Water for Health and Wealth: Multiple-Use Water Services in Niger and India

MUS Cost-benefit Workshop

Leiden, Netherlands

February 23, 2010

Bill and Melinda Gates Foundation

Multiple Use Water Services for the Poor: Assessing the State of Knowledge

Final report

December 2007

It's on the internet:
www.winrockwater.org

Winrock International
IRC Water and Sanitation Centre
International Water Management Institute

Water for Health and Wealth: Goal and Objectives

Goal: Introduce multiple-use water services that enable poor rural households to achieve sustainable and equitable improvements in access to water, income, livelihoods and hygiene.

Objectives:

- **Water**. Access to water for domestic and productive uses
- **Income & Livelihoods**. Increase participating smallholders' annual household incomes and livelihoods from livestock, horticulture and small scale enterprises
- **Health**. Increased access to safe drinking water, hygiene and sanitation promotion
- **Learning (replication/policy)**. Catalyze a supportive environment for MUS learning, replication, and scale-up

Partners

Naandi

WINROCK INTERNATIONAL
Putting Ideas to Work

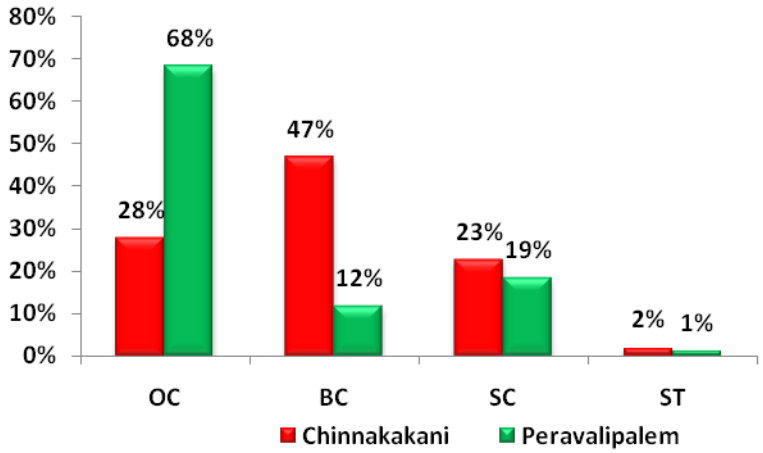
The Coca-Cola Foundation

USAID
FROM THE AMERICAN PEOPLE

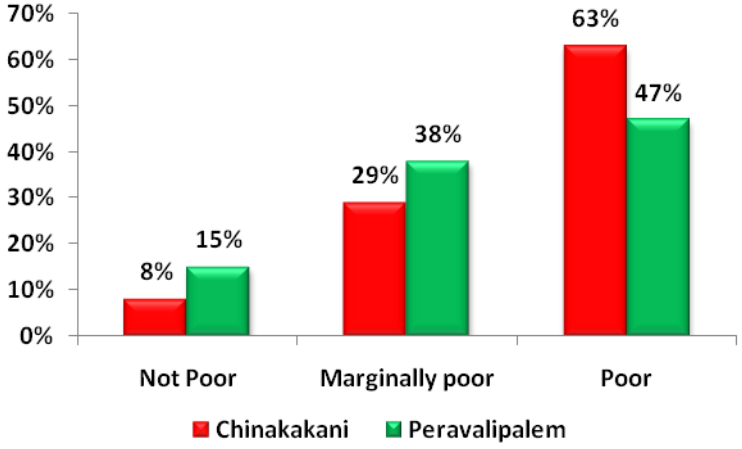
WAWI
West Africa Water Initiative

Guntur, AP, India: Background

Communities Profile

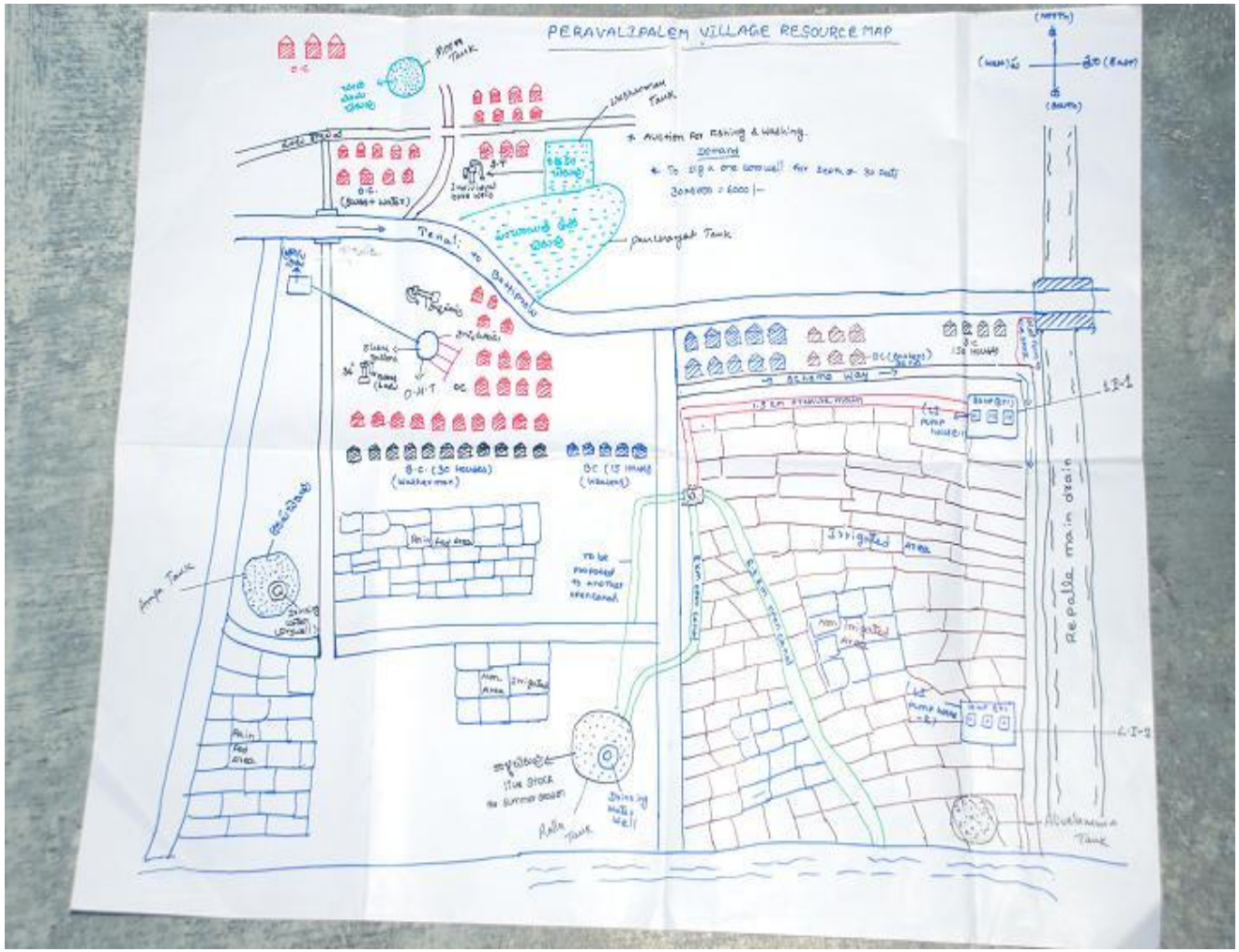


Wealth category



Livelihoods Profile

Water: Mapping Multiple-Sources, Uses and Users



Water: Mapping Multiple-Sources, Uses and Users

Water Resource Mapping -ChinnaKakani village (1200 HHs)													
S/No	All available Sources	Number	Availability of Sources										Uses
			In Hours							In Months			
			1	2	3	6	9	12	24	3	6	9	12	
A	**Rural Water Supply (RWS) - by the Govt**													
1	HH Tap connections from OHT	500												C +OD +P
B	**Panchayat Provisions**													
1	Community Hand Pumps with borehole	30												OD +P
2	Community Open Wells	20												OD
3	Tanks	2												C + OD +P
C	**Private Ownership**													
1	Hand pumps													
2	Open Wells	100												OD
D	**Common sources**													
1	Canals	2												C + OD + P
2	Lift Irrigation scheme	2												P

Source availability

Water: Lift Irrigation

Lift Irrigation:
It is a method where water is mechanically lifted from streams, rivers & other water bodies through centrifugal pumps and channelized into the farms

Water: Lift Irrigation rehabilitation

Electrical Repairs

Repairs to Panel Board

Repairs to Pressure Main

Water: Lift Irrigation rehabilitation

Repairs to Pumps and Motors

Civil Works

Repairs to intake well

“Build, handhold, and transfer”

- first brining water to the field : putting physical infrastructure in place
- Ensuring community contribution before the start of project
- Strengthening of Farmers societies
- Creation of systems for irrigation and financial management
- Creation of system for repair and maintenance
- Developing a local cadre of para-professionals

Water: Lift Irrigation rehabilitation

- Net Irrigated area has been increased by 88%

- 50% of the net irrigated area brought under cultivation in second crop

- Percentage of Wet crops in total copped area has reduced from 48.8% in 2003-04 to 36.2% in 2007-08 and commercial crops has slightly increased from 21% to 27.5%.

- Additional agricultural wage employment generation has led to 54% reduction in out migration

- 85.3% increase in average annual net income per household from agriculture.

Water: Lift Irrigation rehabilitation

No of schemes	65
No of Households	10000
Investment (Rs. In millions)	48
Potential Area (Acres)	25000
Area Before Revival (Acres)	3000
Area After Revival (Acres)	22000
Incremental Area	19000
Income from Incremental Area (Rs. In millions)	88
Revival Investment per Acre (INR)	2526
Average annual Income per Acre (INR)	4631
Return on Investment	182%

Livelihoods: Dhobi Ghat for Washers

Livelihoods: Home Gardens

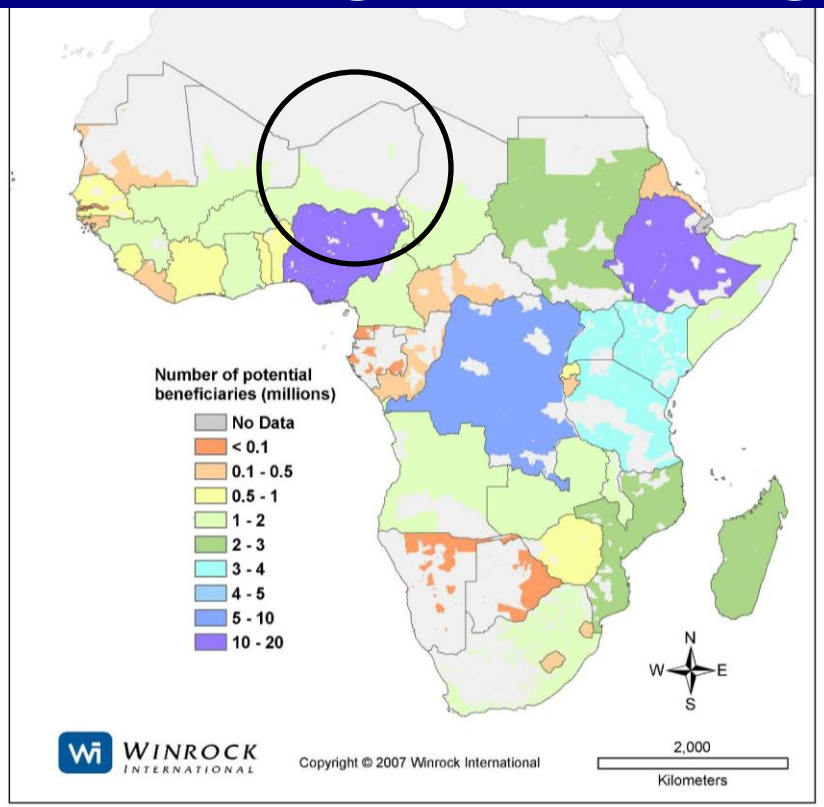
Water: Drinking water treatment plant

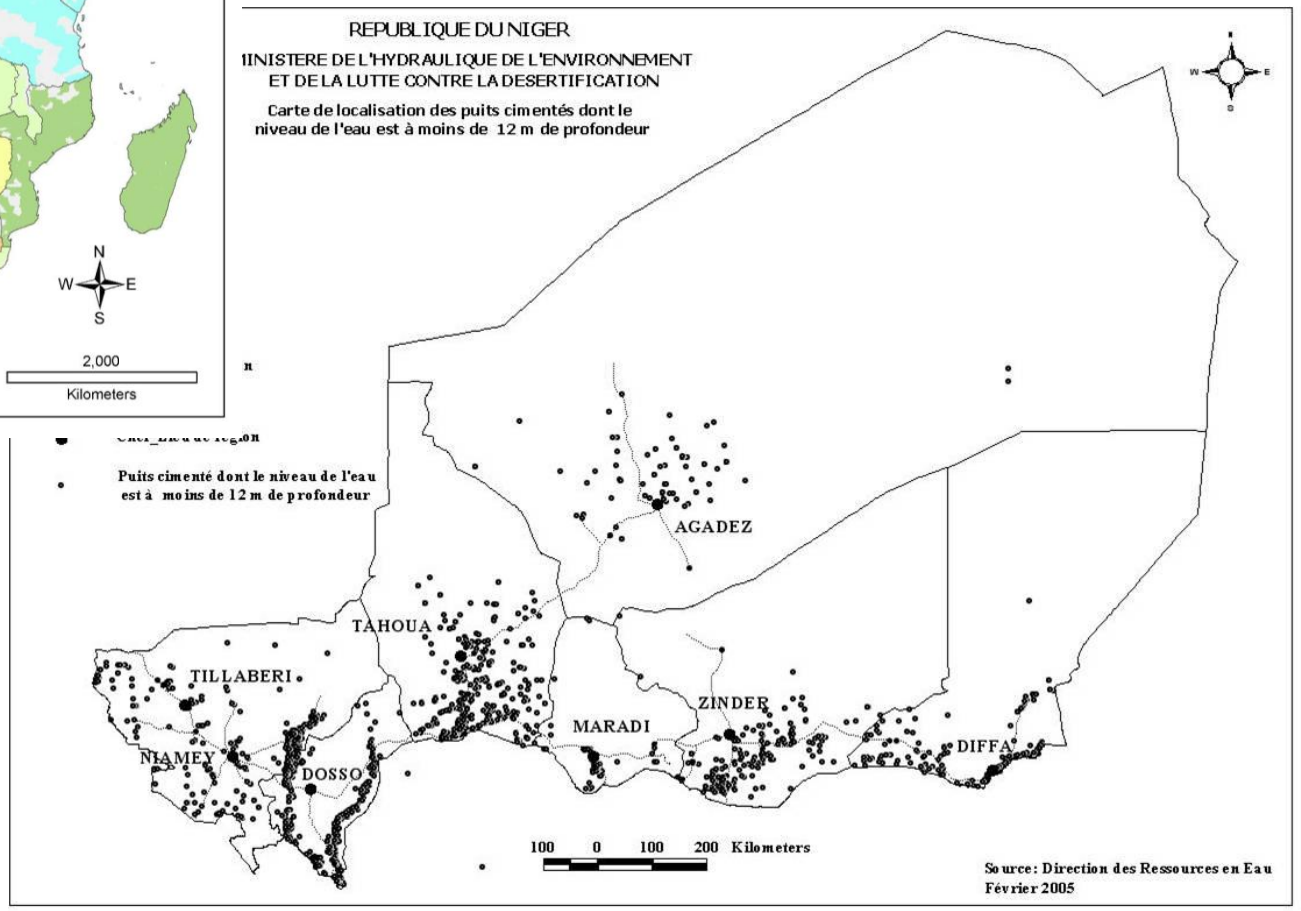
Zinder, Niger: Background

- Grinding poverty
  - UN development index: 174 of 177
  - 85% of population <$2/day
  - Subsistence, rain-fed agriculture
  - Rural water coverage 63%
  - Rural sanitation coverage 7%
  - Under 5-mortality ~25%

- Water binding constraint to improving health and livelihoods
- Shallow groundwater
- Growing momentum around locally manufactured, lower-cost technologies

Niger: shallow groundwater areas





Water: status quo

Ropes drag in the mud, carrying dirt and disease into this Matameye department traditional drinking water well.

Village residents pull water from a traditional well in the Department of Magaria.

Water: Meeting local demands for health and livelihoods…

…by local suppliers

Who provide quality products at a profit

Income and Livelihoods

Health: Behavior change handwashing

Learning