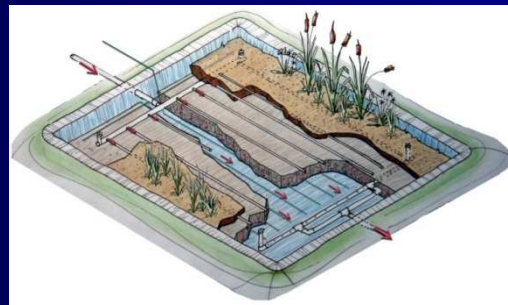




Wetland Waste Water Treatment Plants as a Best Practice for Rural Settlements on Impervious and Semi Impervious Soils in Saint Lucia



**LaVerne Walker
&
Cornelius Isaac**

June, 2010

Location of Saint Lucia



GEF-IWCAM SLU Demonstration Project

■ OBJECTIVE:

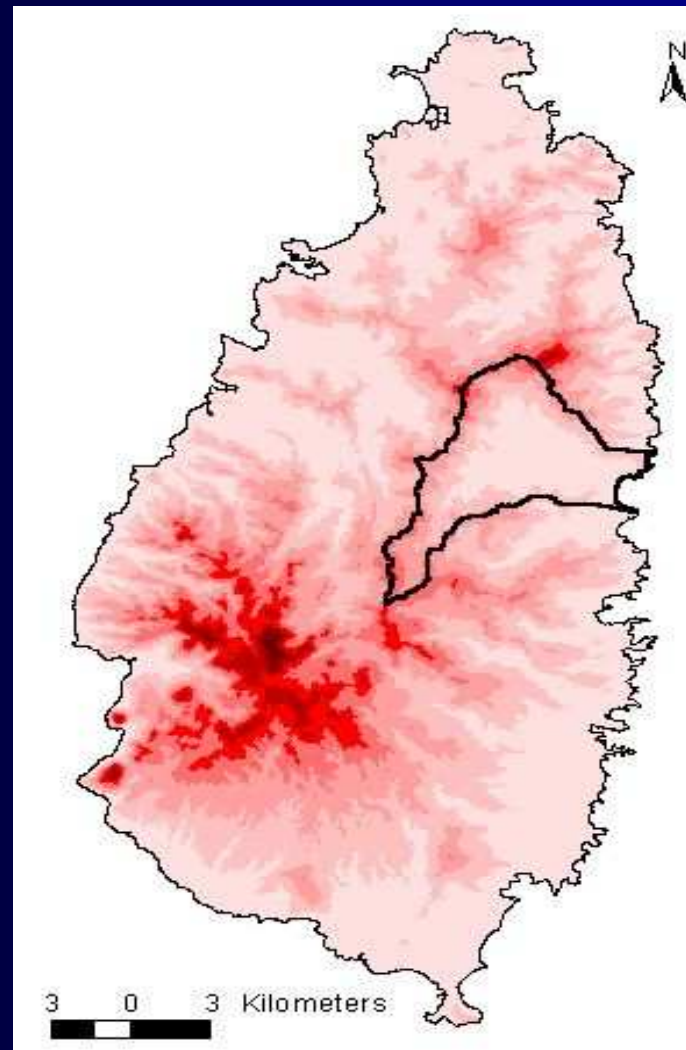
The development of a model approach to participatory watershed management In the Fond D'Or watershed

■ DELIVERABLES:

- Establish a participatory watershed management model,**
- Develop mechanisms for sustainable natural resource management,**
- Capture lessons in policies, legislation and management strategies,**
- National and regional Replication**

■ Duration – 3 years

Project Site



Some Uses of the River

The way we use the river

Bathing



The way we use the river

Laundry



The way we use the river

Farming



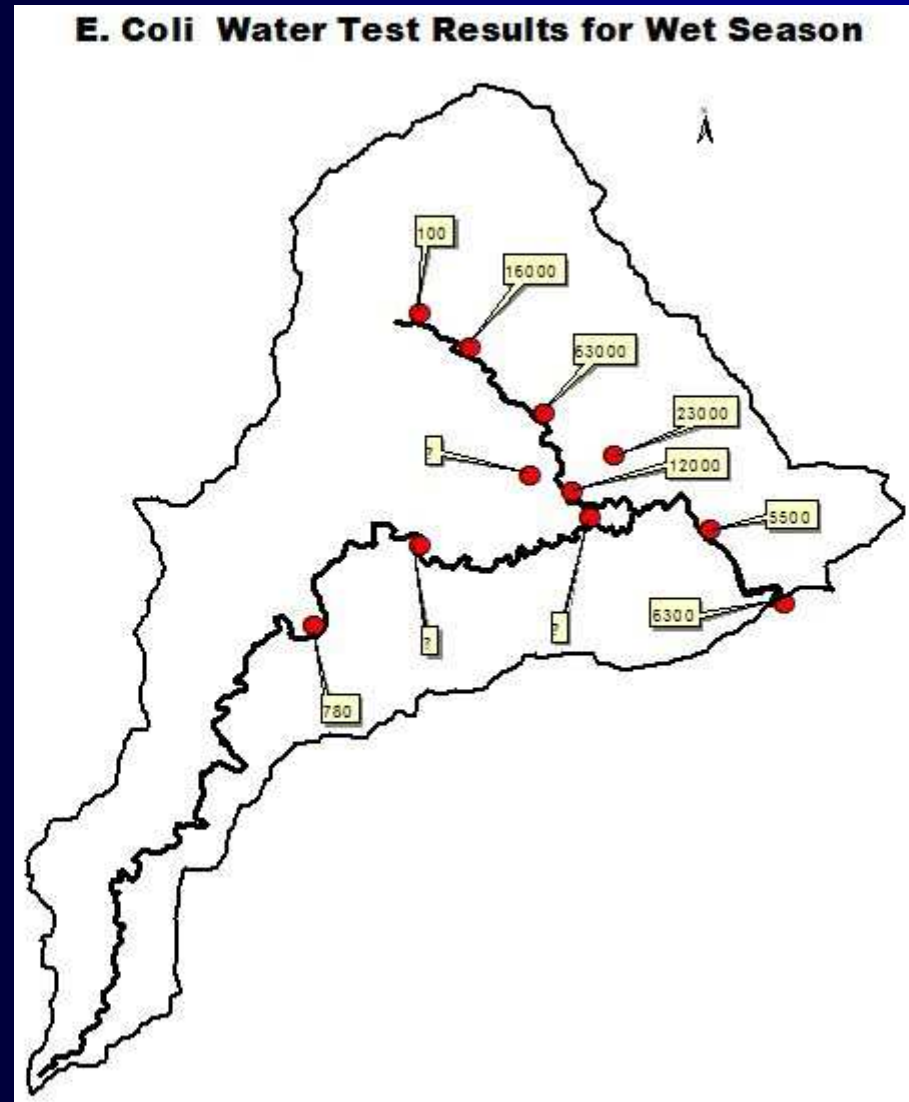
THE WAY WE USE THE RIVER

Potable Water Supply



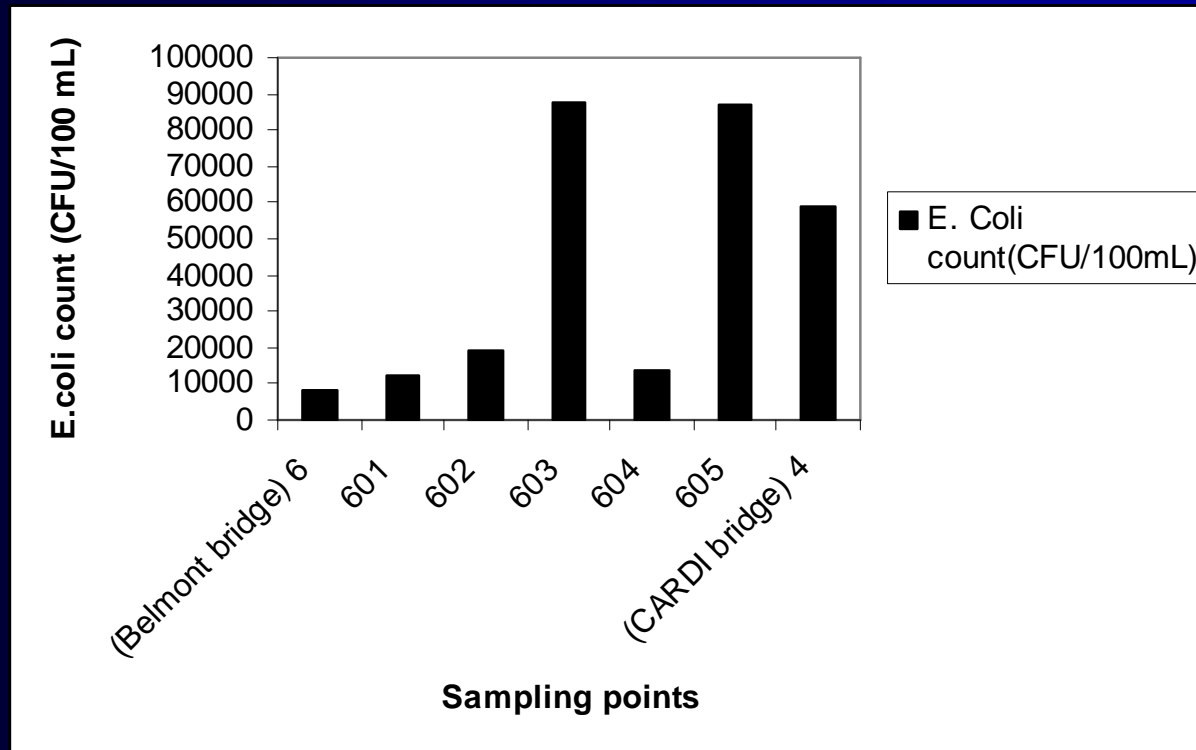
Project Activities & Results

■ River Water quality Monitoring



Project Activities & Results

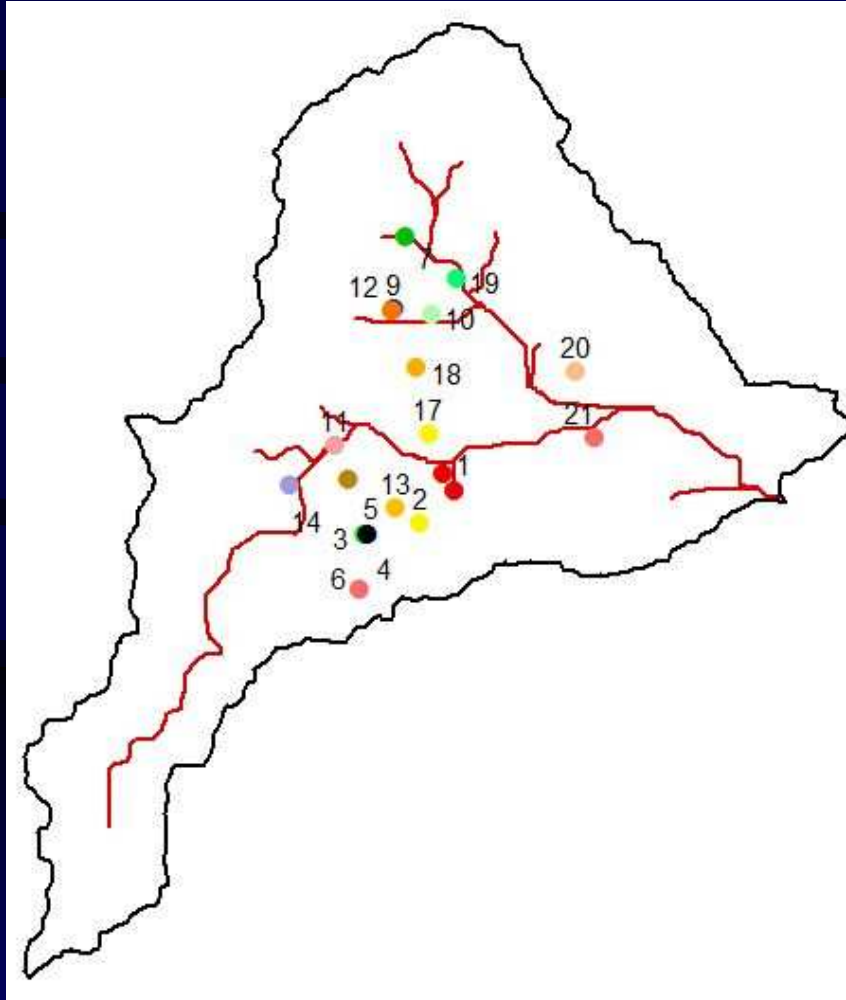
■ River Water quality Monitoring



The background is a dark blue gradient with several wavy, lighter blue lines flowing from the top left towards the bottom right. A thin, horizontal, slightly glowing blue bar spans across the upper portion of the slide.

Sources & transport of pollutants affecting river water quality

The Pig Pens



Soil profile

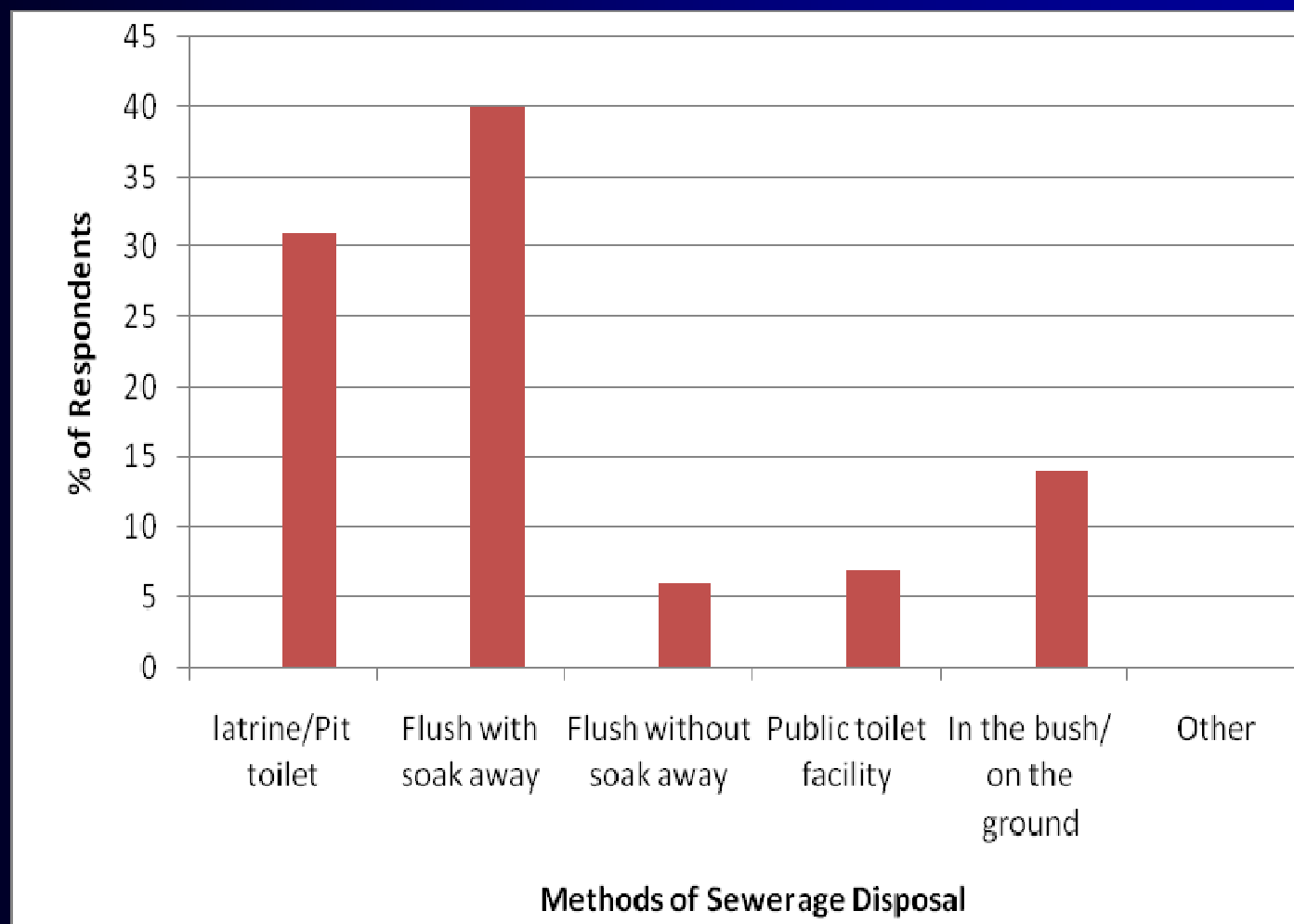


The settlements



The settlements

State of sewerage management



**Constructed Wetland –
Waste Water Treatment Project**

WWT Demonstration Subproject

- **OBJECTIVE:**

- To demonstrate a practical method to improve water quality, sanitation and health in a densely populated community.
- To allow for better use of water for irrigation and recreational activities.

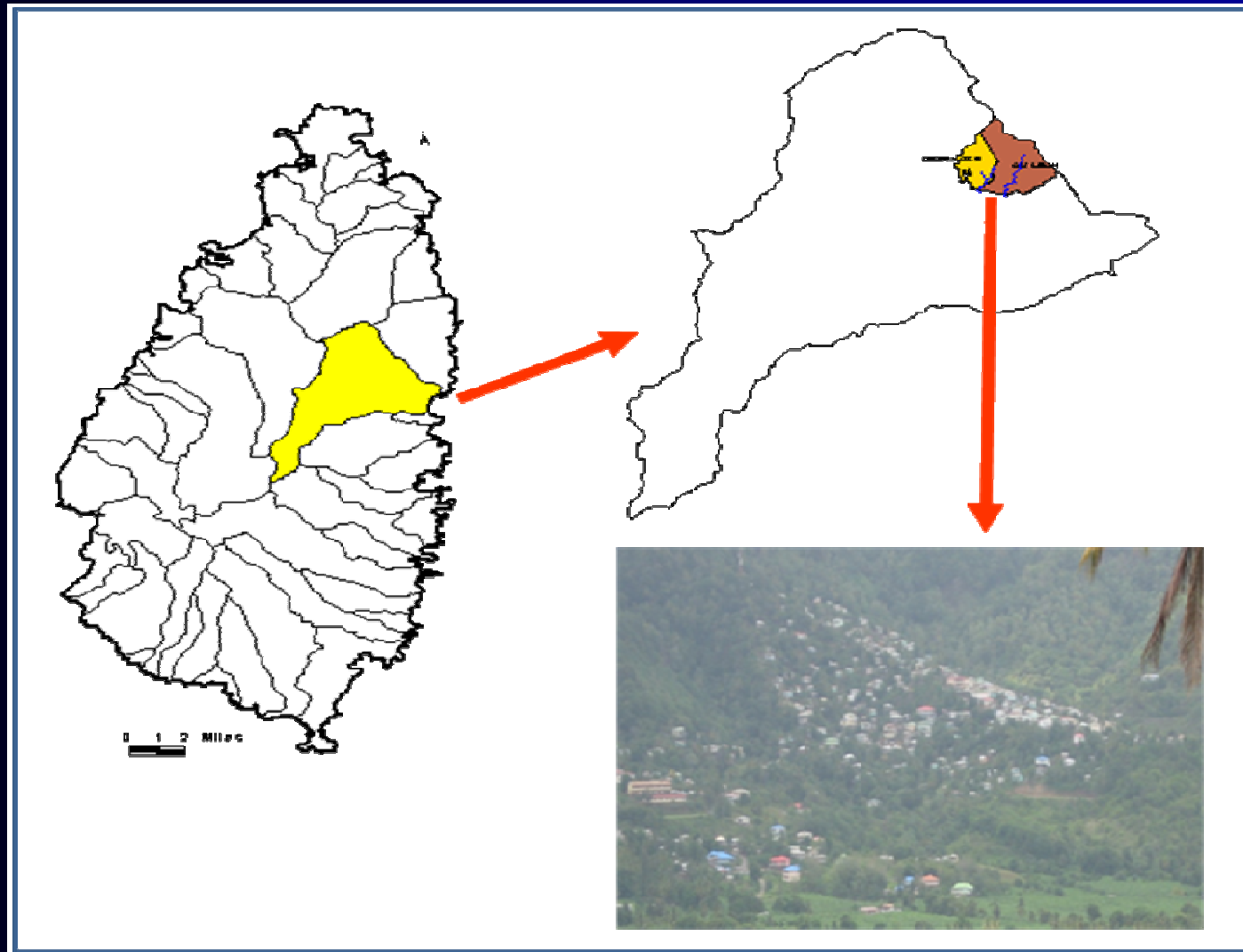
- **DELIVERABLES:**

- Assessment of pollutants
- Survey on Sewerage Management within Au Leon
- Promotion of Septic Tank Technologies
- Construction of Demo Waste Water Management Systems

- **Partners: 8**

- **Total Cost – USD \$12,000 (Funded by UNEP-CAR/RCU)**

WWTS Project area



WWT Demonstration Subproject

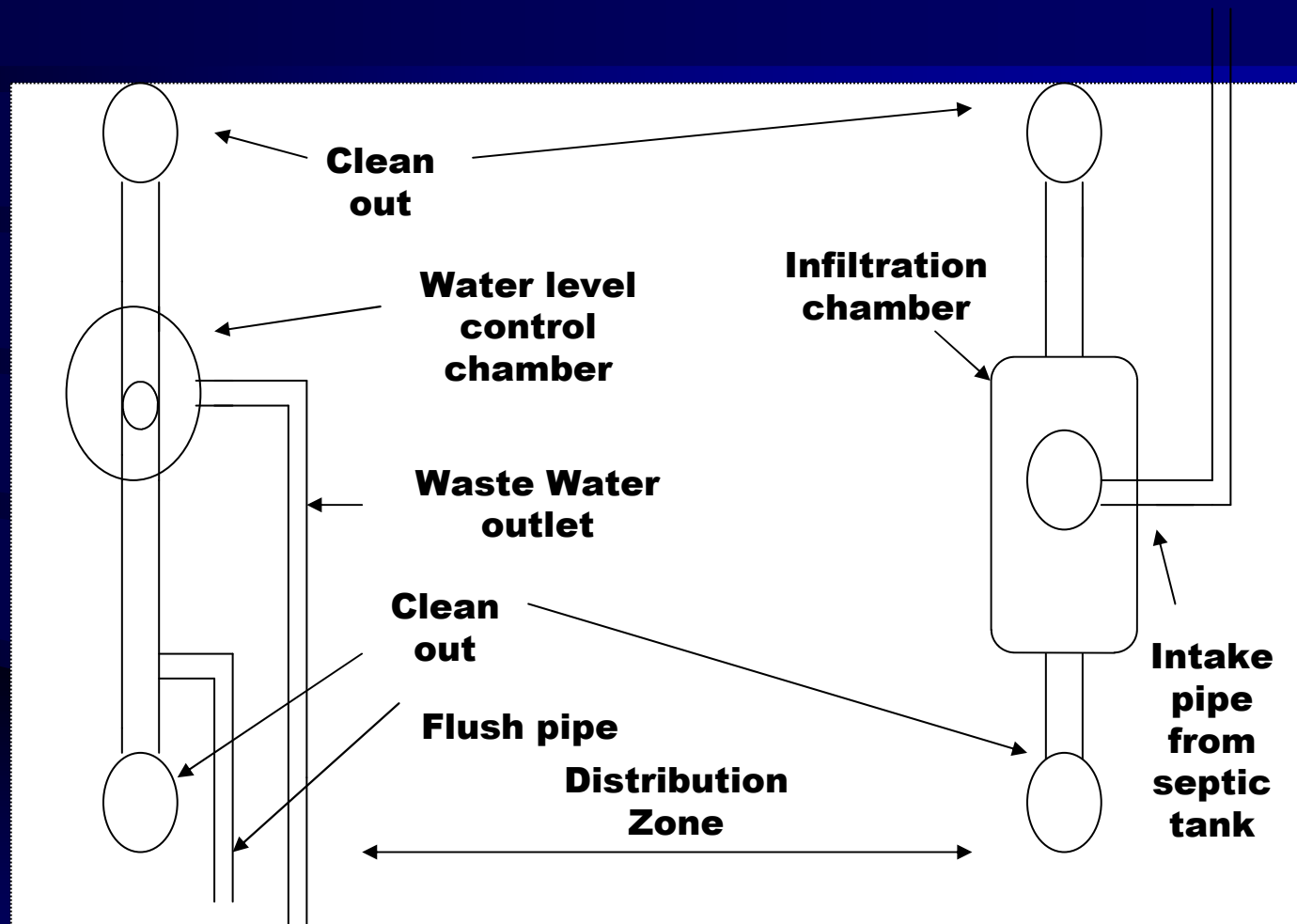
Partners:

- GEF-IWCAM Demonstration Project, Saint Lucia
- Ministry of Health
- University of Vermont
- Eco Solutions LLC
- Engineering Unit, Ministry of Agriculture
- Au Leon Constructed Wetland Project Committee
- Forestry Department
- Sustainable Development and Environment Section



WWT Demonstration Subproject

Basic Design



WWT Demonstration Project

Technology Adaptation



WWT Demonstration Subproject

Construction Phases



WWT Demonstration Subproject

Performance

Parameters	Acceptable Limits	Results		
		17-06-09	15-09-09	09-12-09
Faecal Coliform (CFU/100ml)	200	1,800	1,300	<10
BOD5 (CFU/100ml)	30	88	8	12

BOD - Biochemical oxygen demand

- The amount of dissolved oxygen consumed in five days by biological processes breaking down organic matter.
- A measure of the organic content of wastewater.

Status of Constructed Wetlands

- Four wetlands constructed
 - Three operational
 - Two private household
 - One public establishment
 - Presentation to the Development Control Authority

Conclusions

- **The source & type of waste needed to be clearly identified**
- **The solution to the problem needs to be appropriate.**
- **The system's effectiveness has to be assessed before replication.**
- **Involvement of the community was critical to successful implementation of the project;**
 - **The needs assessment**
 - **Sensitization and technology transfer**
 - **Ownership of the initiative**
 - **Sustainability.**

Thank You



Hedychium coronarium Koenig
(Lavand)