Taking Household Water Treatment and Safe Storage (HWTS) to Scale

The Case of Ghana

Outline of Presentation

- **Background**

- **HWTS Assessment:**

  - **findings**

  - **recommendations**

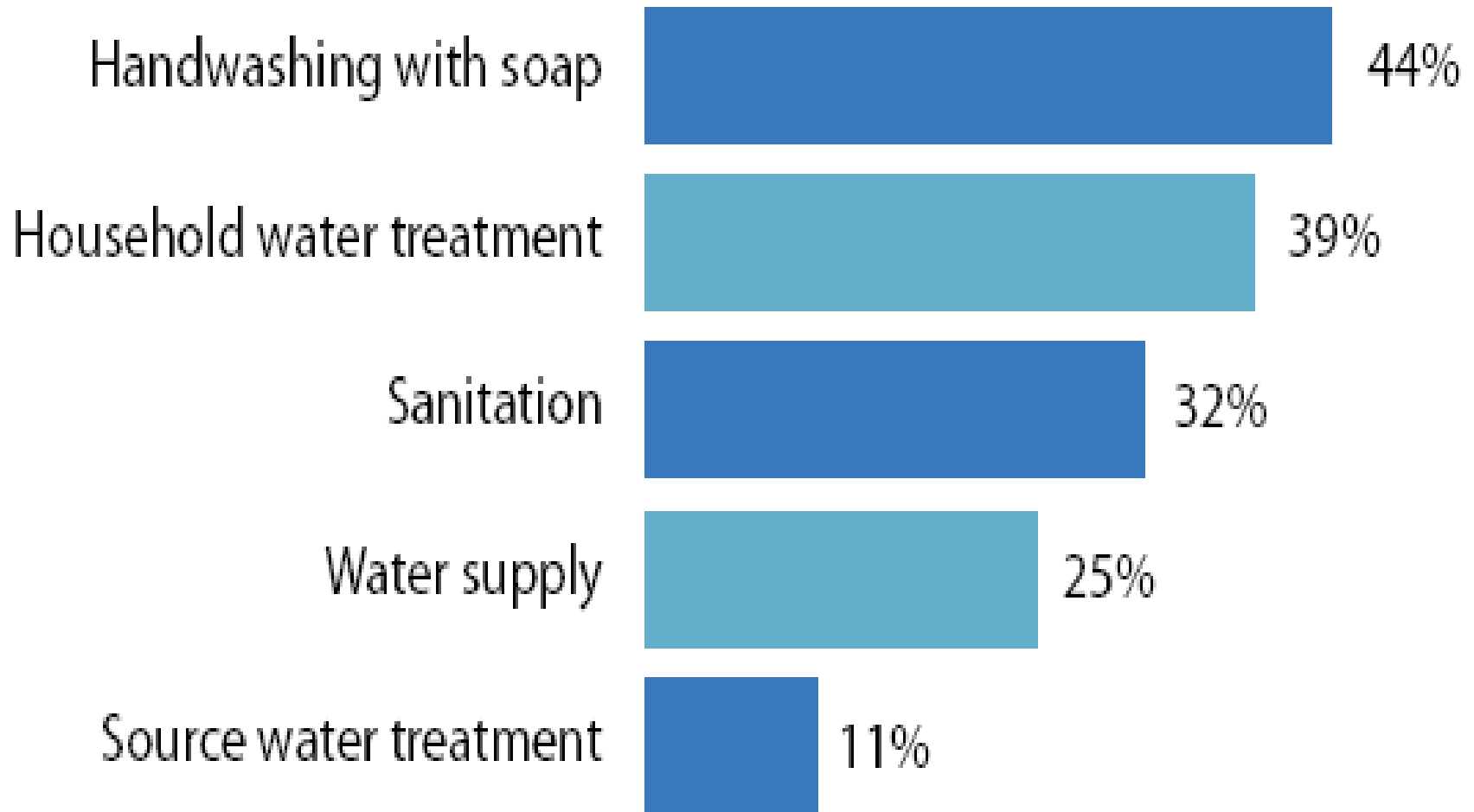- **The National HWTS Strategy**

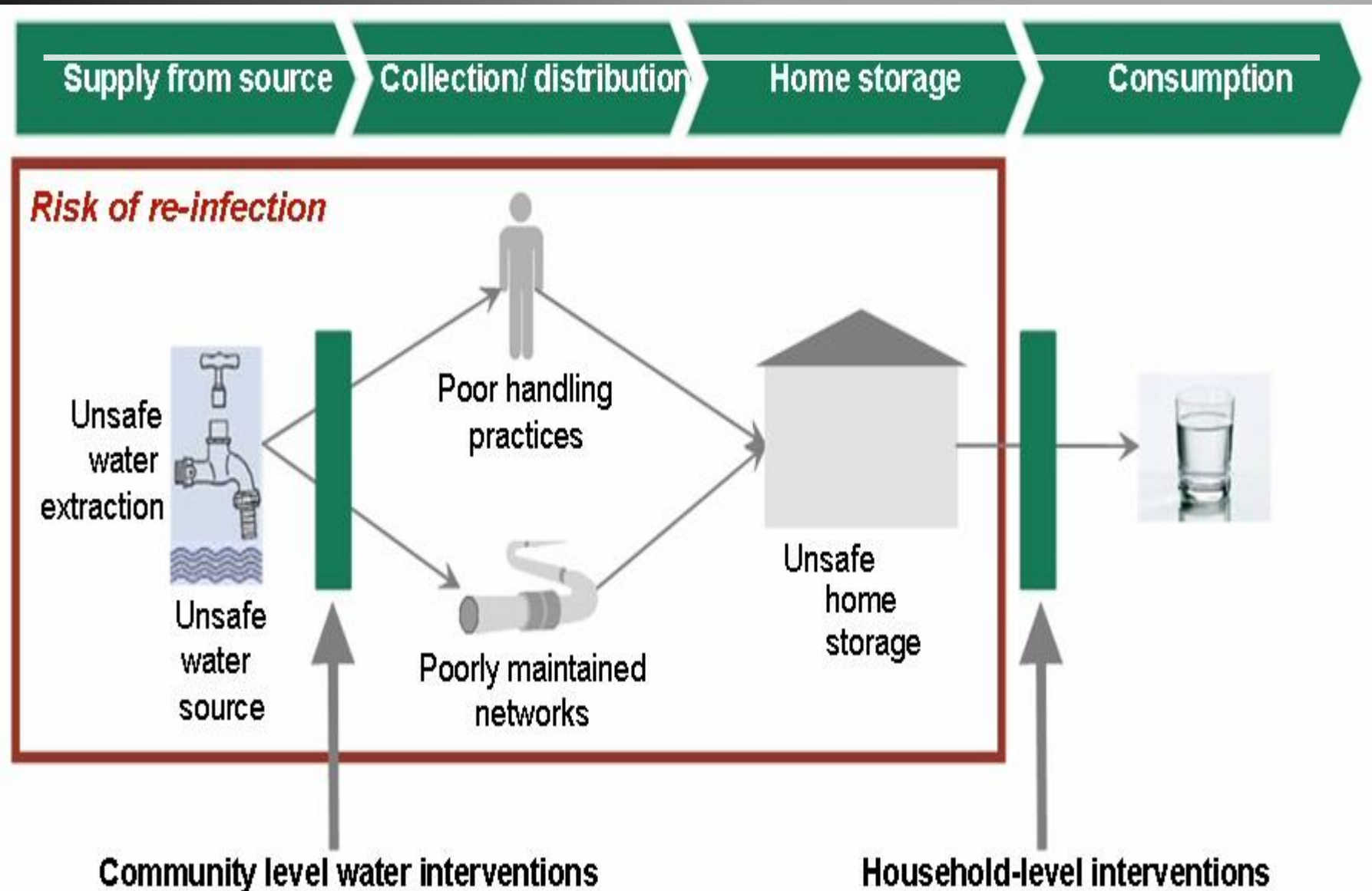- **Implementation: Phase One**

Background

In Ghana;

- **Downward trend in Under 5 Mortality Rate but….**
  - Diarrhoea still 3rd killer disease accounting for 10,000 deaths/yr
  - Periodic Cholera outbreaks in some urban areas and small towns

- **82% use of improved drinking water supply against MDG Target of 78%**

- **Household treatment of drinking water in the regions between <1% to 7% (District MICS 2009)**

- **Boiling is widely HWT practised – subject to re-contamination**

- **HWT for microbiological water quality promising but…**
  - Uncoordinated approaches
  - No strategic implementation to scale

We Need to focus on HWTS because….
Next to HWWS, HWTS is the most effective intervention for reducing morbidity from diarrhoeal diseases *(*if used correctly and consistently over the long-term*)*

Intervention	Percentage
Handwashing with soap	44%
Household water treatment	39%
Sanitation	32%
Water supply	25%
Source water treatment	11%

HWTS addresses contamination from distribution, collection, and storage

Four water treatment technologies are commonly used in HWTS

Disinfection:
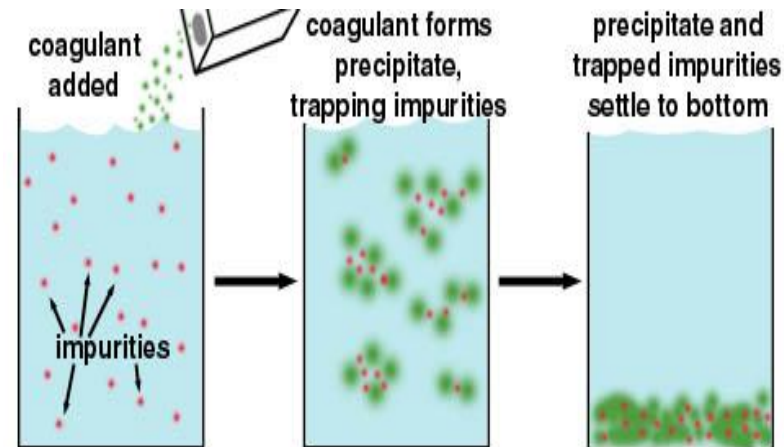- Chemical
- Solar
- Heat – boiling

Filtration:
- Slow sand filters
- Ceramic filters
- Membrane filters
- Bio-sand filters

Chlorination:
- Liquid
- Solid
- Powder

Sedimentation:
- flocculation
- coagulation

coagulant added

impurities

coagulant forms precipitate, trapping impurities

precipitate and trapped impurities settle to bottom

Photos: PSI, Practica, EAWAG, CAWST

Global lessons…

- **HWTS initiatives failure due to inability to address 3 aspects facets of sustainability:**

  - **Economic Sustainability** => **reliance on free/subsidized products** and dependence on external funding – compounded by fact that households with poorest water quality often do not have means to purchase products

  - **Social Sustainability** => difficulty in changing long-standing, hygiene related household **habits** e.g. water storage/treatment, open defecation

  - **Technical Sustainability** => focus on product and product adoption while ignoring maintenance and repair and supply chain deficits

Process of Developing HWTS in Ghana

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Scaled up implementation (2012-2016)
- **WASH programme implementation in 5 regions**
- **Adaptation and use by other sector programmes**
- **Continued national coordination**
- **Monitoring, evaluation, documentation and learning**

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Development of national scaling up strategies (2010-2011)
1. **Rural sanitation model and scaling up strategy;**
2. **National Strategy for scaling up HWWS**
3. **National Strategy for HWTS**
4. **The WASH SPLASH Strategy**

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Evaluations and assessments of key interventions (2009-2010)
1. **Evaluation of CLTS implementation between 2007 and 2009   - 2009**
2. **Assessment of hand washing with soap   - 2010**
3. **Assessment of household water treatment and safe storage   - 2010**
4. **Assessment of 3 key behaviours (SED, HWWS and HWTS)   - 2011**

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Strategic decision of re-packaging WASH into four packages
1. **Enabling environments; 2. Behavioural Change (SED, HWWS, HWTS)**
3. **Water and Sanitation Services; 4. WASH in Emergencies**

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Implementation of HWTS between 2007 - 2011
- **Household intervention for Guinea worm eradication => ceramic/biosand filters**
- **Improved drinking water supply for flood affected households =>ceramic filters/aquatabs**

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Overall national level coordination, partnership and learning
- **Water and Sanitation Sector Working Group – Overall sector coordination**
- **National Technical Working Group on Sanitation – sanitation/hygiene**
- **Technical working groups for HWWS, HWTS and WASH SPLASH**

HWTS Assessment: Findings, Conclusions and Recommendations

Key Findings

- **Policy issues**
  - HWTS not mentioned in the National Water Policy
  - Drinking water quality standards exist but no household water quality regulation
  - Lack of coordination and documentation
- **Perceptions on water quality, treatment needs and HWTS products**
  - 4 attributes of good water quality: clear (without visible suspended solids), colourless, odourless, good taste
  - Water treatment needed to prevent disease and medical costs
  - Chlorine-based tabs are convenient and easy to use and treat large volumes, but not readily available – taste may be an issue in some rural settings *(this may be related to over-dosing)*
  - Some preference for filters => long processing time associated with more thorough treatment

Key Findings Contd

- **Drinking water handling and storage**

  - Collection/transport - mainly plastic and aluminum containers

  - Storage in household – mainly clay pots and plastics

  - Fetching stored water for use often involves dipping hands into water

- **Households prioritisation of HWTS key to determining household affordability of HWTS products**

- **Barriers to sustainable access of HWTS products by low-income pop**

  - Lack of aggressive marketing/promotion

  - Relatively high prices are disincentives to low income segments

  - Poor distribution chains – targets upper and middle income segments of population

Recommendations

- **Position HWTS as a policy priority =>** to reflect government support and facilitate resource mobilisation

- **Establish a regulatory framework for HWTS =>** product safety and performance standards, certification and product labeling system

- **Build institutional capacity for supporting HWTS =>** training on HWTS technology & promotion

- **Establish coordination for HWTS work =>** coordinating committee for integration with other WASH initiatives *(incl. emergencies)*

- **Encourage development and local manufacture of HWTS products =>** simple, acceptable, affordable for low-income and remote population

Recommendations Contd

- **Develop BCC approach and advocacy package for HWTS =>** create awareness, demand (based on evidence), raise funds

- **Establish a phased implementation of HWTS =>** multi-level demand creation, role of social norms, training on technology and promotion

- **Business Approach** required

- **Social marketing should be a key strategy =>** reach the poor, create demand and influence behaviour

- **Research, Monitoring, Policy dialogue and advocacy should be** essential components of country level promotion of HWTS

The National HWTS Strategy

Goal and Purpose

- ## Goal:

  By 2015, of the population of Ghana, **90% is aware and 15% is consistently practicing** effective HWTS methods in a manner that renders the water they use compliant with national standards
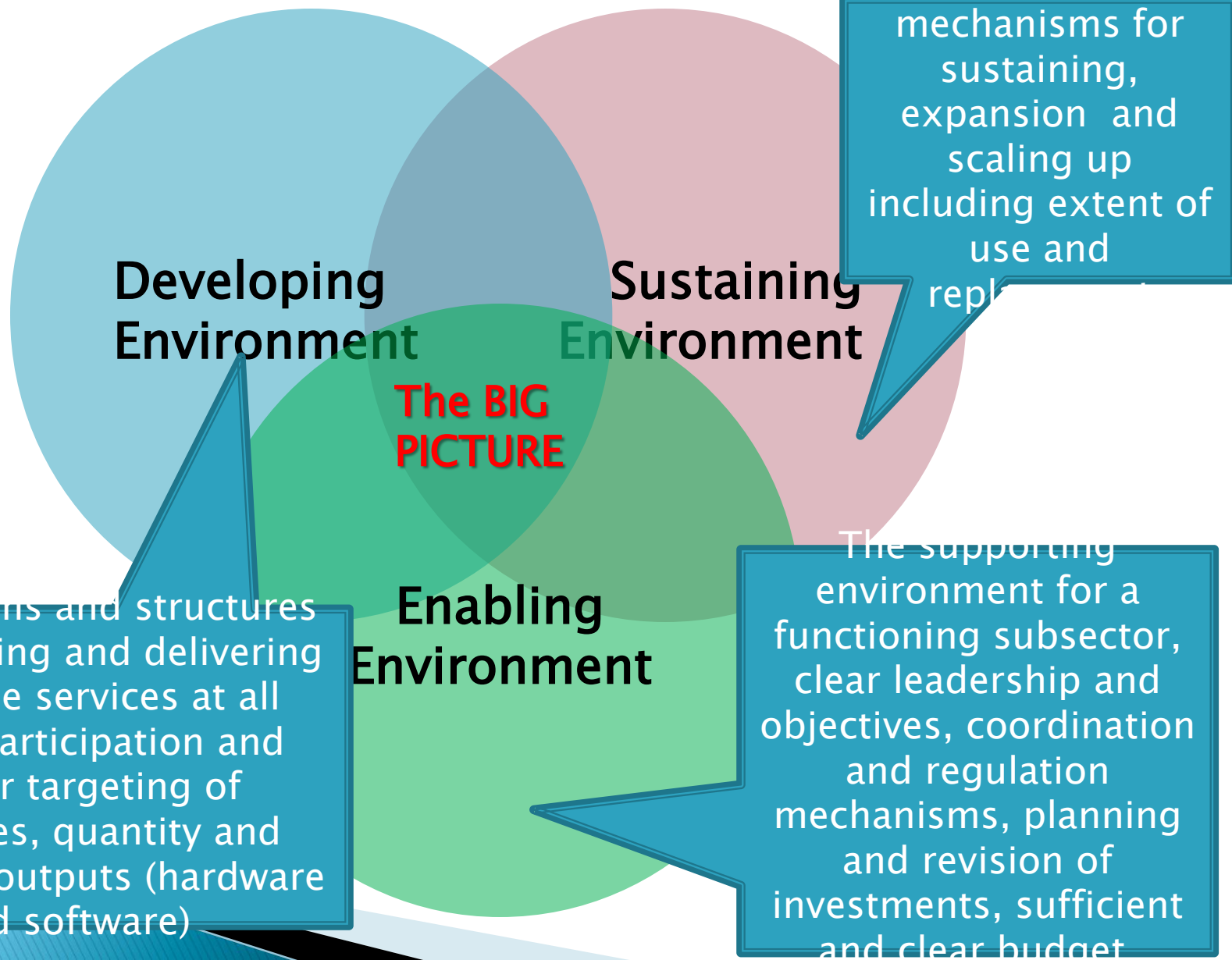
- ## Purpose:

  In furtherance of national strategies for water, sanitation and hygiene, the purpose of the National strategy for HWTS is **to contribute to a measurable reduction in waterborne diseases by encouraging the adoption and long-term use of effective HWTS**, especially by the population segment that does not have access to safe drinking water

Key questions for decision makers

- What are the drivers to create/enhance a vibrant market?
- Are there existing interventions that HWTS can ride on? On what platform is HWTS taking off?
- Integration or standalone?
- Perception versus reality?
- What lessons from projects can be taken to scale?
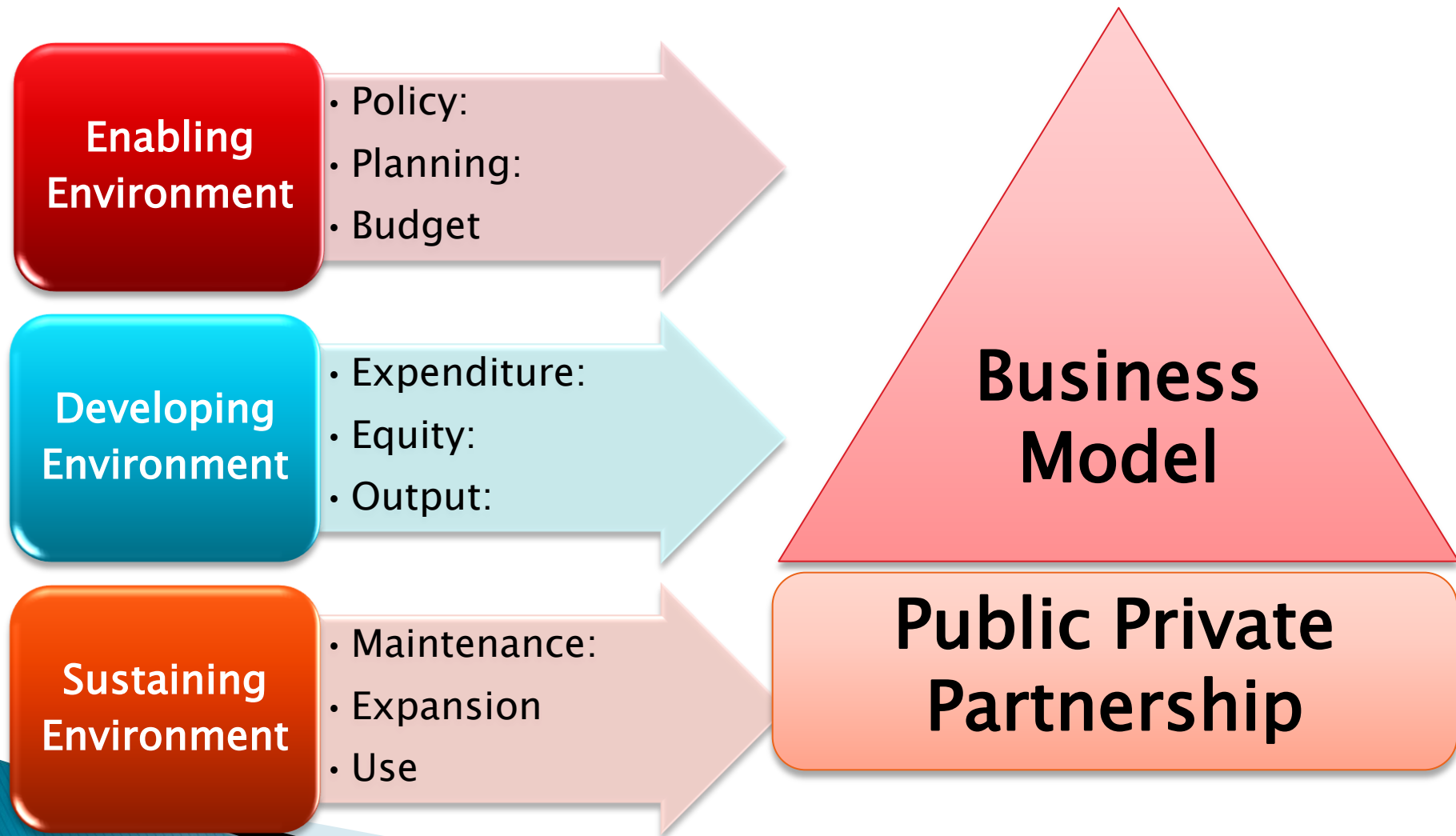- Where is the "home" for HWTS?
- Who funds HWTS?

Moving to Scale – the 3 environments

Developing Environment

Sustaining Environment

The BIG PICTURE

Enabling Environment

mechanisms for sustaining, expansion and scaling up including extent of use and replacement

The systems and structures for procuring and delivering equitable services at all levels, participation and proper targeting of resources, quantity and quality of outputs (hardware and software)

The supporting environment for a functioning subsector, clear leadership and objectives, coordination and regulation mechanisms, planning and revision of investments, sufficient and clear budget

Guiding principles of the HWTS Strategy

- **Health is the primary driver =>** HWTS programs will be considered and evaluated on the basis of their contributions to health
- **HWTS initiatives should follow a demand-responsive approach**, with range of certified methods, products and technologies available to users & users paying for costs
- **All stakeholders should be encouraged to participate** in providing standardized HWTS solutions
- **Culturally-appropriate BCC** should guide user understanding of HWTS *(evidence-based)*
- **Optimal benefits from HWTS** require correct and consistent use over the long term
  - HWTS initiatives should adopt a long-term strategy, and
  - Include follow-up assessments to demonstrate sustained compliance
- **HWTS should be part of a comprehensive strategy** for access to adequate quantities of water, improved hygiene and sanitation

The HWTS Business framework

Enabling Environment
- Policy:
- Planning:
- Budget

Developing Environment
- Expenditure:
- Equity:
- Output:

Sustaining Environment
- Maintenance:
- Expansion
- Use

Business Model

Public Private Partnership

Strategies and Actions

- **HWTS is a policy priority =>** establishing a national strategy

- **A regulatory framework for HWTS =>** product safety and performance standards, certification and product labeling system

- **Institutional capacity building for supporting HWTS =>** establish a leadership body, training on HWTS technology, selection, promotion

- **Improved coordination of HWTS work =>** coordinating committee and integration with other WASH initiatives

- **Development and local manufacture of HWTS technology =>** simple, acceptable, affordable for low-income and remote population

Strategies and Actions Contd

- **Increase understanding of the need for HWTS =>** long term campaign, increase profile of HWTS, establish website for KM

- **Use IEC to build awareness and demand for HWTS =>** high quality, culturally appropriate IEC materials **integrated with other BCC efforts e.g. HWWS & CLTS**

- **Improve the use of HWTS in emergencies =>** compare options based on performance, cost, ease of delivery and acceptability

- **Undertake research which is relevant, practical and rigorous =>** to improve targeting, performance, delivery and adoption of HWTS

- **Secure financial support to implement HWTS =>** budgeting and planning for government and DP support; engage private sector to invest

Institutional Responsibilities

- **Overall Lead – MLGRD/EHSD =>** managing implementation , capacity building, Monitoring and Evaluation, Policy and Strategy development
- **Specific Responsibility of MLGRD/EHSD: collaborate with MWRWH, CWSA, GWCL, GHS, GES/SHEP, NGOs & Private Sector to**:
  - develop and implement HWTS awareness campaigns
  - position HWTS as part of the national WASH strategies
  - review HWTS messages in BCC materials
  - co-ordinate implementation of HWTS
  - regulate HWTS products
  - monitor and assess effectiveness of HWTS solutions based on water quality guidelines
  - establish a Centre of Excellence on HWTS
  - convene and chair a national coordinating committee
  - *(MLGRD, MWRWH, MoH, CONIWAS, UNICEF, WHO, CWSA, NGOs)*

Institutional Responsibilities Contd

- **HWTS TWG** (formed to guide initial strategy development processes will be expanded to include key actors involved)
  - advocacy for policy changes and increased resources (both budgetary and human),
  - mobilization of potential partners, including private sector
  - information exchange and its strategic use at highest levels of decision-making.
 - comprehensive project review and technical support

Institutional Responsibilities Contd

- **Other ministries, departments and agencies**

  - **Ministry of Environment, Science and Technology (Water Research Institute)** => R&D - development of advanced technologies and technology transfer

  - **Ministry of Water Resources, Works and Housing (MWRWH)** => coordinating water policies and strategies, budgets, M&E and water quality

  - **Ministry of Education and Sports (MOES**) => integration of HWTS into hygiene promotion as part of School Health Education Programme (SHEP)

  - **Ministry of Health (MOH)/Ghana Health Service (GHS)** - health promotion to support the Environmental Health Unit

  - **Ministry of Women and Children's Affairs (MOWAC) =>** motivating women's groups in to embrace the HWTS products in the homes and strategic role in monitoring and evaluation on progress and impact on women and children

Implementation Time Frame and Location

- MWRWH/MLGRD will establish a specific schedule to implement HWTS during 2012-2015 and beyond

- **Implementation Phasing:**
  - Phase 1: 2 years in 5 most vulnerable regions: Central, Upper West, Upper East, Northern and Volta Regions
  - **Phase 2 and above:** > 2 years in all 10 regions
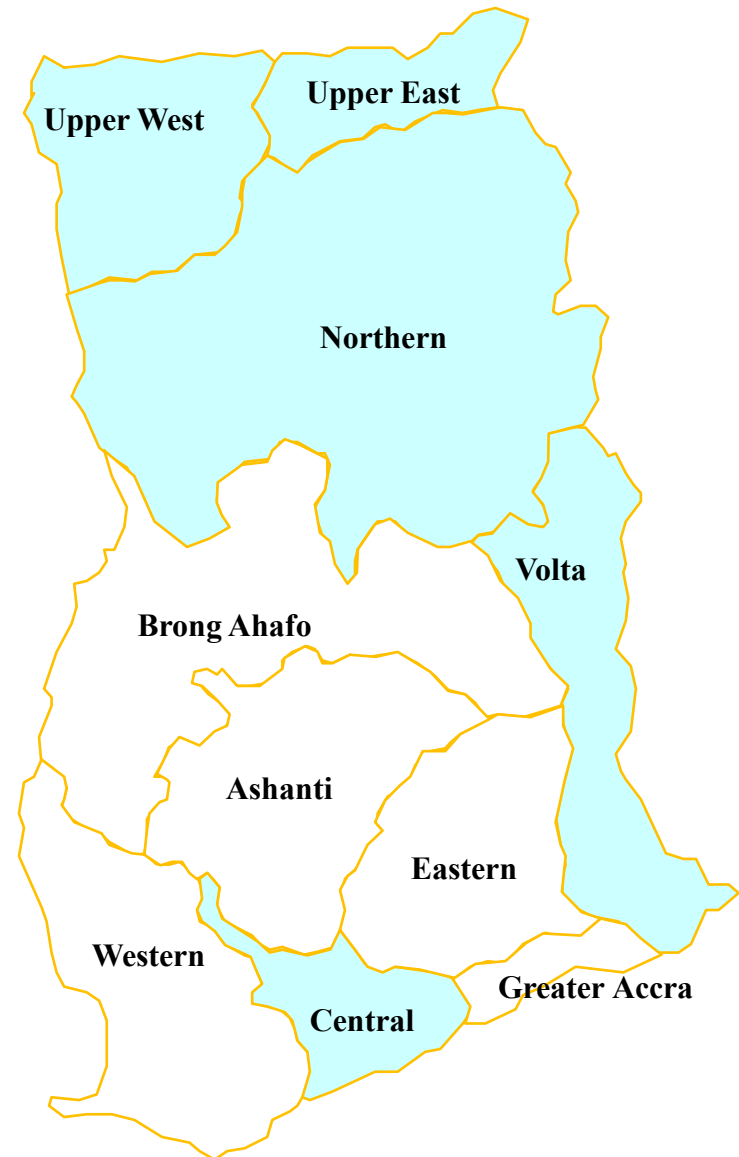
Implementation Phase One

Activity	Actors
Design a Phase 1	TWG
Expand Technical Working Group (TWG) on HWTS	WD/EHSD
Validation and Acceptance of strategy	TWG
Launch the HWTS national strategy	TWG
Market the HWTS national strategy	TWG
Resource Mobilisation for the Phase 1	MLGRD
Roll out Phase 1(up to dissemination of lessons)	All stakeholders
Conduct National Baseline on HWTS	WSMP/MLGRD
Develop communication plans for the pilot project	MLGRD/TWG/ District teams (incl/ NGOs)
Develop a monitoring and Evaluation plan for the pilot with measurable indicators	MLGRD/TWG/ District teams

Implementation: Phase One

Goals and Objectives

- **Goal**
  - To contribute to an overall improvement in family health status and quality of life of the population in the project area

- **Specific Objectives**
  - Reduce barriers to behaviour change and increase uptake and consistent use of HWTS products by the target population
  - Motivate population to seek appropriate HWTS products and services
  - Improve the quality of products and services provided in HWTS and delivery systems
  - Encourage a supportive policy environment for private sector providers of HWTS products

Key Results

- **Result 1:** Improved hygiene behaviour practices with focus on household water treatment and safe storage

- **Result 2 :** Capacity of District Assemblies and other stakeholders enhanced with skills to plan, coordinate, implement and sustain a demand responsive approach for HWTS and hygiene interventions

- **Result 3 :** Increased demand, access to, and use of, sustainable safe drinking water through HWTS for 650,000 people

- **Result 4:** HWTS products delivery and coverage increased.

Project Beneficiaries:

- **Estimated 650,000 people =>** direct beneficiaries from HWTS products & hygiene promotions (targeted based on critical safe water deficit)

- **Populations throughout the regions =>** indirectly benefit from marketing of HWTS products and hygiene promotions

- **Secondary beneficiaries**
  - Private sector involved in sales/O&M of HWTS products
  - Water & Sanitation development Boards (WSDBs) & WATSAN Committees, CBHVs,
  - NGOs, Private Sector, District Assemblies/District Planning and Coordinating Units => experience and technical capacity.

Institutional Arrangements

National Level:

- Overall Management - Environmental Health and Sanitation Directorate
    - Clarification of project management roles and responsibilities at all levels (Gov't, development partners, communities, schools, private entrepreneurs, etc.)
    - National Level Coordination, Monitoring and Policy Guidance

Regional Level:

- Project coordination - built into existing coordination mechanism in Regional EHSD *(part of Regional Coordinating Council)*

District Level

- District Assembly implementation based on District "HWTS Plan" (in line with mandate – through District Inter-agency Coordinating Committee (DICC) mechanism – facilitation and co-ordination, particularly of service delivery by NGOs and Private Sector

Community level

- WATSAN Committees and WSDBs- represent communities & encourage, educate and motivate on HWTS
- Community members - decision making on technologies, roles & responsibilities

Monitoring and Evaluation

- **Monitoring and Evaluation Plan**
  - *monitoring indicators and mechanisms for integration into existing sector M&E system*
  - *strategies & indicators - "key desired results" at district, school and community levels.*

- **Regional level monitoring**– Regional Planning & Co-ordinating Units (lead by Regional EHSD)

- **District level monitoring -** District Water and Sanitation Teams/ Delivery Project Delivery Teams - WATSAN mapping tools
  - *Incorporate HWTS indicators into District Monitoring and Evaluation Systems (DiMES)*

- **Community level monitoring** – WATSANs & WSDBs
  - *Based on simplified indicators - diarrhoeal cases , water treatment practice etc.*

- **Quality Assurance – Key Issues considered**
  - *Implementation Quality – MLGRD & implementing DAs*
  - *Product Quality - Statutory mechanisms- Standard's Board, Research Insitutions*

- **Annual review of implementation; evaluation last quarter of 2nd year**

Thank You