

Total population (UN Population Division)	25.55 million inhabitants	year 2012
Total area	238 540 km ²	
Population density	107 inhabitants/km ²	2012
Human Development Index (UNDP) (between 0 and 1; 1 is highest)	0.558	
Country rank (total 186 countries; 1 is highest)	135	2012
Gender Inequality Index (0 is equality between women and men; 1 is least equality)	0.565	
Water, sanitation and hygiene-related deaths % of total deaths (WHO)	15.5 %	2004
Long-term average annual precipitation (CRU CL 2.0)	1 187 mm/year	
Long-term average actual renewable water resources (FAO AQUASTAT)	53 200 million m ³ /year	
Actual annual renewable water resources per capita (FAO AQUASTAT)	2 082 m ³ /inhabitant	2012
% of total actual renewable freshwater resources withdrawn (MDG Water Indicator) (FAO AQUASTAT)	2.4 %	2010
Total area equipped for irrigation (FAO AQUASTAT and IWMI)	59 000 ha	2005
% of the cultivated area equipped for irrigation (FAO FAOSTAT and FAO AQUASTAT)	0.9 %	2005
% of irrigation potential equipped for irrigation (FAO AQUASTAT)	3 %	2005
% of the area equipped for irrigation irrigated by groundwater (FAO AQUASTAT)	20 %	2005
Ramsar sites (Ramsar)	6 sites – number – total area	2013
	178 410 hectares	

UN WATER Ghana

UN-Water Country Brief

Water withdrawals by sector
(total 1 252 million m³ in 2010)



The Money Stream

From 2003 to 2011, the government has expended US\$ 16.06 million (in constant 2010 US\$) on average per year on water-related infrastructure and programmes. Over half of the government's investments were channeled into agricultural water resources (53.4 percent), with the bulk of the spending priority going to hydroelectric power plants (20.1 percent) and water supply and sanitation (12.9 percent for basic drinking water supply and sanitation and 10.5 percent for water supply and sanitation large systems).

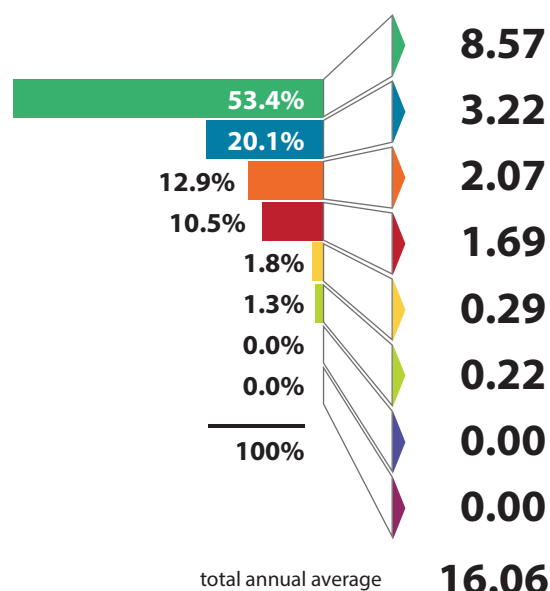
During the same period, official development assistance (ODA) gross disbursements amounted to US\$ 76.26 million on average per year channeling around three quarters of its disbursements into: basic drinking water supply and sanitation (41.5 percent) and water supply and sanitation of large systems (31 percent).

Over the period 2003 to 2011, the Government of Ghana's water-related investments accounted for an estimated 0.5 percent of total government expenditures.

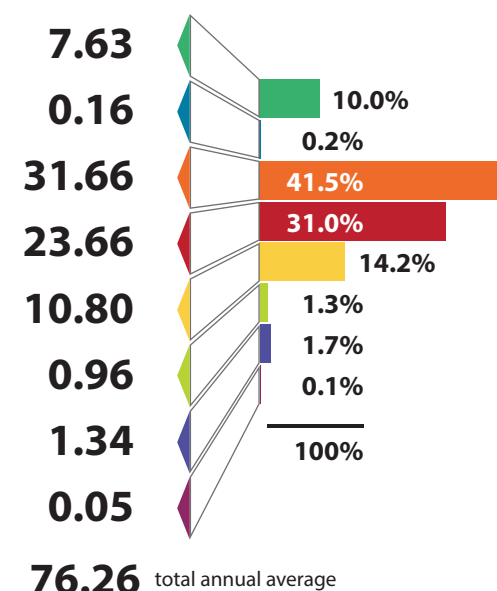
Estimated % of water-related investment to
total government expenditure 2003-2011

0.5%

Annual average government expenditure
during the period 2003 - 2010 and budget for the year
2011 (million constant 2010 US\$)

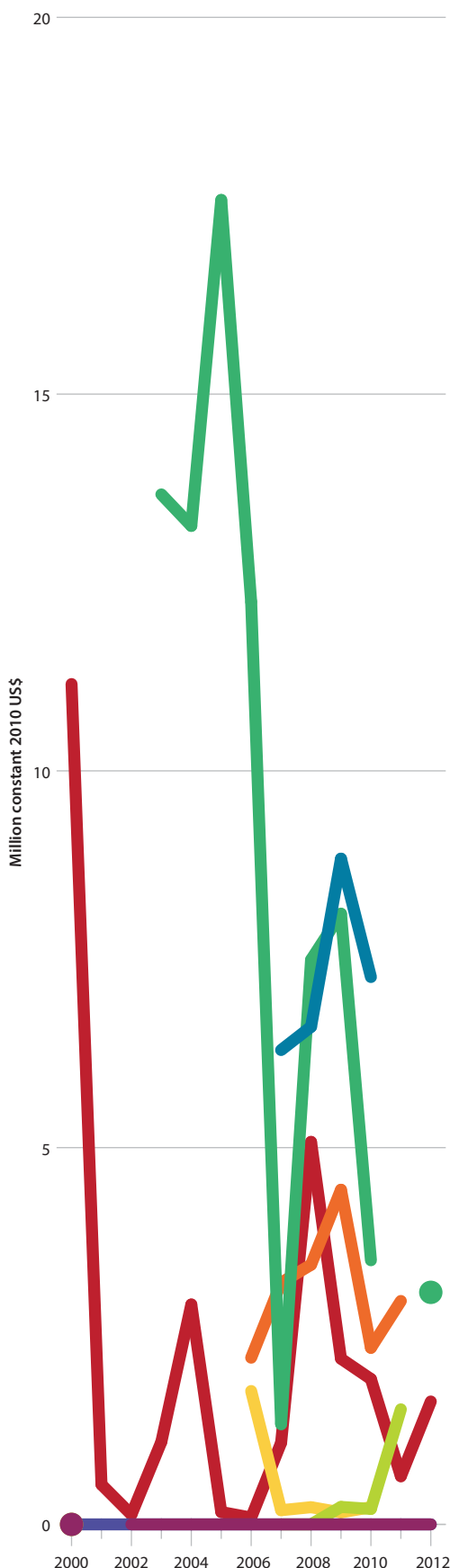


Annual average official development assistance gross
disbursements during the period 2003 - 2011
(million constant 2010 US\$)

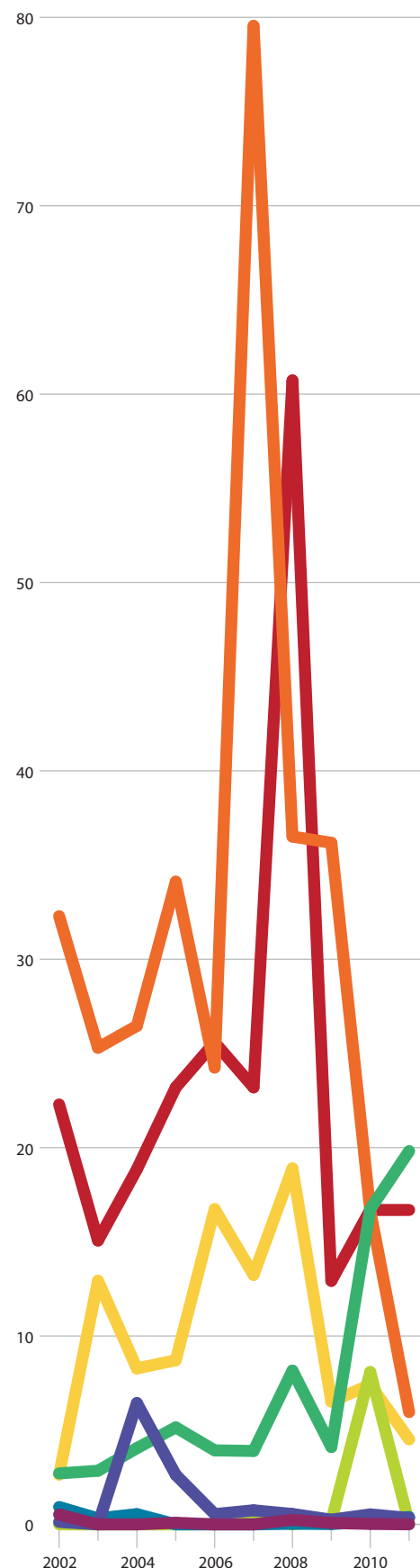


Status and Trends

Government expenditure during the period 2003 – 2010 and budget for the years 2011 & 2012
(million constant 2010 US\$)



Official development assistance gross disbursements during the period 2002 - 2011
(million constant 2010 US\$)



Government water-related investment over the period 2003 to 2012:

- Overall, the government's water-related investments have experienced a downward trend after 2009.
- There are several years for which data is not available in most of the water-related investment categories.
- The peak of the investment in agricultural water resources occurred in 2005.

Water-related official development assistance over the period 2002 to 2011:

- In 2007, some 80 percent of ODA was channeled into basic drinking water supply and basic sanitation.
- From 2009 to 2010, ODA disbursements into agricultural water resources increased four-fold with further increases in 2011.

Actual expenditure refers to the amount spent by the government during a given year. Where actual expenditure is not available, the government budget is used and refers to the amount that the government reportedly budgeted for the given year. The OECD Creditor Reporting System categories were chosen for the collection of these water-related investments and the data was obtained by the WCB project through in-country research in cooperation with the government (during 2012), while ODA data stems from the OECD Creditor Reporting System (collected November 2012).



Water supply and sanitation in large systems: Water desalination plants; intakes, storage, treatment, pumping stations, conveyance and distribution systems; sewerage; domestic and industrial wastewater treatment plants.

Basic drinking water supply and basic sanitation: Water supply and sanitation through low-cost technologies such as hand-pumps, spring catchment, gravity-fed systems, rainwater collection, storage tanks, small distribution systems; latrines, small-bore sewers, on-site disposal (septic tanks).

Water resources policy and administrative management: Water sector policy, planning and programmes; water legislation and management; institution capacity building and advice; water supply assessments and studies; groundwater, water quality and watershed studies; hydrogeology. Excluding agricultural water resources.

Disaster prevention and preparedness/Flood protection and control: Disaster risk reduction activities such as developing knowledge, natural risks cartography, legal norms for construction; early warning systems; emergency contingency stocks and contingency planning including preparations for forced displacement. Floods from rivers or the sea; including sea water intrusion control and sea level rise related activities.

Agricultural water resources: Irrigation, reservoirs, hydraulic structures, groundwater exploitation for agricultural use.

Hydroelectric power plants: Including power-generating river barrages.

Water resources protection: Inland surface waters (rivers, lakes, etc.); conservation and rehabilitation of groundwater; prevention of water contamination from agrochemicals, industrial effluents.

River development: Integrated river basin projects; river flow control; dams and reservoirs. Excluding dams primarily for irrigation and hydropower and activities related to river transport.

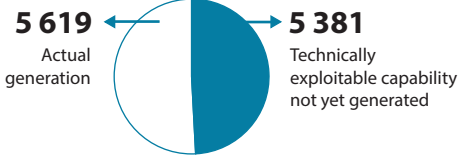


Energy for Water, Water for Energy

Impact for development

Actual hydroelectric installed capacity of Ghana consists of two hydroelectric plants located in the Volta River. With an installed capacity of 1 180 MW, Ghana generated 5 619 GWh in 2008, which represents around 51 percent of the nation's hydropower technically exploitable capability.

Hydropower capacity and generation, 2008,
in GWh/year (World Energy Council)

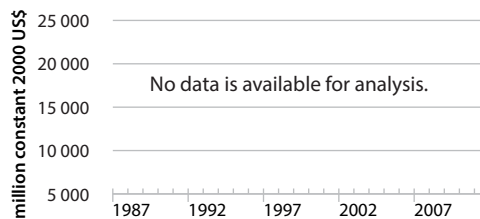


Water Intensity in Industry

Impact for development

Seven percent of the total water withdrawal is withdrawn by industries. As the country is a major gold producer, mining is a predominant activity. This extractive industry (including mining for other minerals) uses large volumes of water for its operations and discharges its effluents into the rivers. Monitoring of the major registered mining companies by the Ghana Environmental Protection Agency indicates that generally there is compliance to the set specifications with regards to pollution. On the other hand, registered small-scale gold mining groups represent a major source of pollution in the areas where they operate. Also their locations are often unknown until a major disaster strikes. The Pra and the Ankobra rivers in the Western Region are heavily polluted by these mining activities.

Value generated by industry per m³ of water



Environment and Ecosystem Health

Impact for development

Overall, water quality in the country is generally good, and groundwater pollution is not widespread. However, cases of high levels of nitrate and phosphate concentrations have been reported, especially near agricultural sites. Mining is predominant in the southwestern river system and in this area, pollution of surface water and groundwater has been observed because of the use of cyanide and other poisonous chemicals from illegal small scale mining activities. Some of the main environmental issues in Ghana include: destruction of wetlands due to unauthorized construction along flood plains and protected areas, and contamination of surface water sources due to discharge of untreated wastewater.

Water quality index 2010
(UNEP-GEMS/Water)



A score of 100 indicates that water quality targets are met for all five parameters (DO, pH, conductivity, total nitrogen, and total phosphorus).

Wetlands constitute about 10 percent of Ghana's total land area.

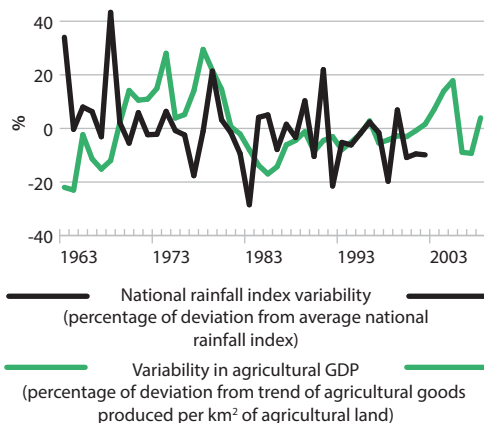


Irrigated Agriculture

Impact for development

In 2011, agriculture accounts for more than one quarter of GDP and employs more than half the workforce in Ghana. In 2012, women accounted for 44 percent of the economically active population in agriculture. In general, women are involved in sowing and harvesting whereas men control the water and weeding. Most farmers are small landholders who produce 80 percent of the country's agricultural output. Rice represents the major irrigated crop, and other frequently produced crops include tomatoes, okra, peppers, aubergine, sugar cane, cucumber, cowpea and maize. In peri-urban schemes, vegetables are predominant.

Rainfall variability and agricultural GDP
(FAO AQUASTAT, World Bank)

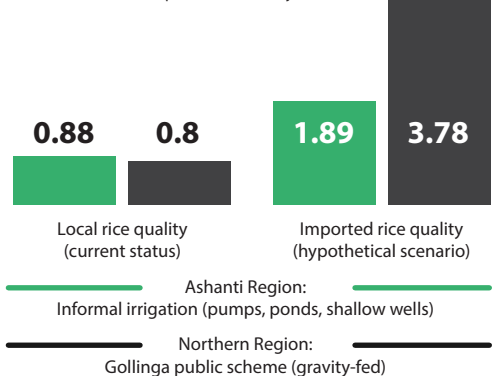


Although Ghana is endowed with significant land and water resources, the country is not self-sufficient in food production, and it has been difficult to ensure food availability year-round. When food abounds during periods of good rains, inadequate storage facilities result in losses of perishable crops. Food insecurity in Ghana is a growing concern due to inadequate agro-processing facilities for agricultural products.

While irrigation technology is not widespread, there is considerable potential to increase irrigation and the informal sector is rapidly expanding and making use of a variety of water resources, including the use of wastewater especially in the peri-urban irrigation areas.

Operating benefit cost ratios for different types and locations of irrigated rice schemes are shown in the bar chart. The analysis indicates that the economic viability of irrigated rice production varies by type of ecology and irrigation method. In addition, the viability of irrigated rice production is highly susceptible to the ability to improve post-harvest rice quality. As shown above, if targeted policies and investments are implemented to improve the quality of local rice so that consumers consider it equivalent to imported rice, the economic

Economic viability of existing irrigated rice schemes
(Katic, P; Namara, R; Hope, L; Owusu, E; Fujii, H. 2013)



viability of irrigated rice schemes would soar considerably. The variability of uncertain external factors such as world commodity prices and rainfall patterns is also a key determinant of the viability of irrigated rice schemes. Overall the analysis indicates a need to access irrigation developments on a case-by-case basis to ensure investments are sustainable.



Drinking Water Supply and Sanitation

Impact for development

Health costs resulting from poor water, sanitation and hygiene along with the indirect effects of malnutrition (to which poor water and sanitation contribute 50 percent) amount to 5.2 percent of annual GDP. This includes the value of at least 8 000 deaths of children under five caused by diarrheal disease. Four select sanitation and water projects in Ghana have demonstrated a 12-26 percent economic rate of return, according to Sanitation and Water for All. 2012 UNICEF/WHO analysis of data from 25 countries in sub-Saharan Africa, representing 48 percent of the region's population, revealed that women and girls bear primary responsibility for water collection, at considerable cost in terms of their time. In these 25 countries, it is estimated that women spend a combined total of at least 16 million hours each day collecting drinking water; men spend 6 million hours; and children, 4 million hours.

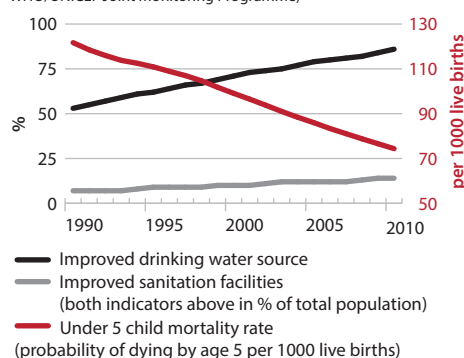
Ratification of the International Covenant on Economic, Social and Cultural Rights (ICESCR):

7 September 2000

(The right to water is implicit within the right to an adequate standard of living and inextricably related to the right to the highest attainable standard of health outlined in the ICESCR.)

Access to drinking water and sanitation & under-5 child mortality

(UN Inter-agency Group for Child Mortality Estimation (IGME) and WHO/UNICEF Joint Monitoring Programme)



Ghana faces serious constraints to meet the challenge of providing water and sanitation for rural and urban residents. Access to improved sanitation facilities is particularly serious, as there is still a very big gap to fill with only 8 percent of rural residents and 19 percent of urban residents who in 2012 were serviced. As for use of an improved drinking water source, while there has been improvement since 1990, 20 percent of the rural population and 9 percent of the urban population still lacked access in 2012. Currently the urban water utility experiences a dire financial condition and its performance leaves 75 percent of the capital's residents without 24 hour access to water and 10 percent of people with no access at all.



Water - related Disasters*

Impact for development

There is a significant lack of data on the hydro-meteorological events that have occurred in Ghana and of their socio-economic consequences. The only records available show that between 1983 and 2011, over 16 million people were affected. For this period, there are only two data points of reported economic damage, namely: US\$ 15 million worth of economic damages in 1995, and US\$ 21 million in 1999.

Year	Number of Events	Deaths	Affected
2011	1	9	45 000
2010	1	45	12 000
2009	3	10	139 790
2008	-	-	58 000
2007	1	153	540 000
2002	2	-	-
2001	1	12	144 025
2000	-	-	-
1999	1	52	324 602
1998	1	3	-
1997	1	6	-
1995	1	145	700 000
1991	-	5	2 000 000
1989	-	2	400
1988	-	-	3 000
1983	-	-	12 500 000

- means no data available (Dartmouth Flood Observatory)

* 'Water-related disasters' within the scope of this WCB study do not include droughts.

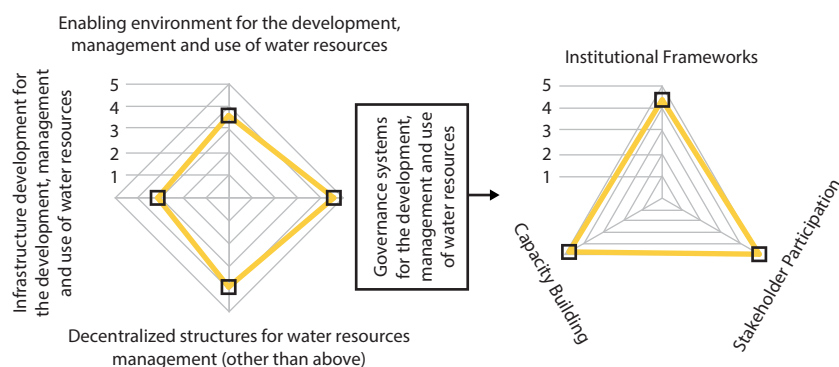


Tracking Water Governance

Impact for development

The strategic goal of the National Water Policy is the sustainable development, management and use of Ghana's water resources to improve health and livelihoods and reduce vulnerability while assuring good governance for present and future generations. The Water Resources Commission, the Water Research Institute, the Hydrological Services Department and the Environmental Protection Agency are the core institutions in place that provide the necessary technical inputs to policy makers for decisions on water. In response to food self-sufficiency in food production issues, the policy reform strategy within the irrigation sector is to increase agricultural production through the development of water resources for irrigation.

UN-Water survey on integrated approaches in the development, management and use of water resources governance, 2012 (UN-Water)



1 Under development
2 Developed but implementation not yet started

3 Implementation started
4 Implementation advanced
5 Fully implemented

Is the right to sanitation/drinking-water explicitly recognized in policy or law?

sanitation		drinking water	
urban	rural	urban	rural
Already fully recognized in law or policy	Already fully recognized in law or policy	Already fully recognized in law or policy	Already fully recognized in law or policy

Can people claim their human right to sanitation or drinking-water in a domestic court?

sanitation		drinking water	
urban	rural	urban	rural
Yes but little used	Yes but little used	Yes but little used	Yes but little used

UN-Water GLAAS (WHO, 2012)

Rapid Assessment

Overall

Pressures on water

The sources of water supply in the country are surface water and groundwater. Groundwater is usually abstracted from boreholes for most rural areas. Some borehole supplies are also tapped to supplement urban water supplies. In 2000, 95 percent of the withdrawal for urban supply was from surface water and the remaining 5 percent from groundwater. In peri-urban agriculture, some wastewater is also used for irrigation purposes. Population growth, rapid urbanization and industrialization are resulting in an increase in water demand. In addition, current global climatic change processes are expected to affect both the spatial and temporal availability of water due to reduced rainfall. Agriculture is the principal water user, accounting for the bulk of water withdrawals.

Although Ghana has institutions, policies and regulations in place to promote proper water management, the country still faces challenges related to, among others: i) self-sufficiency in food production, especially during dry seasons; ii) proper operation of wastewater treatment plants; iii) water scarcity due to population growth; iv) levels of access to improved drinking water and sanitation, and; v) pollution of water bodies due to unregistered gold mining activities.

Investments

Overall, the government in Ghana has made relatively modest water-related investments as a percentage of total government expenditures. Water-related investments are largely donor-driven. Government investments have been allocated mainly to agricultural water resources, hydroelectric power plants and basic drinking water supply and sanitation facilities. No government expenditure was allocated to water resources protection nor to river development during the period 2003 to 2012.

Assessments

- 
Irrigated agriculture ●○○○○○
 Irrigated agriculture is one of the main challenges for Ghana in order to guarantee food quality and availability to meet nutritional needs for the population. Irrigated agriculture is limited in Ghana, at present, with 3 percent of the irrigation potential equipped for irrigation.
- 
Drinking water supply and sanitation ●○○○○○
 Some 86 percent of the population lacks improved sanitation facilities and 14 percent lacks an improved drinking water source. Over 15 percent of the country's total deaths are attributable to water, sanitation and hygiene-related factors.
- 
Water intensity in industry ●●○○○○
 The government of Ghana has established industrial effluent quality guidelines to protect the water bodies' quality. In spite of the monitoring done by the respective agency, pollution is largely due to illegal small scale mining activities.
- 
Water-related disasters ○○○○○○
 Insufficient data for analysis
- 
Water for energy, energy for water ●●●○○○
 Ghana has around 49 percent of untapped technically exploitable hydropower potential, and it receives high priority from government investment.
- 
Environment and ecosystem health ●●●○○○
 Overall, water quality in the country is generally good and groundwater pollution is not widespread. On the other hand, effluent from underground gold mines, poor performance of wastewater treatment plants, increasing urbanization without planning schemes, improper waste management, among others, are representing challenges for the environment.
- 
Tracking governance ●●●○○○
 Ghana has established institutions, policies and regulations for the sustainable use of water. Nevertheless, the country still faces water quality, scarcity and management issues.

Data Quality

- ★★☆☆☆
 While informal irrigation occupies by far the largest irrigation area, limited data is available especially in this sector.
- ★★☆☆☆
 Limited data on drinking water quality is available.
- ★☆☆☆☆
 Insufficient data
- ★☆☆☆☆
 A detailed disaster database is not available.
- ★★☆☆☆
 Data is not readily available.
- ★★☆☆☆
 Data is not readily available.
- ★★★★★
 Data is accessible and updated. Ghana has participated in the UN-Water questionnaire on Integrated Approaches in the Development, Management and Use of Water Resources.

Legend:

The rapid assessment of the situation above, based on available data, was established in conjunction with in-country experts and officials. It provides an overview of trends according to the following:

- trends are of significant concern
- trends are of concern
- trends are stable or, progressing on certain issues but not on others
- trends show some measure of improvement in all relevant indicators assessed
- trends show significant improvement and there is no concern
- insufficient data

Accurate assessments of progress require relevant, accurate and timely data. The above data quality assessment ranges from:

- ★☆☆☆☆ very poor
-
- ★★★★★ very good

Data Concerns

Data is a vital input to water management and investment in water-related infrastructure and projects. Data and available research for Ghana is very sparse.

Modest investments in coordinated data collection, collation, analysis and dissemination is vital to demonstrate the benefits of water-related investments to governments, donors and ultimately private capital investors.

It is to be noted that it is virtually impossible to find national-level gender-disaggregated data for almost all themes contained in the UN-Water Country Briefs.

This project was implemented by the AQUASTAT Programme of the Food and Agriculture Organization of the United Nations (FAO) on behalf of UN-Water with financial support from United States Department of State (USDS). Brief produced: 19 June 2013

Additional information on the project, data and methodologies can be accessed at:

<http://www.unwater.org/WaterCountryBriefs.html>



FAO - AQUASTAT, 2005

GHANA

Legend

- City
- Dam
- ▲ Irrigation
- River
- Water Body
- Administrative Boundary
- International Boundary

Disclaimer

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Disclaimers

- The most recent and updated information can be found in the original databases cited throughout.
- The rapid assessment methodology presented here is an advocacy tool designed to generate debate and attention to the issues, and is developed in conjunction with national government focal points.
- Data presented herein stems either from existing databases or was collected from national reports, experts and institutions, and in some cases raw data underwent various manipulations to categorize the information for this presentation.
- Due to data limitations, the investment-related estimates may not include water-related investments that are counted under other categories of investments, and some investment categories (ie: disaster prevention and preparedness) may include some investments that are not directly water-related. Moreover, water being a crosscutting issue, investments in other parts of the government (not calculated here) may also benefit water management.
- The words investments / invested / funded for ODA refer to gross disbursements of ODA according to the OECD definitions. The words investments / invested / funded for government refer to government expenditure (2003 - 2010) and budget (2011 and 2012). In addition, investment data and analysis do not include any other forms of investment (such as, private sector investments).
- The benefit-cost analysis on expansion of irrigation is based on very limited data and any decisions should be based on detailed cost-benefit analysis that incorporates all relevant local data.