



FEED THE FUTURE ENABLING ENVIRONMENT FOR FOOD SECURITY PROJECT

Water Governance Scorecard 2019

This scorecard summarizes publicly available datasets for national water system governance as they relate to agricultural production and use. It provides insights into potential performance gaps affecting water governance and draws out comparative metrics on possible legal, regulatory, or institutional gaps in the water system.

COUNTRY BACKGROUND INFORMATION. This section provides an overview of general data related to a water system in each Feed the Future priority country as well as background information and context on water resource availability and use.

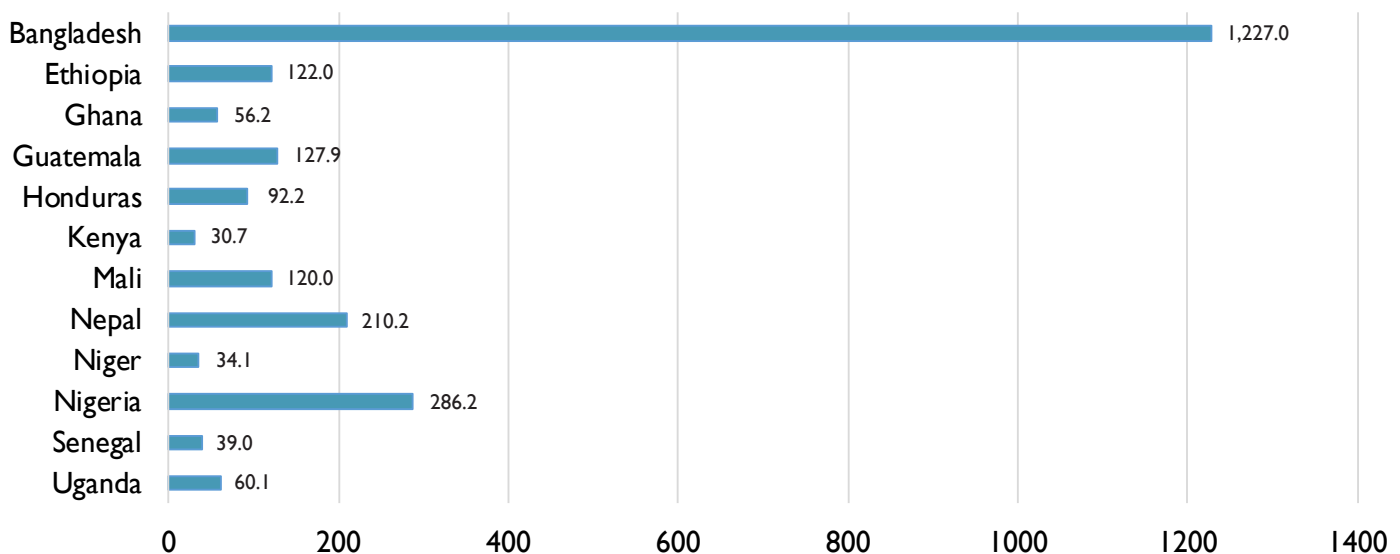
TABLE I. WATER RESOURCES BY COUNTRY

	Bangladesh	Ethiopia	Ghana	Guatemala	Honduras	Kenya	Mali	Nepal	Niger	Nigeria	Senegal	Uganda
OVERVIEW												
Water resources per capita (thousand m ³)	7.6	1.2	2.1	7.8	11.4	0.7	6.8	7.4	1.7	1.6	2.6	1.5
Dam capacity per capita (hundred m ³)*	0.4	3.2	54.2	0.3	7.2	5.4	7.8	0	0	2.8	0.2	20.5
Water withdrawal per capita (m ³ per year) [†]	231	106	50	241	225	76	377	364	68	74	214	18
CLIMATE												
National Rainfall Index (m per year)	2.3	1.1	1.1	2.2	1.6	0.9	0.6	1.8	0.3	1.3	0.6	1.4
Annual variability (index, 0 is low, 5 is high)	0.7	1.8	1.4	1.0	1.3	3.2	1.3	1.0	1.9	1.2	1.8	1.7
Seasonal variability (index, 0 is low, 5 is high)	3.6	3.3	3.0	3.1	2.9	1.9	4.0	4.1	3.6	3.6	3.9	1.6
WATER USE												
Agricultural water withdrawal (%)	88	92	66	57	73	59	98	98	67	44	93	41
Industrial water withdrawal (%)	2	1	10	18	7	4	0	0	3	16	3	8
Municipal water withdrawal (%)	10	10	24	25	20	37	2	2	30	40	4	51
POTABILITY												
Urban population with potable water (%)	87	93	93	98	97	82	97	91	100	81	93	96
Rural population with potable water (%)	87	49	84	87	84	57	64	92	49	57	67	76

* Global average is 9.6 hundred m³ per person
† Global average is 568 m³ per person per year

Data adapted from FAO AQUASTAT 2016.¹

GRAPH I. VOLUME OF TOTAL AVAILABLE RENEWABLE WATER RESOURCES BY COUNTRY (BILLION CUBIC METERS)



Data source: FAO AQUASTAT 2016.

1. FAO. 2016. AQUASTAT Main Database, Food and Agriculture Organization of the United Nations (FAO). Website accessed February 2019. <http://www.fao.org/nr/water/aquastat/data/query/index.html?lang=en>



WATER RESOURCE INSTITUTIONAL GOVERNANCE. While many Feed the Future countries have existing water basin institutions and government agencies designed to manage water, few have to regulate and protect water resources through permits and clear enforcement.²

TABLE 2. WATER RESOURCE INSTITUTIONAL GOVERNANCE PERFORMANCE BY COUNTRY

	Bangladesh	Ethiopia	Ghana	Guatemala	Kenya	Mali	Nepal	Niger	Nigeria	Senegal	Uganda
OVERVIEW											
Existing basin institutions	●	●	●	●	●	●	●	●	●	●	●
Government agency designed to manage groundwater	●	●	●	●	●	●	●	●	●	●	●
Existing national water plan ³	●	●	●	●	●	●	●	●	●	●	●
Order of priority for water allocation required by legal framework	●	●	●	●	●	●	●	●	●	●	●
OVERSIGHT											
Public monitoring of water resources quantity/quality	●	●	●	●	●	●	●	●	●	●	●
Obligation to create an inventory of water resources	●	●	●	●	●	●	●	●	●	●	●
Obligation to create a registry of water users	●	●	●	●	●	●	●	●	●	●	●
Special measures may be imposed in cases of stress	●	●	●	●	●	●	●	●	●	●	●
Water conservation and efficiency are promoted	●	●	●	●	●	●	●	●	●	●	●
PERMITS											
Public notice for permit application required	●	●	●	●	●	●	●	●	●	●	●
Water use permits subject to max. time duration	●	●	●	●	●	●	●	●	●	●	●
Notification/approval by government of permit transfer	●	●	●	●	●	●	●	●	●	●	●
Government has inspection powers to ensure compliance	●	●	●	●	●	●	●	●	●	●	●
Violations of permit obligations are prescribed in law	●	●	●	●	●	●	●	●	●	●	●

Data adapted from Enabling the Business of Agriculture 2017. Additional analysis by Fintrac Inc.

● Performing best practices
 ● Some improvement needed
 ● Serious improvement needed
 ● No data available

IRRIGATION. Underutilization of existing irrigation systems limits production capacity. Once irrigation systems are installed and functioning, the regulatory environment should encourage proper and efficient use of water resources through permits, established pricing schemes, and oversight of government agencies.⁴

TABLE 3. IRRIGATION PERFORMANCE BY COUNTRY*

	Bangladesh	Ethiopia	Ghana	Guatemala	Kenya	Mali	Nepal	Niger	Nigeria	Senegal	Uganda
IRRIGATION USE											
Irrigation potential	●	●	●	●	●	●	●	●	●	●	●
Percent area equipped for irrigation actually irrigated	●	●	●	●	●	●	●	●	●	●	●
Percent of cultivated area equipped for irrigation	●	●	●	●	●	●	●	●	●	●	●
Percent of irrigation potential equipped for irrigation	●	●	●	●	●	●	●	●	●	●	●
REGULATORY ENVIRONMENT FOR IRRIGATION											
Water quality standards for use in irrigation	●	●	●	●	●	●	●	●	●	●	●
Permit required for using water for irrigation	●	●	●	●	●	●	●	●	●	●	●
Charges apply based on amount of water abstracted	●	●	●	●	●	●	●	●	●	●	●
Government agency sets prices for water abstraction	●	●	●	●	●	●	●	●	●	●	●
Permits are detailed (volume, purpose, return flows, etc.)	●	●	●	●	●	●	●	●	●	●	●
Recordkeeping on the quantity of water extracted is required	●	●	●	●	●	●	●	●	●	●	●

Data adapted from FAO AQUASTAT 2016 and Enabling the Business of Agriculture 2017. Additional analysis by Fintrac Inc.

*Honduras was not included in the 2017 Enabling the Business of Agriculture Index but is anticipated to be included in the 2019 revision. This scorecard will be updated at that time.

2. World Bank Group. Enabling the Business of Agriculture 2017. Report. Washington, DC: World Bank Group, 2017. Website accessed February 2019. <http://pubdocs.worldbank.org/en/159731534213578339/EBA17-Water.pdf>

3. Per the World Bank's Enabling the Business of Agriculture 2017, national water plans guide allocation decisions, reducing the likelihood of situations where resources are over-allocated and irrigation needs go unmet.

4. World Bank Group. Enabling the Business of Agriculture 2017. Report. Washington, DC: World Bank Group, 2017. Website accessed February 2019. <http://pubdocs.worldbank.org/en/159731534213578339/EBA17-Water.pdf>