# Making the Elephant Dance

Making WASH Sustainable!



## About Frank Water

- Funding water porjects since 2005
- We work with local partners in India and Nepal to bring safe water, sanitation and hygiene to communities that are hardest to reach.
- We make sure our projects last by focussing on water management not just water supply. In the UK, we educate and empower people to adopt a more sustainable approach to water

## Introduction



- Environmental Engineer from Stanford University, USA and NTU Singapore
- Public Policy Professional
- Over a decade of experience in WASH and water programs implementation

Present Profile:

- India Country Coordinator for Frank Water
- Chief Science and Technology Officer for Save Soil Movement, Isha Foundation



## Larger WASH goals



Equitable & sustainable use, and management of, water resources and sanitation provision in India.



Meet all WASH needs of women



Facilitate collaborative planning and management by all water resources by all related ministries in India



## Indian Water (specifically WASH) Crisis

## 96%

Urban areas

## 85%

**Rural areas** 



The recent water crisis in Chennai gained global attention

### India will soon run out of water; 'extremely high' crisis level: Report

2 min read . Updated: 06 Aug 2019, 02:03 PM IST



### Chennai, India is Facing an Unprecedented Water Shortage f 🏏 in 🌫

By: Mark Leon Goldberg on July 29, 2019

One of the largest cities in India is running out of water. Is this our climate future?

Monsoons typically provide the bulk of water for Chennai, which is one of the largest cities in India. It is on the



## Challenges in WASH Sector in India





## Creation of Jal Shakti Ministry

addressed most reasons for the challenges

- Fragmented Administration of water resource\*
- Capacity within the government
- Uptake and Scaling up of good practices by government

\* At recent this has been corrected through unification of different water specific ministries under one ministry- Ministry of Jal Shakti). Will take time for it to reflect on the ground





## Integrated Water Resource Management

Why not used?

Too abstract/ theoretical Skills barrier to use IWRM framework



## The Practical Solution





## About WASH Basins



- ARUP- Frank Water- Local Partners
- Water Security Plan -> Water Resource Management Plan
- Toolkit for All
- SDG 6.5



## WASH BASINS

## What is the WASH Basins Toolkit about?





Developing a long-term WRMP

Inclusive WASH management



Planning by Nawicon Studio from the Noun Project, Data by Mello from the Noun Project, collaboration by Agnes Bonmati from the Noun Project Source: IRC WASH Symposium, All Systems Go, Authors: Jon Shepherd, Philip Songa, Hamish Hay

## Present Projects under WASH-Basins India

Madhya Pradesh Chhattisgarh Uttrakhand



## The Six Stage Process





Preliminary Assessment

Extensive Data Collection

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3

Hydrological & Hydrogeological Analysis

5







वेब आधारित भू-स्थानिक सूचना प्रणाली वेब आधारित भू-स्थानिक सूचना प्रणाली अनुप्रयोग जैसे भूवन, Google Earth Pro इत्यादि का उपयोग करना सीखें।



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ग्राम पंचायत योजनाओं के विकास के लिए दिशानिर्देश आईएनआरएम, मिशन जल संरक्षण (एमडब्ल्यूसी), प्रधान मंत्री कृषि सिंचई योजना (पीएमकेएसवाई) आदि के लिए ग्राम पंचायत योजनाओं के विकास के





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## Need Assessment

Drinking Water Domestic use For Irrigation For Livelihood Others

## Preliminary Data Collection

## Preliminary Assessment

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### सतही जल स्त्रोत

Version: vJKp7w48zEybpXtTrGZvXh Added on Thu, Jul 18, 2019 at 15:17 Extensive Data collection Household Survey Groundwater Survey Flow water Survey Surface-water Survey Institutional Water Survey Water Quality Test

## Hydrological & Hydrogeological Analysis





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Enter City or Lat Lon(exchennai or 13,2,80 Find	Legend
State Chhattisgarh Clear Show Chhattisgarh Only Administrative Boundaries	Waterbodies     Structural Origin-Highly Dissected Hills and Valle     Structural Origin-Moderately Dissected Hills and     Structural Origin-Low Dissected Hills and Valleys     Structural Origin-Highly Dissected Upper Platea     Structural Origin-Highly Dissected Lower Plateau
Agriculture & Soils	Structural Origin-Moderately Dissected Upper P
Census (2011)	Structural Origin-Low Dissected Upper Plateau
Geology & Mines	Structural Origin-Low Dissected Lower Plateau
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Ground Water Prospects	Denudational Origin-Moderately Dissected Uppe
Land Use Land Cover	
Irrigation	man
Revenue Boundary	
Geo – Morphology Map	ar Kawardha





### Bhuvan - Chhattisgarh









### Bhuvan - Chhattisgarh





Discussion Forum | Logond



## WASH-Basin Analysis



### Rain format



2013-14



## Stages for Community Level Planning

1. Atmosphere Creation (Meeting, Training and Video show)

2. Data Collection (Survey of Household, Institutional, Water sources and water quality testing)

3. Participatory Rural Appraisal (Social, Resource, and Planning Map)

4. Analysis (Analysis of Data Collected)

5. Preparation of Action Plan (As per analysis of data Action plan is prepared)

6. Budget (As per number of Job card and Man days financial Budget is prepared)

7. Implementation (Technical selection of location and quality inspection of proposed works)



### Socio- Economic Data

S.no.	Village	Human	Livestock (ACU)	
1	Dholbajja	656	578	
2	Shaktipani	305	220	
3	Neuratola	472	388	
4	Aamanara	283	311	
5	Pendri	124	37	
6	Makkekonha	161	133	
	Total :-	2001	1667	



## Land Use Land Cover Data

S.No.	Village	Total area under this catchment <b>(</b> Ha <b>)</b>	Agricultural Land (Ha)	Forest Area (Ha)	Double Crop land (Ha)	Irrigated Land (Ha)	Land dependent on Rain <b>(</b> Ha <b>)</b>	Fallow Land (Ha)
1	Dholbajja	1224.04	388.24	835.80	8	20	355.24	13
2	Shaktipani	406.88	257.72	149.16	11	23	228.72	6
3	Newratola	909.93	266.12	643.81	7	15	253.12	5
4	Makkekonha	685.31	154.51	530.80	12	8	136.51	3
5	Aamanara	478.65	150.32	328.63	4	25	137.32	4
6	Pendari	216.79	166.46	50.33	3	9	139.46	2
Total		3921.6	1383.37	2538.53	45	100	1250.37	33

### Existing Source of Water and Sanitation

S.no.	Water Source	Nos	Water Availability (In months)	Use
1	Hand pump	42	12	Drinking water and Domestic use
2	Bore wells	03	12	Irrigation
3	Wells	2 <b>4</b>	12 (In 3 only 8 Months)	Domestic use and irrigation
4	Small Wells	04	10	Drinking water
5	Pond	16	5 <b>(4 ਸੇਂ 12ਸਾ.)</b>	Livlihood
6	Farm pond	35	2-3	Not useful
7	Check Dam	7	1	Water not available
8	River	2	10	Domestic use
9	Sewer	15	4-6	Not useful

### Requirement of water in 1 year (in Litre)

Sn	Village	Human		Livlihoo	d	Forest		Agriculture	
1	Dholbajja	<b>15</b> 563600	<b>15</b> 563600		14767900		0	271600000	
2	Shaktipani	7236125	125		5621000		0	1799000000	
3	Newratola	11198200	11198200		9915400		0	1862000000	
4	Aamanara	6714175		7946050		246000000		2296000000	
5	Pendari	2941900		945350		37500000		35000000	
6	Makkekonha	3819725		3398150		3975000000		107800000	
Total:-		47473725	425938		50	18982500000		1010100000	
Area of the Catchment Area									
Sn	No of Watershed		Area(In )	Acre)	Area (In Hactare) Area		Area (Squaremet	Area (Squaremeter)	
1	9		16611.	6725.2			6,72,52,398.2	ō	

## Watershed potential & Water Balance (MCM)

No. of Micro Watershed	9
Water from rain	47.3
Water runoff	0.6
Quantity of water can be stored in watershed	46.7
Requirement of water in 1 year	20.4
Watershed Balance	26.3



## Watershed activities needed based on Village WRMP

Sn	Plan	Quantity	Unit
1	30*40 Model	108.33	На
2	Farm bunding	178.44	Ha
3	Farm Pond	25	Nos
4	Well	34	Nos
5	Plantation	171.8	Ha
6	Contour Trench	74	Ha
7	Bolder Check	3256	Nos
8	Gabion	38	Nos
9	Pond	4	Nos
10	Earthen dam	7	Nos



# Structures on ground from the WRMP



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### Thank You Praveena Sridhar I praveena@Frankwater.com

