Holistic WASH

WATER, SANITATION AND HYGIENE

A Transformative Generational Strategy
For Rotary Support in District 9212
April 2014

DISTRICT 5440 USA
WYOMING, COLORADO, NEBRASKA, IDAHO

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ACRONYMS
(Used more than once in the Document)

AAYMCA	African Alliance of Young Men's Christian Association
CBO	community-based organization
CHAST	Children's Hygiene and Sanitation Training
IR	Intermediate Result
MDG	Millennium Development Goal
M&E	monitoring and evaluation
NGO	non-governmental organization
O&M	operation and maintenance
PHAST	Participatory Hygiene and Sanitation Transformation
SO	Strategic Objective
VTT	Vocational Training Team
UN	United Nations
UNICEF	United Nations International Children's Emergency Fund
WASH	water, sanitation and hygiene
WESCOORD	Water and Environmental Sanitation Coordination group
WHO	World Health Organization
YMCA	Young Men's Christian Association

<u>Rotary Acronyms</u>

DG	District Governor
DGE	District Governor Elect
DGN	District Governor Nominee
IPDG	Immediate Past District Governor
IPP	Immediate Past President
RI	Rotary International
TRF	The Rotary Foundation
WASRAG	Water and Sanitation Rotarian Action Group

DEFINITIONS OF CONCEPTS

Ablution Block	A block of toilets and showers, often with a water kiosk.
Adequate WASH	Sufficient number and proper maintenance of toilets for students and faculty, drinking water, privacy for menstrual hygiene, and hygiene education.
Circuit Rider	Roving technical experts employed by rural water associations, government or NGOs to provide training and assistance to rural and small water utilities.
Ecological sanitation	Toilets in which human waste is sanitized and recycled
Holistic WASH	Includes adequate WASH plus water and sanitation for livelihoods
Improved drinking-water	A water source "that, by nature of its construction or through active intervention, is protected from outside contamination, in particular from contamination with fecal matter."[1]
Improved sanitation facility	"One that hygienically separates human excreta from human contact."[2]
Model schools	Schools that demonstrate Holistic WASH
Water kiosk	Private vending service or cooperatives for drinking water
Youth (in Kenya)	Persons aged 15-35 years old

[1] WHO-UNICEF Joint Monitoring Programme definition (www.wssinfo.org)
[2] Ibid.

ACKNOWLEDGEMENTS

The members of the USA and Kenya VTT wish to acknowledge the incredible efforts made by officials of Rotary Districts 9212, 5440, and 5450 to make this Vocational Training Team Project possible. From the start these officials envisaged that Rotary could make a major impact in the WASH sector and also tackle the monumental issues associated with youth unemployment and under-employment in East Africa. The VTT has attempted to stay true to this vision in developing the Strategy for District 9212.

We wish to recognize in particular Ron Hammel of District 5440, Geeta Manek and Jane Mung'oma of District 9212, and Mike Klingbiel of District 5450 for their tireless work in preparing the Project for implementation. We graciously thank the Muthaiga Rotary Club in Nairobi, Kenya, for stepping forward to host the VTT in Kenya and specifically thank IPP Jane Mung'oma of that club for her work in preparing for the VTT visit and for her support throughout the preparation of the strategy document.

We wish to thank all of the Rotary Clubs in the three districts for hosting the VTT during the visits to Kenya and the USA. We also thank the organizations and individuals in Kenya, Colorado and Wyoming, who gave their time and energies to inform the VTT of latest technologies, approaches and systems being implemented to improve WASH. They are too many to mention here, so we have listed all key persons and organizations met by the VTT in a separate Appendix.

The USA and Kenya Vocational Training Team

Mayling Simpson
Steve Werner
Reza Kazemian
Rich Fisher
Paul Hebert, Team Leader
Wafula Nabutola
Purity Kiguatha
Isaack Oenga

EXECUTIVE SUMMARY

Rotary Districts 9212, 5440 and 5450 believe that clean water, improved sanitation, and adequate hygiene (WASH), together with youth employment, are among the most important global challenges of the 21st century in developing countries. These Districts believe that Rotary can lead the mobilization of youth to dramatically improve WASH worldwide.

Rotary Districts 9212, 5450 and 5440 formed a Vocational Training Team (VTT) in 2013 to develop a WASH strategy for District 9212 in East Africa. The Strategy focuses on implementing WASH in schools and involving a large cadre of youth in training and skills development in WASH to create employment opportunities. District 9212 is composed of four countries: Kenya, Ethiopia, Eritrea and South Sudan. The VTT spent one month in Kenya consulting with local experts and traveling the country to observe needs and best practices. Kenyan team members travelled to Colorado and Wyoming to learn technologies and approaches that might be relevant to the Kenyan context and to build relationships with Rotary Districts 5440 and 5450, international non-governmental organizations (NGOs) and academic institutions.

The needs for improved WASH are immense globally and in District 9212. *Past Rotary efforts in WASH in District 9212 have not been sufficiently focused to bring about fundamental and measurable change and too many projects have been supply driven by Rotary clubs from outside the District rather than demand driven by the needs identified by Rotary clubs inside the District.* Rotary would like to identify where it can make the most difference with its technical assistance, funds and volunteer base.

Rotary clubs in D9212, D5440 and D5450 see the WASH and the Youth developmental challenge as issues to be addressed jointly and synergistically. The VTT concluded from its visits and consultations that Rotary can achieve the greatest impact in the WASH sector by addressing the following three strategic objectives:

- Strategic Objective 1: To rally the participation of Rotary Clubs and Districts to support a common WASH strategy,
- Strategic Objective 2: To create a cadre of youth trained in WASH knowledge and skills to deliver Holistic WASH, and
- Strategic Objective 3: To strive to develop Adequate WASH in every Kenyan school, and develop 5 Model Schools in every county in Kenya to promote and demonstrate WASH.

These three strategic objectives will only be successfully achieved by comprehensively and effectively communicating the needs and opportunities to Rotary and its partners. Communication thus forms the crosscutting objective for this strategy.

The strategy introduces three important concepts regarding WASH: **Adequate WASH** means that schools have clean drinking water sufficient for students and faculty, an adequate number of toilets, a place for menstrual hygiene, hand washing facilities and hygiene education. **Model schools** refers to schools that will demonstrate to the wider community and to other schools best practices and various alternative technologies in water, sanitation and hygiene education

appropriate to the local environment and culture. Model schools will link water and sanitation provision to youth empowerment, livelihoods and food security. This we call **Holistic WASH**, which combines Adequate WASH, Model Schools and Entrepreneurship.

The strategy takes future Rotary WASH initiatives to a new level. It focuses on children and youth as agents for generational change in knowledge, attitudes and practices through schools, technical training institutions and universities. It brings the latest and best practices for future Rotary support in the WASH sector. It provides an operational framework and a blueprint for action by Rotary Clubs, Districts and partners. The strategy will be implemented initially in Kenya and then carried forward to the other three countries in the District. However, Rotary in the other countries may begin applying this approach along with Kenya as early as is feasible for them to do so. ***District 9212 intends to use this strategy as a programmatic guide for all future WASH projects within District 9212.***

INTRODUCTION

VTT Objectives

In March 2013, a Rotary Vocational Training Team (VTT) was formed by Districts 9212, 5450 and 5440 to develop a WASH strategy for District 9212. District 9212 is composed of four countries: Kenya, Ethiopia, Eritrea and South Sudan. The Rotary Districts also envisaged developing a plan for involving a large cadre of youth in WASH, resulting in employment and entrepreneurial opportunities for youth in the district. The training, technical information exchange and relationships established during the project were seen as critical components to ensure development and implementation of the strategy and future cooperation between districts 9212, 5440 and 5450.

The needs for WASH are immense globally and in District 9212. *Past Rotary efforts in WASH in District 9212 have not been sufficiently focused to bring about fundamental and measurable change. Efforts have mainly been supply driven by clubs outside of the District instead of demand driven by the needs identified by clubs in the District*. Rotary would like to identify where it can make the most difference with its technical assistance, funds and volunteer base. While certain communities and schools have benefitted from Rotary projects, District 9212 has seen the need for a WASH strategy that concentrates funding and energy in such a way that it helps transform the sector toward greater effectiveness and better learning and sharing. It needs to take advantage of cutting-edge innovations in WASH that will bring about lasting generational changes.

Until the present time, Rotary Clubs from around the world have presented Rotary District 9212 with fully developed and fully funded WASH project proposals. Foreign clubs have largely decided from a distance what projects they would like to do and where to do them. District 9212 has not had a good way to determine whether these projects represented the most strategic way to apply WASH funds. And District 9212 has not had a monitoring and evaluation system to determine the impact of projects implemented. In order to vet future projects and monitor impact, the District wishes to plan Rotary support for WASH interventions through a well-defined strategic framework.

District 9212 intends to use this strategy as a programmatic guide for all future WASH projects within District 9212.

Methodology of the VTT

The VTT undertook a thorough process of consultation with WASH experts in USA and Kenya and extensive field visits in Kenya, in Colorado and Wyoming. For logistical and budgetary reasons, the VTT visits to District 9212 could only be undertaken in Kenya with recognition that the needs and challenges in the other three countries were similar.

During July/August of 2013, a team of five WASH professionals from Colorado travelled to Kenya where they met up with a Kenyan team of three professionals in WASH, land economics,

economic anthropology and youth development. These eight professionals made up the Rotary VTT. The five members of the Colorado team had extensive prior experience in WASH and in Kenya. These were Richard Fisher, Paul Hebert (Rotarian), Reza Kazemian, Mayling Simpson and Steve Werner (Rotarian). The three members of the Kenyan team were Purity Kiguatha, Wafula Nabutola (Rotarian), and Isaack Oenga. In addition, Jane Mung'oma, Immediate Past President of the Muthaiga Rotary Club, served as host and facilitator and also participated actively and helped guide the preparation of the strategy paper. Ron Hammel of District 5440 was responsible with other officials of Districts 5440 and 5450 for organizing the VTT from the USA.

This joint Rotary Vocational Training Team began its visit to Kenya by participating in a week-long Rotary-sponsored WASH conference in Nairobi. Kenyan experts in WASH and Youth, government departments, Africa Alliance of YMCAs, and representatives from leading WASH NGOs, presented their work, lessons learned and ideas for the future.

The team then conducted extensive field visits to urban informal communities, rural communities and homesteads, and urban and rural schools in Nairobi, Central, Eastern and Rift Valley provinces of Kenya. They looked at the most cutting-edge WASH technologies and philosophies with attention to serving the poorest of the poor. The Team also looked at various opportunities for training and youth employment with a view toward applying lessons to the WASH sector.

In September, the three members of the Kenyan Team travelled to Colorado and Wyoming. They attended a one-day Rotary-sponsored WASH conference in Boulder, Colorado, toured water supply and sewerage agencies in cities and towns, and met with various Colorado-based NGOs working in the water supply and sanitation sector. The team also further explored examples of youth training and employment opportunities that might be relevant for East Africa. Again, attention was on serving the poor, achieving efficiencies in the WASH sector, and looking at new developments. A list of key organizations and persons met and sites visited by the VTT is found in Appendix 1. During the period October 2013 – March 2014, the strategy document was prepared by the VTT.

BACKGROUND ON WASH AND YOUTH – GLOBAL AND IN DISTRICT 9212

Global WASH Challenges and Millennium Development Goals

In the year 2000, the United Nations set Millennium Development Goals (MDGs) to be met by 2015. They were intended to mobilize the international development community around key development objectives. One key objective is to improve water and sanitation globally by *"halving, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation."* The MDG for water and sanitation is considered a central component of the millennium development agenda. Clearly, without significant improvements in water and sanitation access and hygiene practices the Millennium Development Goals related to child mortality, primary education, disease reduction, and poverty eradication will not be achieved.

Global *improved drinking water* coverage in 2011 was 89%, which is 1% above the Millennium Development Goal drinking-water target. However, there is insufficient data about the sustainability of these water systems. There are few, if any, monitoring, evaluation and resolution efforts being carried out by governments, NGOs or other institutions. Many WASH systems that are visited later are found to be in disrepair or under-performing. Communities that have some on-going support and follow-up have functioning WASH systems and the quality of their water and sanitation systems remain high. The WASH sector needs to concentrate more effort monitoring, evaluating and resolving issues when WASH systems are not working.

On the other hand, global *improved sanitation* coverage was 64%; 11% below the MDG target of 75%. Reportedly 1 billion people still practice open defecation, with sanitation coverage being lowest in sub-Saharan Africa. Other disparities also persist. Poor people living in urban slums and people living in rural areas are far less likely to have access to improved water and sanitation facilities than most urban populations. Rotary can and should play an increasing role to address these urgent needs in the WASH sector in the future.

The United Nations also set a Millennium Development Goal to reduce by half the number of people living in extreme poverty by the year 2015. So far, these efforts have focused on eliminating rural poverty, where the majority of the world's poor have always lived.

Urban poverty, however, is significant, highly concentrated, and growing fast. Cities have always represented a chance for a better life. This has never been more the case than today, especially in countries with developing economies like Kenya. The explosive growth of cities brings with it the significant task of appropriate and sustainable infrastructure, generating income and employment for growing populations, and effectively managing the social and environmental costs that come with especially high density of young people. Cities are growing far faster than is the infrastructure, including water and sanitation services, that is adequate to support them. One billion people, a sixth of the world's population, already live in urban slums, and this number continues to rise rapidly. As growing numbers of people migrate to cities, and as infrastructure and living space prove to be insufficient, most people settle down in areas that are not zoned for residence or that belong to private owners, creating informal settlements. In such informal settlements, government infrastructure is non-existent or weak

Global Youth Employment Challenges

A looming challenge often alluded to, but yet too often ignored, is that of youth poverty, unemployment and underemployment. Their lack of opportunity, education, and overall instability leads to great social unrest. Youth in informal settlements have very low socio-economic characteristics and rarely get jobs in the formal sector.

The International Labour Organization (ILO) report *Global Employment Trends for Youth 2013: A generation at risk* shows that "today's youth represent a group with serious vulnerabilities in the world of work."

> "Although the regional youth unemployment rate in Sub-Saharan Africa is lower than in most other regions, it is significantly higher than the adult unemployment rate. Compared with an adult

> unemployment rate of 5.9 percent in 2012, youth are twice as likely to be unemployed, with an estimated youth unemployment rate of 11.8 percent in 2012."[3]

According to the World Bank, 200 million people in Africa are between 15 and 24 and make up 20 percent of the population, 40 percent of the workforce, and 60 percent of the unemployed on the continent.[4] Both educated and uneducated are entrenched in working poverty. The ILO estimates that between 11 and 12% of youth, aged 15-24 in sub-Saharan Africa, or 22-24 million, will be unemployed by 2018.[5] The global economy on the other hand is growing more slowly, with declining productivity coupled with an up-scaling industry model, where fewer people can produce much more value. This reality points to skyrocketing unemployment for young people with adverse effects on their overall development and calls for innovative and systemic approach to addressing it.

The Brookings Institution considers youth unemployment in Sub-Saharan Africa to be a crisis needing immediate attention.

> "Since the unfolding of the Arab Spring in 2011, commentators have considered the Sub-Saharan region the next stop for political uprisings: a logical response to the increasing number of educated youth confronted with rising unemployment and the absence of political space. While such up-risings have not spread to Sub-Saharan Africa, the youth in this region are a potential destabilizing factor. A large portion of the youth population remains unemployed and their economic status is being made worse by rising fuel and food costs. Even in the absence of large-scale revolts, youth unemployment represents an enormous cost to society in terms of lost potential growth and increased crime."[6]

Given the scale of this crisis, the African Union has agreed to make youth employment a priority to promote stability and reduce crime. They have established several youth-focused goals: to reduce youth unemployment by 2 percent per year from 2009–2018; to elaborate on a Technical and Vocational Education and Training (TVET) framework; and to provide adequate funding to advance the youth agenda.

Since most countries don't have enough trained technicians to build, monitor and repair WASH systems, and youth need employable skills, a focus on teaching youth about WASH and building skills that allow them to generate jobs in the sector is a win-win.

Rotary has an opportunity, with its demonstrated leadership and convening power, to bring key players, government, private sectors, educational sector, NGOs, and other allies, to teach youth how to be part of the solution to addressing WASH needs in their countries through vocational training programs, expansion of university level WASH professional training and demonstration at primary and secondary schools.

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[3] Global Employment Trends for Youth 2013: A generation at risk, International Labour Organization.

[4] **SUB-SAHARAN AFRICA'S YOUTH BULGE:** A DEMOGRAPHIC DIVIDEND OR DISASTER?
Julius Agbor, Olumide Taiwo and Jessica Smith, The Brookings Institution

[5] The Brookings Institution

[6] The Brookings Institution

Basic Facts about the Countries in District 9212

Rotary District 9212 is comprised of Kenya, Ethiopia, Eritrea and South Sudan. Kenya has 48 Rotary Clubs, Ethiopia has 11, Eritrea formerly had a club which is now inactive, and South Sudan has one. The VTT visited Kenya with the idea that the strategy for WASH and youth employment developed by the VTT would initially be applied in Kenya and then rolled out in Ethiopia and eventually to Eritrea and South Sudan.

The four countries of the Rotary District 9212 are located on the Horn of Africa. All four have an agricultural base. Kenya is the most prosperous with a strong tourism industry. All have population growth rates of more than 2% per year, which results in population doubling every 24 to 27 years. Kenya and Ethiopia have growing urban populations, with more than 50% of urban residents living in informal settlements, characterized by little access to public services. However, in all of the four countries, more than 70% of the population lives in rural areas.

Table 1 Basic Data on Countries of District 9212 – 2010 unless otherwise noted

	Kenya	Ethiopia	South Sudan	Eritrea
Population	41 million	83 million	NA	5.3 million
Population Doubling Time	27 yrs.	25 yrs.	NA	24 yrs.
Access to Safe Water (%)	60% (MDG target: 81%)	47% (MDG target: 46%)	NA	54% (yr. 2000) (MDG target: 80%)
Access to Sanitation (%)	29% (MDG target: 82%)	20% (MDG target: 32%)	NA	11% (yr. 2000) (MDG target: 80%)
Life expectancy	61	60	NA	64

(wssinfo.org, WHO-UNICEF Joint WSS Monitoring Programme)

Ethiopia and Eritrea have varied terrain with much of it situated on high plateaus, having mild temperatures year round. There are more arid parts in the south and east of Ethiopia and in the eastern and southern parts of Eritrea. Nearly all subsistence agriculture is rain-fed. Rain is seasonal and both countries are subject to frequent severe droughts and periodic flooding. South Sudan has varied geography and rain distribution and very little in the way of public infrastructure. The remainder of background information is on Kenya, where the VTT undertook field visits and consultations in July 2013.

Kenya WASH and Youth Issues

Kenya passed a new constitution in 2010 shifting power, funding authority, and decision-making to 47 counties. Each county has a Governor and ministers for basic services such as Water and Environment. As part of the changes to the constitution, the Government is reviewing the National Water Act, passed in 2002, in order to devolve WASH functions to the counties. This should have significant implications for new WASH programs and projects in the future.

Seventy-six percent of Kenya's 41 million people live in rural areas. Much of Kenya is water scarce and lacks adequate infrastructure, so finding and collecting water is time consuming and accomplished mostly by women and children. The same can be said for the other countries within District 9212. The World Bank, UNICEF and a large number of International NGOs are

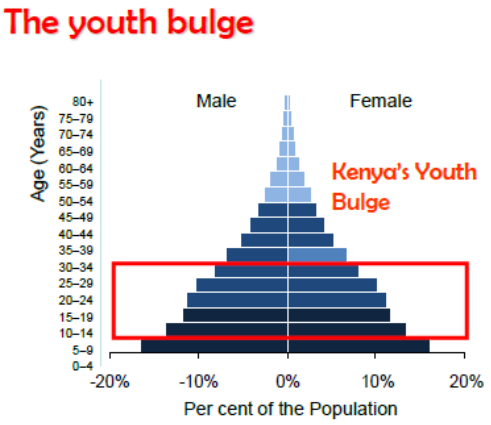
working directly with the Kenyan Government to address water and sanitation in rural and urban areas. They are the primary funding agencies. However, according to the WHO/UNICEF Joint Monitoring Programme, Kenya and the other countries of the District are not on track to meet their water and sanitation targets by 2015 or in the near future at current rates of development (see Table 1).[7]

Kenya has over 18,000 public primary schools and a large number of non-formal schools offering primary school curriculum. Lacking or poor primary school infrastructure, including WASH facilities, is a major barrier to improving access to primary education in the country. In a recent survey of 343 schools in 21 districts by UNICEF, only 37% were found to have safe water supplies, less than a quarter met national standards for numbers of latrines for boys and girls and only 9% of schools met hygiene standards. The critical primary school WASH issues include lack of WASH infrastructure, particularly in poor districts and informal urban settlements (most public schools do not meet the minimum standards); low prioritization of WASH in schools; poor enforcement and inadequate maintenance (Government efforts have focused on construction of toilet facilities with less focus on changing practices); overcrowded schools; and huge regional discrepancies. UNICEF, DFID, CIDA and CARE have been major players in school WASH up to now. The reader is referred to the Appendix 2, which contains a more detailed description of the WASH in Schools situation in Kenya.

The Kenyan National Youth Policy (2006 Ministry of Gender, Sports, Culture and Social Services)[8] recognizes the importance of youth to enjoy their youthfulness irrespective of social status and sex.

Kenyans aged 1-30 years constitute 75% of the country's population.[9] Those between the ages of 15-35 years are 36% of the population, 15.5 million people.[10] As in many African countries, this youth population remains on the periphery of the country's affairs.

Today, unemployment in Kenya stands at 40%, and 70-80% of those unemployed are between the ages of 15 and 35. Young people are more likely to work longer hours under insecure work arrangements, characterized by low productivity and meagre earnings. Young women face particularly strong challenges in entering the labor force due to early motherhood, inadequate education and prevailing societal norms.[11]



Recognizing the need to act, the Kenyan government and the World Bank have launched programs in the past to boost youth employment, but these programs failed to achieve their objectives. In 2013 a new program called

[7] www.wssinfo.org
[8] http://youthemployment.or.ke
[9] National youth policy and statistics from the Kenya Population census; 2009,
[10] Raphael Obonyo, May 2, 2013 blog, World Policy Institute (www.worldpolicy.org)
[11] http://web.worldbank.org

Uwezo commenced. According to Raphael Obonyo, a member of UN Habitat's Youth Advisory Board:

> Recently, President Uhuru Kenyatta launched the Uwezo (Ability) Fund, a program that aims to address the rising youth unemployment in the country. However, there is skepticism as to whether the fund can tackle this issue, given that previous attempts have failed. For example, the Youth Enterprise and Development Fund, launched in 2006, has not had any significant impact. The revolving fund of $57 million has been marred by gross mismanagement, political interference, and leadership wrangles. Similarly, in 2009, a World Bank-funded youth project dubbed Kazi Kwa Vijana (KKV, or Jobs For Youth) was launched to deal with youth unemployment, but collapsed in 2011 after claims of gross cash mismanagement and misappropriation of funds. Approximately 300,000 young Kenyans employed in the KKV initiatives were left without a source of income when the program was brought to an abrupt halt.
>
> To combat this flagrant corruption, Kenya needs youth employment policies that pay critical attention to entrepreneurship. It is unfortunate that government programs established to tackle youth unemployment have been reactive and are not backed with sound policies to ensure sustainability. The dismal performance of youth employment programs established in the past is indicative of the fact that allocation of funds alone is not enough. The country requires comprehensive policies and programs that provide training, appropriate skills, resources, and market support for youth. If policymakers can harness the entrepreneurial ideas of young people in the country, they will be doing a service not just for the youth population, but for Kenya at large.[12]

The call by various organizations such as Brookings Institution, ILO, World Bank and Government of Kenya to address youth unemployment and poverty in Kenya may be taken up by Rotary through its WASH strategy.

Rotary District 9212 Experience in WASH

Various Rotary Clubs from Europe and the USA, in partnership with Rotary District 9212 clubs, have supported numerous water supply and sanitation projects in Kenya. As there is currently no Rotary District 9212 coordination or monitoring system in place, there is limited data on the operational status or direct and indirect impacts of past projects. A District Water Committee could develop a monitoring, evaluation and resolution system and provide technical assistance to Rotary clubs to develop, implement, and evaluate their WASH projects. The District Water Committee could also monitor the WASH Strategy and VTT recommendations to ensure that the plan is carried out effectively.

To see examples of Rotary involvement in WASH in Kenya, the VTT visited Rotary-supported WASH projects in the Kibera Slum of Nairobi (ablution blocks and water kiosks), b) in the Kaptagat informal settlement in Nairobi (Community Based Organization multi-purpose ablution block and meeting hall), and c) infrastructure improvements (including WASH facilities) at a girl's secondary school outside of Nairobi.

[12] Raphael Obonyo

FINDINGS

The VTT had two sets of findings. First, there were findings from consultations and field visits in Kenya during the month of July 2013 where the whole team travelled together. Second were findings from the September 2013 visit of the Kenya team to Colorado and Wyoming.

WASH in Urban Informal Settlements

The team visited six geographically separated informal settlements in Nairobi, which are estimated by UN Habitat to be half the population of Nairobi. These were: Kibera, Kaptagat, Mukuru, Kasarani, Korogocho, and Waruku. UN Habitat states the following about the informal settlements in Nairobi:

> "Kenya's capital city Nairobi has some of the most dense, unsanitary and insecure slums in the world. Almost half of the city's population lives in over 100 slums and squatter settlements within the city, with little or inadequate access to safe water and sanitation."

Most of the land on which slums are built belongs to the government of Kenya. As a result, residents and NGOs are often reluctant to undertake improvements, especially now that the government is carrying out a $1.2 billion plan (2009 to 2017) to remove all slum dwellers to new high rise apartment buildings. The program is jointly funded by the UN-HABITAT/World Bank Cities Alliance and the Government of Kenya.

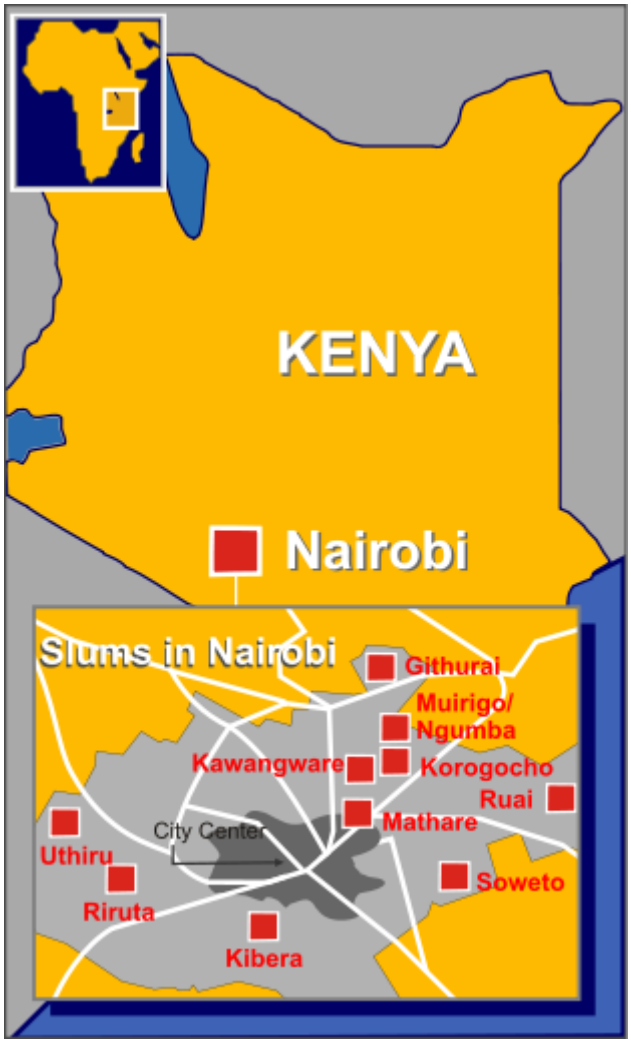
A few water kiosks serve large numbers of households, and water sold in these kiosks greatly exceeds the price per liter that private homes pay that are connected to city water services. Toilets are almost non-existent. Some schools and churches have pit latrine blocks, and there are a few mostly dry toilets-for-pay operated by private vendors. The Nairobi Water and Sewerage Company, under the larger Athi Water Board,[13] has minimal involvement in providing services in slums and have no plans to expand services. They provide bulk water to secondary vendors who then sell the water by pipe or truck to CBOs and private kiosks and individuals. Some trunk sewer lines exist in some Nairobi slums, but they are not mapped, and they have little capacity for carrying additional waste loads. As the slums are being removed and population is so dense, no organization, including Athi Water, is considering expanding sewerage services for temporary relief.

A few NGOs are active in slums to create more water kiosks, toilets, to collect and recycle solid waste, and to promote hand washing and other hygiene practices. Despite all these best efforts, the needs in the slums far exceed what NGOs can supply. Poor coordination and inadequate sharing of experiences hamper effective delivery of WASH service in the slums. In addition, crime, corruption and complicated local politics in the slums make working there extremely difficult and risky. Much of the water in Nairobi slums is controlled by "cartels" that manipulate prices and availability. Bribes often have to be paid to get water to a section of a slum or to a kiosk.

[13] Athi Water is one of the eight Water Boards under the Ministry of Environment, Water and Natural Resources and serves 4.5 million people

The dilemma facing Rotary and other actors in WASH in slums is that the government is intending to do away with slums, but in the meantime over 1.5 million people are without adequate WASH services. Rotary can use its leadership and convening skills focusing on youth training and WASH in schools to continue to bring attention to solutions for these urban informal settlements.

Observations on WASH in slums included:



1) PeePoo Bags, manufactured and marketed by an NGO, showed promise as an immediate larger scale solution to human waste disposal / reuse. In the past and even today, people in slums have adapted to their lack of toilets by using plastic bags for defecation, which are then thrown outside. Residents call this type of unsanitary disposal of their wastes "flying toilets." Pee Poo bags have built upon this idea by providing sanitary plastic bags lined with urea to speed up decomposition and to kill germs, and then paying customers to dispose of the bags in special bins. The bags are composted and sold as fertilizer. There are also some NGOs building and managing dry ecological toilets, recycling wastes to agriculture and creating employment. Built upon a sustainable business model, but not requiring much infrastructure investment, these ecological toilets also offer a temporary solution to the lack of sanitation in informal settlements. The success of PeePoo Bag program is important in demonstrating a workable business model for using a simple and effective system for disposing of and recycling waste for its fertilizer value.

2) Ablution Blocks (water kiosks, communal toilets and showers) are being funded and supported by various NGOs, including Rotary, and Community Based Organizations to create employment for youth while providing services to residents. These kiosks vary in their design, but are generally small, consisting of one to two water taps, 6-8 toilets and 4-8 showers and sometimes a community hall. They do not get water every day and sometimes there is no water for several weeks. Some are connected to sewers and some have bio-gas units. They charge about 3 Kenyan Shillings (Ksh) for 20 liters of water, 20 shillings for a shower and 5-10 shillings to use the toilet (85 Ksh equals about 1 US$). The VTT observed difficulties in security around

ablution blocks, water points and distribution pipes. There are also difficulties in management of WASH services due to political factions within slums, meddling by inside and outside politicians, and financial difficulties due to corruption. One 7-year old Rotary-funded water kiosk/ablution block project in Kibera still had not reached its goal of getting six sites up and running due to these problems. Some NGOs working in the slums and local CBOs seem to know how to work in this complicated environment with some success. However, water kiosks and ablution blocks in slums offer very few employment opportunities. Water vendors and CBOs face a range of challenges: vandalism (including stealing of pipes); low quality pipes; distance to the nearest connection can be up to 2 kilometers, which means that these pipes must be secured and protected; contamination of the water through infiltration; rationing of water by the Nairobi Water Company; payment of bribes on a regular basis; paying off gangs not to vandalize the lines; and payment of rent for the land on which the facilities sit.

3) NGOs are helping to grant and organize community-based organizations to provide WASH services. These community organizations/community centers are actually small enterprises based on a partnership model. Members (10 to 50) are the only financial beneficiaries, while the larger community can benefit from the service provided. Some kiosks and ablution blocks are new and others are old ones from the colonial era that are being refurbished. These private enterprises often include other services such as hair dressing, tea shops, and cell phone recharging. Some new ablution blocks have built bio-gas digesters that provide bio-gas for the tea shops, while some rent cooking spaces to community members. CBO members benefit personally by accruing profits, which they use to give loans to members to buy land outside the slum. While these CBO WASH enterprises serve a dire need in communities and help lift their members out of poverty, they depend upon large grants to get them started, and they offer very few employment opportunities to youth. They also face the political and security challenges discussed above.

4) Solid waste is an enormous problem in the informal settlements. Part of some slums sit directly on mounds of accumulated solid waste that is gradually decomposing and shifting, sometimes resulting in the collapse of houses. Drains are continuously clogged with solid waste, impacting on storm-water drainage and general community sanitation. Solid waste collection and the waste recycling industry is not well developed in Nairobi. This sector offers opportunities for youth entrepreneurs. The VTT visited a youth NGO waste collection and recycling enterprise in one Nairobi slum community (Waruku) and found that the project was providing some income producing opportunities, but it was still in an early stage of development.

The VTT found that informal settlements are risky and complicated environments for Rotary investments in WASH, except for perhaps investments in urban slum schools.

WASH in Rural Communities

The VTT visited five rural counties of Kenya: Turkana County, Kirinyaga County, Machakos County, Kitui County, and Kajaido County to observe water and sanitation conditions and WASH projects. Only Kirinyaga County had abundant rainfall and full water supply coverage. The others were much drier and had poor water and sanitation coverage.

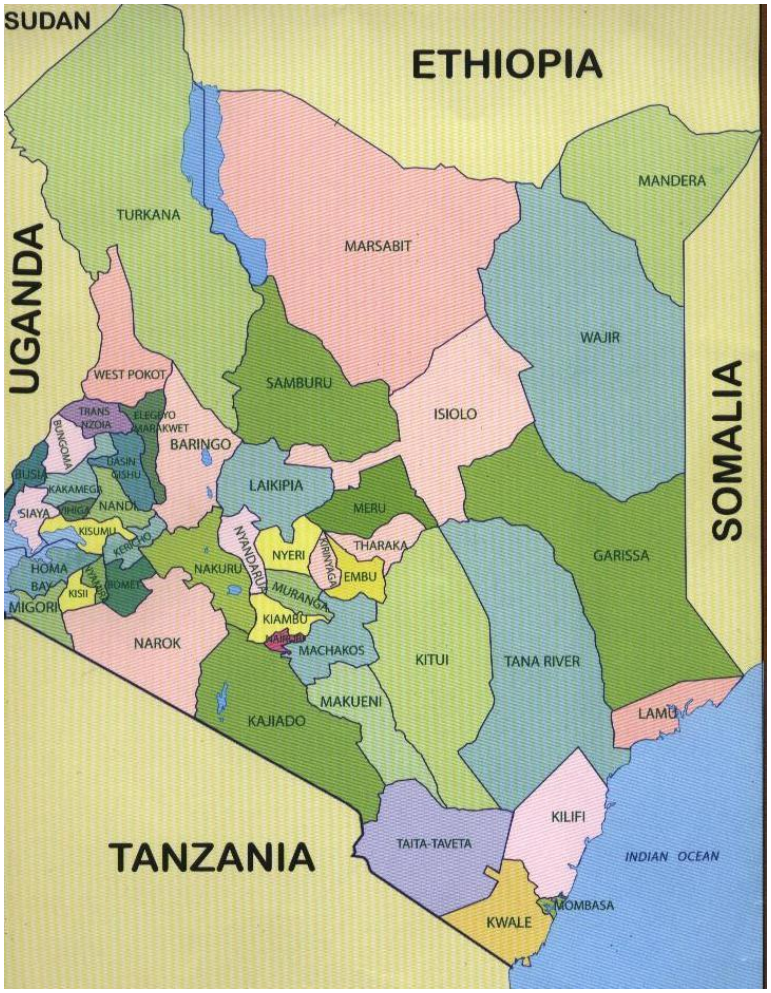
Main observations from rural visits include:

1) Water supply and sanitation coverage is mainly a function of political will. With political will it is possible to get full water supply coverage, particularly where there is a reliable water source.

2) The agricultural potential of human excreta is not well known or appreciated in the WASH or agriculture sectors in Kenya. Health departments do not understand the potential of using human excreta to generate income while removing a big source of illness. So they oppose it entirely. As such, there is great potential for use of Pee Poo bags and sanitized compost from ecological toilets for agricultural fertilizer.

3) Sanitation solutions are generally more difficult because of cultural and social barriers. People generally resist change, but when discussing personal issues related to human waste and disposal, people are even more reluctant to adopt new behaviors. Also, lack of education makes the connection of poor sanitation to health problems less well understood. Too many organizations do not spend sufficient time and attention to training and hygiene education to ensure that people will adopt behavior change.

4) There are many technically feasible and promising solutions for sanitizing and recycling human waste for use in agricultural practices. Safe recycling of human waste improves health by reducing disease transmission, lowers the cost of fertilizing crops while increasing yields, and creates jobs for servicing sanitation facilities, sanitizing the waste and transporting the waste to farmers.



6) Some areas of Kenya have good water sources deep underground, have seasonal

rivers, or have heavy rains where water is not caught. It is not lack of water, but rather lack of means to capture water that is often the problem and challenge for rural Kenya.

7) Household Ponds (runoff collection) are a promising practice but too expensive to bring to each homestead. Families generally cannot afford ponds and, therefore, external grants are usually required.

8) Sand dams for collecting and storing water along dry or seasonal rivers are a promising practice, but require good engineering expertise. Failed poorly designed sand dams were also seen. Sand dams have payoff for both domestic water and agriculture. Their construction requires a great deal of community mobilization and volunteer labor, which tends to fall upon the women. Some NGOs have the expertise to design sand dams and organize communities to build them.

9) Deep bore hole wells usually provide safer water for communities (assuming there aren't inorganic metals present), but drilling equipment is usually sparse and expensive. Solar and wind pumps are promising for lifting water from community deep wells, but they are expensive and require external grants. Shallow wells are less expensive to drill, but usually become contaminated too quickly. Deep wells might be more cost effective when considering expenses over the life of the systems.

Community water supply projects funded and implemented by NGOs and governments historically have a high failure rate. Several large surveys indicate a failure rate of 75% of systems within 5 years. This is due to a number of systemic problems in the WASH sector, including an inability of communities to manage the infrastructure themselves despite training; failure of local water committees to manage turnover of members and pass along training received earlier; lack of a sense of ownership, since an NGO or government was the main implementing partner and they may not have done sufficient community participation in planning and implementation or training in O&M; lack of a back-up support from government offices; or even inappropriate technologies. While the sector recognizes its failures and seeks to improve, funding agencies generally do not provide long-term support for community systems. Rotary will likely fair no better in sustainability than the best-on-ground NGOs working in community water supply without addressing these systemic problems.

New ideas on how to support community water systems are emerging, in particular the Circuit Rider concept, whereby a trained professional takes care of a large number of small community water systems in return for a fee. If a community doesn't have the capacity to maintain a system, then a trained circuit rider technician can do so at a modest cost to each, which is then built into the small tariffs the people pay their community water committees. This may offer a viable solution to Rotary support to large numbers of projects in communities and schools. Rotary is now exploring how to add Circuit Riders to its WASH programs.

WASH in Schools

The VTT visited nine schools in Kenya: four urban slum primary schools in Nairobi, one Adventist primary school just outside Nairobi to serve poor Kamba and Masaii children, a

primary school in Turkana, and three girls' secondary boarding schools in rural towns (Sombe Girl's Secondary School in Kitui County, Maji Mazuri Girl's Secondary School, Kiserian, Kajaido County, and Thumaitha East Girl's Secondary School, Thumaitha, Kirinyaga County). In addition the VTT heard a presentation on the Rotary International Kenya Clean Water Global Grant Project and PEAK (Partnering for Education and Aid in Kenya) clean water and hygiene projects in poor rural schools near Meru.

The visits showed the wide variation in school quality found in Kenya, but all schools had certain characteristics in common. Some main findings from the visits are:

1) Except for the boarding schools, WASH in schools was minimal, usually one tap per school and a block of dry latrines. (Many, perhaps even most, schools in Kenya do not have potable water supply or improved sanitation).

2) Schools with the best facilities were funded by international organizations, including Rotary.

3) The head teachers at girls' schools discussed the need for facilities for menstrual hygiene and sanitary napkins in order to keep girls in school. Therefore, future WASH projects in both primary and girls' secondary schools need to plan facilities accordingly.

4) In the three girls' boarding schools, water was being used for domestic purposes, but also for growing crops and raising animals, and toilet blocks were connected to digesters producing biogas for cooking. These schools grew or raised some of their own food while educating pupils on the latest developments in agriculture and waste recycling. On the other hand, there was very little hygiene education training, little to no soap for hand washing and bathing, and little to no outreach to the wider community on WASH issues and knowledge.

5) The VTT found a holistic approach to WASH implemented at the Maji Mazuri School in Kajaido County. Water supply is being used for domestic purposes, crop irrigation and a green-house that produces more food than the school can use and therefore, it is marketed producing income for the school. This school serves as a good example of what can be done with the Holistic WASH approach, and it so happens that Rotary supported this project.

6) Schools are extremely important centers of learning for entire communities. WASH improvements in schools can easily be demonstrated and communicated to the wider community.

7) Schools with strong and open-minded head teachers offer the best possibilities for WASH improvements, innovations and sustainability of services.

8) Urban slum schools had good WASH.

WASH Sector in Kenya

The VTT met a number of brilliant actors in WASH in Kenya, including various NGOs and private entrepreneurs. The team concluded that the WASH sector in Kenya is active and innovative. However, it remains understaffed. There are not enough trained professionals

(including technicians) in the country to meet the remaining needs within the next 20 years, and the population is doubling every 27 years. Few people and institutions are able to implement the newest technologies, such as biogas sanitation, PeePoo bags with rural recycling to agriculture, sand dams and ponds. Kenya needs to build its cadre of trained professionals and technicians in WASH, and it therefore needs to increase training and expand curricula.

WASH Opportunities for Youth in Kenya

Current opportunities for youth in Kenya to work in WASH are extremely limited, but future opportunities could be large. The few national and international NGOS in Kenya that work in WASH hire youth trained in diploma-level engineering and social work skills. Government programs equally hire youth to work on WASH projects as funding becomes available. WASH projects are largely externally driven by donors, and thus WASH is not a large sector in Kenya or East Africa. There is much unmet need for water and sanitation projects in rural and urban Kenya and much opportunity for entrepreneurs to start businesses to meet local needs. Youth could be trained to be independent contractors in water supply systems, sanitation technologies and hygiene behavior change for schools and communities. In order to garner business, these youth would need skills in marketing for demand creation.

The VTT learned that there are a few training programs for water technicians and engineers in technical schools and universities. These programs could be upgraded and expanded to include more in community participation in project planning and implementation, hygiene education and holistic WASH, which includes using water and sanitation for livelihoods and agriculture.

The AAYMCA in Kenya provides a platform for education and training for youth that is outside the technical school and university system. The VTT visited the Kibera YMCA Center and the Nairobi South YMCA Training and Recreation Center. We discussed possibilities for training in WASH with the directors of the training sites. African Alliance of YMCAs is ready to join forces with Rotary to develop curricula and training in WASH as part of its overall training program.

Lessons Learned from Visits to Colorado and Wyoming

In September, 2013 Kenyan VTT members visited various NGOs, a community college and water and sanitation districts in Colorado and Wyoming, and they attended the Rotary District 5450 one-day Colorado Global Health and Water Symposium (September 28) in Denver. They also experienced a "100-year flood" in the Denver-Boulder-Fort Collins area and witnessed both the devastation to roads, bridges and communities, but also the excellent emergency response of the state government. They attended a number of Rotary Club meetings in both states and established personal contacts that may prove helpful in follow-on implementation activities related to the strategy. The Team also met with District 5450 and 5440 officials, which will help to facilitate district-to-district cooperation in the future.

The team learned that water and sanitation systems in cities and towns are modern and run by professional staff. All tap water in the US is potable thanks to the Clean Water Act. All cities and towns are fully sewered. Rural homes are required to have septic tanks. The way of life around

water and sanitation stands in stark contrast to the needs of developing countries. Consumers value and are willing to pay for the WATSAN and solid waste services rendered.
The team talked about watershed management, fires, floods, agriculture, water storage, water law, linking business and environment and much more. The visit was rich with variety.

NGOs, colleges and universities in the USA are well aware of the needs in developing countries and many implement programs abroad. The opportunities for partnerships with Colorado and Wyoming-based institutions working in WASH are many.

CONCLUSIONS AND RECOMMENDATIONS

As a result of the VTT field visits and consultations in 2013, the Team concluded that Rotary could have the most impact on the sector by concentrating its resources, time and efforts on children and youth to bring about generational change in WASH practices and employment opportunities. To do this Rotary should invest in improving WASH in schools and by expanding educational opportunities for professional development for youth in the WASH sector. Working in schools is most likely to succeed in impacting the entire communities and induce generational changes. It is less complicated than working directly with communities in either rural or informal settlements and less likely to fail activities are supported by strong head teachers.

This approach will reach a large percentage of the population of Kenya and future adults. Children under the age of 18 represent greater than 50% of the population of Kenya. Approximately 85% of primary school-aged children are enrolled in school and about 50% of secondary school-aged children attend high school. These children are the future of Kenya. They can be the catalyst for bringing about generational changes regarding WASH, and the schools they attend can be the vehicles to provide the teaching, demonstration of WASH innovations and to transfer this knowledge and understanding to surrounding communities. Demonstrating holistic WASH in schools should generate demand for improved WASH services in surrounding communities, and the children who grow up with holistic WASH in schools will no doubt hope to bring those ideas to their own homes in the very near future.

Rotary support to develop better training institution and university curricula, and encouraging existing technical schools and institutions to offer wider and more intensive training in WASH, could provide a boost to youth employment and entrepreneurial opportunities. They could create the needed cadre of WASH professionals and technicians who will respond to the demand for improved WASH services created by the primary and secondary schools.

The VTT concluded that Rotary should support WASH in schools in informal settlements, in other urban areas and in rural areas. All investment should focus on school WASH programs, training youth from primary school through high school to accept WASH as a way of life and on creating a large cadre of trained technical school and university graduates to close the technical and professional skills gap that currently exist within the WASH sector in this District. Youth who do not stay in school beyond primary level will have an opportunity, under the proposed strategy, to develop themselves as WASH professionals through certificate programs.

By concentrating its efforts on WASH in schools and on creating the means and programs to train youth in WASH, Rotary has the possibility to be a leader in these areas of the sector. The next section elaborates these conclusions and explains a new strategy for implementation of WASH support by Rotary in District 9212.

THE STRATEGY

Rotary's Future Vision

The strategy described in this document is guided by the principles of Rotary's Future Vision Plan and other Global best practices in designing and implementing high impact programs. All projects supported by the Rotary Foundation are designed to follow the Rotary Future Vision Plan that is modelled to enhance the scope, impact, and sustainability of humanitarian and educational projects funded by The Rotary Foundation. The Future Vision Plan simplifies Rotary's grant process and channels Rotarian service efforts where they will have the greatest impact. The model combines Rotary's volunteer base and a global reach with local resources to support sustainable, high-impact results in communities all over the world in 6 key areas: Peace and conflict prevention/resolution, Disease prevention and treatment, Water and sanitation, Maternal and child health, Basic education and literacy and Economic and community development

The strategy, therefor, envisions D9212 not only leveraging the vast volunteer base within Rotary, but also pursuing and developing strategic partnerships with local and international NGOs, international organizations, universities and technical training institutions for the delivery of and training in Holistic WASH. Through the strategy, Rotary Districts 9212, 5440 and 5450 envision a world in which: 1) safe fresh water and sanitation is readily available and adequate for daily life and livelihoods, 2) waterborne diseases are not a significant threat to human health, and 3) youth are meaningfully employed and supported in entrepreneurial pursuits within and outside of the WASH sector.

A Holistic Generational Approach for WASH

<u>The proposed 10-year strategy has three key objectives:</u>

- **Strategic Objective 1**: To rally the participation of Rotary Clubs and Districts to adopt and support the new strategy, and to stay focused on this objective for at least 10 years;
- **Strategic Objective 2**: To create a cadre of youth trained in WASH knowledge and skills to deliver Holistic WASH;
- **Strategic Objective 3**: To strive to develop Adequate WASH in every Kenyan school, and develop 5 model schools in every county in Kenya to promote and demonstrate WASH.

These three strategic objectives will only be achieved by comprehensively and effectively communicating the needs and opportunities to Rotary and its partners. Communication and sharing thus forms the fourth part of this strategy. The strategy provides an operational framework using Kenya as a case study and a blueprint for action by Rotary Clubs, Districts and

partners. The strategy will be implemented initially in Kenya and then carried forward to the other three countries in the District as soon as possible taking cognizance of lessons learned.

The strategy introduces three concepts:

1. **Adequate WASH -** means that schools have clean drinking water sufficient for students and faculty, an adequate number of toilets, a place for menstrual hygiene, hand washing facilities and hygiene education.
2. **Model schools -** refers to schools that will demonstrate to the wider community and to other schools best practices and various alternative technologies in water, sanitation and hygiene education appropriate to the local environment and culture. Model schools will link water and sanitation provision to youth empowerment, livelihoods and food security. Model schools may have ecological sanitation facilities to produce fertilizer for growing crops in green houses, or a biogas excreta disposal system for producing cooking gas for the school kitchen. Wastewater from kitchens, showers and hand washing facilities may be channeled to gardens. Crops may be grown to feed livestock at the school and their waste may become fertilizer, closing the nutrient loop from waste to crop production. Model schools will be where other school officials and community leaders can visit in order to learn about new ways of addressing WASH needs. Finally, students will learn about the importance of addressing water-related health problems and how that improves health and livelihoods. Students can learn how to build, maintain and repair water and sanitation systems so that would provide a trained workforce and jobs for young people.
3. **Holistic WASH** - combines Adequate WASH, Model Schools and Entrepreneurship. Entrepreneurship provides not just an innovative edge to WASH but largely addresses sustainability concerns. The concept of Holistic WASH will be applied through Vocational and Tertiary training where youth will be taught different skills and concepts that would support their participation and setting up WASH related enterprises for income generation. Some emerging *examples* of the Holistic view of WASH include:
    - Healthy watersheds; these are essential for water collection, retention and recharging of aquifers.
    - Conserving water through drip irrigation.
    - Youth and communities generating incomes and improving livelihoods by utilizing water for agriculture or setting up WASH enterprises.
    - Properly composted animal and human wastes for use as excellent manure in agricultural fields and greenhouses
    - Reduction of disease, improving quality of life and offering communities more chances to move away from a subsistence economy through WASH innovations.
    - Influencing generational lifestyles by using schools as platforms to teach healthy habits to students, who then can transfer this knowledge to their families and the broader community.

SO1: Rally Participation of Rotary Clubs and Districts

The objective of SO1 is to get all Rotary Clubs in District 9212, 5440 and 5450 to buy into this new strategy and to seek support from Rotary International and WASRAG. District 9212 leadership, with support from Districts 5440 and 5450, will:

- Establish a Strategy Implementation Committee, with hired staff as necessary, to provide oversight for implementing the Strategy and for projects that will fall under the Strategy. This committee will be responsible for ensuring that the intermediate results are systematically addressed and the inputs are sufficient and timely. Districts 9212, 5440 and 5450 may need to define a follow-on project proposal to ensure implementation of the strategy.
- Build awareness among potential partners that the strategy exists and reasons for its development
- Educate potential partners about the Strategic Objectives
- Seek support from WASRAG through Rotary International to help promote financial and other investments to begin implementing the strategy.
- Create meaningful partnerships that outline specific expectations for implementation
- Find adequate resources for implementation
- Customize solutions and their delivery at each training institution and school
- Institute strong program management
- Establish free and open lines of communication among partners, training institutions and schools
- Ensure sustainability by applying best practices from the WASH sector

SO2: Youth Training and Employment

Through this strategy, Rotary will support the development of a critical mass of young professionals with appropriate skills and techniques to implement and improve WASH technologies as entrepreneurial ventures. Rotary will work with existing formal colleges, polytechnics and universities to expand their curriculums to include emerging WASH technologies and holistic community approaches. Institutions will integrate WASH training with entrepreneurship training**.** Training institutions will also engage with community-based formal and informal vocational training institutions to train local artisans to establish and maintain WASH facilities in and outside their communities. Further, Rotary will work with Primary and Secondary schools (SO3) to introduce a culture of Holistic WASH that is replicable in the community. This will lay a foundation for some students from these schools to pursue further training in tertiary education in Holistic WASH.

Some youth development organizations have vocational training as part of their key mandates. Participating Rotary Club Districts will work with the Africa Alliance of YMCA's (AAYMCA),[14] a continental youth development organization that has a footprint in over 20 countries. It continually refines its approaches to address emerging youth developmental challenges in Africa. The Kenya YMCA, a member of the AAYMCA, has vocational training facilities in different parts of the country that offer an appropriate entry point for incorporating Holistic WASH in Vocational training. With Rotary support, the AAYMCA will introduce practical training in WASH as one of the menus for youth vocational training. Further, the AAYMCA is working to set up a university (The Africa Renaissance University - ARU). This also provides an opportunity for Rotary to partner in developing and testing a Holistic WASH curriculum for higher learning by linking the AAYMCA with established universities in Districts

14 www.africaymca.org

5440 and 5450, especially with Colorado universities and technical schools, as well as with youth development organizations visited during the VTT trip to Colorado.

Rotary could begin by supporting the upgrading of facilities at the Kenya YMCA training centres to incorporate Holistic WASH training. Working with the AAYMCA provides opportunity to pilot this approach in Kenya and avenues to scale up in other countries through other National YMCAS, for instance Ethiopia and South Sudan in District 9212 and later to other Districts where the YMCA has a membership (the rest of East Africa, West, Central and South Africa).

Developing the WASH Curriculum for Training Institutions
The main components of the Holistic WASH curriculum will include:

1) Income generation in WASH/Entrepreneurship. Youth can be trained and mentored to start various WASH enterprises including a) construction of facilities, initially as apprentices and later graduating to be sub-contractors and contractors, b) operation and maintenance of improved systems, including the Circuit Rider model in which an individual provides support to a large number of systems on a fee basis, c) multipurpose ablution block model, which have proven to be a source of livelihoods for CBOs.

2) Food Security and livelihoods: sustainable solutions that ensure food security and livelihoods, especially in light of growing populations and high unemployment levels.
Increased access to water provides opportunities for irrigation and animal farming. Use of human waste from Eco-san toilets and Pee Poo bags[15] increases crop yields and consequently the availability of food for subsistence and for trade. The sale of Pee Poo bags, harvesting the sanitized wastes and further distribution to farmers is potentially part of a value chain that would provide business opportunities for many young people.

3) Water Supply
The curriculum and training will address promising technologies and approaches. Some key areas would include;

- *Baseline surveys* – how to do them for effective planning, implementation, monitoring and evaluation and rapid assessment of the current situation in WASH and other critical parameters.
- *Watershed management* – how to do it to improve and/or conserve water catchment areas increasing vegetative cover, reducing erosion and improving groundwater recharge and increasing available water for both domestic and irrigation purposes.
- *Increasing water quantity* – techniques for impounding rainwater runoffs (roof catchment for domestic use, surface runoff for livestock, agriculture and environment – tree planting); utilization of groundwater (boreholes, shallow wells); using surface waters – rivers, lakes, subsurface dams along dry river beds.
- *Water purification* – techniques for large scale, small scale, and household/school (chlorination, ceramic filters, etc.)
- *Water lifting devices* – techniques for construction of lifting devices using renewable energy (solar, wind, hybrids – e.g. sun spring) and other simple but effective technologies like hand pumps, rope pumps and treadle pumps

[15] www.peepoople.com

- *Multiple uses of water* – concepts of designing water systems for various purposes including domestic, livestock, agriculture (greenhouses), and tree planting. These uses demand differing quantities as well as quality of water.

5) Sanitation and hygiene education

The curriculum and training will be on promising technologies and approaches that value human waste as a resource. This will include such approaches as:

- *Multi-purpose ablution blocks* –especially applicable in informal settlements providing access to water, showers/bathing areas, and toilets and constructed to incorporate bio-gas digesters for providing a safe and affordable source of energy for cooking and other uses. Training will include sustainable models for developing these facilities for instance as part of the housing by the landlords or as stand-alone on the pay per use basis.
- *Safe human waste disposal and nutrient recovery* - a variety of technical options for urban and rural areas that are designed for harvesting and sanitizing human waste and its use in fertilizing crops. These include Pee Poo Bags and various designs of Eco-San Toilets, including the Arborloo.
- *Safe human waste disposal and energy generation* - Bio digesters are particularly useful for schools or community centres with waterborne ablution blocks to generate methane for cooking. Households practicing livestock rearing (especially zero-grazing) may adapt this technology for digesting manure. The resultant slurry is an excellent soil conditioner and fertilizer.
- *Construction technologies* - Ecosan[16]toilet construction can also serve as business opportunity especially due to the recommended use of a slab for the toilets such as the Arborloo. The production of slabs provides a very real business opportunity for youth.
- *Software Approaches* – Participatory approaches like PHAST [17]and CHAST[18] to stimulate behavior change and providing skills to communities for proper use, operation and maintenance of the WASH facilities.
- *Hygiene supporting technologies:* - Other supporting technologies include the making of soap, hand washing facilities, sanitary towels water containers outside of the toilet blocks, and water filters.

SO3: WASH in Schools

The main purpose of SO3 is to ensure that every primary and secondary school in Kenya has at least Adequate WASH. In this way, the young generation can experience and benefit from WASH facilities and learn hygienic practices that will become part of their formation into adults. Primary and secondary schools will also demonstrate to wider communities how to accomplish WASH facilities and hygiene behaviors at home. Thus, for the majority of schools, both urban and rural, Rotary will focus on Adequate WASH. Rotary will also strive to create five Model Schools in each county that demonstrate Holistic WASH. Both types of WASH programs in schools could have WASH clubs along the format of the Interact Clubs and integrating the

[16] See Ecological Sanitation; www.ecosanres.org

[17] PHAST: Participatory Hygiene and Sanitation Transformation: A new approach to working with communities, 1996, WHO. PHAST Step-by-step Guide: A participatory approach for the control of diarrheal disease, 1998, WHO.

[18] CHAST – Children's' Hygiene and Sanitation Training. A Practical Guide, 2004, Caritas Switzerland. It is an adaptation of PHAST for school children ages 5 to 12.

YMCAs Y-club[19] approach that would see young boys and girls appreciating not just the importance of WASH, but how to think about WASH as a livelihood avenue. Areas to be incorporated in the Interact/Y-Club approach would be entrepreneurship related to WASH, improved agriculture, livestock rearing, teaching students about how to build, maintain and repair water and sanitation systems, and using the school as a showcase for other schools and the neighbouring communities to come and learn. Pupils will be actively encouraged to carry some of the WASH practices and facility innovations into their homes through the Parents & Teachers Associations.
Students who don't have the means to go to higher education can leave school with marketable skills and potential for creating businesses.

STRATEGIC FRAMEWORK

Given the development challenges facing Kenya and other countries in District 9212 in WASH and youth empowerment, the new WASH strategy has a 20-year goal and 10-year strategic mid-term objectives.

The 20-year Goal is: To bring about generational transformative change in water, sanitation and hygiene through youth development in Rotary District 9212.

The Table below summarizes the three strategic objectives (SOs), eight intermediate results (IRs), and one crosscutting result to be achieved from 2014-2023. While SO1 is all about Rotary's leadership role, Rotary will also have major key inputs to SO2 and SO3 to ensure they happen. The Crosscutting Intermediate Result ensures that Rotary has in place a broad communications plan that explains and promotes the WASH strategy to all institutions that Rotary seeks to involve and also among Rotarians for clarity and understanding of the strategy. These Objectives will be applied to all countries in district 9212 on a schedule to be agreed by District 9212 Governor and other officials.

Rotary D9212 WASH Strategy Results Framework

SO1 - All District 9212 Rotary Clubs, WASRAG, RI, & TRF endorse the 10-year WASH strategy and endorsement is monitored by the District.	SO-2 Kenya has a sufficient cadre of trained youth as technicians, professionals, and entrepreneurs in Holistic WASH by 2023.	SO3- All schools in Kenya have adequate WASH facilities and hygiene education by 2023.
IR1.1 –Leadership of Rotary District 9212 endorses the 10-year WASH Strategy (includes IPDG, DG, DGE, DGN) by end of 2014.	IR2.1 – Leadership of Africa YMCA and select Technical institutions endorse skills training in Holistic WASH through their institutions and develop supporting curriculum	IR3.1- Each of the 47 counties in Kenya has 5 "model schools" demonstrating holistic WASH to other schools and the wider community by 2023.
	IR2.2 –Rotary and select institutions sign agreements to offer certificate, diploma and degree training in Holistic WASH	IR3.2 Rotary and relevant government offices have signed agreements with targets for school WASH by end of 2015.
IR1.2 - The District 9212 has strong WASH Committee with capacity to	IR2.3 Two universities in Colorado facilitated by Rotary to partner with	

19 www.vintagekidstuff.com/hiy

promote the Strategy within the district and globally to Rotary and to monitor its implementation. IR1.3 District 9212 has partnered with Government, UN Agencies and NGOs to promote Adequate and Holistic WASH in schools and communities. Rotary Districts 5440 and 5450 provide support to D9212 as necessary and at their request.	AAYMCA in the development and delivery of a Holistic WASH curriculum by end of 2015	
	IR2.4 – YMCA technical training programs offer certificates, diplomas and Degrees in Holistic WASH.	IR3.3 All YMCA branches, and other organizations with outreach capacity (such as faith-based) are models for holistic WASH.
	INPUT: Rotary provides seed funds for Holistic WASH Curriculum Development	INPUT: Rotary provides support to set up interact and Y clubs in primary schools
	INPUT: Rotary provides scholarships and internships to HOLISTIC WASH students to roll out the curriculum	INPUT: Rotary develops partnerships with implementing and funding agencies on Holistic WASH.
	INPUT: Rotary supports partnership between the AAYMCA, Denver and Colorado Universities to roll out Holistic WASH training	INPUT: Rotary Clubs provide start-up funding for the Program and projects
	INPUT: Rotary supports periodic assessments of market demand for HOLISTIC WASH technicians and professionals	
	INPUT: Rotary provides starts up resources to upgrade existing training institutions with equipment and know-how to offer Holistic WASH courses	
	INPUT: YMCA adds its expertise and existing facilities to the development of WASH training.	
IR- Cross -Cutting 1: A communication, marketing, and PR plan is in place to support the entire strategy. Activity: Rotary supports Holistic WASH forums with Training institutions, Civil Society e.g., Government, [20] WESCOORD, and private sector at national and county levels.		

(SO1 and SO2 and their IRs and Inputs will apply also to the other countries of District 9212 to be implemented in a timeframe as agreed internally by officials of District 9212)

Principles

The WASH Strategy will follow certain principles that represent best practices in the WASH and enterprise development sectors. By adhering to these principles Rotary seeks to better coordinate its efforts and maximize its overall impact. The principles are;

- *Program vs. Project Driven* – the strategy aims to reach higher level goals and strategic objectives and includes smaller projects only insofar as they build towards the higher-level objectives.
- *Sustainable* – project proposals should demonstrate a commitment to sustainability by staying with the project for a period of 5 to 10 years, while ensuring that the project can be maintained without outside financial support after completion.
- *Demand-driven* – the institutions involved in this strategy should request assistance to strengthen their WASH curricula or to develop their school WASH activities, and they

[20] These are the various coordination bodies that already exist in support of WASH activities countrywide.

should be ready to contribute and commit substantially to the realization of these actions beyond the support phase.

- *Holistic WASH* – projects, whether development of WASH curricula or development of WASH in schools, should be as holistic as possible, as defined above, and feasible within the parameters of the institution.
- *"Hand up" rather than a "hand out" Funding mechanisms* - Rotary projects within this strategy should not involve "giveaways." Rather, strategic technical expertise and support will be offered, but local resources (materials, time, & money) will also be leveraged to develop projects. Institutions should feel local ownership of their projects.
- *Defined exit strategy for projects* - exit strategies for any projects within this strategy will be defined from the start of any project with clear milestones and expectations for sustainability.
- *Sensitivity to diver*sity - Cultural, ecological, social, gender, generational and literary diversity in the district has to be given consideration in projects sensitivity considerations.
- *Rotary's role as a facilitator and catalyst* - this strategy advocates Rotary working through strategic partnerships in the district for achieving the objectives of this strategy. Rotary can and should partner with the many excellent non-governmental, governmental and private sector institutions that exist in Kenya and the District. For a start, the strategy has identified working with the AAYMCA to initiate the Youth empowerment through WASH interventions.

All project proposals will complete a Principles Checklist to be developed by the Rotary WASH District Committee to ensure that they fit within the strategy.

IMPLEMENTATION OF THE STRATEGY BY ROTARY

SO1: Mobilizing Rotary Support and Monitoring Progress

Rotary WASH projects need to be technically and financially sustainable. District 9212 and any other Rotary District that wants to use this strategy will need a detailed work plan, timetable, budget, and dedicated volunteer or paid staff. Each partnering Rotary Club will need to align its work plan to that of the District. The District will need to exert oversight to ensure the work plan requirements are met.

As for every successful project, establishing well-defined expected outcomes, even if they are modest, is critical. Each Rotary funded project within this strategy, whether it is strengthening a tertiary training institution or improving WASH in a school, needs regular surveillance, monitoring, and evaluation with lessons learned feeding back into future project planning. Adopting up-to-date diagnostic, monitoring, mapping, and modelling tools, though an overhead cost, will be value-added on large-scale projects. Rotary rightfully insists on accountability and though this is an upfront program cost, it ends-up being a program savings in the long run. Finally, it must not be lost that this Rotary WASH and Youth empowerment initiative is a people program. So building trust and establishing positive relationships are at the very heart of this effort.

Monitoring and Evaluation (M&E) of Projects and the Strategy
A first step in implementing the strategy is setting up a monitoring and evaluation system to follow progress of *each Strategic Objective and each Intermediate Result indicated in the strategic framework table above*. Equally, each project within SO2 and SO3 should have its own set of indicators of progress and impact. Each project may require an M&E specialist to create indicators. The overall M&E system will be developed and implemented by District 9212 with help from District 5440 and 5450, universities, and international NGOs using professionals in the field of M&E. Those submitting new proposals will be made aware of the M&E indicators. To take advantage of lessons learned from M&E, a feedback mechanism is necessary. This should amount to continuous-improvement if the feedback adjusts planning and implementation. Monitoring and evaluation are such important parts of any WASH project that they should command a significant portion of the project budget, sufficient to ensure that projects are achieving desired outcomes over 10 years.

A good system for monitoring WASH in schools and impact on surrounding communities is to institute the Circuit Rider system, as done in Honduras.

Awareness and Education:
To achieve SO1, District 9212 leadership must present Rotary Clubs with a clear statement of the WASH and Youth empowerment challenges. This will help clubs to understand and appreciate what effect their involvement will have over time. There is no shortage of information about the enormous societal benefits that accrue where WASH has been improved.

SO2: Youth Training and Employment

To achieve SO2, Rotary must act as the facilitator and enabler for establishing coalitions and understanding relationships and responsibilities among all interest groups, while training institutions take the lead in creating a larger cadre of WASH professionals who can work as entrepreneurs. Rotary will need to develop effective partnerships with higher education institutions to work with the AAYMCA. Some of these organizations would include Practical Action, Maji na Ufanisi, Umande Trust, SASOL in Kenya and in the USA with Redrocks Community College, the Rocky Mountains Youth Corps - RMYC; Universities (Colorado, Denver), program like IDE, Future Farmers of America, Global Greengrants Fund (GGF). District 9212 should create a list of potential partners in the WASH and youth employment sectors. Criteria for assessing viable partnerships will be developed.

SO2 intends to meet the need for a trained and appropriately skilled labor force in WASH. Much of the initial financial resources will come from Rotary Clubs around the world and other funds that Rotary may leverage.

This strategy proposes that Rotary invests in building capacities of tertiary institutions not only to design curricula in Holistic WASH, but also to develop their own sustainable revenue models that would ensure the continued provision of Holistic WASH courses. Through skills development, well trained and prepared youth will be able to design sustainable WASH projects in communities. The long-term vision of working with the AAYMCA is that it will be able to replicate the models through vocational and tertiary training to other parts of Africa.

SO3: WASH in Schools and Model Schools

To achieve SO3, WASH in all primary and secondary schools, Rotary will need to partner with Community Based Organizations and non-governmental organizations, such as SASOL, Practical Action and others.

Many WASH hardware and software technologies are available and in use worldwide. Matching the appropriate technology for a particular location requires careful analyses of the challenges facing the schools and surrounding communities and their receptiveness to various potential solutions.

How potential solutions are presented by external agents and selected by schools affects long term sustainability. Rotary Clubs and partners must use proven participatory methodologies with schools and related communities in selecting technologies that they believe in and will be able to maintain, both financially and technically.

Projects that require *ongoing* outside funding are not sustainable. Therefore, institutional ownership of interventions is essential.

IR-Cross Cutting: Communications and Public Relations to Support the Strategy

Effective communication is a cross-cutting intermediate result because doing so is essential to the success of every other objective. From advocacy to program execution, care will be taken to establishing open and clear communication. This is the basis for credibility. Effective communication requires effective marketing linkages. Rotary should engage credible institutions and networks to develop and communicate the intentions of Holistic WASH.

APPENDICES

Appendix 1 - Listing of Key Persons/Organizations Met by the VTT during visits to Kenya and USA (includes VTT Team)

Name	Organization/Position	Location
Kenya		
Paul Ekuntan	Practical Action-Eastern Africa	pwonyang@gmail.com
Kennedy Mutati	SASOL Foundation	Kmutati@gmail.com
Evelyn Mwongera	SASOL Foundation, Kitui	everylnemwongera@yahoo.com
Xavier Anyika	YMCA-Shauri Moyo branch	anyika2001@yahoo.com
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Symon Mwaniki	ATHI WATER SERVICES BOARD	smwaniki@awsboard.go.ke
Kenneth Owuocha	ATHI WATER SERVICES BOARD	kowuocha@awsboard.go.ke
Samuel Nakope	OXFAM-Turkana	snakope@gmail.com
Nathan Raymond	Global Washes	
KellyFenson-Hood	Power of Hope Kibera	kelly.fenson-hoodwpohk.org
Renee Botta	Global Washes	renee.botta@du.edu
Anthony Wachira	Maji na Ufanisi	wachiramwangi@yahoo.com
Haron Wachira	Ashoka Fellow, Akili Development Organization	hwachira@akiliholdings.co.ke
Bimal Kantaria	District Governor, D9212 2013-2014	bimal@elgonkenya.com
Joseph Omotto	Umande Trust	info@umande.org
Samuel Nakope	Oxfam, Turkana	snakope@oxfam.org/kenya
Geeta Manek	Immediate Past District Governor, D9212	geeta@maneknet.com
Presidents, Officials and members of 9 Rotary clubs visited in the Nairobi area	Muthaiga, Karen, Parklands, Industrial area, Langata, Milimani, Kakamega, Madaraka, Kiambu	

Dr. Evans Kidero	Governor, Nairobi City County	governor@nairobi.goke
Carlos Madri Sanvee	Secretary General, AAYMCA	carlos@africaymca.org
DG Harry Mugo	DG, Rotary District 9212	
Benard Kiraithe	President, Rotary Club of Muthaiga	
Patrick Mwangi,	WSP-Africa	
Munguti J. Mutinda	Executive Director, SASOL	mungutijm@yahoo.com
Kennedy Mutati	Programme Manager, SASOL	kmutati@gmail.com
Prof. Edward Kairu	Executive Director, Maji na Ufanisi	edward.kairu@majinaufanisi.org
Ken Obuocha	Athi Water Service Board	
Sonia Rasugu	Africa Alliance of YMCAs	
Rose Catherine	Community Development, Tanathi Water Services Board	
Calvin Opiyo	Strathmore University	
Samuel Nakope	OXFAM, Turkana	
Kirimi Mugambi –	Legal Officer, AWSB (Athi Water Services Board)	
Dr. Saningó	Suswa Community	
Mrs. Musee	Principal, Zombe Girls School	
Officers from the organization	Maji Mazuri	
Head Teachers	Sombe Girls School, Maji Mazuri Girls Schools, and at the other schools visited	
Purity Kiguatha	Kenyan, VTT - Member	pkiguatha@gmail.com
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Jane Mungóma	IPP, Rotary Club of Muthaiga	jmungoma@yahoo.com
Wafula Nabutola	Rotarian, Rotary Club of Muthaiga and VTT Member	Wafula_nabutola_090382@yahoo.co.uk
Dr. Richard Saning'o	NGO SSLOM in Naramat	
Colorado and Wyoming		

Steve Werner	VTT Member, Rotarian, District 5450	"Steve Werner" <steve@stevewernerconsulting.com>;
Reza Kazemian	VTT Member, Director, Denver Wastewater	"Reza Kazemian" <rckazemian@yahoo.com>;
Rich Fisher	VTT Member, Consultant	rich.fisher@comcast.net
Mayling Simpson	VTT Member, Consultant	mayling.simpson@gmail.com
Paul Hebert	VTT Team Leader, Rotarian, District 5440	paulvh2@gmail.com
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Mark Reiner	ICATIS, Denver, Colorado	reiner@icatis.org
Josh Knight, Peter Waugh, and Rosemary Powers	Engineers Without Borders, Boulder, Colorado	joshua.knight@ewb-usa.org peter.waugh@ewb-usa.org rosemary.powers@ewb-usa.org
Tim Prewitt, CEO, and Bob Nanes	IDE, Fort Collins, CO	tprewitt@ideorg.org bnanes@ideorg.org
Peter Van Arsdale	Professor, University of Denver	PeterVanArsdale1@gmail.com
Ned Breslin	Executive Director, Water for People, Denver, CO	nbreslin@waterforpeople.org
Lorien Walsh	World Environment Federation	lwalsh@wef.org
Don Howard	Founder of SCOPE (Friend of Haron Wachera)	donhoward12@gmail.com
Danielle Valiquette	One Drop Foundation (conference call)	Danielle.Valiquette@onedrop.org
Various meetings at Auraria Campus when attending their NGO fair, including Aurora Water, the Center for Entrepreneurship and One World, One Water Center		
Grant Wilkins	Former leader in Rotary Polio Eradication Program	mgwilkins@msn.com
Paul Polak	Founder of founder IDE and WindHorse	GregHodgson@Centura.Org
Ryan Mahoney, Jami Nelson-Nunez, Cory Oversby, and Tesfayohanes Yacob	University of Colorado Reinventing the Toilet Project	Ryan.B.Mahoney@Colorado.EDU Jami.Nelson@colorado.edu cori.oversby@Colorado.EDU

		tesfayohannes.yacob@colorado.edu
Darryl Brown, Judy Pitt, Peter Ewing, and Kristin Wegner and other Boulder Rotarians	Rotarians met during visit and working on WASH	browndarrylj@comcast.net jpitt@wkre.com pmjewing@earthlink.net wegnerkm@hotmail.com
Terry Odendahl, CEO, Ursula Miniszewski	Global Greengrants Fund	terry@greengrants.org Ursula.Miniszewski@greengrants.org
Nona Shipman, Program Manager, Tom Cech, Program Director	One Water Program, Metropolitan State University, Denver	nshipman@msudenver.edu tcech@msudenver.edu
John Berry	, Assistant Project Manager for Rueter-Hess Dam and Reservoir Project in Parker, Colorado	kickbackjb@gmail.com
Bill Ritter	Former Colorado Governor and Director for Center for New Energy Economy at Colorado State Univ.	bill.ritter@colostate.edu
Lindsey Geiger, John Anderson, Kenneth Mercer and Paul Olson	AWWA (American Waterworks Association	lgeiger@awwa.org janderson@awwa.org kmercer@awwa.org polson@awwa.org
Kelly Merritt	Metro Wastewater Reclamation District	kmerritt@mwrd.dst.co.us
Dave Chapman	Contact at Waste Management, Denver	dchapman@englewoodgov.org
Katie Symons	contact at Englewood Water	www.englewoodgov.org
Michael Hancock	Mayor of Denver, CO	
Bill Korstad	Denver 31 Club Rotarian	bkorstad@mac.com
Linda James, Program Manager and Nathan Wannlund, Executive Director	YMCAs in Denver	LJames@denverymca.org nwannlund@denverymca.org
Peter Hughes	District 5450 Water Task Force Chair	PHughes@Polsinelli.com
Mike Smith, Department Chair	Water Quality Management Program, Red Rocks Community College	mike.smith@rrcc.edu
Renee Botta, Department Chair and Karen Loeb, Adjunct Professor	Health Communications Department and Daniels School of Business	renee.botta@du.edu karen.loeb@du.edu
Tsegaye Hailu	Water Quality Manager at U.S. EPA	hailu.tsegaye@epa.gov

Craig Hafner	former Manager of the Hygiene Improvement Project, USAID	pskcrh@comcast.net
Carol Carper	Rotarian in the Evergreen Rotary Club working in Kenya on Water Projects	ccarper1337@gmail.com
Ron Hammel and Rotarians in Laramie Wyoming	Rotary club of Laramie	rohammel@gmail.com
Mike Forney and Steamboat Springs Rotarians	Steamboat Rotary Club	forneyrotary5440@hotmail.com
Jay Gallagher	Director, Mount Werner Water District, Steamboat Springs, CO	jgallagher@mwwater.com
Gretchen Van de Carr	The Rocky Mountain Youth Corps, Steamboat Springs, CO	gretchen@rockymountainyouthcorps.com
Gilbert Anderson, Plant Manager	Steamboat Waste Water Treatment Plant	
Doc Daughenbaugh Marsha Daughenbaugh	Local Rancher, Steamboat Springs, Marsha (Director of Community Ag Alliance)	marsha@communityagalliance.org
Becky Fedek	Engineer and Kenya entrepreneur, Brendle Group	bfedak13@gmail.com
Dr. Dave Stewart	water engineer, Rotarian	dave.stewart@stewartenv.com
Dr. Larry Brazil,	water engineer, Riverside Labs	larry.brazil@riverside.com
Dr. Carl Hammerdorfer,	CSU GSSE	carl.hammerdorfer@colostate.edu
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Mr. Sebastian Africano	Trees Water People	twpsebas@gmail.com
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David Bartecchi	Village Earth	david@villageearth.org
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Dr. Cathy Tzahi	Colorado School of Mines	tcath@mines.edu

Appendix 2 - UNICEF WASH In Schools – Kenya

kenwashinschoolsmapping.org/programs/Kenya

Kenya

Enabling Policy Environment for WASH in Schools

The introduction of Free Primary Education (FPE) in 2003 resulted in a rapid increase in the number of children in primary schools, placing severe strain on school infrastructure and facilities which were already inadequate. The school population rose from 5.9 million pupils in 2002 to 7.2 million in 2003, to 8.2 million pupils in 2007. This trend is expected to continue to 10 million in 2012. In 2004, the government committed significant funds, equivalent to KSH 50,000 for every primary school in the country. This was a significant step forward, but unfortunately the funding commitment did not continue beyond 2004-05, partly because resources were diverted to deal with emergencies. Kenya has over 18,000 public primary schools and a large number of non-formal schools offering primary school curriculum. Lacking or poor primary school infrastructure is a major barrier to improving access to primary education in the country.

The Ministry of Education (MoE), in collaboration with the Ministry of Public Health and Sanitation (MoPHS) and other partners, developed a National School Health Policy and National School Health Guidelines in 2009. The School Health Policy enables the Government to utilize available resources in an effective and efficient manner towards child health. It provides a coordination mechanism that enhances the roles of the various ministries, institutions and stakeholders. The National School Health Guidelines are aimed at operationalizing the National School Health Policy by providing specific guidelines which ensures that school age children, teachers, support staff and community members access quality and equitable services for improved health. At present, an implementation plan is being developed.

Donor support to WASH in Schools was designed to be allocated on a cost sharing basis with government via the Kenya Education Sector Support Programme (KESSP), which provided a holistic package of support covering, amongst other things, infrastructure including WASH facilities, books and teacher training. UNICEF, along with DFID, World Bank and CIDA, agreed to provide pooled funding to the program. In September 2009, serious misuse of program funds was reported and DFID subsequently announced that it would stop funding the sector via government systems until the risks of fraud had been substantially reduced UNICEF, whose WASH programs had not started, along with the other partners have now also withdrawn from KESSP. It is not clear what percentage of the program is still sustained through government financing.

UNICEF is a key partner within the WASH in Schools sector in Kenya. The Government of Kenya/ UNICEF WASH Program (2008-2013) funded by the Government of the Netherlands includes WASH projects in over 780 schools in 22 (of some 60 original) districts. Unfortunately, this component was delayed following the KESSP concern and in the interim alternative

partnership arrangements (including district public health and education offices, NGOs and regional authorities) have been developed to hasten implementation. Other key sector players are DfID, CIDA and CARE Kenya.

Established in 2010, the Sanitation & Hygiene Interagency Coordinating Committee (ICC) of the health sector has constituted a WASH in school Working Group as one of six technical working groups. It is anticipated that this working group will support the relevant ministries in improving coordination and raising the profile of WASH in schools.

Quality and Coverage of WASH in Schools Programming

The critical primary school WASH issues include lack of WASH infrastructure, particularly in poor districts and informal urban settlements (most public schools do not meet the minimum standards); low prioritization of WASH in Schools; poor enforcement and inadequate maintenance (Government efforts have focused on construction of toilet facilities with less focus on changing practices); overcrowded schools; and huge regional discrepancies.

Functional sanitation facilities are mostly pit latrines in rural schools and VIP latrines in urban schools. Current provision and quality of WASH in primary schools remains uncoordinated and of variable quality. Most school latrines are constructed through the efforts of school committees and the local community. External support has been limited, although NGOs, in particular, are active in the sector.

UNICEF remains the most visible partner in the overall programming and implementation of WASH in Schools over the years, particularly in rural areas. UNICEF projects are targeted to benefit the most vulnerable communities, including remote and insecure northern regions where child survival indicators are of higher concern. For each school, the package comprises gender sensitive sanitation facilities, access to safe and adequate water supply, hand washing facilities, showers for girls, and a hygiene promotion component with emphasis on hand washing with soap. The program has also incorporated facilities for children with disabilities.

UNICEF has also supported WASH in Schools in informal urban settlements in Nairobi and Mombasa with at least 30 schools supported over the past 3 years. The Ministry of Education has prescribed designs for school sanitation facilities, which unfortunately have been rejected by most school communities and NGOs UNICEF is currently producing technical designs for use by its partners, recognizing the need for adaptability due to geographical and cultural variations. An Education Management Information System (EMIS) is in place within the Ministry of Education but the quality and reliability of the information currently available is uncertain. Specifically, it does not adequately address WASH in Schools parameters or needs. Therefore, no reliable national data is available on the status of school WASH in Kenya. However, the UNICEF Country Programme Action Plan noted that many schools had more than 100 pupils per latrine as compared to the recommended maximum of 30; and that few schools had access to safe water for drinking and washing hands. The shortage of reliable data complicates planning and monitoring.

The recommended pupil: latrine ratio is 25:1 (girls) and 30:1 (boys). According to the MoED Basic Report on Spatial Analysis of School Mapping Data (Feb 2011), the national pupil to toilet ratio (2007) is indicated as 38:1 and 32:1 for boys and girls in public schools, respectively. These ratios are generally thought to be inacurate. Additionally, there is no reliable information on the condition and usability of the available facilities. A recent Baseline Survey (2010) of the 22 UNICEF WASH Programme districts found that overall, a third of schools have safe water sources in their compounds and had child friendly latrines. Although most of the schools had separate, gender specific latrines, the majority of them did not meet the national pupil to toilet ratio standards for boys or girls.

• Out of the 343 schools sampled in 21 districts, just over a third (37.3%) had safe water sources in the school yard or 200 metres from the school yard.
• 86.9% had separate latrines for girls, boys and school personnel.
• Less than a quarter of the schools met the country standards for either the number of latrines for boys (20.1%) or for girls (19.0%).
• Out of schools that were surveyed to determine whether or not they had child-friendly latrines, 62.4% met the criteria for spacious cubicles, 51.3% for an appropriate aperture and 75.8% met the criteria for privacy.
• Only 32 schools (9.3%) met the minimum hygiene criteria.
• Just over a quarter (27.1%) of schools were found to maintain their latrines correctly.

Reference Materials

Mapping Questionnaire Response

Empower Girls. Period.
Menstrual solutions for adolescent schoolgirls in western Kenya
CES 2013 MHM in WinS Presentation
Study on the usage of urinals in Kenyan Schools
WinS Country Profile
Boys VIP Toilet Plan
Girls VIP Toilet Plan
Education Facts and Figures
Education Situation Analysis
National School Health Strategy
Technical Manual

Challenges

- The disruption of the KESSP SWA process has significantly impacted the scale-up of WASH in Schools and also created a situation of poor coordination.

- Low prioritization and poor funding of WASH in Schools at all levels remains a big challenge. Focus has been on classrooms, books and teachers. The infrastructure budget is tight and has no specific allocation for WASH (maintenance etc).
- Evidence base and monitoring of WASH in Schools (status and trends) at national level is waning. The EMIS does not adequately address WASH parameters. Stakeholders in the sector are developing a questionnaire and this, when administered, will contribute to filling in the gaps.
- Some regions continue to get more attention than others. While accessibility and security have influenced the low support especially to northern regions, concerted effort is required to scale-up in the neediest areas. In some cases, options (especially for water sources) are limiting.
- There is a nascent process to bring the players together through the Sanitation & Hygiene ICC, however coordination and partnerships still have a long way to go.
    - The issue of affordable design will need to be resolved soon, and particularly to address the need for school latrines that can be emptied upon filling.
    - Even where adequate facilities have been provided, school management committees in many cases have not put in place proper measures for maintenance.
    - There is an urgent need to improve and standardize the approaches for hygiene education in schools. The current process of development of tools will go a long way in harmonizing hygiene education in different schools.


UNICEF