

# SECTION 2: AGRICULTURE AND ALLIED SECTORS

## i. Community-based Groundwater Management

### FACTSHEET

Place of implementation	Andhra Pradesh
Implementing agency	Bharathi Integrated Rural Development Society
Sector(s)	Agriculture
Year of launch	2004

### BACKGROUND

Groundwater is a common property resource. Groundwater over-exploitation is common and rampant, especially so in peninsular India where the hard-rock aquifers have limited storage capacity. Over-exploitation of groundwater is leading to a steep decline in groundwater levels and failure of wells in 39% of the micro-drainage basins in Andhra Pradesh

(FAO 2010). Reversal of a large scale decline of this resource cannot be reversed by individual action. The Andhra Pradesh Farmer Managed Groundwater System (APFAMGS) Project is an enabling intervention to manage groundwater overdraft through voluntary self-regulation.

### INTERVENTION

APFAMGS is a partnership with farmers to implement **Demand Side Groundwater Management**. In seven drought prone districts of Andhra Pradesh - Anantapur, Chittoor, Cuddapah, Kurnool, Mahabubnagar, Nalgonda and Prakasam - thousands of farmers in 638 habitations have taken the lead to reduce exploitation of groundwater. APFAMGS is a Nationally Executed (NEX) project through a network of NGOs, under the close support and supervision of FAO India (FAOIN), New Delhi and technical backstopping of FAO Head Quarters (at Rome). Bharathi Integrated Rural Development Society (BIRDS) signed the contract with FAO and acts as the Nodal NGO for the project implementation.

**The project undertook extensive training of farmers (Farmer Water Schools) and**

FIGURE 2: Crop Water Budgeting



# IMPACT

established a hydrological monitoring system (Rainfall Data, Observation Wells, Groundwater Level Data) to facilitate an annual, participatory exercise of community decision making (Crop Water

FAO’s evaluation suggested that the project’s development objectives have been achieved: groundwater users have been enabled to make better informed decisions on their cropping patterns, while using groundwater more judiciously. Their incomes have improved by reduction in

Budgeting). Efficient water use practices such as mulching, bunding, improved irrigation practices, and large-scale promotion of water saving devices have been implemented by farmers.

the costs of input, some increase in yields and incipient improved marketing strategies. The following is a charge put together by the World Bank during their evaluation of the project, indicating an increase in the net value of outputs per acre.

FIGURE 3: Net Value Output per Acre in Project and Non Project Areas

Hydrological unit/type of area	Net value of Outputs per acre (rupees, current year prices)		
	2008	2004	%change
Project areas: field crops			
Chandrasagar	16,838	8,987	87.5
Mallapavagu	9,884	5,835	69.35
Nalillavagu	13,339	6,301	111.72
Nasireedypallyvagu	11,208	8,378	33.78
Erravagu	7,042	5,317	32.43
Peetheruvagu	7,583	7,124	6.44
Vajralavanka	18,051	9,420	91.62
Non project areas: Field crops			
Non project areas near Chandrasagar	4,348	6,415	-32.22
Non project areas near Mallapavagu	3,491	2,605	34.01
Non project areas near Peetheruvagu	2,500	5,173	-51.67

# KEY TAKEAWAYS

The FAO evaluation report 2010 terms ‘the APFAMGS model to be ready for replication.’ APFAMGS experiment has demonstrated a useful model for demystification of hydrology and community participation in hydrological knowledge generation. However, field studies show that sustaining such a network is a challenge. The bottom-up approaches stemming from on-the-ground community action can be complemented by top-down measures that can create an

enabling environment at the local level. The successful experiences of community-based groundwater management owe much to their design being particularly suited to the physical settings of groundwater use i.e., recharge and emptying dynamics of hard-rock aquifers, which cover approximately two-thirds of India’s aquifer settings. While APFAMGS could provide a model for other hard-rock settings, it is not likely to work in geographically vast alluvial aquifers with significantly larger storage.

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## II. Direct Benefit Transfer in Seed Subsidy

### FACTSHEET

Place of implementation	Uttar Pradesh
Implementing agency	Agriculture Department, UP
Sector(s)	Agriculture
Year of launch	2015

# BACKGROUND

The traditional system of ‘at source’ subsidy pose a certain set of challenges. The concerned departments receive a number of complaints year after year. Instances where the list of beneficiaries has been unavailable or faulty, have led to issues in determining credibility of such schemes.

The methods of distributing such subsidy are non-transparent and hence give rise to chances of misappropriation. In the wake of rising dissatisfaction among stakeholders, Uttar Pradesh government decided to move towards direct benefit transfers in seed subsidy.