Effective stakeholder participation in IWRM and ecosystems approach

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Research question

• Is there a relationship between adopting IWRM principles and functionality of water points?

• How much of an influence does Permaculture - Reuse of waste water have on Ecosystem and functionality
The Project Area
Chikwawa District:
• Rural district, pop. 434,000 people.
• Majority subsistence farmers living on < US$0.50 per day

Specific Traditional Authority
Chapananga (100,000 people)
The Problem

- Drought and floods, Climate change
- Food insecurity
- Stagnant water
- 36% of water points non functional in T.A Chapananga
- 25% of all waterpoints are not functional at any given point in Malawi
- Reasons for non-functionality include:
  - Maintenance funds availability
  - Lack of community ownership
**Intervention + IWRM Principles**

**Intervention**

Introduced Localised IWRM principles

**The IWRM Principles**

- Water is an infinite resource-
  promoting (permaculture) borehole waste water reuse
- Active Stakeholder Engagement at all levels
- Women Involvement- in decision making positions (60% of the water point committees)
- Water is both a social and an economic good
Research Methodology

- Field work: Chikwawa District, Traditional Authority Chapananga, Kakoma Health Clinic Zone, 115 water points observation and user interview, 115 Water Point Committee representative interviews
- 3 in-depth interviews with IWRM adopters (2 in the intervention area, 1 outside the intervention area)
- 3 in-depth interviews with non IWRM adopters (2 in the intervention area, 1 outside the intervention area)
RESULTS: Overall IWRM Impact
n=115

<table>
<thead>
<tr>
<th>IWRM Adaptors</th>
<th>Functional water points</th>
<th>Non Functional Water Points</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of IWRM adaptors</td>
<td>41</td>
<td>0</td>
<td>100%</td>
</tr>
<tr>
<td>No of Non IWRM adaptors</td>
<td>48</td>
<td>26</td>
<td>64.9%</td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>26</td>
<td>77.4%</td>
</tr>
</tbody>
</table>

Map showing the area under study and the surveyed sites
# Functionality of water points vs availability of permaculture garden

<table>
<thead>
<tr>
<th>Water point with a permaculture garden</th>
<th>No of surveyed water points</th>
<th>Functional water Points</th>
<th>Non Functional water points</th>
<th>Functionality Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>36</td>
<td>36</td>
<td>0</td>
<td>100%</td>
</tr>
<tr>
<td>Water point without permaculture garden</td>
<td>79</td>
<td>53</td>
<td>26</td>
<td>67.1%</td>
</tr>
<tr>
<td>Total</td>
<td>115</td>
<td>89</td>
<td>22.6%</td>
<td>77.4%</td>
</tr>
</tbody>
</table>
Benefits

• Habitat for ecosystems
• Mitigates Malaria and other diseases
• Generates income for Pump operation and maintenance
• Re-use of water otherwise wasted
• Allows biodiversity
• Perennial source of Food
• Increases sustainability of the water resources
• Potential for economic development (over 2000 water points in CK)
• Strengthens social capital
Conclusion:

It can be concluded that there is a relationship between practicing IWRM and ecosystems approaches and functionality of water points/resources. Where IWRM and Ecosystems approaches are integrated, there is high probability that the water resource would be sustainable as it also plays as a habitat for ecosystems.
Thank you for listening