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Stakeholder Mapping

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Abstract

This report presents the results of a stakeholder mapping exercise carried out in the WaterPower project. The mapping was conducted for the following main research areas of the project: water supply, land use planning and management, wetland management and climate change adaptation/disaster risk reduction. The report gives an overview of the stakeholders that play a role in these respective areas and identifies those who have concomitant responsibilities in different sectors. It represents the first step towards further involvement of stakeholders in the WaterPower project.



Stakeholder mapping

Rossella Alba and Lara Esther Bartels

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1. Introduction

This report presents the results of a stakeholder mapping exercise carried out as part of the WaterPower project, covering the main stakeholders of the four major research areas of the project: water supply, land use planning and management, wetland management and Climate Change Adaptation/Disaster Risk Reduction (CCA/DDR). These research areas correspond with the four key policy domains that play a relevant role in water and urban governance in the context of the Greater Accra Metropolitan Area (GAMA) (Figure 1).

The stakeholder mapping firstly gives an overview over the relevant stakeholders in each sector, then outlines their roles and responsibilities, and eventually identifies actors that have concomitant responsibilities in different sectors. An especially designed framework illustrates the multiple stakeholders present in the respective sectors. They are grouped according to their level of operation, i.e. at national/regional or district/local level.

The stakeholder mapping results are based on desk study and data collected during field visits in Accra between 2015 and 2016. Reviewing relevant policies, legislation and other documents contributed to categorizing key stakeholders and their roles and responsibilities in relation to each sector. Interviews with stakeholders provided further insights into the organization of each sector.

Water Supply

Wetland management

Climate Change Adaptation/Disaster Risk Reduction

Given the transdisciplinary approach employed within the WaterPower pro-

Figure 1 - Research areas in WaterPower

ject, this mapping contributes to set the stage for further involvement of stakeholders in the research project. Indeed, it represents the first step towards identifying stakeholders relevant for the co-production of knowledge and the co-interpretation of results.

In the following, the key features of the organization of each sector are described, followed by a visualization of the major stakeholders per sector. Further details about the roles and responsibilities of the stakeholders are presented in the appendix. The report concludes with an integrated chart depicting all four investigated sectors and the respective stakeholders. In particular, it illuminates actors that have responsibilities in multiple sectors.



2. Administrative organization

Administratively, Ghana is organized into three levels, the national, regional and local level. At the national level, ministries are responsible for policy formulation and coordination within specific sectors. Regional coordinating councils and Metropolitan, Municipal and District Assemblies (MMDAs) are present at a decentralized level responsible for the overall administration and coordination within their regional and district boundaries. The following table gives an overview over these different administrative levels in Ghana.

Table 1 - Administrative organization Ghana.

Level	Name	Functions and Responsibilities	
National	Ministries	Overall policy formulation, coordination and planning. Each ministry is organized in directorates, each overseeing a particular aspect.	
		Relevant ministries for urban governance and water governance: Ministry for Finance and Economic Planning; Ministry for Food and Agriculture; Ministry for Local Government and Rural Development; Ministry for Lands and Natural Resources; Ministry for Environment, Science and Technology; Ministry for Water Resources, Works and Housing; Minister for Chieftaincy and Culture.	
Regional	Regional co- ordinating councils	Regional coordinating councils were established by the Local Government Act, 1993 (Act 462) and by the National Development Planning Commission Act 1994, (Act 479). They are administrative and coordination bodies at the regional level. Among other activities, they for instance have "to monitor, co-ordinate and evaluate the performance of the District Assemblies in the Region" (Act 462, Section 142, Article 1a,). They are established in each of the 10 regions of the country (Act 462).	
		Regions: Greater Accra Region, Central Region, Eastern Region, Northern Region, Upper East Region, Upper West Region, Ashanti Region, Brong Ahafo Region, Volta Region.	
Local	Metropolitan or Municipal or District Assemblies (MMDAs)	Metropolitan or Municipal or District Assemblies (MMDAs) are the fulcrum of local governance in Ghana. They are responsible for the overall development, planning and coordination of activities within their boundaries, including, amongst others, water and sanitation services, environmental protection, economic development, transport, revenue collection. MMDAs are organized in departments: i.e. Physical Planning Department, Health Department, Social Welfare and Community Development Department, Disaster Prevention Department, Works Department etc In addition to decentralized MMDAs, sub-district units are present at the local level, operating as subordinates to the MMDAs. These are namely District Urban and Zonal Councils.	
		 MMDAs are defined on the basis of demographic conditions and settlement characteristics: A Metropolitan Assembly is a Local Government unit or areas with a population of over 250,000. A Municipal Assembly is a one town assembly with a population of over 95,000. A District Assembly is a group settlement with a minimum population of 75,000 and a maximum of 95,000. 	
	6 1003 110	The Greater Accra Metropolitan Area (GAMA) consist of 12 MMDAs, namely: Ga Accra Metropolitan Area, Ga West Municipal, Ga East Municipal, Ga Central Municipal, La Nkwantanang-Madina Municipal, Adenta Municipal, Ga South Municipal, La Dade-Kotopon Municipal, Ledzokuku-Krowor Municipal, Tema Metropolitan Area, Ashaiman Municipal and Kpong Katamaso District.	

Sources: GoG. 1993, Local Government Act, Act 462; Friedrich-Ebert-Stiftung Ghana (2011): A guide to district assemblies in Ghana.



3. Water Supply

The Water Directorate under the Ministry of Water Works and Housing (MWWH) is in charge of overall policy formulation and coordination in relation to the water sector in Ghana. The Water Resource Commission (WRC), the Community Water Sanitation Agency (CWSA) and Ghana Water Company Limited (GWCL) operate under the guidance of the MWWH. The WRC is oversees the overall management of water resources in the country, with particular attention to surface and groundwater use and abstraction. The WRC operates at the local level through decentralized river basin offices established in major river basins. The GWCL is the national water utility responsible for water supply in major urban centres. Meanwhile, a national agency, CWSA and Water and Sanitation Teams established at a decentralized level within MMDAs facilitate water supply in rural areas and in small towns. In rural and peri-urban areas, Water and Sanitation Boards manage decentralized water supply systems in cooperation with WATSAN Committees. The Public Utility Regulatory Commission (PURC) is an independent agency in charge of the regulation of public utilities including performance monitoring, water tariff setting and quality monitoring. The Ghana Standard Board is in charge of setting quality standards for drinking water. In the context of GAMA, other water providers besides GWCL are present at local level, including water vendors, mobile water providers and two other actors involved in the management of water kiosks (Safe Water Network and Water Health). A wide range of NGOs are involved in WASH projects at the local level and work under an umbrella organization (CONIWAS).

WATER SUPPLY National/Regional Ministry of Water, Works and Housing WRC CWSA Decentralized GWCI Regional PURC GSB **River Basin** Offices Offices CONIWAS and other NGOs. Development partners Water Providers MMDAs District/Local Water and Safe Water Mobile Water Water GWCL Network, Boards/WATS Vendors **Providers** Water and Water Health Sanitation Team Water users

Figure 2: Overview of the main stakeholders involved in the water supply sector in GAMA.



4. Land use planning and management

In Ghana, land use planning and the management of land is characterized by a complex configuration of statutory and customary stakeholders. The management of land is, per constitution, the responsibility of state agencies such as the Lands Commission but also the responsibility of customary land custodians, such as chiefs. Whereas the former manage public land and land that is vested in the President, the latter manage customary land (so called "stool and family land") in conjunction with the elders.

State authorities such as the National Development Planning Commission and the Town and Country Planning Department (TCPD), including the units at the district level, are responsible for land use planning. However, as customary land comprises approximately 80% of the land in Ghana, customary land custodians are also relevant for land use planning as they lease land to individual developers. A common phenomenon is that land leases and developments takes place before the official land use planning has been carried out. Communities, including customary land custodians, are also formally involved in the development of local plans and thus involve the land use planning on the local level.

Ministry of Local Government and Rural Development Urban Development Unit Ministry of Environment, Science, Technology and Innovations Town and Country Planning Department (Regional Offices) Ministry of Chiefs (Regional House of Chiefs (Regional Units) National House of Chiefs (Regional Units) National House of Chiefs (Regional Units) National Development Planning Commission (Regional Units) Ministry of Lands and Natural Resources National Development Planning Commission (Regional Units) **Ofhana Institute of Planners** **Ghana Institute of Surveyors* **Ghana Real Estate Developers* Associates (GREDA) **NGOs and Development partners* **NROS and Development partners* **TCPD** **MMDAS** **Customary Land Customary Land Secreteriat* **Customary Land Secreteriat* **Customary Land Secreteriat* **Customary Land Secreteriat* **TCPD** **TCPD** **NATIONAL PROVIDENCE OF Chiefs* **Chiefs* **Customary Land Secreteriat* **Customary Land Secreteriat* **Customary Land Secreteriat* **TCPD** **NATIONAL PROVIDENCE OF Chiefs* **TCPD** **TCPD** **TCPD** **National House of Chiefs* **Chiefs* **Customary Land Secreteriat* **Customary Land Secreteriat* **TCPD** *

LAND USE PLANNING & MANAGEMENT

Figure 3: Overview of the main stakeholders involved in land use planning and management.

Land users



National/Regional

District/Local

5. Wetland management

The Wildlife Division of the Forestry Commission under the Ministry of Lands and Natural Resources is the major stakeholder in Wetland management. The Division is responsible for the management of protected areas in Ghana, including five wetlands designated as Wetlands of International Importance under the Ramsar Convention. These include three coastal lagoons located in GAMA: Densu delta, Sakumono and Songor. The National Wetland Committee supports the Wildlife Division in the implementation of the Wetland Strategy and Action Plan of Ghana.

Other stakeholders related to wetland management include the Water Resource Commission, responsible for the overall water resource management in Ghana, the Town and Country Planning Department, in charge of spatial planning and urban development, and the Environmental Protection Agency, whose mandate it is to manage natural resources in order to ensure no pollution.

WETLANDS MANAGEMENT

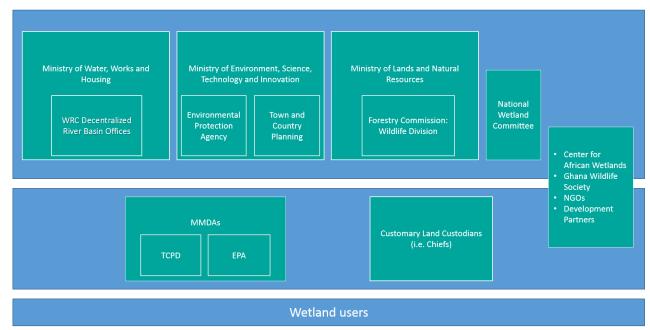


Figure 4: Overview of the main stakeholders involved in wetland management.

National/Regional

District/Local

6. Climate Change Adaptation and Disaster Risk Reduction

A wide range of stakeholders are involved in the development of policies and strategies for Climate Change Adaptation and Disaster Risk Reduction (DRR) in Ghana. The two leading organizations responsible for the development and monitoring of climate change adaptation policies are the Ministry of Environment, Science, Technology and Innovation (MESTI) and its subsidiary body, the Environmental Protection Agency (EPA). In 2008, the MESTI established the National Climate Change Committee (NCCC). In 2014, Ghana officially launched its National Climate Change Policy (NCCP), which was the outcome of an official stakeholder consultation. Other ministries and agencies involved in adaptation policy implementation and planning are (amongst others) the Ministry of Finance and Economic Planning (MOFEP), the National Development Planning Commission (NDPC), the Ministry of Local Government, Rural Development and Environment (MLGRDE), the Ministry of Food and Agriculture (MOFA), the Ministry of Lands and Natural Resources, the Ghana Meteorological Agency (GMet), and the Ministry of Health.

The main responsibility for DRR activities and disaster risk management at the national, regional and local levels lies with the National Disaster Management Organization (NADMO) that operates through its regional and district offices, local DRR platforms, and NADMO volunteers.

National Development Ministry of Lands and Ministry of Finance Ministry of Environment, Ministry of the Interior **National Climate Planning** Natural Resources Science, Technology and **Change Committee** Commission Innovation NDPC Natural Resources National and **Environment and** Ministry of Food and Environmental Regional Climate Change NADMO (Regional Environmental Disaster Risk Agriculture (NREC) Unit Protection Agency offices) Convention Platforms Coordinating Authority **Environmental and** natural Resources **Advisory Council MMDAs** NGOs and NADMO (District **Environmental** Local disaster Development **EPA District office** Risk Platforms Management offices and **Partners** Committee Volunteers)

CLIMATE CHANGE ADAPTATION/DISASTER RISK MANAGEMENT

Figure 5: Overview main stakeholders in CCA/DDR.



7. Conclusion

The stakeholder mapping presented in the paper provides an overview of the main actors involved in the four key domains in relation to water and urban governance.

Figure 6 summarises the organizational set-up of the four research areas and highlights those stakeholders who have multiple responsibilities in different sectors. Some stakeholders are major players within the sectors. Amongst others, the Town and Country Planning Department, the Environmental Protection Agency and local MMDAs have multiple responsibilities within the investigated sectors, namely wetland management, climate change adaptation, disaster risk reduction and land use planning management. Furthermore, while these sectors seem more interlinked in terms of stakeholder roles and responsibilities, the water supply domain appears rather disconnected from the other domains, with mainly the GWCL and CWSA as key national and regional stakeholders. However, in practice, roles and responsibilities between different agencies are often interlinked and related.

The sectors described correspond to four main research areas in Water-Power. With its integrative framework, the project aims at bringing together multiple aspects that play a role in defining and shaping the urban water-scape of Accra.

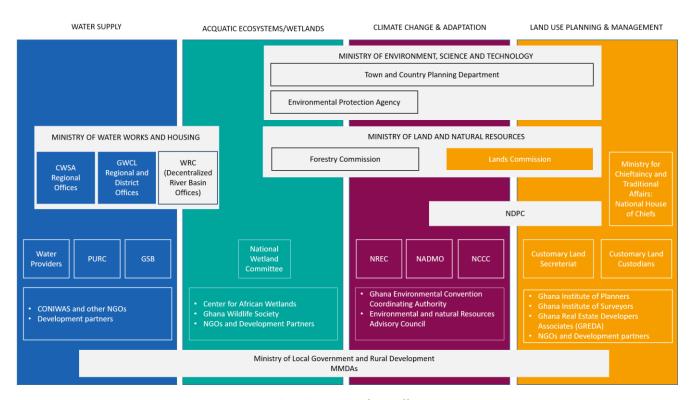


Figure 6: Combined overview of the different sectors.



8. Appendix

WATER SUPPLY			
Name	Functions and Responsibilities	Reference	
Ministry of Water, Works and Housing, Wa- ter Directorate	The MWWHP is responsible for the overall policy formulation, planning, coordination and harmonization, monitoring and evaluation of programs for water supply and water resources management.	http://www.mwrwh.gov.gh/	
Water Resource Com- mission	The WRC was established in 1996. The Commission is responsible for the overall regulation and management of water resources in Ghana and for policy coordination in relation to them. According to Act 522, the commission is in charge of: (a) proposing comprehensive plans for the utilization, conservation, development and improvement of water resources; (b) initiating, controlling and coordinating activities connected with the development and utilization of water resources; (c) granting water rights; (d) collecting, collating, storing and disseminating data or information on water resources in Ghana.	GoG ,Water Resource Commission Act 1996, Act 552	
Ghana Water Company Limited (GWCL)	GWCL is the sole recognized urban water provider. The publicly owned company is responsible for the overall planning, construction, rehabilitation, extension and improvement of about 80 water supply schemes in urban areas (localities with more than 5000 people). Furthermore, the GWCL oversees the provision of commercial and operational services related to water supply for domestic, commercial and industrial uses.	Alba, Bartels (2016): Featuring water infrastructure, provision and access in the Greater Accra Metropolitan Area. WaterPower Working Paper 6	
Community Water and Sanitation Agency (CWSA)	The CWSA has the mandate to facilitate the provision of safe drinking water and related sanitation services to rural communities and small towns in Ghana. The Agency supports Municipal, Metropolitan and District Assemblies in the formulation and implementation of District Water and Sanitation Plans (DWSP).	GoG, Community Water and Sanitation Agency Act 1998, Act 564; Alba, Bartels (2016)	
Municipal and District Assemblies	MMDAs facilitate the provision of water in small towns and rural areas in Ghana. They approve projects and plans related to the provision of water. Each District Assembly should establish a Water and Sanitation Management Team to manage water or sanitation facilities for the benefit of a community.		
Public Utility Regulatory Commission	The PURC was established in 1998 with Act 538 as an independent regulatory agency in charge of regulating public service provision, including the provision of water supply. The PURC monitors the performance standards of utility companies, approves rates for utility services and monitors quality standards.	PURC, 2005, Urban Water Tariff Policy	

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Ghana Standard Author-	The Ghana Standards Authority (GSA), formerly Ghana Standard Board, was established in 1973 (Standards Authority Act, 1973 NRCD 173) to set national standards and ensure quality of goods. With respect to drink-	http://www.gsa.gov.gh/
ity	ing water, the GSA is responsible for setting drinking water standards in Ghana. The most recent standards	
	for drinking water are the Ghana Standards FDGS 175-1:2013.	
WaterHealth	The company WaterHealth established the first water centres (also called water kiosks) in GAMA. Raw water	http://www.waterhealth.com
	is treated in decentralized purification systems on-site, and residents can buy treated water in buckets di-	
	rectly from the kiosk. In GAMA, water stations are mostly found in peri-urban areas.	
Safe Water Network	The Safe Water Network is an NGO that facilitates and operates water kiosks (called water stations by the	http://www.safewaternet-
	NGO) in Ghana since 2009. The stations use the same system as the ones from WaterHealth and are also	work.org/countries-regions/ghana
	constructed mainly in peri-urban GAMA. The first stations where established through WaterHealth.	
Domestic Water Ven-	Domestic vendors include individuals who sell water within their own house or compound. Broadly, we can	Alba, Bartels (2016)
dors	separate between neighbourhood retailers, neighbourhood sellers and bulk water vendors. The first retail	
	water in buckets, either from a pipe-water household connection from GWCL, a piped connection from small	
	town supply systems, or from water tankers. The second group, neighbourhood sellers, sell water in buckets	
	from their own source, for instance groundwater through a private borehole or well. The third group, bulk water vendors, include private individuals who sell water in bulk quantities for commercial purposes, mainly	
	to water tankers.	
Mobile Water Providers	Mobile water providers include private individuals or organized groups who purchase, deliver and sell bulk	Alba, Bartels (2016)
	quantities of water (minimum of 2,000 litres) to households, institutions and companies.	7 (2020)
Coalition of NGOs in	CONIWAS brings together different NGOs in the water and sanitation sub-sector in Ghana. They aim to build	http://coniwasghana.org/about.php
Water and Sanitation	a strong partnership between stakeholders, including government departments and civil society to improve	
(CONIWAS)	the water and sanitation for urban, peri-urban and rural areas of Ghana.	
	LAND USE PLANNING AND MANAGEMENT	
Name	Functions and Responsibilities	Reference
Ministry of Environ-	The MESTI is responsible for environmental sustainability, planning and sustainable development of human	mesti.gov.gh/our-mandate-objectives
ment, Science and Tech-	settlements, science and technology.	
nology and Innovation		
(MESTI)		
	The TCPD is a technical department under the Ministry of Environment, Science and Technology. It was	GoG, Town and Country Planning Act,
Town and Country Plan-	initially established in 1945 by the Town and Country Planning Act, 1945 (Cap. 84), as a Town and Country	1945 (Cap. 84);
ning Department	Planning Board. The Board was abolished by the Town and Country Planning (Amendment) Act of 1960 (Act	http://www.tcpghana.gov.gh
(TCPD)	33) and transferred to the TCPD. The TCPD is responsible for planning and management of the orderly development of human settlements by e.g. providing layout plans. The head office of the TCPD is in Accra.	
	It also has branch offices at the regions and in the districts. At the local level TCPD is, in line with Local	
	The disc has branch offices at the regions and in the districts. At the local level repuls, in line with Local	

	Government Act, 1993 (Act 462), merged with the Department of Parks and Gardens to form the Physical Planning Department. Currently, a Land Use and Planning Bill is being processed that will replace Cap 84.	
Ministry of Lands and Natural Resources (MLNR)	The MLNR is responsible for sustainable management and utilization of Ghana's lands, forests, wildlife and mineral resources. In the land sector, the MLNR is currently responsible for the implementation of the "Land Administration Project" (LAP), a long-term project that aims to reform the land sector.	http://www.mlnr.gov.gh http://www.ghanalap.gov.gh
Lands Commission	The Lands Commission is an agency under the Ministry of Lands and Natural Resources (MLNR). The Commission was established by Articles 258 – 265 of the 1992 constitution and supported by the Lands Commission Act 2008, Act767. The Lands Commission manages public lands and any other lands whose ownership is vested in the President. Among other responsibilities, the Lands Commission is responsible for the establishment of a land information system (cadaster), the supervision of surveying and demarcation of land, the registration of titles to land and for facilitating the acquisition of land on behalf of the government. This function applies to both public and customary land. The Commission has its headquarters in Accra and branch offices in the Regions.	GoG. 2008, Lands Commission Act, Act 767
Ministry of Chieftaincy and Traditional Affairs (MCTA)	The constitution of 1996 guarantees the institution of chieftaincy (Article 270). The MCTA is responsible for formulating policies for the Chieftaincy Sector and, in consultation with the National Development Planning Commission, to evaluate the performance of the sector.	GoG, 1996, Constitution of the Republic of Ghana, Act 527; http://www.mcta.gov.gh/about.htm
National House of Chiefs, Regional Houses of Chiefs	The National and Regional Houses of Chiefs are agencies under the Ministry of Chieftaincy and Traditional Affairs (MCTA). The establishment of the National House of Chiefs is enshrined in the Constitution of 1996. The constitution states: "A bill affecting the institution of chieftaincy shall not be introduced in Parliament without prior reference to the National House of Chiefs." —Article 106 (3). The National House of Chiefs consists of five paramount chiefs from each region elected by the Regional House of each region. The House has advisory function in regards to chieftaincy matters and is mandated to codify the customary law to come to a unified system of rules of customary law. The House also maintains a "National Register of Chiefs" and any change in the status of a chief must be reported via the Regional House of Chiefs to the National House of Chiefs. The Regional Houses of Chiefs undertake the compilation of the customary laws and lines of succession in the regions and make recommendations for the resolution of chieftaincy disputes in the region. However, the National House of Chiefs has original jurisdiction in matters affecting chieftaincy that cannot be resolved by the Regional House of Chiefs. The Headquarters of the National House of Chiefs is in Kumasi.	GoG, 2008, Chieftaincy Act, Act 759; GoG, 1996, Constitution, Act 527.
Customary land custodians	The Constitution of 1996 states that "All stool lands in Ghana shall vest in the appropriate stool on behalf of, and in trust for the subjects of the stool in accordance with customary law and usage." Article 267 (1). Chiefs and in GAMA also family heads, are the custodians over customary land (i.e. stool and family land). They "execute judicial, governance and land management functions" (Kasanga & Kotey, 2001, p. 13) for the benefit of their subjects (i.e. the customary group) and together with a council of elders (Sackeyfio-Lenoch, 2014). Since around 80% of the land in Ghana is customary land (Kasanga & Kotey, 2001, p. 13) traditional	GoG, 1996, Constitution of the Republic of Ghana, Act 527; Kasanga, K. and N.A. Kotey (2001) 'Land Management in Ghana: Building on Tradition and Modernity'. http://pubs.iied.org/pdfs/9002IIED.pdf?p (accessed 15 March 2015):



	authorities have a significant role in land management in Ghana. Nevertheless, customary land holding and management is still interlinked with state agencies (see Lands Commission).	Sackeyfio-Lenoch, N. (2014) The politics of chieftaincy: Authority and property in colonial Ghana, 1920-1950. Rochester, NY: University of Rochester Press.
Ministry of Local Gov- ernment and Rural De- velopment	The Ministry of Local Government and Rural Development is responsible for administering the program of decentralized government. The Urban Development Unit of the Ministry is important for land use planning. The ministry has developed the National Urban Policy Framework of 2012.	http://www.mlgrd.gov.gh/
Metropolitan, Municipal and District Assemblies (MMDAs)	MMDAs are responsible for overall district planning. In this function, they responsible for the creation of a "district development plan", which is prescribed and must be approved by the NDPC. MMDAs are also responsible for enforcing the approved district development plan, they may for instance "prohibit, abate, remove, pull down or alter so as to bring into conformity with the approved plan, a physical development which does not conform to the approved plan, or the abatement, removal, demolition or alteration of which is necessary for the implementation of an approved plan" (Section 53, Article 1a, Act 462). MMDAs also issue development and building permits. They can demolish buildings when the developer does not hold these permits. Communities can prepare a sub-district or local action plan with the assistance of MMDAs. The plan has to be approved the MMDAs (Act 480). Key departments within the MMDAs regarding land use planning are the works department and the physical planning department.	GoG, 1993, Local Government Act, Act 462; GoG. 1994, National Development Plan- ning System Act, (Act 480)
National Development Planning Commission (NDPC)	The NDPC is the national coordinating body of the decentralized national development planning system, i.e. of all development planning agencies. The commission was established by Articles 86 and 87 of the 1992 Constitution and was supported by the National Development Planning Commission Act 1994, Act 479. The NDPC monitors, evaluates and co-ordinates development policies, programs and projects and prepares broad national development plans. In addition, they supervise Metropolitan, Municipal, and District Assemblies (MMDAs) in the preparation of district developing plans (see above). The NDPC has its office in Accra.	GoG, 1994, National Development Planning Commission Act, Act 479
Customary Land Secre- tariats(CLS)	Customary Land Secretariats are established under the "Land Administration Project" of the MNLR. By 2009, 37 CLSs were established in Ghana. In communities where CLSs are in place, they are the institution in charge for land administration and the management of customary land holdings. The role of CLSs includes establishing registries to record customary land allocations and adopting simple land use plans within the customary areas. CLSs are supposed to link customary land institutions to the public land agencies, including the Lands Commission or the Town and Country Planning Department. To establish a CLS, communities have to write a proposal to the LAP.	Biitir, S. B., & Nara, B. B. (2016). The role of Customary Land Secretariats in promoting good local land governance in Ghana. Land Use Policy, 50, 528–536.
Ghana Institute of Planners (GIP)	The GIP is an association of professional planners in Ghana. The Institute has two divisions: the Policy Planning and Spatial Planning division. The GIP has its office in Accra.	http://www.ghanainstituteofplan- ners.com/
Ghana Institute of Sur- veyors (GHIS)	The GHIS is "a source of professional advice on Landed Property and Construction in Ghana."	http://www.ghisonline.org/



Ghana Real Estate De- velopers Associates (GREDA)	GREDA is an association of real estate developers in Ghana. GREDA has its office in Accra.	http://www.gredaghana.org/index.htm	
WETLAND MANAGEMENT			
Name	Functions and Responsibilities	Reference	
Ministry of Lands and Natural Resources (MLNR)	See MLNR in the section land use planning and management. Together with the National Wetland Committee, the ministry (i.e. the Wildlife Division) developed a "National Wetland Conservation Strategy and Action Plan (2007-2016)"	Ministry of Lands, Forestry and Mines (2007): Managing Ghana's Wetlands: A National Wetland Conservation Strategy and Action Plan (2007-2016)	
Forestry Commission	The Forestry Commission is a commission under the Ministry of Lands and Natural Resources (MLNR). The Commission was established by the Forestry Commission Act 1999, Act 571. Among other tasks, the commission is responsible for the regulation of forestry and timber resources and the management of protected areas and forest reserves.	GoG, 1999.Forestry Commission Act, Act 571	
Wildlife Division	The Wildlife Division is a division of the Forestry Commission. It is responsible for the management of protected areas, including the five wetlands that are protected under the Ramsar convention. The division has offices in all Ramsar Sites. They support the implementation of the national wetland conservation strategy.	MLNR (2007): Managing Ghana's Wetlands: a National Wetland Conservation Strategy and Action Plan (2007-2016)"	
Ministry of Water Re- sources, Works and Housing	See the ministry in the section water supply The ministry (i.e. the Water Resource Commission) developed the "Riparian Buffer Zone Policy for Managing Freshwater Bodies in Ghana", 2011		
Water Resource Com- mission (WRC)	See the WRC in the section water supply		
Ministry of Environ- ment, Science, Technol- ogy and Innovations	See the MESTI in the section land use planning and management.		
Ghana Environmental Protection Agency (EPA)	The EPA is an Agency under the Ministry of Environment, Science and Technology (MESTI). It was established by the Environmental Protection Agency Act 1994 (Act 490). The Agency advises the Ministry on the formulation of environmental policies. It has regional and district offices. The head office is in Accra.	GoG, Environmental Protection Agency Act, Act 490.	
Town and Country Plan- ning Department (TCPD)	See TCPD in the section land use planning and management		
National Wetland Com- mittee	The National Wetland Committee was inaugurated in 2004 and consists of 21 members. The committee is responsible for reviewing the legislation and institutional set-up regarding wetland management in Ghana. Moreover, the committee advises and supports the Wildlife Division on the implementation of the Wetlands Strategy and Action Plan.	http://www.ramsar.org/news/ghanas- national-wetlands-conservation-strat- egy-revised	



		http://www.ghanaweb.com/Ghana- HomePage/NewsArchive/Protect-wet- lands-they-support-life-Fobih-64656
Customary land custodians	See customary land custodians under section land use planning and management	
Ghana wildlife society	The Ghana wildlife society is the national branch of Birdlife International Africa. It is a non-governmental organization. Amongst other responsibilities, they monitor water birds and wetlands.	http://www.ghanawildlifesociety.org/
Centre for African Wet- lands	The Center for African Wetlands, established in 2000, is hosted by the University of Ghana. The center aims to contribute to the preservation of the (values of) wetlands. The center works on wetlands in 12 West African Countries, including Ghana.	http://www.ug.edu.gh/africanwetlands/
	CLIMATE CHANGE ADAPTATION AND DISASTER RISK REDUCTION	
Name	Functions and Responsibilities	Reference
Ministry of the Interior	The Ministry of the Interior is responsible for ensuring internal security and maintaining law and order in Ghana.	http://www.mint.gov.gh/
National Disaster Management Organization (NADMO)	The NADMO is an Agency under the Ministry of the Interior. It is the main government agency responsible for the management and coordination of disasters risk reduction, climate change risk management and emergencies in Ghana. The organization was created in 1996. Under the supervision of the NADMO, platforms for DRR have been established at national and regional levels.	GoG. 1996, National Disaster Management Organization Act, Act 517; http://www.nadmo.gov.gh/
Ministry of Finance	The Ministry of Finance also referred as Ministry of Finance and Economic Planning (MOFEP) allocates and manages financial resources in Ghana.	http://www.mofep.gov.gh/
Natural Resources, Envi- ronment and Climate Change (NREC) Unit	NREC is a unit under the Ministry of Finance. It oversees, coordinates and manages the financing of and support for natural resources, climate change and green economy activities. It was established in 2008 to coordinate all forms of support (domestic and international) for climate-change-related activities in Ghana. This is to avoid potential overlaps and duplication of efforts, and above all to distribute resources to where they are most needed. The unit also facilitates the mainstreaming of climate change and green economy issues into national planning to promote sustainable development.	Asante, F. A. et al. (2015) Climate change finance in Ghana. Available online at: http://www.mofep.gov.gh/sites/default/files/docs/Climate-Finance-Study-Report.pdf
Ministry of Environ- ment, Science, Technol- ogy and Innovation (MESTI)	See MESTI in the section land use planning and management.	
Environmental Protection Agency (EPA)	See the EPA in the section wetland management.	Sova, C.A. et al. (2014): Climate Change Adaptation Policy in Ghana: Priorities for



	The EPA represents Ghana's focal point for climate change conventions and initiatives as the technical implementation agency of MESTI.	the Agriculture Sector. Working Paper No. 68. CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Copenhagen, Denmark. Available online at: www.ccafs.cgiar.org
Ministry of Food and Ag- riculture (MOFA)	The Ministry of Food and Agriculture (MOFA) is the lead agency and focal point of the Government of Ghana, responsible for developing and executing policies and strategies for the agriculture sector within the context of a coordinated national socio-economic growth and development agenda. MOFA is currently building the capacity of extension staff at the regional and district levels to be able to appropriately mainstream climate change in their extension messages. At the policy level, steps are being taken to develop a climate change adaptation and mitigation strategy with the aim of enhancing the expected outcomes of the implementation of the Medium-Term Agriculture Sector Investment Plan (METASIP).	Ministry of Environment Science, Technology and Innovation (2013): Ghana National Climate Change Policy. Available online at: https://s3.amazonaws.com/ndpc-static/CACHES/NEWS/2015/07/22//Ghana+Climate+Change+Policy.pdf
Ministry of Lands and Natural Resources (MLNR)	See MLNR in the section <i>land use planning and management</i> . The Ministry of Lands and Natural Resources (MLNR) is the lead national entity responsible for overall oversight and direction of REDD+ activities in Ghana. The National REDD+ Working Group, established in 2009, provides support to MLNR. The Ministry is also represented at the National Climate Change Committee. The REDD+ secretariat at the Forestry Commission serves as the secretariat for the National REDD+ Working Group and coordinates the implementation of REDD+ readiness activities as outlined in the National REDD+ Preparation Proposal (R-PP) with support provided by the Forest Carbon Partnership Facility (FCPF) of the World Bank.	Ministry of Environment Science, Technology and Innovation (2013): Ghana National Climate Change Policy
National and Regional Disaster Risk Reduction (DRR) Platforms	In response to the United Nations recommendations under the Hyogo Framework for Action, the National Disaster Management Organization of Ghana (NADMO) established a national, and several subnational platforms for disaster risk management (DRM). These platforms are comprised of government officials, staff members of international organizations as well as representatives from academia and the private sector. Their official mandate is to implement disaster management policies with the support of Technical Advisory Committees for the identification, monitoring and assessment of hazards.	
National Climate Change Committee (NCCC)	The National Climate Change Committee (NCCC) is an intergovernmental committee consisting of 20 members representing ministries, departments and agencies (MDAs), civil society and development partners. The NCCC works as an advisory body in relation to the development of the Ghana's National Climate Change Policy.	Ministry of Environment Science, Technology and Innovation (2013): Ghana National Climate Change Policy
National Development Planning Commission (NDPC)	See NDPC in the section <i>land use planning and management</i> . NDPC, working in close collaboration with EPA, MESTI and MOFEP, has ensured the reflection of climate change issues in the Medium-Term Development Policy Framework (GSGDA: 2010–2013). As part of its	Ministry of Environment Science, Technology and Innovation (2013): Ghana National Climate Change Policy



	mandate, NDPC has translated climate change issues into planning guidelines and subsequently trained all the Metropolitan, Municipal and District Assemblies, and in particular the newly created districts, on how to mainstream climate change issues into development plans. Working with the Africa Adaptation Programme at EPA, NDPC with the Fiscal Decentralization Unit of MOFEP has developed an indicator on climate change for the District Functional Organizational Assessment Tool (FOAT). The FOAT is an assessment tool used to determine the quantum of funds released to the districts. On the monitoring side, NPDC in collaboration with all the sectors ensures the development indicators (including climate change) are mainstreamed into the national monitoring and evaluation plan to guide implementation at sector and district level.	
Ghana Environmental Conventions Coordinating Authority (GECCA)	The Ghana Environmental Conventions Coordinating Authority (GECCA) has been established as a coordination unit for managing the international environmental conventions signed by Ghana, including the United Nations Framework Convention on Climate Change (UNFCCC).	Sova et al. 2014 (see above)
Environmental and Nat- ural Resources Advisory Council (ENRAC)	The Environmental and Natural Resources Advisory Council (ENRAC) is an interministerial advisory body with members from government, labour, business and civil society. It is chaired by the Vice President of Ghana. ENRAC advises high level decision-makers on environmental issues.	
Environmental Management Committees	The Government of Ghana has established an integrated environmental planning and management system with a particular focus on desertification control as a national adaptation action. The system includes the National Desertification Committee (DC); Regional Environmental Management Committee (REMC); District Environmental Management Committees (DEMCs); and Community Environmental Management Committees (CEMC).	Ghana's National Reporting to the United Nations Commission on Sustainable Development (CSD) on Desertification. Available online at: http://www.un.org/esa/agenda21/nat-linfo/countr/ghana/desertification.pdf

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WaterPower is a laboratory for experimenting with novel ways of doing research based on the integration of multiple disciplines, approaches, methods and non-academic knowledge through dialogue and collaboration.

We contribute to current debates on society-nature relations by mapping, analyzing and understanding processes that unfold in the urban water sphere.

Our analyses critically study the interplay of socio-political and ecological processes and how they configure place and scale.

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