrition Strategy 2014-2025 makes the case that investments in hygiene, sanitation and water are needed alongside investments in childhood nutrition. It includes among its Focus on High Impact Actions the "integration of key hygiene actions (safe drinking water, hand-washing with soap, safe disposal of excreta, and food hygiene) as essential components in all targeted nutrition programs" (USAID, 2014). Furthermore, water and sanitation are key elements of a "support-led" strategy to address malnutrition that involves "direct interventions in creating equitable public policies and provisions that matter for nutrition" (Subramanian et al, 2016).



¹ Environmental enteropathy or environmental enteric dysfunction is a condition of the gut caused by repeated enteric infections (both symptomatic and non-symptomatic) which leads to poor absorption of nutrients, and thus contributes to poor nutrition and stunting.

Recommendations: WASH for Health and Rights of Women and Children

- Leverage Canada's leadership role in maternal health and sexual and reproductive health and rights across WASH sector initiatives.
- Enhance priority for WASH in Schools with particular focus on overcoming barriers to girls' education, including girl-friendly WASH in primary and secondary schools, menstrual hygiene management, and engaging boys and girls for knowledge sharing and behaviour change for sexual and reproductive health and rights.
- Make nutrition a priority and include WASH as part of the solution for global malnutrition in the way that other like-minded agencies such as USAID and World Bank are doing.
- Integrate WASH interventions in programming that addresses health, child survival, nutrition, and gender equality.
- Strengthen links between hygiene behaviours and programs including nutrition, food and immunization, such as the WHO Safe Food campaigns for World Health Day 2015.
- Lead by example in championing the human right to water and sanitation at home and abroad, especially for women, children and adolescent girls.

2.2 Refining Priorities for Clean Economic Growth & Climate Change

During the WASH stakeholders' consultation process, it became apparent that further defining "clean" economic growth is imperative. It is also essential to acknowledge climate change as both a stand-alone and cross-cutting priority.

Mitigating and adapting to climate change is crucial and central if poverty and inequality issues are to be tackled. Climate change requires concerted action, and therefore needs to be a stand-alone priority for the Canadian government, distinct from other thematic objectives. At the same time, climate change is a factor relevant (as a cause, contributor and/or effect) to many other areas of development – agriculture, clean economic growth, health, humanitarian response, and much more. As such, climate change needs to be a core consideration throughout Canada's programming on global sustainable development cooperation (CCIC, 2016).

The priority issues of economic growth and climate change - both intricately linked with water, WASH and Integrated Water Resource Management (IWRM) - are addressed separately here. Further to this approach is recognizing the essential position of climate change in disaster risk reduction. Section 2.5, *Priority 5 - Responding to Crises: WASH interventions for Disaster Risk Reduction*, will address the interconnections between climate change, humanitarian assistance and disaster risk reduction.

i. CLIMATE CHANGE AS A STAND-ALONE AND CROSS-CUTTING PRIORITY

Climate change adaptation and mitigation are essential to preventing and ending extreme poverty and sustaining Canada's investment in international development assistance. They require specific focus and investment as a stand-alone priority distinct from "clean" economic growth. This distinct priority does however impact a number of other areas of development including WASH and IWRM with which it should be integrated as a cross-cutting priority as well.

Canada has taken initial steps towards environmental governance to develop capacity, tools, policies and enforcement measures related to climate for developing country governments. The Government of Canada's Fast Start Climate Mechanisms saw an investment of over \$1.2 billion starting with \$18 million specifically to the Climate Change and Water (CCW) portfolio through 2014 (http://www.climatechange.gc.ca/finance/). In November of 2015, Canada announced \$2.65 billion through 2020 in support of climate change initiatives in developing countries.

Water and climate are intricately linked and, yet, water policy and climate policy are often quite separate in most countries. "By exploring the state of water and sanitation coverage and projected climatic variations, we add to the growing case for conserving water, sanitation and hygiene (WASH) interventions within a holistic integrated water resource management (IWRM) framework" (Hadwen et al, 2015). Canada requires a holistic WASH policy, aligned with climate policy, in order to make sound investments for climate resilience across sectors.

In building resilience to climate change, the range of uncertainties in existing models and scenarios complicates assessment of necessary WASH responses. These complexities are only increased by the range of health systems that exist in different countries and by the challenge of connecting climate change with specific health outcomes with robust evidence (Levy et al, 2016). Still, WASH interventions are a key solution that needs to be prioritized as essential to holistic approaches to water policy and resilience and adaptation to climate change. There is much that Canada can and should be doing to support the poorest and most vulnerable people as they cope with today's climate variability.

"The magnitude and location of climate change impacts in the water sector are uncertain. Therefore, 'no regrets' adaptation strategies are especially appealing. No regrets strategies are those that 'would generate net social and/or economic benefits irrespective of whether or not climate change occurs.' The World Health Organization (WHO) and UK Department for International Development (DFID) argue that climate change adaptation can be seen as an opportunity for focus on, and gains in, health, development and water resource sustainability." (WHO and DFID, 2010 as cited by Elliott et al, 2011)

A key impact of climate change will be frequency and intensity of rainfall leading to less consistent water availability, increased flood risk and more polluted surface water. This will significantly impact quantity and quality of available water for WASH. Water scarcity and flood risk will further aggravate food insecurity by impacting crop production, land management, erosion and soil pollution. WASH strategies must be employed to adapt to at least three climate change scenarios:

- With sea level rise there will be changes in drainage patterns, and thus changes will be needed for sanitation systems such as elevating or relocating. Areas that are currently well drained may become stagnant, presenting risks to hygiene and disease transmission.
- In areas where rainfall increases there will be similar need for changes to sanitation and drainage systems that accommodate increased amounts of water.
- In areas where rainfall decreases, there will be pressure to find sustainable sources of safe water that community members, primarily women and girls, can access without having to walk long distances each day.

A holistic approach to climate-resilient WASH will require innovation in technology and design supported by good governance processes within strong country systems. These "soft" approaches for institution building are integral not only to a country's ability to restore WASH services quickly after extreme events but also for long-term planning for adaptation and resilience.

Elliott et al, 2011 identify six typologies to define the adaptive function to which water technologies and practices contribute: (1) Diversification of Water Supply (2) Groundwater Recharge (3) Preparation for Extreme Weather Events (4) Resilience to Water Quality Degradation (5) Stormwater Control and Capture, and (6) Water Conservation.

WASH interventions are essential to building climate-resilient health systems, economies and services for the poorest and most vulnerable. In a study of climate change implications for WASH in Pacific Island countries, Hadwen et al, 2015 determined "...there is a stronger case than ever for adopting a holistic systems understanding, as promoted by IWRM frameworks, to WASH interventions so that they consider past and current challenges as well as future scenarios." Making progress for sustainable WASH service delivery in known country contexts is a big enough challenge for health and development. When combined with commitments to the SDGs and climate change risks and uncertainties, WASH investment and system strengthening take on a new urgency.

Recommendations: Climate Change as a Stand-Alone and Cross-Cutting Priority

- Enhance knowledge sharing of and research for context specific climate change scenarios for countries and regions of focus to identify areas of risk, especially for the poorest and most vulnerable. In doing so, Canada can bring together climate, WASH and disaster risk reduction policymakers to ensure greater coherence of adaptation policy and WASH policy to address context specific risks.
- Use the United Nations Framework Convention on Climate Change process and position to lead the way in terms of ensuring WASH-related adaptation needs of developing countries are met by, for example, pushing for quantified adaptation targets and ensuring adaptation finance is reaching the poorest and most vulnerable.
- Focus Canadian investments for an integrated approach to improving climate resilience with WASH for the poorest and most vulnerable, especially women and girls, and providing support for people to cope with today's climate variability. This needs to include approaches that strengthen institutions delivering WASH and health services, in addition to mechanisms that promote sustainability and long term viability of WASH sector investments.
- Invest in strengthening the evidence base and lessons learned for
 innovative approaches to WASH as a means to building climate resilience.
 This might include technology for safe capture and storage of water,
 sanitation systems consuming less water, more efficient and frequent
 use of grey water for toilets, climate-proof latrine and sewerage designs
 for flood prone countries, and soil conservation measures to increase
 groundwater recharge and reduce soil erosion.
- Strengthen country systems and decentralized WASH institutions in disaster preparedness through investing in early warning systems, and short- and long-term resilience, risk reduction and adaptation.
- Strengthen capacity within Global Affairs Canada in climate change resilience, disaster risk reduction, WASH and IWRM programming. This must include mechanisms for engagement with Canadian civil society, private sector, philanthropic and academic expertise.

ii. DEFINING CLEAN ECONOMIC GROWTH

For the purposes of this analysis, "clean" economic growth is viewed as a means to development that is consistent with human rights principles, social inclusion, climate change mitigation and good environmental governance practices. It creates jobs and generates revenue for governments to provide services for their citizens such as education, health care, water and sanitation.

As a means of development, "clean" economic growth requires strong country systems and domestic resource mobilization for WASH and IWRM. Strengthening country systems and building institutional capacity in WASH programming and water resource management at all levels of government requires substantial job creation and training. This is increasingly being recognized on a global scale with the water and jobs theme of World Water Day 2016 and of the upcoming 2016 Stockholm World Water Week. Water both creates employment and sustains many job sectors, including agriculture and fisheries, that are integral for food security, and wastewater management and sanitation, that are integral for health and environmental sustainability.



Domestic resource mobilization, from the WASH perspective, will "require governments to invest more money, and to invest it more effectively" to achieve universal water and sanitation coverage (http://www.publicfinanceforwash.com/). Increased public finance, derived from domestic taxes at local and national levels, is a critical element in the mix of private, public and donor funded WASH interventions. It is critical for reducing inequalities and for creating financial flows for sustainable country systems.

Supporting the development of expertise in WASH, within Canada and its programmatic countries of focus, is essential to ensure an integrative approach to WASH that supports sustained economic growth, social inclusion and successful societies. In turn, WASH is fundamental to a healthy and motivated workforce. This is especially true for women who, by necessity, may bring infants and young children to their workplaces, require private and clean toilets to manage menstrual hygiene at work and are working during pregnancy.

Recommendations: Clean Economic Growth

- Increase Canada's support for WASH and IWRM training and job creation in countries and regions of focus to build country system expertise and capacity.
- Create a mechanism for knowledge sharing among Canadian academics, civil society, philanthropy, private sector and government, to build capacity for cross-sectoral interventions that leverage WASH for economic growth.
- Focus Canadian investment in country system strengthening that includes strengthening mechanisms for domestic resource mobilization for WASH in finance plans.
- Provide specific funding for WASH programs that strengthen understanding
 of the right to water, sanitation and hygiene, and prioritize social inclusion
 of women and girls in leadership, decision-making and governance in the
 workplace, at home, and in the broader economy.

2.3 Governance and the Human Right to Water and Sanitation

Increasingly, water access, resources, and quality, can bring societies together or present a source of conflict. The universal right and human need for water and sanitation provides a basis on which to overcome division, encourage collaboration, and strengthen governance to reach the poorest and most vulnerable populations.

Peaceful and inclusive societies require strong and accountable institutions. For WASH, these institutions must include sustainable financing, improved capacity for planning, and transparent resource allocation, as well as integrative planning and policy approaches across government departments. The process of governance underlies all aspects of successful societies and the conceptual strength and health of the public. "Governance for sustainable WASH services includes all the relationships, mechanisms, processes, and institutions through which stakeholders can mediate their interests, exercise their rights and obligations and make decisions for the delivery and provision of services" (IRC, 2011). The full potential of investment in WASH is realized through the establishment of effective, accountable and inclusive institutions that support equity and inclusion for the poorest and most vulnerable. Strengthening decentralized WASH institutions and processes is critical to long-term sustainability of systems.

We applaud the Government of Canada's emphasis on a feminist approach. Such an approach would allow WASH initiatives to be grounded in a rights-based approach to water, sanitation and hygiene with women clearly identified as rights-holders. We know that rights-holders tend to lack the knowledge or the power in society to exercise their rights. We also know that as duty-bearers for regions home to the poorest and most vulnerable, governments often lack the capacity to carry out their duties. Therefore, the Government of Canada and its agents, including civil society, academia, philanthropic organizations and private sector stakeholders in the WASH sector, should be engaged in promoting and facilitating access to information and education while building awareness of the rights to water, sanitation and hygiene among rights-holders. By supporting mechanisms for women, as rights-holders, to express themselves and communicate with governments while taking leadership and decision-making roles, a feminist approach to WASH will both leverage the traditional role of women as good stewards of water and empower them as active agents of change.



Institutional strengthening and good governance are central to achieving Goal 16 for peaceful and inclusive societies that respect the human right to water, sanitation and hygiene. While "Good governance is perhaps the single most important factor in eradicating poverty and promoting development" (Hyden et al, 2003), it is "policy and practice that facilitates (sic) improved collaboration among conflicting groups [that are] essential for effective governance of natural resources" (Roberts and Finnegan, 2013).

Canada is in a position to lead by example on the human right to water, sanitation and hygiene at home and abroad. Canada's extensive experience in diverse water resource management provides many lessons to share, however, it must be recognized that progress is needed in addressing WASH challenges among Indigenous and remote communities. Canada needs to provide leadership and demonstrate its sound processes of governance to uphold the human right to water, sanitation and hygiene at home and abroad.

Opportunities for achievement of SDG Goal 17, to *strengthen the means* of implementation and revitalize the global partnership for sustainable development, exist within WASH. These opportunities are closely linked to governance in the sector and revitalizing collaborative approaches to also achieve Goal 16 for peaceful and inclusive societies. While strengthening government capacity to provide WASH services, it is vital to concurrently build capacity of households, communities, and civil society to engage with their governments at all levels to enhance governance processes (USAID, 2016). Canada should support existing WASH sector initiatives including the *Agenda for Change* and the Sanitation and Water for All (SWA) partnership. Canada should incorporate the SWA *Collaborative Behaviours for Development Effectiveness* into Canada's WASH policy:

- Enhance government leadership of sector planning processes.
- Strengthen and use country systems.
- Use one information and mutual accountability platform.
- Build sustainable water and sanitation sector financing strategies.

Canada should also support government-led joint sector reviews that "offer hope for strengthening governance and increasing impact" in order to create an enabling environment for WASH stakeholders in Canada and abroad (WaterAid et al, 2015; SWA, 2015; Danert et al, 2016)

Recommendations: Governance and the Human Right to Water and Sanitation

- Establish strategies for Canada to develop partnerships that strengthen the
 process of governance for WASH in international development assistance,
 encourage reciprocal expertise and knowledge sharing, and create a
 consultative evidence-based learning environment in Canada.
- Incorporate governance processes into the design of multi-sectoral programs that include WASH and have adequate technical and financial resources to support institutional strengthening at the national, district and local levels, ensuring integration of WASH across sectors.
- Lead by example for the human right to water, sanitation and hygiene at home and abroad, especially for women, children and adolescent girls.
- Incorporate the Sanitation and Water for All (SWA) Partnership "collaborative behaviours for development effectiveness" into Canada's WASH policy.

2.4 Peace and Security: WASH in Conflict

Restoring state institutions and governance after conflict or crises is essential to provide basic protections for the poorest and most vulnerable; WASH service delivery is an important first step.

Inadequate and unequal access to water is a source of tension in many. As increasingly scarce water resources threaten economic development and livelihoods, the risk of water-related conflict becomes ever higher. Such conflicts occur between communities and between nations. An international inventory recorded an annual average of 20 water-related conflicts for the five years ending 2015 (Pacific Institute, 2015).

The essential nature of water for life, food and wellbeing means that water resources can be a 'divider' or a 'connector' (Anderson, 1999). The issue of water supply is a priority for post-conflict and peace-building initiatives. Sensitivity to the history of water conflicts and the aim to 'do no harm' must be central to Canada's international development assistance while ensuring that the human right to water, sanitation and hygiene is recognized for the poorest and most vulnerable.

Agriculture and food security are intricately linked with control over and access to water. As such, there is increasing correlation between water scarcity, food insecurity and conflict.

"By improving governance at national, local and community levels, and strengthening the links between these levels, States, other decision makers and practitioners can create the conditions needed to prevent destructive conflict around water, land and food. Given that climate change will cause more frequent and extreme periods of resource scarcity and variability, States and societies will have to find ways to respond that do not further exacerbate social, economic and political tensions that may lead to destructive conflict. This must become a priority for all States" (Roberts and Finnegan, 2013).

It is essential to recognize the interconnected role of water during conflict, as a source of fragility, and as a pathway to resolution and restoration of governance to re-establish the state in post-conflict transition. Water and sanitation access and scarcity of resources become magnified in fragile environments and can compound existing unrest and struggle for survival among affected populations, especially women and children. "The stability of young governments in Afghanistan, Iraq and other nations depends in part on their ability to provide their people with access to water and sanitation. A lack of water, sanitation, and irrigation we know leads to economic decline, and even can lead to unrest and instability" (Clinton, 2010).

The political, economic and social stresses of fragility, exacerbated by stresses of climate change, present significant risk factors to sustainability of WASH interventions in such environments. However, WASH can be used as an essential first step in building communities and re-establishing or strengthening local government systems and creating an enabling environment for long-term sustainable systems at scale (de Waal, 2015). As a gateway to rebuilding country systems, WASH interventions address the immediate human need for water and sanitation access to serve the poorest and most vulnerable, while providing a relatively finite common goal to encourage collaborative behaviours towards conflict resolution.

Recommendations: Peace and Security: WASH in Conflict

- Strengthen country systems and decentralized institutions for WASH to support preparedness and resilience in crises.
- Prioritize natural resource management including WASH and IWRM in fragile and conflict-affected states.
- Support WASH status and needs assessments in fragile and conflict-affected states including water point mapping, joint sector reviews, capacity of local government and needs of the poorest and most vulnerable, especially women, girls.
- Lead by example at home and abroad for rights based issues of WASH and achieving universality of WASH across the SDGs including Goal 16 for peaceful and inclusive societies.

2.5 Responding to Crises: WASH Interventions for Disaster Risk Reduction

Water policy advances climate policy – climate adaptation and disaster risk reduction require integration of climate resilient approaches to WASH with sound policy structures and investment to optimize sustainability, address context specific risks, ensure good practice and provide prudent risk mitigation strategies.

Survival in the initial stages of disaster is often dependent upon access to water, sanitation and hygiene (WaterAid, 2013). In the aftermath of emergencies of all kinds, water supplies are often contaminated or destroyed along with sanitation facilities. Outbreaks of water-borne diseases, including cholera and other diarrheal diseases, are among the most common causes of death (Johns Hopkins/IFRC as cited by WaterAid, 2013).

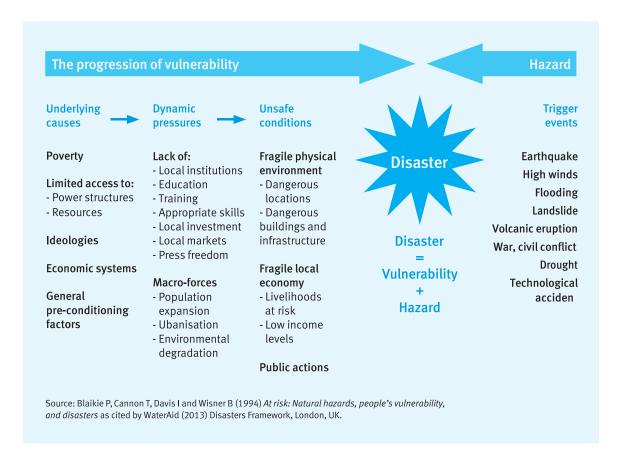
WASH interventions are essential in building resilient health systems, economies and services, especially for the poorest and most vulnerable in fragile and conflict- and disaster-affected areas. Population exposure to disasters, when mapped and ranked by country-level (as studied by Christenson et al, 2014), has significant implications for country-level adaptation. For example, developing countries such as the Philippines and Guatemala ranked in the top five of all countries for their combined exposure to the hazards of cyclones, droughts and floods. Furthermore, the negative effects of disasters disproportionately affect the poorest and most vulnerable, increasing the potential to hinder progress towards the SDGs.

In crises of all kinds, re-establishing access to water and sanitation is an immediate and critical need for survival. "In post-conflict settings, a key goal of support should be to speed up the move from external provision of services, in the early community-driven reconstruction phase, to resumption of public responsibility for service in the longer-term. The end of conflict offers unique opportunities for addressing issues of social exclusion and inequality" (OECD, 2008). And yet resumption of public responsibility for WASH after crises cannot effectively occur if strong institutions and country systems were not there to begin with.

Humanitarian work should reinforce national systems and civil society while changing power dynamics. Where appropriate and feasible, trusted INGOs should be encouraged to move beyond direct implementation, and work in partnership with local civil society in affected countries and communities. Involvement of local development actors is essential in WASH humanitarian relief. Due to their long-term presence on the ground, local knowledge and existing networks, local development actors are both closer to, and more trusted by, communities they serve. This can increase effectiveness of community mobilization, identification of specific vulnerabilities and assessing community dynamics. Local actors can be involved in joint assessment and monitoring activities or can potentially mobilize physical infrastructure and logistical capacity to support relief and rehabilitation activities. In the emergency phase, development actors may still have good links to government and can assist in supporting country-led coordination. INGOs have a clear role in building strategic partnerships and humanitarian capacity of local civil society organizations to increase effectiveness and accountability of humanitarian action. To effectively achieve this, funding should be provided to trusted INGO partners based on capacity, experience and ability to deliver results.



Disaster Risk Reduction (DRR) provides a longer-term approach to reducing risk of extreme events of all kinds. Integrating DRR concepts for resilience and preparedness with WASH policy and systems will optimize the ability of communities to recover from extreme events and provide an insurance of sorts to reduce variability of climate related outcomes on water supply and sanitation. By focusing investments on context specific risks to WASH service delivery that impact the poorest and most vulnerable, primarily women and girls, Canada can strengthen country systems for resilience to disaster and climate change.



Funding for DRR and resilience building remain under-resourced, often falling between different coordination mechanisms and funding allocations. For example, current programming for the Syrian refugee crisis in Lebanon includes shelter and WASH programs that serve both refugees and vulnerable host communities. This extends beyond meeting the needs of these populations towards easing tensions and contributing to social cohesion. Inside Syria, WASH programs need to both provide assistance to meet immediate humanitarian needs and also rehabilitate large-scale water networks. Achieving effective WASH objectives in protracted crises requires an approach that establishes resilience to recurrent crisis as a common objective across increasingly layered, integrated and overlapped sequencing of development and humanitarian programs.

Recommendations: WASH Interventions for Disaster Risk Reduction

- Strengthen country systems and decentralized institutions for WASH to support preparedness and resilience in short-term extreme events, long-term disaster risk reduction and climate change adaptation.
- Strengthen capacity within Global Affairs Canada for climate change resilience, disaster risk reduction, WASH and IWRM. This must include a mechanism for engagement of Canadian civil society, private sector, philanthropic and academic expertise for knowledge sharing within government for cross-sectoral interventions, adaptation and resilience.
- Invest in research of context-specific climate change scenarios for Canada's
 countries and regions of focus to identify areas of risk, especially for the
 poorest and most vulnerable. In doing so, Canada can bring together
 climate, water and disaster risk reduction policymakers to ensure greater
 coherence of adaptation policy and WASH policy to address context
 specific risks.
- Strengthen Canada's leadership for protection of women and girls in humanitarian response with WASH interventions for health, dignity and safety through appropriate sanitation, sufficient quantity and quality of water supply, menstrual hygiene management, and hygiene, particularly for mothers and newborns.



3.0 Delivering Results through Integrated Approaches: WASH as a Foundation of Health and Development

Water, sanitation and hygiene are foundations of public health and sustainable development. Approaches to health, nutrition, economic development, and protection of individuals, especially women and girls, must also integrate appropriate WASH interventions.

3.1 An Integrated Approach for WASH

Reversing the cycle of disempowerment for women and girls and achieving targets of the SDGs require integrated, multi-sectoral approaches for WASH and development. Programmatic approaches for health, nutrition, MNCH, economic development and education must include climate-resilient WASH interventions as essential elements for success. "A broad, multi-sectoral approach is needed to realize the right to health. The health system has a leading role to play in ensuring policy coherence as well as leading cross-sectoral action on WASH as an inseparable part of its overall efforts to improve population health" (Action for Global Health and WaterAid, 2014).

A precedent has been set with the USAID Multi-Sectoral Nutrition Strategy integrating WASH and embedding key hygiene actions within nutrition programming (USAID, 2014). In the era of the SDGs, and recognizing that Canada is not the largest donor country, we must work towards integrated and comprehensive approaches for WASH that "lead the world in using evidence and creativity to design more effective methods" (GAC, 2016). In so doing we can catalyze change for the poorest and most vulnerable, especially women and girls.

Recommendations:

- Establish innovative programmatic and financing models for integrated and comprehensive approaches that include WASH as a foundation of health and development.
- Build WASH policy and practice for Canada's leadership in maternal, newborn and child health, realizing sexual and reproductive health and rights for women and girls.
- Leverage WASH experience, policy and knowledge of like-minded donors such as USAID and DFID.



ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL

A STRONG, INTEGRATED WATER AND SANITATION GOAL SHOULD HAVE INTERCONNECTING, MUTUALLY REINFORCING TARGETS - WHICH LINK TO ALL OTHER AREAS OF SUSTAINABLE DEVELOPMENT.

SUCCESSFUL REALISATION OF GOAL 6 WILL UNDERPIN PROGRESS ACROSS MANY OF THE OTHER **GOALS AND TARGETS.**

MATERIAL STREET, BEARING (15.1)

MATERIAL STREET, BEAR AND SUSTAINABLE CITIES (11.5)

LIMITE CHANGE (13.3)

LI G.S. WHER RELATED ECOSYSTEMS Water-related ecosystems - such as wetlands and mountains — underpin most of the Earth's natural processes. But water stress is depleting aquifers, reducing river flows and degrading wildlife habitats. Unless urgently addressed, this will have devastating economic, ecological and human consequences.

LINKED GOALS: END POVERTY IL OF HOME REPORT IN THE MAINTY IS AS A SECULAR DEPOPRIES OF THE POPULATION 1 in 10 of the population has no access to clean water. This means a child dies from a water borne disease every 15 seconds. The burden for gathering drinking water falls largely on women and girls, who spend a back-breaking 200 million hours every day collecting it. This is time that could be spent

in school or gainful employment.

Nver 1/3

of the alobal population are still without access to an improved sanitation facility. More than 1 billion defecate in the open. Millions lack vital handwashing with soap or menstrual hygiene facilities. **Diarrhoeal** disease, largely caused by poor water, sanitation and hygiene, is a leading cause of malnutrition, stunting and child mortality. Inadequate facilities also affect education and economic productivity and impact the dignity and personal safety of women and girls.

Research suggests only 20% of global wastewater is currently being treated. The rest gets dumped untreated into water supplies — rivers, lakes and oceans. If wastewater is drunk — as happens in many water-stressed cities — or used directly in agriculture, the impacts for human health, ecosystems, biodiversity and agriculture can be considerable.

LINKED GOALS: HEATTH LIVES [3.3, 3.9] RESULTING THE THE LINE SUSTAINABLE COTTAINS (ILL. 6). S

2/3rds of the world's

6.5 WATER RESOURCES MANAGEMENT population could face water stress by 2025 — with the potential to fuel social. economic and environmental tensions within and between countries. The impact of climate change — droughts, floods and ecosystem degradation — will only serve to exacerbate resource-related unrest.

GOAL 6 **WATER & SANITATION** THE KEY TO A SUSTAINABLE FUTURE

Successfully balancing interrelated global demands for water,

energy and food will be central to realising sustainable development. Agriculture currently uses 70% of freshwater supplies — and the need for water will only grow as demand for

SIGTHMARE CONSIDER IS A SUSTAINABLE ECOSYSTEMS (15.1)

KEY: LINKED GOALS

GLOBAL PARTNERSHIP (17.6, 17.7, 17.8)

LINKEL COTTES (11A .11B, 11.5) SUSTAINABLE CONSUMPTION (12.2) SUSTAINABLE CONSUMPTION (12.2)

LINKED GOALS: RESILIENT INFRASTRUCTURE (9.1, 9.4)



















LIMED GOLLS: END POVERTY (1.4) E. DIALTH EDUCATION (AA. A.1. 4.5) 61

REDUCE INEQUALITY (10.3) SUSTAINABLE CITIES (11.1)

GENDER EQUALITY (5.2) SUSTAINABLE GROWTH (8.8) END HUNGER (2.2) HEALTHY LIVES (3.2 3.3 3.8)

6.2 SANITATION AND HYGIENE





















3.2 Strengthening Country Systems

Creating sustainable WASH for the poorest and most vulnerable, including those in fragile and conflict-affected states, requires resilient country-led systems. Global Affairs Canada has recognized that "We also need to move to a new type of engagement with developing countries, recognizing that countries determine their own development paths and are doing so selectively in partnership with traditional and emerging international assistance actors" and "the opportunity to move beyond a service delivery model" (GAC, 2016). The Sanitation and Water for All (SWA) Partnership Collaborative Behaviours and the Agenda for Change both place country system strengthening as a central priority for WASH interventions (SWA, 2015; IRC and WaterAid, 2015). By investing in people and systems, Canada can support the creation of an enabling environment for WASH with strong financial, technical and governance institutions at local and national levels in countries and regions of focus.

Recommendations:

- Focus Canada's investments on strengthening country systems for WASH in order to reach the poorest and most vulnerable with sustainable solutions.
- Target countries identified through the UN Water Global Analysis and Assessment of Sanitation and Drinking Water (GLAAS) or the WHO-UNICEF Joint Monitoring Programme (JMP) as most in need of accelerated progress in water, sanitation and hygiene.
- Establish innovative partnerships with financial, technical and governance institutions and invest in capacity of people and systems to create enabling WASH environments.
- Build robust monitoring and evaluation systems for WASH to ensure rigorous data and evidence collection that can be shared openly to continually improve and adapt approaches.

3.3 Sanitation and Water for All: The Global WASH Partnership

Canada needs a gateway to the global WASH sector for knowledge sharing, establishing strong country partnerships and demonstrating leadership for the human right to water and sanitation. Sanitation and Water for All is the "global partnership of over 100 country governments, external support agencies, CSOs and other development partners working together to catalyze political leadership and action, improve accountability and use scarce resources more effectively" (SWA, 2016, http://sanitationandwaterforall.org/). Canada is not presently a partner of SWA (though many like-minded donors are, including DFID, USAID, Australian DFAT, the French Development Agency and Japan's Ministry of Foreign Affairs).

Becoming an SWA partner would demonstrate Canada's intent to lead by example on the human right to water and sanitation at home and abroad. It is also an opportunity to contribute Canadian leadership on the health and rights of women and girls within the global WASH sector.

Canada's participation in the 2014 Global Analysis and Assessment of Sanitation and Drinking Water (GLAAS) process for the first time is applauded. By reporting on Canada's investment and policy for WASH through the GLAAS process, we are demonstrating transparency in our WASH spending and highlighting areas for greater achievements.

Recommendations:

- Seek to become a partner in the Sanitation and Water for All (SWA) global partnership.
- Continue participation in the GLAAS process by completing the 2016 data collection survey.
- Create a mechanism for knowledge sharing among Canadian academics, civil society, philanthropy, private sector and government, to build capacity within the Canadian sector.

3.4 Innovation at Home and Abroad

For Canada to achieve the goal that "... our programming and financing mechanisms and approaches for international assistance need to be more flexible, better adapted to support innovation and more responsive to local needs and capabilities," WASH interventions will require integrative policy, innovative behaviour change and financing strategies that address context-specific conditions. This is particularly important for the development of climate-resilient WASH systems and for reaching the poorest and most vulnerable - including women and girls - with sustainable WASH. Defining innovative behaviour change and sustainable financing models are prominent challenges for the WASH sector. Canada's support for the "data revolution" and "high-quality and open national statistics" (GAC, 2016) can have a significant impact on strengthening country systems, deepening the evidence base, and promoting rigorous monitoring of WASH conditions and investments.



Recommendations:

- Establish specific funding allocations for short-term pilot projects of 1-2 years to explore new evidence-based concepts with options for continuation and long term scale-up based on success and effective risk management.
- Encourage non-traditional partnerships across sectors such as nutrition and WASH stakeholders or WASH and disaster risk reduction, to develop integrated and comprehensive approaches.
- With a view to strengthening country WASH systems and national statistics, use one, mutual and accountable information system in each of Canada's focus countries as stipulated in the SWA Collaborative Behaviours.

3.5 Universality of WASH: Engaging Canadians

The SDGs focus on the universal nature of development and urge nations to "leave no one behind." The daily need for water and sanitation is a foundation of health and development that all Canadians, all people, can support and understand. This is an opportunity to engage Canadians with a shared concern that affects people worldwide. Canadians also hold unique expertise to contribute to niche areas aligned with Canadian priorities for international assistance. In seeking to use its "non-financial assets," Canada can align its priorities to best use these skills and expertise, and to leverage our comparative advantage in these areas to catalyze change.



Recommendations:

- Leverage the universal nature of water, sanitation and hygiene as an
 opportunity to educate Canadians about the SDGs and raise awareness
 of common WASH challenges within Canada and across Canada's
 international assistance priorities.
- Find niche areas to "use our international assistance resources and our non-financial assets" (GAC, 2016) for integrated WASH programs that leverage Canadian expertise such as leadership on MNCH, health and rights of women and girls, solidarity with countries of the Francophonie and addressing WASH challenges for indigenous populations.

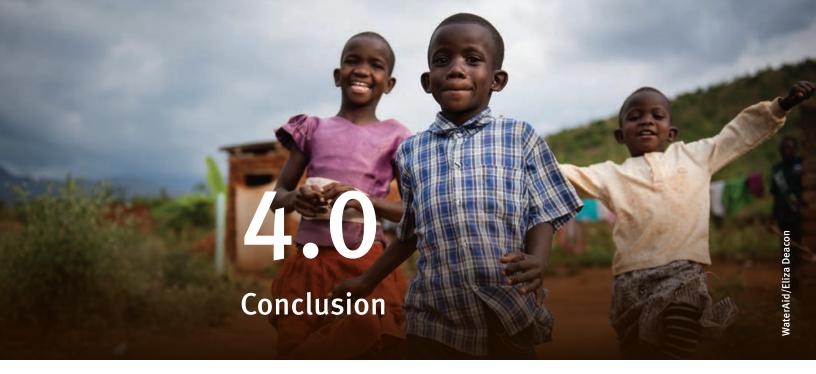
3.6 Tools and Mechanisms for Achieving WASH Priorities

Through the International Assistance Review process, Canada has an opportunity to establish appropriately-resourced policy and processes to achieve results. To establish GAC as an innovative and engaged leader in the global water sector, Canada must build its in-house expertise in WASH and IWRM. The experience and expertise that exists among Canadian academic, civil society, philanthropic and private sector stakeholders is critical for knowledge sharing within GAC. Like-minded donors such as USAID have established comprehensive WASH and development strategies that can be used as models for Canadian WASH policy-building. Tapping into this expertise within Canada and globally is critical for the next steps of establishing integrative WASH policy for Canada's international assistance.

Canada must also look to foster innovation for new approaches while appropriately managing risk and taking a longer-term view to realize and assess outcomes. Pilot project funding with opportunity for scale-up and use of project concept proposals are the types of tools and mechanisms that Canada can use to its advantage in developing new integrated WASH policy and programs.

Recommendations:

- Build WASH, IWRM and disaster risk reduction expertise within Global Affairs Canada to support strong, integrated policy and practice for climate-resilient water, sanitation and hygiene.
- Create a mechanism for knowledge sharing among Canadian academics, civil society, philanthropy, private sector and government, and extend this mechanism to global knowledge sharing for WASH, IWRM and disaster risk reduction with like-minded donors including USAID and DFID.
- Establish specific funding allocations for innovative, short-term pilot projects of 1-2 years with options for continuation and long term scale-up based on success and effective risk management.
- Address challenge of "...limited opportunity to assess long term impact and apply lessons more broadly" (GAC, 2016) by developing a long-term theory of change, robust monitoring and evaluation and a holistic view of value for money.



As "a key element for ensuring environmental sustainability and addressing climate change," (GAC, 2016) integration of water and essential sanitation and hygiene interventions within Canada's international development priorities is critical for success. The evidence demonstrates that innovative and sustainable WASH is fundamental for building climate-resilient health systems, economies and services for the poorest and most vulnerable.

The evidence base for WASH presented here came together through a collaborative effort between Canadian academic, civil society, philanthropic and private sector actors. The combined expertise and evidence can support development of integrated and comprehensive Canadian WASH policy and nurture a learning environment to strengthen capacity and achieve results.



Abundant opportunities exist to leverage WASH as an integrated element of Canada's international development priorities and for Canada to lead by example in championing the human right to water and sanitation at home and abroad. The universal nature of water, sanitation and hygiene provides an opportunity to educate and engage Canadians in the SDGs and raise awareness of common challenges within Canada and across Canada's international assistance priorities:

Health and Rights of Women and Children: WASH is a critical element in reversing the cycle of disempowerment experienced by women and girls. Achieving the rights of women and girls and protecting their health will require an integrated and comprehensive approach that includes WASH across development priorities.

Clean Economic Growth and Climate Change: WASH interventions are essential to building climate-resilient health systems, economies and services for the poorest and most vulnerable. A **holistic approach to climate-resilient WASH** is essential for achieving sustainable results.

Governance, Pluralism, Diversity and Human Rights: The full potential of investment in WASH is realized through the establishment of **effective, accountable and inclusive institutions** to support equity and inclusion for the poorest and most vulnerable.

Peace and Security: It is essential to recognize the **interconnected role of water during conflict**, as a source of fragility, and as a pathway to resolution and restoration of governance to re-establish the state in post-conflict transition.

Humanitarian Crises and the Needs of Displaced Populations: Integrating disaster risk reduction concepts for resilience and preparedness with WASH policy and systems will optimize the ability of communities to recover from extreme events and provide an insurance of sorts to reduce variability of climate related outcomes on water supply and sanitation.

The evidence demonstrates the critical nature of WASH across Canada's international assistance priorities and commitments to achieving the SDGs. Canada is well-positioned to catalyze change by demonstrating its leadership for the health and rights of women and girls, engaging with key global partnerships and developing of a comprehensive WASH policy centred on strengthening country systems for sustainable water, sanitation and hygiene.



ACRONYMS

CSO - Civil Society Organization

DRR - Disaster Risk Reduction

GAC - Global Affairs Canada

GLAAS - Global Analysis and Assessment of Sanitation and Drinking Water

IAR - International Assistance Review

IWRM – Integrated Water Resource Management

JMP – Joint Monitoring Program (WHO and UNICEF)

MHM - Menstrual Hygiene Management

MNCH – Maternal, Newborn and Child Health

SDG – Sustainable Development Goal

SWA - Sanitation and Water for All Partnership

WASH - Water, Sanitation and Hygiene

DEFINITIONS

WASH – Interrelated public health and development issues of water, sanitation and hygiene.

IWRM – A process which promotes the coordinated <u>development</u> and management of water, land and related resources, in order to maximize the resultant <u>economic</u> and <u>social welfare</u> in an equitable manner without compromising the <u>sustainability</u> of vital <u>ecosystems</u>. (As defined by the Global Water Partnership)

REFERENCES

Policy Issue 1: Health & Rights of Women and Children

Health and MNCH

Action contre la Faim, 2013. *How to Integrate WASH and MHCP activities for better humanitarian projects* http://www.actioncontrelafaim.org/fr/content/acf-international-manual-1-3-how-integrate-wash-and-mhcp-activities-better-humanitarian-pr

Bartram, J. & Cairncross, S., 2010. Hygiene, Sanitation, and Water: Forgotten Foundations of Health. *PLoS Medicine*, 7(11), pp.1-9. http://www.plosmedicine.org/ article/info%3Adoi%2F10.1371%2Fiournal.pmed.1000367

Benova, L., Cumming, O., Gordon, B.A., et al., 2014a. Where There Is No Toilet: Water and Sanitation Environments of Domestic and Facility Births in Tanzania. *PLOS One* 9(9), pp. 1-10. http://iournals.plos.org/plosone/article?id=10.1371/journal.pone.0106738

Benova, L., Cumming, O. & Campbell, O.M.R., 2014b. Systematic Review Systematic review and meta-analysis: association between water and sanitation environment and maternal mortality. *Tropical Medicine & International Health*, 19(4), pp.368-387. http://onlinelibrary.wiley.com/doi/10.1111/tmi.12275/abstract

Brocklehurst, C. and Bartram, J., 2010. Swimming Upstream: why sanitation, hygiene and water are so important to mothers and their daughters. Bulletin of the World Health Organization, 88: 482-482 http://www.who.int/bulletin/volumes/88/7/10-080077/en/

Gon, G. et al., 2014. The contribution of unimproved water and toilet facilities to pregnancy-related mortality in Afghanistan: analysis of the Afghan Mortality Survey. *Tropical medicine & international health: TM & IH*, 00(00), pp.1-12. http://onlinelibrary.wiley.com/doi/10.1111/tmi.12394/abstract

Rhee, V., et al. Maternal and birth attendant handwashing and neonatal mortality in South Nepal. Arch Pediatr Adolesc Med 2008; 162: 603-8 http://archpedi.jamanetwork.com/article.aspx?articleid=379789

Wardlaw, T., et al. Diarrhoea: Why children are still dying and what can be done. *The Lancet*, Vol. 375, pg. 870-872.

Velleman, Y. et al, 2014. From Joint Thinking to Joint Action: A Call to Action on Improving Water, Sanitation, and Hygiene for Maternal and Newborn Health. *PLOS Medicine* 11(12). http://www.plosmedicine.org/article/info%3Adoi%2F10.1371%2Fjournal.pmed.1001771

WHO, 2010. Guidelines on Hand Hygiene in Health Care: A Summary, First Global Patient Safety Challenge Clean Care is Safer Care. http://www.who.int/gpsc/en/

WHO, 2013. *Water Quality and Health Strategy 2013-2020* http://www.who.int/water_sanitation_health/publications/2013/water_quality_strategy/en/

WHO and UNICEF, 2015. *Joint Monitoring Program for Water Supply and Sanitation* – 2015 Update. http://www.unwater.org/publications/publications-detail/en/c/296580/

WHO and UNICEF. 2015. Water, Sanitation and Hygiene in Health Care Facilities: status in low- and middle-income countries and way forward. http://www.who.int/water-sanitation_health/publications/wash-health-care-facilities/en/

WHO and UNICEF, 2014. Every Newborn: An Action Plan to End Preventable Deaths http://www.who.int/maternal child adolescent/topics/newborn/enap consultation/en/

Economic Development

SIWI & WHO, 2005. *Making Water Part of Economic Development: The Economic Benefits of Improved Water Management Services*. http://www.siwi.org/publication/making-water-a-part-of-economic-development-the-economic-benefits-of-improved-water-management-and-services/

Education

Jasper, C. Le, T. and Bartram, J., 2012. Water and Sanitation in Schools: A Systematic Review of the Health and Educational Outcomes. *International Journal of Environmental Research and Public Health*, (9) p. 2772-2787

Jordanova, T., et al, 2015. Water, Sanitation and Hygiene in Schools in Low Socio-Economic Regions in Nicaragua: A Cross-Sectional Survey, *International Journal of Environmental Research and Public Health*, (9) p. 6197-6217

Sommer, M. et al., 2015. Comfortably, Safely and Without Shame: Defining Menstrual Hygiene Management as a Public Health Issue. *American Journal of Public Health*. July 2015, vol. 105, no. 7, pg. 1302-1311.

UNICEF, 2014. Maintaining the Momentum: Advancing Health, Learning and Equity through WASH in Schools. http://www.unicef.org/wash/schools/files/WASH in Schools Maintaining the Momentum.pdf

UNICEF, 2015. Advancing WASH in Schools Monitoring. http://www.unicef.org/wash/schools/files/Advancing WASH in Schools Monitoring(1).pdf

Nutrition

DFID, 2013. *Water, Sanitation and Hygiene Evidence Paper* https://www.gov.uk/government/publications/water-sanitation-and-hygiene-evidence-paper

Chambers, R. & Medeazza, G.V., 2014. Reframing Undernutrition: Faecally-Transmitted Infections and the 5 As, *IDS Working Paper*, (450), p.36 http://www.ids.ac.uk/publication/reframing-undernutrition-faecally-transmitted-infections-and-the-5-as

Humphrey, J.H., 2009. Child undernutrition, tropical enteropathy, toilets and handwashing. *The Lancet*, 374:1032-35. http://www.thelancet.com/journals/lancet/article/PIIS0140-6736%2809%2960950-8/abstract

Subramanian, S.V., Mejia-Guevara, I., & Krishna, A., 2016. Rethinking policy perspectives on childhood stunting: time to formulate a structural and multifactorial strategy. *Maternal & Child Nutrition*, 12, pp. 219-236. http://onlinelibrary.wiley.com/doi/10.1111/mcn.12254/pdf

USAID, 2014. *Multi-Sectoral Nutrition Strategy 2014-2025*. https://www.usaid.gov/nutrition-strategy

WaterAid, SHARE and London School of Hygiene & Tropical Medicine, 2013. *Under-nutrition and water, sanitation and hygiene* http://www.wateraid.org/~/media/Publications/undernutrition and water sanitation and hygiene.pdf

Policy Issue 2: Clean Economic Growth & Climate Change

Elliott, M., Armstrong A., Lobuglio, J., and Bartram, J., 2011. *Technologies for Climate Change Adaptation – The Water Sector. TNA Guidebook Series*. Roskilde, Denmark: UNEP Risoe Centre. http://www.unepdtu.org/~/media/Sites/Uneprisoe/Publications%20 (Pdfs)/TNA%20Guidebooks/TNA Guidebook AdaptationWater.ashx

Hadwen, W., Powell, B., MacDonald, M., Elliott, M., Chan, T., Gernjak, W., and Aalbersberg W., 2015. Putting WASH in the Water Cycle: Climate Change, Water Resources and the Future of Water, Sanitation and Hygiene Challenges in Pacific Island Countries. *Journal of Water, Sanitation and Hygiene for Development 5:* 183-191. doi:10.2166/washdev.2015.133.

Levy, K., Woster, A., Goldstein, R., and Carlton, E., 2016. Untangling the Impacts of Climate Change on Waterborne Diseases: a Systematic Review of Relationships between Diarrheal Diseases and Temperature, Rainfall, Flooding, and Drought. *Environmental Science & Technology* 2016 *50* (10), 4905-4922 DOI: 10.1021/acs.est.5b06186

Morshed, G. and Sobhan, A., 2010. The search for appropriate latrine solutions for flood-prone areas of Bangladesh, *Waterlines*, 29(3). http://www.ircwash.org/sites/default/files/Morshed-2010-Search.pdf

Public Finance for WASH http://www.publicfinanceforwash.com/

Policy Issue 3: Governance, Pluralism, Diversity and Human Rights

Danert, K. et al, 2016. Effective Joint Sector Reviews for Water, Sanitation and Hygiene (WASH): A Study & Guidance 2016. World Bank Group.

Hyden, G., Court, J., and Mease, K., 2003. *Government and Governance in 16 Developing Countries*, Overseas Development Institute, World Governance Survey Discussion Paper 6.

IRC, 2011. *Good Governance in the WASH Sector*, Module 3 http://www.slideshare.net/ http://www.slideshare.net/ http://www.slideshare.net/

Roberts, E. and Finnegan, L., 2013. *Building Peace around water, land and food: Policy and practice for preventing conflict*. Quaker United Nations Office. http://www.quno.org/resource/2013/9/building-peace-around-water-land-and-food-policy-and-practice-preventing-conflict

Sanitation and Water for All Partnership, 2015. Four Collaborative Behaviours for the Development of Sustainable WASH Services for All. http://sanitationandwaterforall.org/?wpdmact=process&did=NzkyLmhvdGxpbms=

USAID, 2016. *Good Governance: A Core Component of WASH Project Implementation*, WASHPlus Brief. http://www.washplus.org/sites/default/files/governance%20brief%20final%20508.pdf

WaterAid, IRC, Agua Consult, Water for People and Osprey Foundation, 2015. *Agenda for Change* http://www.wateraid.org/what-we-do/our-approach/research-and-publications/view-publication?id=f93d2d90-e6c0-47d1-a772-f87cdc63696d

Policy Issue 4: Peace and Security

Anderson, 1999. Do No Harm: How Aid Can Support Peace – Or War. https://www.rienner.com/title/Do No Harm How Aid Can Support Peace or War

de Waal, D., 2015. Delivering WASH in Fragile States: Double Dividends, University of North Carolina Water and Health Conference Presentation. https://waterinstitute.unc.edu/files/2015/11/Fragile-states-for-UNC.pptx

Clinton, Hillary Rodham, 2010. *Secretary Clinton delivers Remarks on World Water Day at the National Geographic Society*, March 22, 2010. https://rmportal.net/library/content/transcript-remarks-on-world-water-day

Pacific Institute, 2015. Water Conflict Chronology List http://www2.worldwater.org/chronology.html

Roberts, E. and Finnegan, L., 2013. *Building Peace around water, land and food: Policy and practice for preventing conflict.* Quaker United Nations Office. http://www.quno.org/resource/2013/9/building-peace-around-water-land-and-food-policy-and-practice-preventing-conflict

Policy Issue 5: Responding to Crises: WASH Interventions for Disaster Risk Reduction

Christenson, E., Elliott, M., Banerjee, O., Hamrick, L., and Bartram, J., 2014. "Climate-Related Hazards: A Method for Global Assessment of Urban and Rural Population Exposure to Cyclones, Droughts, and Floods." *International Journal of Environmental Research and Public Health* 11: 2169-2192 doi: 10.3390/jierph110202169.

OECD, 2008. Service Delivery in Fragile Situations: Key Concepts, Findings and Lessons Discussion Paper. Off-Print of the Journal of Development, vol. 9, no.3 https://www.oecd.org/dac/governance-peace/conflictfragilityandresilience/docs/40886707.pdf

WaterAid, 2013. *Disasters Framework*, London, UK. http://www.wateraid.org/what-we-do/our-approach/research-and-publications/view-publication?id=666038e3-e71d-41b5-94bd-cb406605ece2

Delivering Results

Global Affairs Canada, 2016. International Assistance Review Discussion Paper

UN, 2015. *Transforming Our World: The 2030 Agenda for Sustainable Development*. https://sustainabledevelopment.un.org/post2015/transformingourworld/publication

ADDITIONAL REFERENCES

Amjad, Urooj Quezon, Georgia Kayser, and Benjamin Mason Meier. 2014. "Rights-Based Indicators Regarding Non-Discrimination and Equity in Access to Water and Sanitation." *Journal of Water, Sanitation and Hygiene for Development* 4: 182–87. doi:10.2166/washdev.2013.041.

Brookings Institute, 2014. *Implementing the New Deal for Fragile States Policy Paper 2014-02*. http://www.brookings.edu/~/media/Research/Files/Papers/2014/07/30-new-deal-fragile-states-ingram/Implementing-the-New-Deal-for-Fragile-States.pdf?la=en

Chase, C. and Ngure, F., 2016. *Multi-Sectoral Approaches to Improving Nutrition: Water, Sanitation and Hygiene*. WSP and the World Bank Group. http://documents.worldbank.org/curated/en/2016/01/25835248/multisectoral-approaches-improving-nutrition-water-sanitation-hygiene

De Albuquerque, Catarina. 2012. *Realising the human rights to water and sanitation: A handbook.* Available at: http://www.righttowater.info/handbook/

Etherington, A., Vandermeer, K and Mansfield, K, 2010. *Mapping Innovative Projects in WaterAid* http://www.wateraid.org/news/blogs/categories/innovation

Global Poverty Solutions, 2016. *Hygiene, Sanitation and Water: Strengthening Investment in WASH for Achieving Canada's Development Priorities, Phase 2: Canada's Official Development Assistance*. http://globalpovertysolutions.ca/ docs/WASH-Ph2-Report-EN.pdf

Gosling, Louise. 2014. "A human rights-based approach: moving along the right track?" WaterAid: United Kingdom. Available at: http://www.wateraid.org/news/news/a-human-rights-based-approach-moving-along-the-right-track.

Hutton, G., and Chase, C., 2016. The Knowledge Base for Achieving the Sustainable Development Goal Targets on Water Supply, Sanitation and Hygiene. *International Journal of Environmental Research and Public Health*, 13(6):536. http://www.mdpi.com/1660-4601/13/6/536/htm

Hutton, G., and Varughese, M., 2016. *The Costs of Meeting the 2030 Sustainable Development Goal Targets for Drinking Water, Sanitation and Hygiene*. WSP and World Bank. https://www.wsp.org/sites/wsp.org/files/publications/K8543.pdf

Hutton, G., 2015. Benefits and Costs of the Water, Sanitation and Hygiene Targets for the Post-2015 Development Agenda, Post-2015 Consensus. World Bank. http://www.copenhagenconsensus.com/sites/default/files/water-sanitation-assessment-hutton.pdf

ICRC, 2009. Water and War: ICRC Response. https://www.icrc.org/eng/assets/files/other/icrc_002_0969.pdf

Meier, Benjamin M, Georgia L Kayser, Jocelyn G Kestenbaum, Urooj Q Amjad, Fernanda Dalcanale, and Jamie Bartram. 2014. "Translating the Human Right to Water and Sanitation into Public Policy Reform." *Science and Engineering Ethics* (January 1). doi:10.1007/s11948-013-9504-x.

Meier, Benjamin M, Jocelyn G Kestenbaum, Georgia L Kayser, Urooj Q Amjad, and Jamie Bartram. 2014. "Examining the Practice of Developing Human Rights Indicators to Facilitate Accountability for the Human Right to Water and Sanitation." *Journal of Human Rights Practice* 6 (1) (March): 159–181. doi:10.1093/jhuman/hut031.

Oates, N., Ross, I., Calow, R., Carter, R. and Doczi, J., 2014. *Adaptation to Climate Change in Water, Sanitation and Hygiene: Assessing Risks and Appraising Options in Africa*. https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8858.pdf

Prüss-Üstün, A., Bos, R., Gore, F. and Bartram, J., 2008. *Safer Water, Better Health: costs, benefits and sustainability of interventions to protect and promote health.* WHO. http://www.who.int/guantifying_ehimpacts/publications/saferwater/en/

RESULTS Canada, 2015. Hygiene, Sanitation and Water: Strengthening Investment in WASH for Achieving Canada's Development Priorities, Phase 1: Civil Society. http://www.results-resultats.ca/wp-content/uploads/2014/02/WASH-Phase-1-Report_FINAL_20-5-20151.pdf

UN General Assembly, 2010. *Resolution 64/292: The Human Right to Water and Sanitation*. http://www.un.org/waterforlifedecade/human_right_to_water.shtml

WASH Advocates, 2015. WASH Global Advocacy Landscape 2015. http://globalhealth.org/wp-content/uploads/WASH-Global-Advocacy-Landscape-Final.pdf

WaterAid, 2016. Human Rights Based Approach – Action Learning Initiative (HRBA-ALI) Report

WHO, Unicef and USAID, 2015. *Improving Nutrition Outcomes with Better Water, Sanitation and Hygiene: Practical Solutions for Policies and Programmes* http://www.who.int/water_sanitation health/publications/washandnutrition/en/

World Bank Water, 2016. *High and Dry: Climate Change, Water and the Economy* http://www.worldbank.org/en/topic/water/publication/high-and-dry-climate-change-water-and-the-economy

WSP and World Bank, 2011. *Delivering Water Supply and Sanitation in Fragile States: The Transition from Emergency Services Conference Report, Nairobi Kenya, 2011.* https://www.wsp.org/sites/wsp.org/files/publications/Delivering-WSS-in-Fragile-States.pdf