



Cost and Service Delivery in the Rural Water and Sanitation Sector  
Findings from WASHCost Ghana Research

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- \* Introduction and Research Questions

- \* Methodology

  - \* Costing framework

  - \* Service levels

- \* Results

  - \* Sanitation

  - \* Water

- \* Key messages

### WASHCost is an action research project

... researches the life-cycle costs of water, sanitation and hygiene(WASH) services in rural and peri-urban areas.

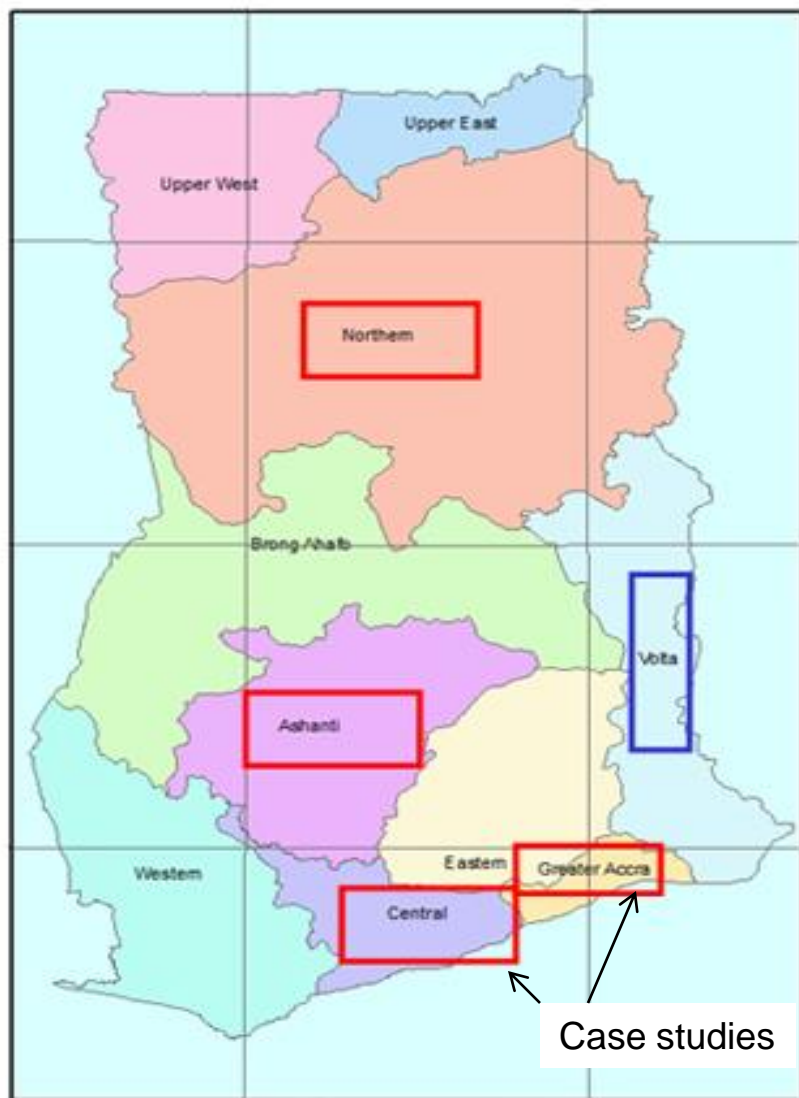
... to stimulate the use of cost information to improve WASH governance at all levels

WASHCost is focusing on four research questions which are:

- What is the cost of providing services
  - per type of technology?
  - per level of service delivered?
- How is access to services related to poverty Analysis?
- What are the main drivers that explain differences in costs?

This presentation is focused on the first two research questions.

# METHODOLOGY



### ❑ Selection of regions and districts

- Hydrogeological and hydro-climatic conditions
- Different approaches by Development Partners or government in project implementation
- Presence of Development partners



- ❑ In all 31 rural communities and 17 small towns with the following water systems :

- ❑ 76 water point sources
- ❑ 17 small towns water systems

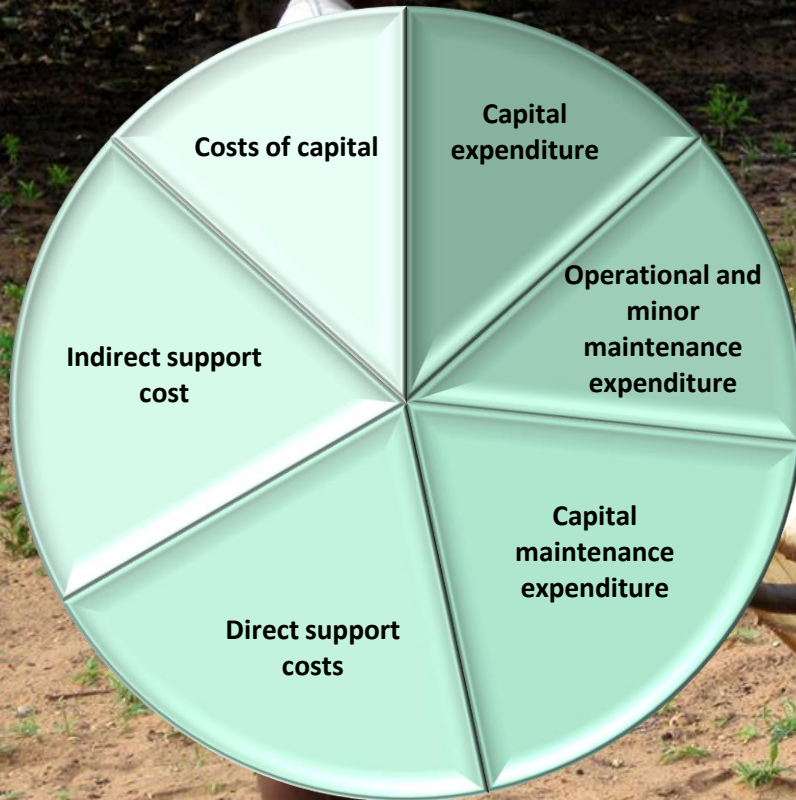


- ❑ The 31 rural communities and 4 small towns were part of the survey based approach in 3 districts, that looked at service levels as well as costs.

- ❑ The 13 small towns others come from different studies focussing primarily on costs in Greater Accra region and central region

- \* Framework of analysis is based on the life cycle cost approach (LCCA) (Fonseca et al., 2010):
  - \* Capital Expenditure (CapEx),
  - \* Operational and minor Expenditure (OpEx),
  - \* Capital Maintenance Expenditure (CapManEx), and
  - \* Expenditure on Direct Support (ExpDS).
- \* The cost components were adjusted to current values (year 2008) using GDP deflators (World Bank Group, 2010).
- \* CapEx was annualised using Community Water and Sanitation Agency design life of 10yrs

### Life Cycle Costs Components



Capital expenditure (CapEx): hardware and software

Operational and minor maintenance expenditure (OpEx)

Capital maintenance expenditure (CapManEx)– rehabilitation, replacement

Direct support costs – post construction activities, household expenditures

Indirect support cost – macro level planning and policy formulation

Costs of capital – costs of loans

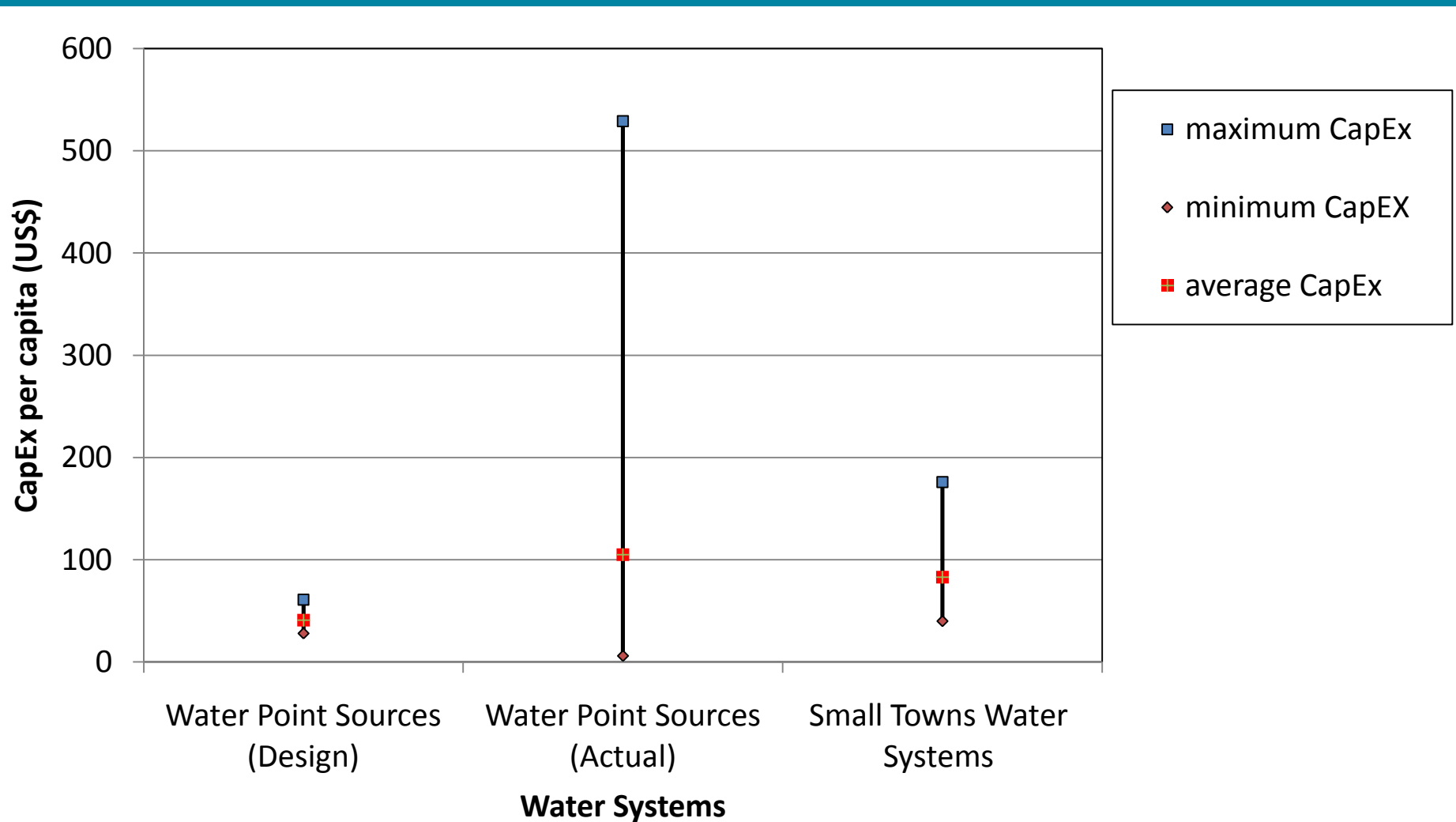
# SERVICE LEVELS

Water  
Sanitation

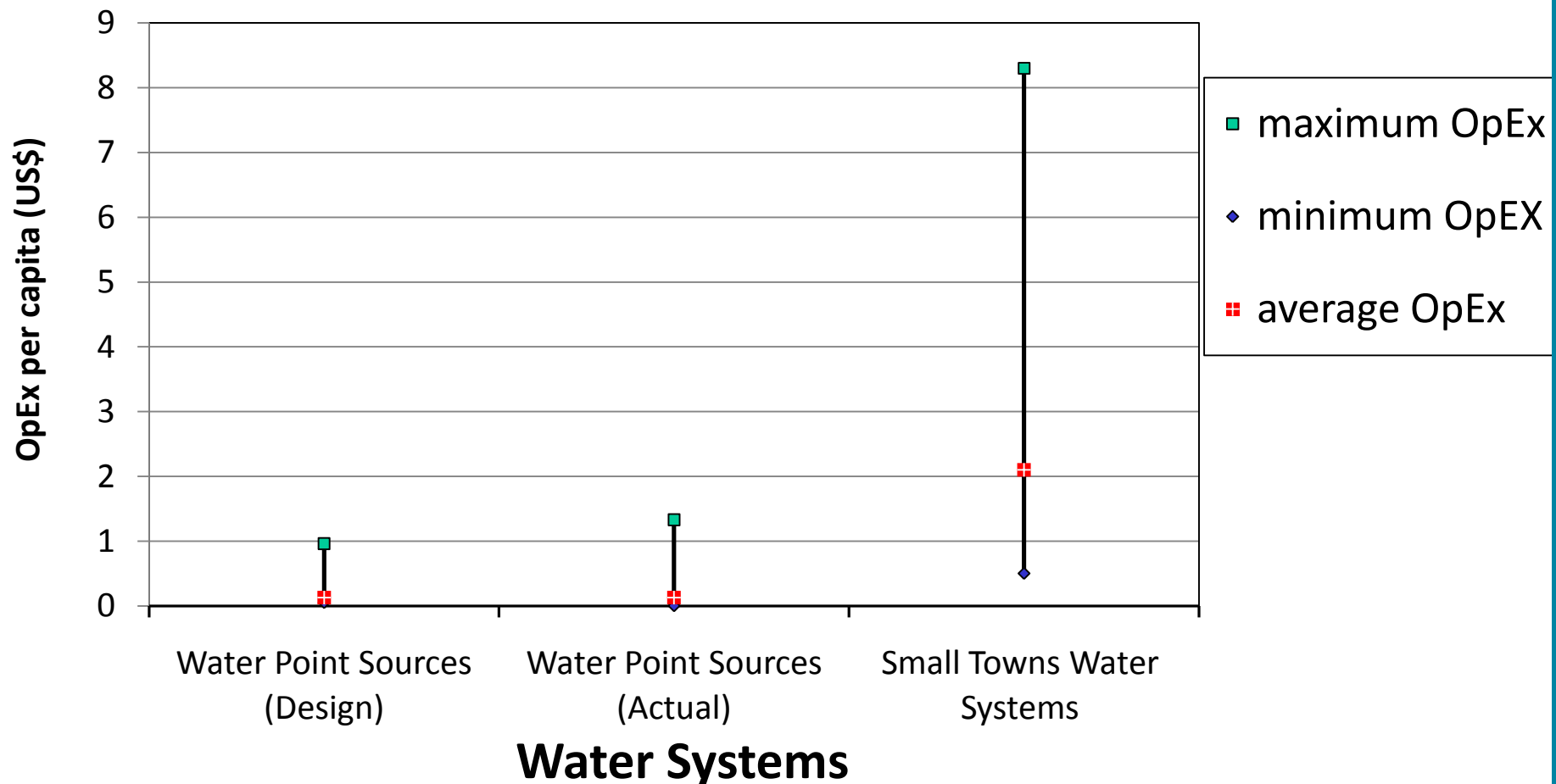
Service Levels	Indicators		
	Quantity accessed	Distance to water source	Crowding with reliability
High	> 60 lcd	<=500 meters	<=300 per point source
Intermediate	40 - 60 lcd	<=500 meters	<=300 per point source
<b>Basic</b>	<b>20 – 40 lcd</b>	<b>&lt;=500 meters</b>	<b>&lt;=300 per point source</b>
Sub-standard	5 – 20 lcd	>500 meters	>300 per point source
No service	<5 lcd	>500 meters	>300 per point source

Service level	Technology/practice options	Access characteristics	Uses
Improved	-Household acceptable latrine (WC, PF, VIP, KVIP)	-access at any time and -in-house	- all
Basic	-Shared household acceptable latrine (WC, PF, VIP, KVIP)	-access at any time and -in-house/attached to house	- all/some
Sub-standard	-Public acceptable latrine -Neighbour's acceptable latrine (WC, PF, VIP, KVIP)	-some restrictions or -queues exist or not And -outside compound/house	- all/some
No service	-Traditional pit latrine -Dig and bury -Open defecation	Not applicable	Not applicable

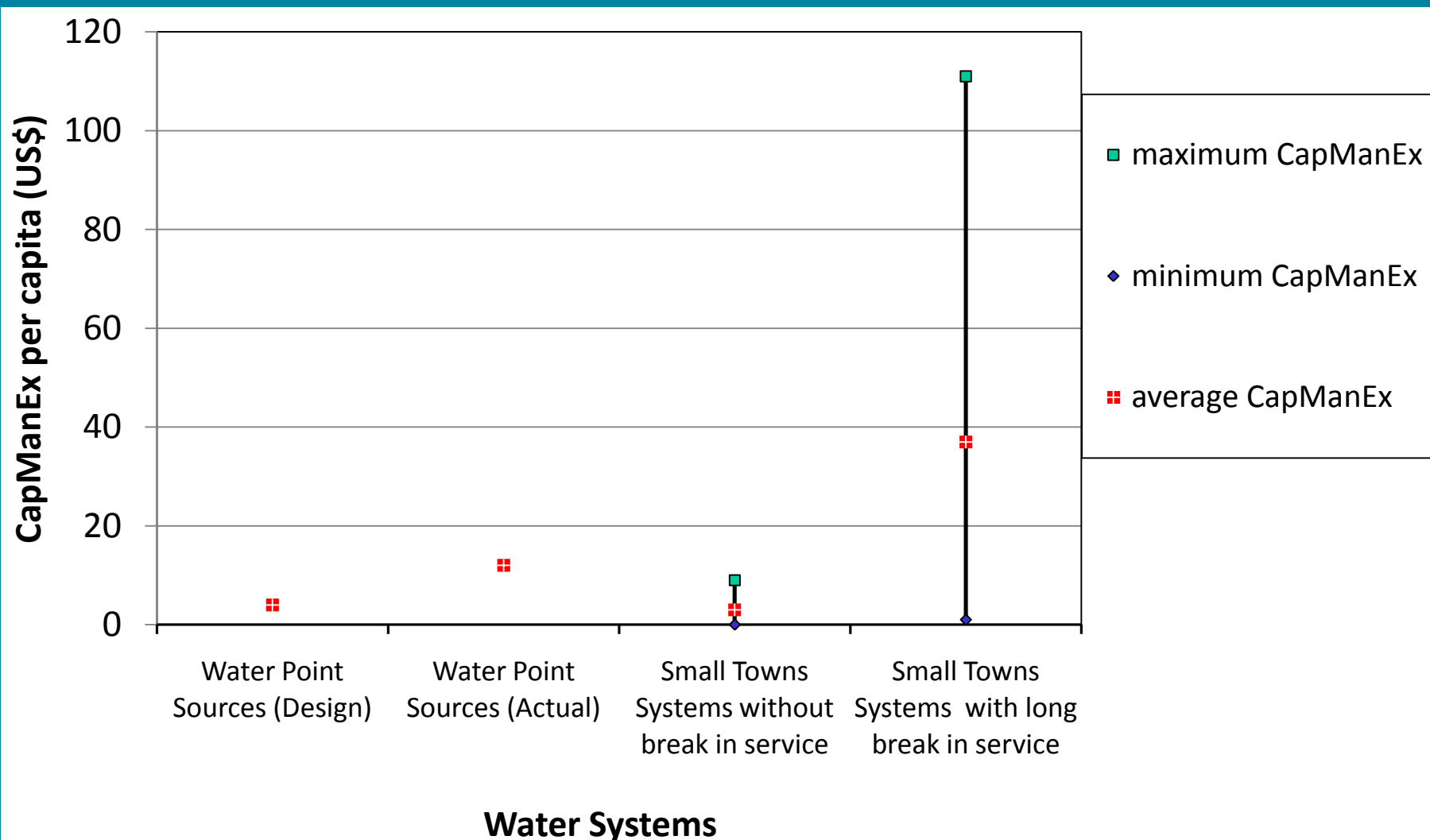
### Capital Expenditure (CapEx)



On the average it cost more than ten (10) times to operate small towns systems than water point systems but data is scarce and what is being spent is not enough

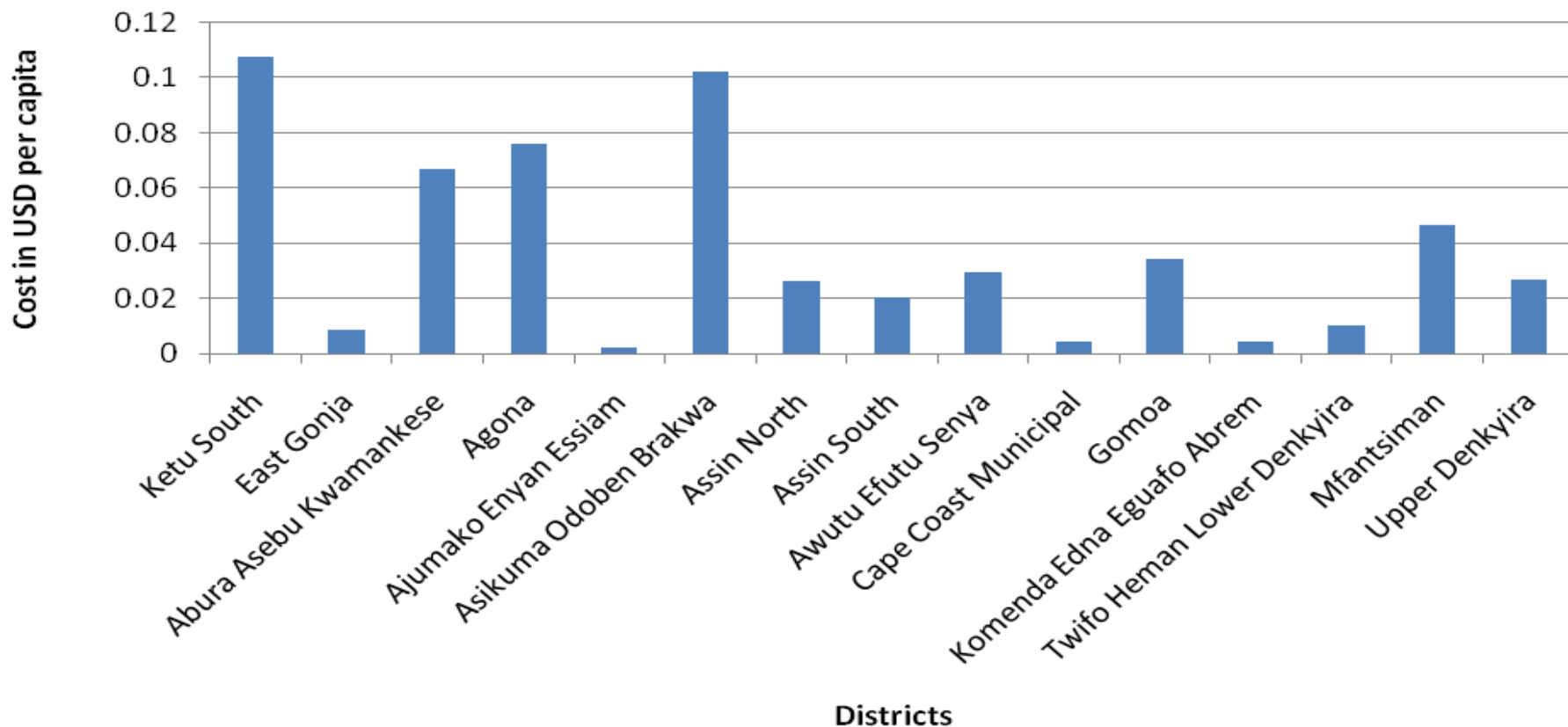


### Capital Maintenance Expenditure (CapManEx)



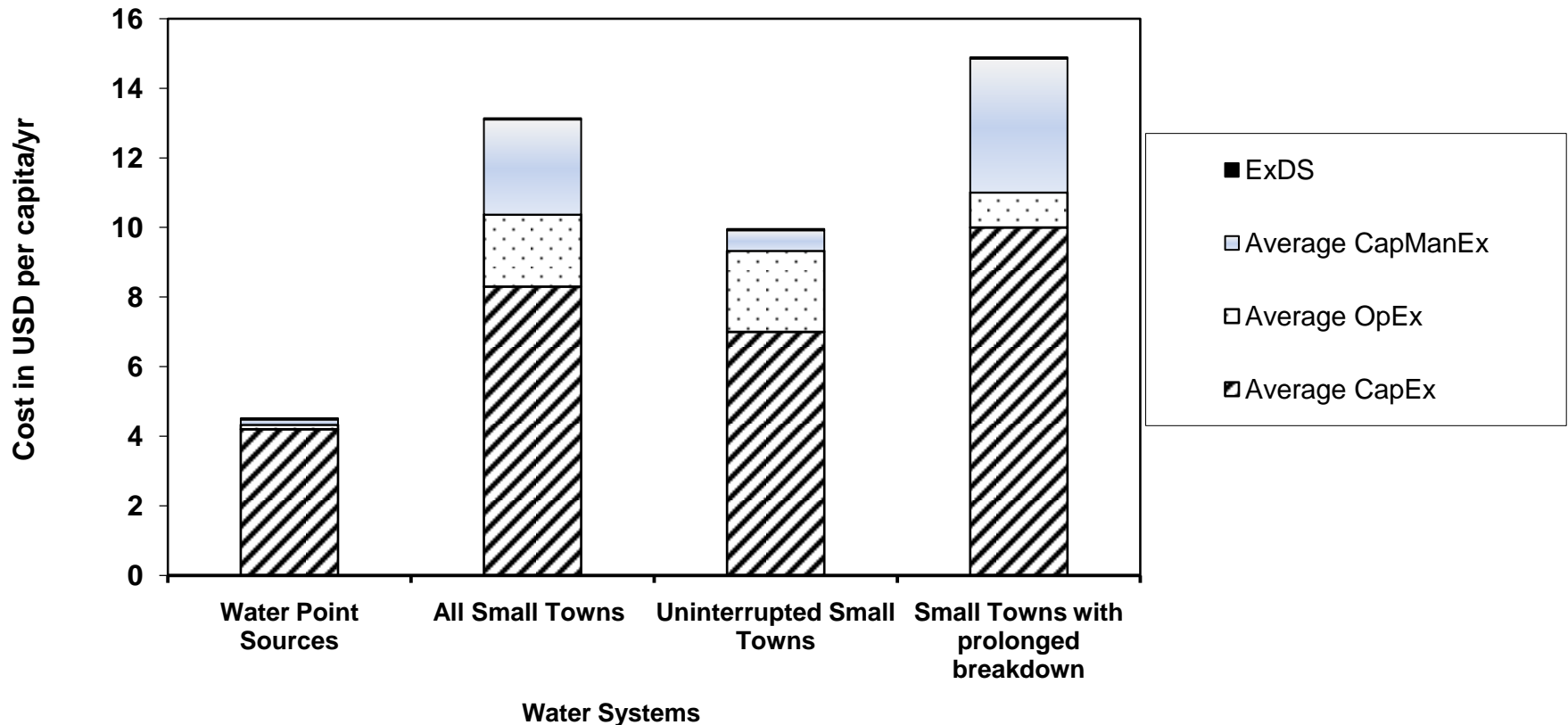
Direct support cost at the district levels are erratic though less than US\$ 1.0 per capita/yr and mostly donor project based.

**Direct support cost**



- \* Total GoG budget for non-investment costs of sector in 2011 is Ghc 4,203,000 – or about 34 Gp cedis / person/ year based on the rural population.
- \* At the district levels its is about 30,000 for a population of about 100,000 or 30 Gp / person / year

Annual TotEx (CapEx, OpEx, CapManEx and ExDS)



Annual total cost (TotEx) is wide between the two water systems:  
small towns cost 3 – 4 times that of water points

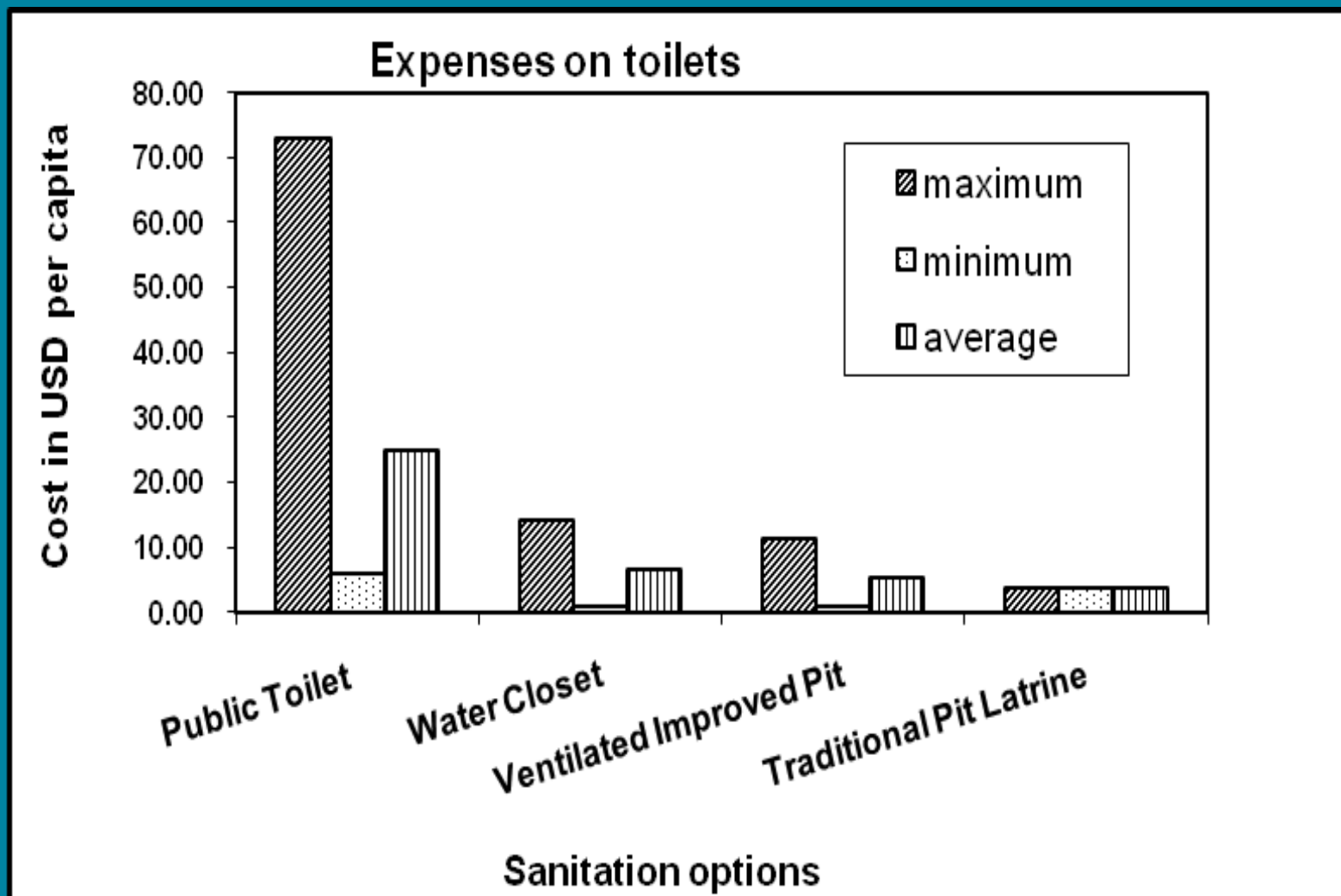
# RESULTS

## *Service levels – Sanitation and Water*

## RESULTS: Sanitation in all 31 rural communities

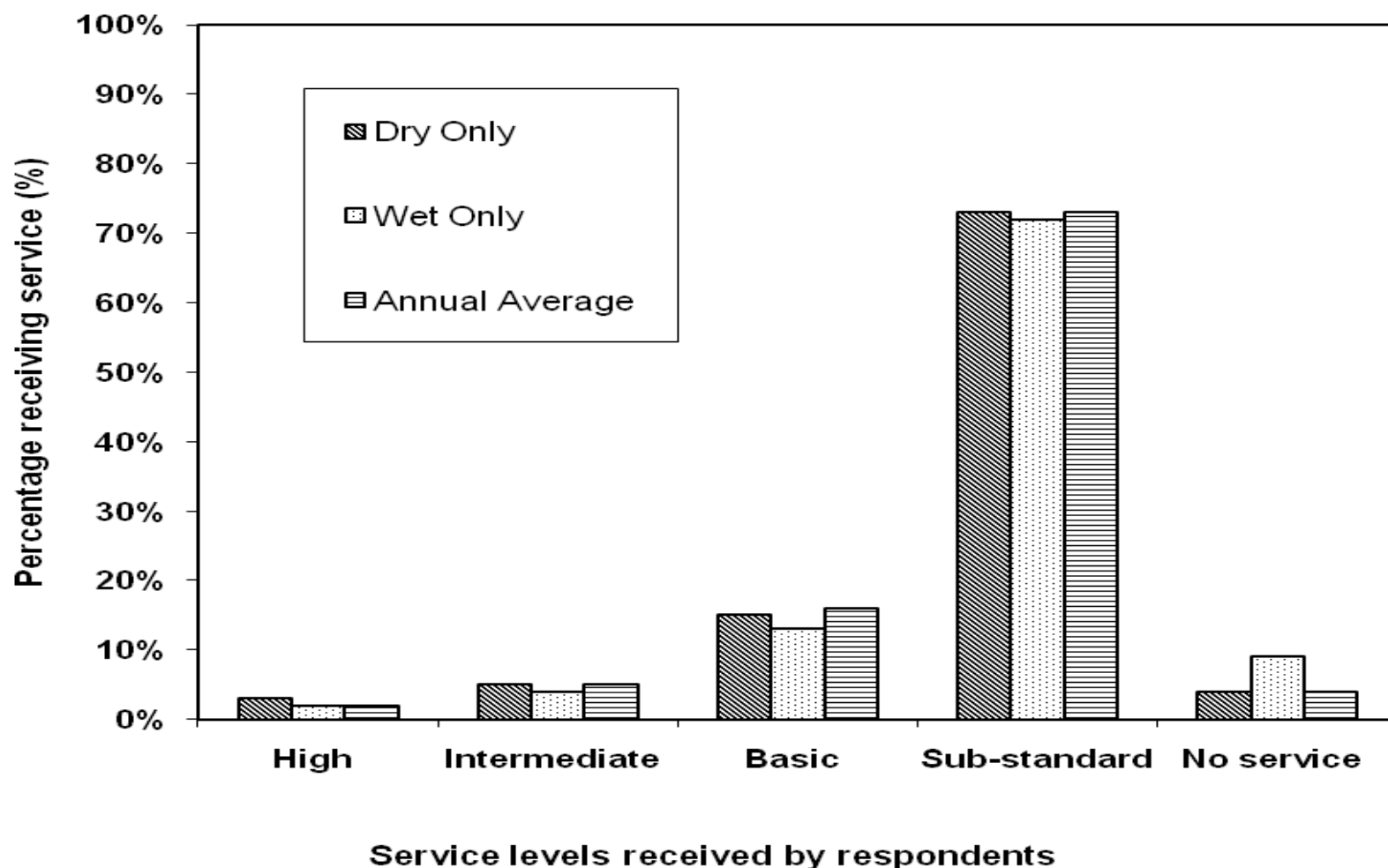
Sanitation Services	All	Ketu South	Bosomtwe	East Gonja
Improved	14%	12%	19%	5%
Basic	0%	0%	0%	0%
Sub-standard	22%	7%	36%	15%
No service	63%	80%	45%	79%

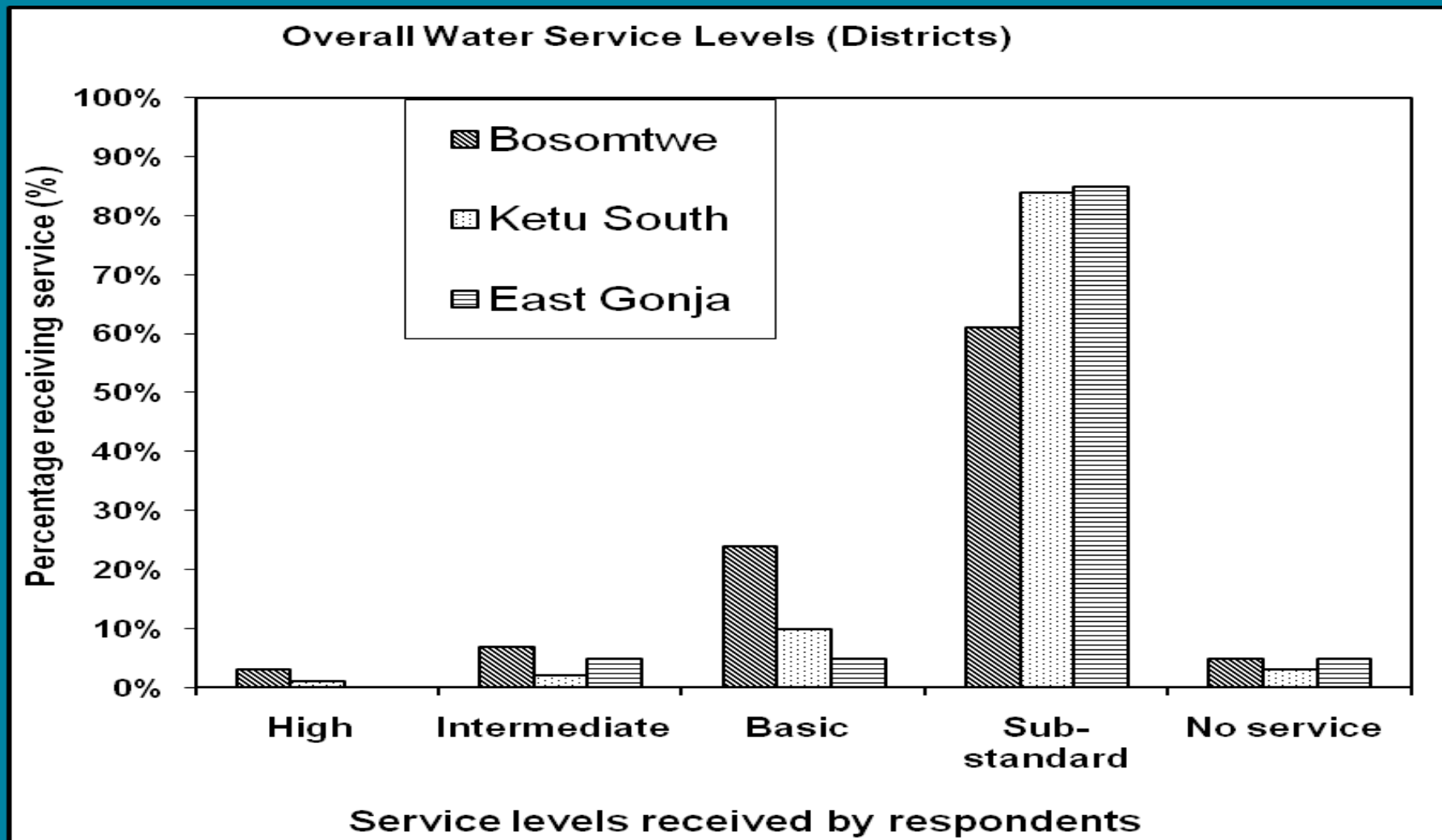
Sanitation Services	All	Kpandai	Bakamba	Kuntenase	Kpogedi-Akame
Improved	29%	7%	13%	50%	1%
Basic	2%	0%	0%	2%	3%
Sub-standard	33%	53%	0%	45%	15%
No service	36%	40%	87%	3%	81%

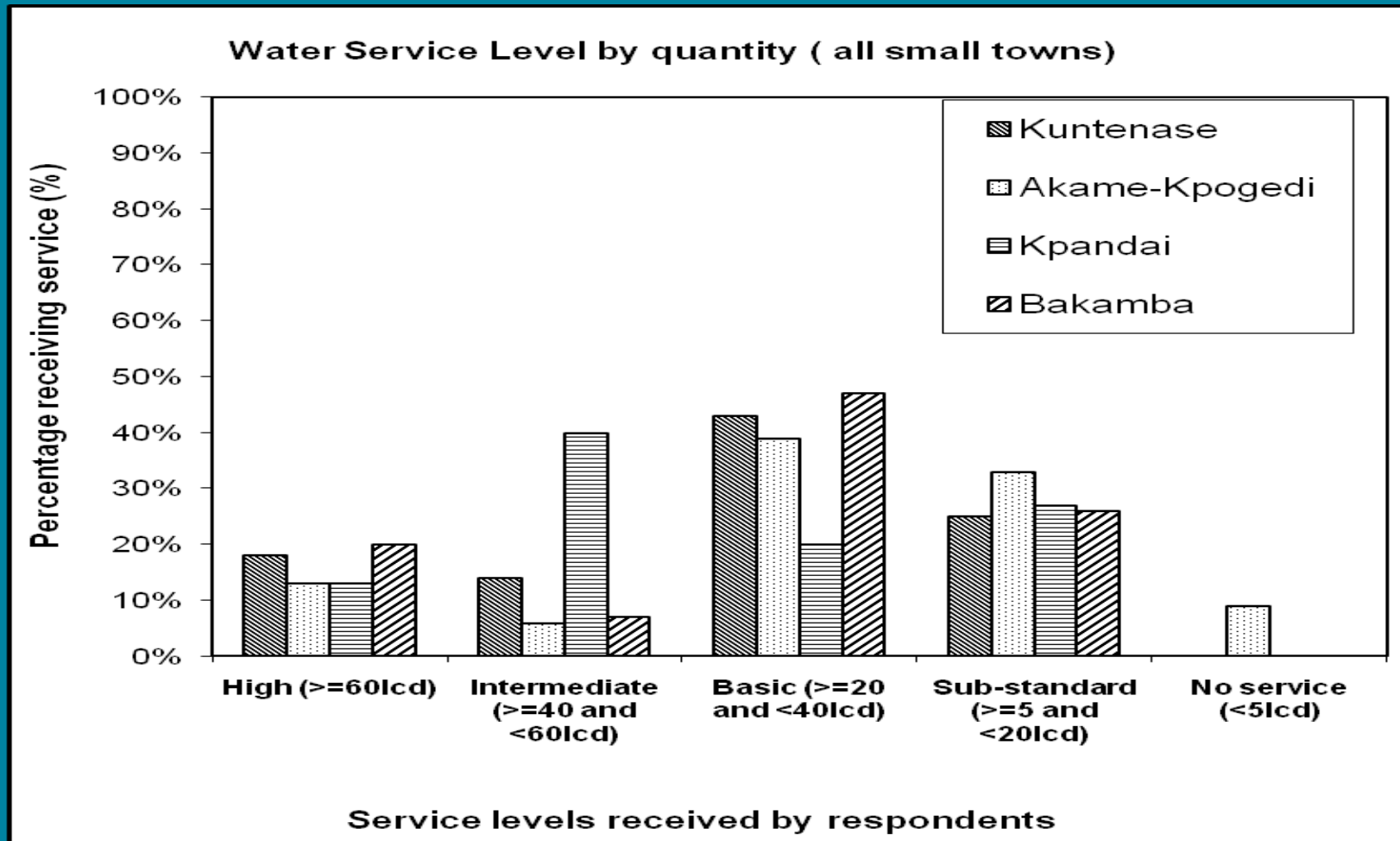


Water Services	Quantity (Annual Average)	Accessibility	Crowding-with-Reliability
High	7%	91%	41%
Intermediate	13%		
Basic	41%		
Sub-standard	34%	9%	59%
No service	5%		

Overall Water Service Levels (All Rural Communities)







- \* Data is badly kept, difficult to access, and there is an enduring culture of secrecy around cost-data. This needs to be broken down/open to reduce costs and improve efficiency.
- \* Total annual costs of providing rural water services are ~US\$ 4 per capita per year for water point sources and US\$ 10 to US\$ 14 per capita per year for small towns water systems.
  - \* Rural water service – **about 75 % getting less than the basic service**
  - \* Small towns water service - **about 30 % getting less than the basic service**

- \* Lack of operational and minor maintenance and capital maintenance for boreholes and piped schemes results in a significant level of non-functional systems. 31% of hand-pumps were not working at the time of visit.
  - \* US\$ 10,000 investments in point sources (main cost is borehole development) are wasted because of the breakdown of a US\$ 500 hand-pump.
  - \* Some small towns have to be built twice (rehabilitation)
- \* Direct support cost at the district levels are erratic with wide variations, which are predominantly donor project-based post-construction support funds:
  - \* funds from government are inadequate leading amongst others to a failure of M&E systems.
  - \* Prolonged breakdowns for trivial problems
  - \* Very high failure rate of – particularly – point-sources with hand-pumps

- \* More research needed .....
  - \* Deepen our understanding of support costs (direct and indirect)
  - \* Seek to expand sample size and test some of the emerging hypotheses (**anyone willing to do, support etc**)
  - \* Use modelling to seek more realistic 'totex' per service level and technology – i.e. use modelling to fill the data gaps]
  - \* Continue to populate the Cost database with more data outside the study areas from actors in implementation
    - \* CWSA, MWRWH, Development partners
    - \* NGOs – Coniwas, Wateraid
- \* Support uptake and embedding
  - \* Simplify LCCA methodology and encourage others to use
  - \* Explore how to include cost and service level indicators in national monitoring framework



For more information:  
[www.washcost.info](http://www.washcost.info)

Thank You