Sustainable Use of Water Resources – Role of Environmental Education and Gender Roles

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Outline of Presentation

Introduction to the KaR Project in Northeast Brazil in the context of drought risk management

Sustainable management of land and water resources

Gender roles in sustainable resources management

The role of environmental education

Lessons learned and conclusions
Project Goal
*Poverty reduction in water scarce areas through sustainable use of land and water resources*

Project Purpose
*Building capacity of rural communities to achieve sustainable use of land and water resources*

• Empowerment and participation in the management process
• Reduce vulnerability to stress (particularly drought)
• Reduce harmful impacts of inappropriate management
KaR Project

The Project region is NE Brazil, specifically the State of Pernambuco, which has a climate ranging from tropical along the coast to semi-arid in the interior.
## The Curse of Drought and Poverty

| Drought → Failure of rainfed crop → Alternative income from charcoal production → Deforestation → Soil erosion and reduced water retention → Increased risk of crop failure → Out migration |
| Drought → Government intervention → Irrigation equipment → Dependency → Marginalisation of traditional knowledge and practices → Overuse of resources → Out migration |
| Irrigation → Limited resource → No responsibility for water management → Take what you can get |
The Challenge: Coping with Water Shortage and Surplus

November 2003

February 2004
Sustainable Resources Management

Basic Principles

1) Community knowledge of land and water resources
2) A people partnership with strong community organisation
3) Empowerment of women to promote gender balance
Gender Roles in Sustainable Resources Management

Traditional roles

• Men are responsible for water use in agriculture
• Women are responsible for water for domestic use
• The role of women is often less visible than that of men
• Women become important income providers during droughts
Promoting changes in gender roles

- The contributions of women and men should be considered as being of equal importance
- Active involvement of women in the management and decision making process
- Through environmental education establish a dialogue of knowledge between women and men
- Account for gender differences so that the role of women becomes more visible
The Role of Environmental Education

Aims

1) To improve awareness and knowledge

- Catchment hydrology and the need for community based decisions about water
- Methods for water harvesting, water storage and issues of water quality and health
- Techniques of land management to improve water resource use and retention
- Appropriate ways of monitoring and interpreting the data to regulate water use
The Role of Environmental Education

Aims

2) To focus on land and water in the context of rural life

• Building awareness that rural life is viable once climate related vulnerabilities are dealt with

• Avoid the reliance on education models based on the urban model of life
The Role of Environmental Education

Aims

3) To make it inclusive

- Participation of farmers and health agents as supply teachers
- Emphasis on the importance of local knowledge of resource utilisation and management
- Participation of students in resources monitoring and processing of data
The Role of Environmental Education

Aims

4) To promote gender equity

• Emphasis on the importance of the role of women in the dissemination of knowledge
• Giving visibility to women’s roles in the context of resources management
• Involve both men (farmers) and women (teachers and health agents) in the education process
Introduction of the Programme

- Themed workshops on sustainable water resources development
- Meetings with local education authorities and teachers
- Training of teachers, health agents and farmers
- Preparation of educational material
- Installation of low cost monitoring facilities
- Trial implementation at ten rural schools
- All above with full participation of community members
Some of the artwork prepared by school children and included in the Environmental Education textbook

- Community empowerment
- The trauma of out-migration
- Monitoring of evaporation and rainfall
The Outcomes of the Programme

- Established low cost monitoring facilities managed and maintained by the communities
- Appreciation of the need for and benefits of environmental education and monitoring
- Active involvement in monitoring activities, data analysis and dissemination
- Implementation at rural schools in three municipalities
Lessons Learned

- Environmental education focused on land and water in the context of rural life contributes to sustainability of action.
- This successful action can easily be replicated.
- Involvement of farmers in environmental education gives recognition of their traditional knowledge.
- The programme leads to enhanced understanding of land and water resources.
- Sustainability can not be achieved unless women and men work together.
- Land and water management should become part of women’s and men’s daily life.
Conclusions

• Full participation of community members leads to ‘buy-in’

• The inclusion of monitoring generates data needed for understanding of resources

• Introduction of water governance to the younger members of the communities builds appreciation of the need for sustainable management

• Accounting for gender differences leads to more equitable gender relations

• The contributions from high level scientists gains importance only when translated into ‘local language’
Top down?

The Giant

An empowered partner

Or Bottom up?

Are we ready?

A partnership

The communities