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Name :

School :

Candidate number :

Center number:

Subtopic : Scarcity of water

Level : Form 4

Project title : Scarcity

STAGE 1: Problem Identification

The scarcity of water is a pressing issue in Zimbabwe, exacerbating economic challenges, impacting agriculture, industry, and human consumption. Erratic rainfall patterns, inadequate infrastructure, and increasing demand contribute to this problem.

Description of the problem

Water scarcity leads to decreased agricultural productivity, industrial disruptions, and heightened competition for this finite resource, threatening economic stability and livelihoods.

Brief statement of intent

I intend to Implement sustainable water management strategies, promote efficient use, and invest in infrastructure to mitigate scarcity impacts using fliers and posters

Design/Project specification

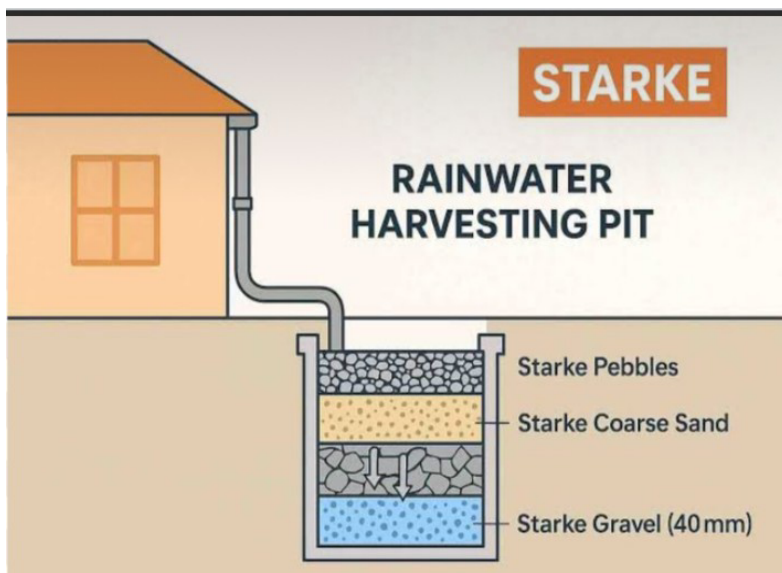
- Assess current water usage patterns and infrastructure

- Identify cost-effective conservation measures
- Develop community-based water management initiatives

STAGE 2: Investigations of Related Ideas

Three existing ideas to address water scarcity:

1. Rainwater Harvesting



Capturing and storing rainwater for agricultural and domestic use

Merits

- . Reduces reliance on erratic supplies
- . low-tech solutions
- . Community-driven

Demerits

- . Limited storage capacity
- . Contamination risks
- . Seasonal dependency

2. Water Pricing Mechanisms

Economic incentives to reduce water consumption



Merits

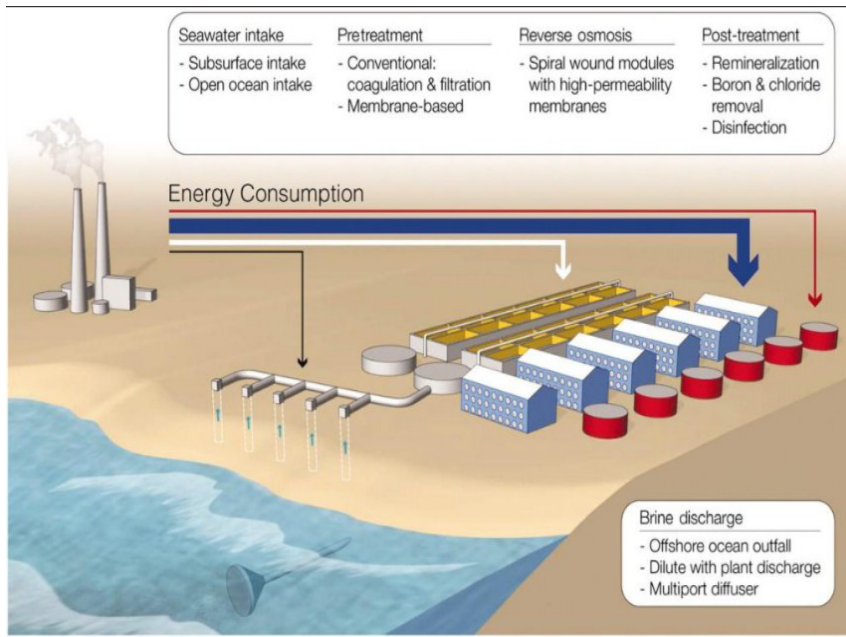
- . Encourages conservation
- . Generates revenue for infrastructure

Demerits

- . Potential inequity
- . Resistance from users
- . Administrative challenges

3. Desalination Technologies

Treating brackish or seawater for potable use



Merits

- . Diversifies water sources
- . Scalable
- . Reliable

Demerits

- . High energy costs
- . Environmental impacts
- . Capital-intensive

STAGE 3: Generation of Ideas/Possible Solutions

Three possible solutions:

1. Community-Led Water Conservation

Merits

- . Empowers local communities
- . Promotes sustainability

Demerits

- . Requires coordination
- . Potential free-rider issues

2. Investment in Water Infrastructure

Merits

- . Improves access
- . Reduces losses
- . Supports economic growth

Demerits

- . High upfront costs
- . Maintenance challenges

3. Water Recycling and Reuse

Merits

- . Reduces demand on freshwater sources
- . Environmental benefits

Demerits

- . Public acceptance issues
- . Treatment costs

STAGE 4: Development/Refinement of Chosen Idea

Chosen idea: Community-Led Water Conservation

Justification

- . Empowers communities
- . Promotes sustainable practices

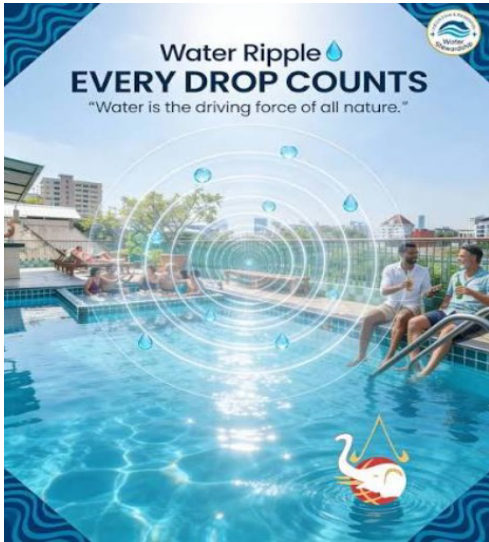
Refinements

1. Establish local water committees for management
2. Implement awareness campaigns on conservation
3. Develop tailored, low-cost conservation technologies

STAGE 5: Presentation of the Final Solution

Presentation : Posters, fliers, and a multimedia presentation outlining community-led conservation strategies, including:

- Community engagement approaches
- Conservation techniques
- Monitoring and evaluation frameworks



Pillars of Community Led Water Security

<p>Water Literacy</p> <p>Educating communities via workshops, plays & school Programs.</p>	<p>Reviving Old Water Systems</p> <p>Rebuilding tanks, stepwells, check dams, & ponds with community help.</p>	<p>Water Efficient Practices</p> <p>Promoting micro-irrigation, crop diversity etc to reduce water waste.</p>	<p>Women Inclusion</p> <p>Empowering rural women in water governance boosts inclusion & sustainability.</p>	<p>Institutional Synergy</p> <p>Coordinated efforts among communities & institutions enhance water security.</p>

STAGE 6: Evaluation and Recommendations

Relevance to statement of intent: Community-led conservation addresses scarcity through sustainable use.

Challenges encountered

- . Coordination
- . Funding
- . Behavioral change

Recommendations

- . Secure stakeholder buy-in
- . Provide training
- . Adapt approaches to local contexts.

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