

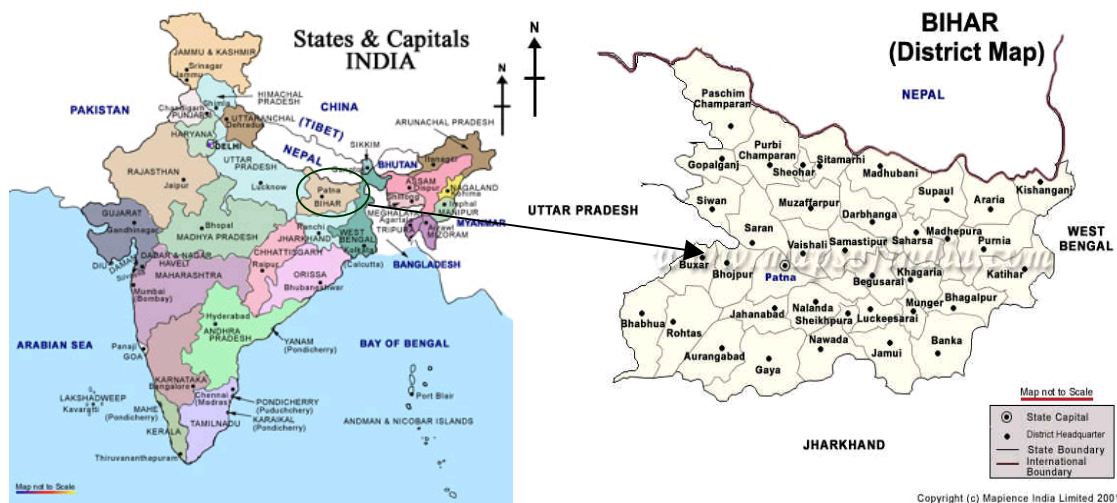


# MEGH PYNE ABHIYAN: An Alternative Thinking

## Brief outline about us

Megh Pyne Abhiyan<sup>1</sup> (MPA), literally *Cloud's water campaign*, is at the same time a *campaign*, involving people around the issue of water, and a functional *network* of grassroots organizations.

MPA is active in the *North* part of *Bihar*, a state located in the eastern part of India (between 83°-30' to 88°-00' longitude). Bihar lies mid-way between the humid West Bengal in the east and the sub humid Uttar Pradesh in the west which provides it with a transitional position in respect of climate. It is bounded by Nepal in the north and by Jharkhand in the south. The Bihar plain is divided into two unequal halves by the River Ganga which flows through the middle from west to east.



The campaign is spread across five districts of North Bihar - Supaul, Saharsa, Khagaria, Madhubani and West Champaran, by *five* separate *grassroots organizations* – Gramyasheel, Kosi Seva Sadan, Samta, Ghoghardiha Swarajya Vikas Sangh and SAVERA under the guidance of two social development professionals.

The organizations involved in the campaign have been working in their respective areas for more than 10 years, and therefore they hold

- Thorough knowledge of the proposed area and the recurring problems
- Significant contacts and linkages with social leaders, both men and women, *panchayat*<sup>2</sup> functionaries, and the villagers. This network has help the respective organizations in sourcing crucial information from the villages and in generating awareness with regard to any developmental initiative

<sup>1</sup> In the colloquial local language Megh means Cloud and *Pyne* is used for Water, hence the initiative is known as the 'Cloud's water campaign' because it promotes rainwater harvesting.

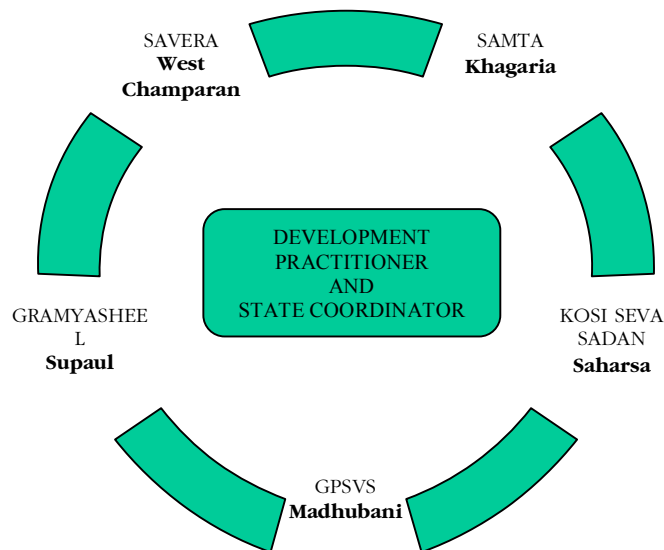
<sup>2</sup> Decentralized democratic set up institutionalized after the 73<sup>rd</sup> Amendment of the Constitution of the Indian Republic

- A committed cadre of village volunteers who have been effective in reinforcing the long standing alliance between the village and the organization. As the association between the two is based on merit and conviction, hence, it provides stability to the relationship and creates a congenial environment for an open debate and spontaneous interaction, a pre requisite for any people’s campaign
- All the partnering organizations have recruited members from the local area, which is a definite advantage in terms of
  - In-depth understanding of the local issues and problems
  - Pleasant relationship with key functionaries in the village
  - Commitment towards the local cause and
  - Continuity in their effort to address the local problems

The involvement of the two social development professionals has established a proficient approach towards the execution owing to their past experience in

- Working with village groups in different cultural, economic, social and political contexts on land and water management practices
- Research on socio-economic issues and on community-based water management
- Coordinating national and international assignments
- Monitoring and evaluation of developmental projects
- Strategic planning and advocacy

The campaign is presently active in 21 *panchayats* across five districts and involves 54 full time workers.



## About the context we work in

The state in terms of its geographical situation is the **most flood affected state in the country**<sup>3</sup>. In fact, North Bihar is a playfield of eight major rivers – Ghaghra, Gandak, Burhi Gandak, Bagmati, Kamala, Bhutahi Balan, Kosi and Mahananda, ending up in Ganga. It is estimated that 77 per cent of north Bihar is vulnerable to flood. Indeed, 16.5 per cent of the total flood affected area of India is located in Bihar while 22.1 per cent of the flood affected population in India lives in the alluvial plains of the state<sup>4</sup>.

Floods in north Bihar are a **recurring disaster** which, on an annual basis, destroys thousands of human lives, apart from livestock and assets worth millions. However, it remains one of the **highly mismanaged human induced disasters** in the country. Unlike the other natural and human made disasters in India, the floods in north Bihar despite being the oldest in the category remains the worst attended, as the disaster mitigation and management strategy has been resulting in evasion of crucial flood related problems. Out of the 38 districts in Bihar, the following 18 districts are repeatedly devastated by floods – Kisanjanj, Araria, Purina, Katihar, Bhagalpur, Supaul, Madhepura, Saharsha, Khagaria, Begulsarai, Samastipur, Darbhanga, Madhubani, Sitamarhi, Muzaffarpur, Sheohar, East Champaran, and West Champaran.



<sup>3</sup> Out of 9.42 million hectares of its geographical area, 6.88 million hectares are flood prone areas i.e. 73.3 per cent of the total area are prone to flood. Out of the total area North Bihar has 5.85 million hectares and out of that 4.45 million hectares are flood prone

<sup>4</sup> According to the 2001 national census Bihar has a total population of 82.88 million which is the 8.06 per cent of the population of the country. The density of population in the state is 880 per square kilometers (Kms) against the country average of 324.

*Embankments*<sup>5</sup> have been constructed as a flood control strategy with the focus of preventing river from overflowing its banks. However, the embankment has prevented the entry of floodwater into the river, leading to a major problem as the embanked river is no longer able to fulfill its primary function – draining out excess water. With the tributaries prevented from discharging into the river and accumulated rainwater finding no way out, the surrounding areas quickly become flooded. The situation is also aggravated by seepage from under the embankments. The areas outside the levees remain waterlogged for months after the rainy season because this water has no way of flowing out to the sea. Theoretically, sluice gates located at these junctions should solve the problem but, in practice, such gates quickly become useless; as the bed level of the main river rises above the surrounding land, operating the gates lets water out instead of allowing outside water in. Moreover, no embankment has yet been built or can be built in future that will not breach. When a breach occurs, there is a deluge.

Thus, embankments have been instrumental in transforming the relationship between people and floods in north Bihar *from ‘a way of life’ to an assured annual devastation*. Different forms of water related problems have affected the two predominant landscapes<sup>6</sup> – Countryside and Riverside created in the region as a result of the embankments. Both these sub regions have their own specific problems and few common ones as well.

### 1. Countryside

The countryside, apart from being vulnerable to dangerous breaches of the embankment, is particularly affected by *water logging*. In north Bihar almost 806,000 hectares (ha) of land, (roughly 15 percent of the region) is permanently waterlogged, as to say, covered by stagnant water that has no way out. Considering that the same percentage of population is dependent on this land, approximately *six-seven million people* are affected by water logging, whether there is flood in north Bihar or not. Due to water logging, the agricultural fields have become unproductive and an expensive proposition to deal with. This definitely is a no-win situation for the farmers, as the fear of crop’s failure is omnipresent along with excessive expenditure on agriculture without any substantial returns. Moreover, stagnant water cause a dangerous set of *mosquito transmitted diseases*, as Malaria, Filariasis, Kala Azar.

### 2. Riverside

Villages on the riverside are totally ignored and exist as disregarded habitation. Population of malnourished children and feeble and anemic women is exceptionally high in these villages. Due to long-standing problems of lack of economic diversification in Bihar and large scale devastation caused by the floods, a huge percentage of labour force

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<sup>5</sup> An embankment is an earthen wall built along the river. The purpose of embanking the river was to prevent river water spilling into the countryside and thereby reducing the impact of flood on human, livestock and agriculture.

<sup>6</sup> Embanking the river meant dividing the landscape into two prominent sections – riverside and countryside. The former is located within the river and the embankments and the latter is the area “protected” by the embankment.

is annually displaced. To ensure the survival of the family the *young male population migrate*, seasonally or annually, to distant places ranging from Leh, Punjab, Haryana, Delhi, Eastern Uttar Pradesh, Assam and bordering north eastern states, and Mumbai. While the men are away, the entire burden of running the household comes on the women. With the frequent *sand casting* and *annual erosion* instigated by the river, agriculture has become an expensive occupation. Farming in the riverside today requires purchase of seed on an annual basis, fertilizers and pesticides, tractor to plough the land, and labour for weeding and cleaning the field. Despite investing so much effort and resources, there is an inherent fear amongst people as agriculture has become absolutely uncertain. Even after having a successful crop, the produce is divided into two equal parts to be shared with the land owner. In the end, a farmer family is barely left with anything that would last them for a year. In addition, the phenomenon of land erosion and the fact of course changing by the rivers in spite force *people to displace*.

Moreover, during floods, people in the region have to either shift over to the embankments or any to any other elevated area to save themselves from the wrath of floods. The embankments during floods turn into a chaotic location, with people and livestock staying together. The people trapped between the embankments are constantly living in a state of *deprivation, threat and uncertainty*. In such a scarce environment, the situation gets miserable in the absence of proper water, health and sanitation facilities especially for women and children



## Rainwater harvesting

According to people one of the most serious problems faced by them was of their **inability to access safe drinking water**. Where the main source of drinking water is groundwater, most of the existing hand pumps during floods get submerged in water or else get silted up or are damaged by the gush of the flood waters. With many people having to live on embankments under marooned conditions access to hand pumps is further hindered. Therefore, during floods, the flood water and the river are used for multiple purposes such as – defecation, bathing of human and animals, immersing the dead persons and animals, drinking.

Perforce having to **drink unclean stagnant water** results in its own set of health related problems. People staying on the embankments have regularly fallen victim to diarrhoea and gastro-intestinal problems leading to high morbidity and mortality especially amongst infants, women and the elderly. In addition, **declining nutritional intake** coupled with **unhygienic and unsafe living conditions** takes its own toll in terms of the spread of diseases like diarrhoea, fever, cold and cough, pneumonia, skin and eye infection, malaria and kalazaar. Incidence of severe malnutrition among the affected children and among pregnant women looms large as a threat. The **absence of health care** in terms of diagnosis and treatment makes all these disease as fatal.

Government agencies, development organizations and civil society have been addressing the drinking water problem by providing water purification tablets and installing shallow handpumps on the embankment. However, these **interventions** are **external and temporary** in nature and during floods the transportation and distribution of the required materials becomes extremely difficult. Secondly, access to the interior areas is marred due to the floods thereby leaving large areas unattended. On the other hand, the external support has been instrumental in making the rural community highly **dependent** and has completely destroyed the rural society's internal flood survival mechanisms, which at one time was acknowledged as local wisdom and peoples' ingenuity to deal with floods<sup>7</sup>.

The preliminary research conducted by MPA, brought forth the following hidden realities confronted by people languishing in distressed region of north Bihar.

- People staying in the flood prone region were compromising with the existing 'hopeless' situation to the extent that it became the way of life
- Temporary and quick relief from problems were preferred rather than pushing towards any lasting approach that could bring in an improvement in the life of people
- Villagers were depending or made to depend on external support to deal with the catastrophic impact of floods
- Collective action as a way of addressing common problems was totally overlooked.

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<sup>7</sup> Although the traditional way of dealing with floods was effective before embankment, when flood water was less in quantity and was inundating for a much shorter time.

Thus, it became implicit that any approach adopted for initiating a development process should be such that

- Addresses the problem under consideration, for instance education, health, drinking water, etc.
- Provides people with the *belief of being able to deal with other problems* locally, both at an individual and at a community level.

Secondly, there was a realization that whatever approach or strategy should propose

- *concrete* activities
- doable by *everybody* despite the social differences, and
- pushing people to work together as a *community*.

Thirdly, the absence of long term developmental commitment and strategies makes it mandatory to design an intervention that

- *adopts the pace and understanding* of the community and not expect the community to take up its pace.

Consequently, realizing the consequences of the previous arguments and the brutality of the problems concerning drinking water, MPA started with *propagating rainwater harvesting* as a supplementary approach to access safe and hygienic water during floods. Collecting and drinking rainwater resulted to be an innovative practice, neither traditional nor external with regard to north Bihar, as the population is not used to rely on rainwater as a source of drinking water, but many migrant labourers have experienced drinking rainwater in other areas of the country. In addition, the *technique* of rainwater harvesting was designed in order to be

- *Sustainable*, arranged with locally available material
- *Simple, cheap*, doable by everyone *irrespective of caste, gender, class, economic possibilities, and social power*
- Serving also as a shelter, therefore particularly *significant during floods*





## Groundwater contamination

People residing in the 21 panchayats were to some extent aware of the groundwater quality, indicating that most of the campaign panchayats had groundwater with high levels of *iron content*, but their perception could not be scientifically corroborated as it was based on local assessment techniques. Unfortunately, due to lack of more such local techniques to crosscheck the physical, biological, chemical contamination of groundwater, people continued to *consume the contaminated water*, which was evident due to its *negative manifestation on human health*.

On one hand, lack of knowledge and technique to check the groundwater and on the other deteriorating health conditions of people in the rural areas, prompted the campaign to take up the challenge of spreading ‘informed scientific knowledge’ across to people about the status of groundwater and its impact on human body. The fieldworkers followed two rounds of intensive training in order to be able to *test scientifically yet simply* the main water sources of the campaign area. More than *thousand sources* were carefully selected on the basis of their representiveness, and a rigorous testing procedure was designed and shared amongst the field workers. After the first round of water tests were carried out, it was observed that most of the villages in the 21 panchayats had contaminated groundwater. It ranged from *pH, Coli form, Fluoride, Residual Chlorine, Nitrate, Iron, Hardness, Chloride and Ammonia*. Arsenic was found as well, even in places where it was not traced before. The water testing exercise will be carried out thrice a year for comparative analysis. The results clearly demonstrate *high level of contamination from Iron*, contamination from *Arsenic and Fluoride*, and very diffuse microbiological contamination.

On the other hand, the exercise outcomes clearly identified *dug wells* as one of the best sources of water, in terms of in-existent minerals contamination. Despite that, almost all dug-wells were in a state of abandon. Therefore, the campaign started with mobilizing people for *collectively reviving* their dug-well, and for collectively holding the responsibility of managing it. The campaign proposed it on a *cost-sharing basis*, and surprisingly, communities that approached the campaign months ago with assistance requests, now pro-actively borne all the cost of cleaning and repair of the structure.



## Mission of the campaign

MPA is a network of grassroots organizations and, at the same time, a people's campaign, working on the issue of water. In fact, MPA's motivation is to construct a congenial social environment through sustainable technological innovations and adaptation of conventional wisdom in order to ensure a ***shared, sustainable and effective management of water***. However, much beyond that, the wider mandate is to stimulate ***collective action and accountability*** towards a 'common good' amongst the local habitants for grassroots cooperation, through

- Developing community based practices for challenging the present trend of dependence on external sources and proposing an alternative approach of ***self-reliance***
- Instigating a behavioural change of rural communities with regards of common property resources and institutions, building ***self management*** as an attitude towards local problems.
- Building a ***critical mass*** of human resources for dealing with the local problems and in executing need based interventions while aiming at innovations.

At last, the campaign's effort is towards perpetuating a notion of a life with 'dignity, determination and self-reliance'.

## Objectives

WATER MANAGEMENT and related issues

- Popularize ***rainwater*** as a supplementary water source in both flood prone and flood secluded areas for effectively overcoming the water problems at individual household level
- Inculcate the ***habit of adopting rainwater harvesting*** and storing as a low cost technology with high cost returns especially during water stressed circumstances due to flood and groundwater contamination
- Promulgate ***simple, cheap and environmentally sustainable filters*** to purify groundwater with high levels of iron and arsenic content, and systems to counter the microbiological contamination (as SODIS<sup>8</sup>)
- Mobilize people to ***revive and collectively manage dug wells and ponds***
- Appropriately design, introduce and popularize ***eco-sanitation*** facilities, involving selected communities since the first phases
- Develop ***other community-based water management strategies*** (such as drainage systems) in partnership with the local communities for transforming water-logged agricultural fields into productive resource base
- Explore and develop low cost/innovative/***relevant interventions*** related with water management and floods coping mechanism, with maximum returns for wider acceptability
- Incorporate sustainable and innovative ***livelihood activities***, for flood-prone areas
- Introduce ***effective farming techniques*** in the region for achieving household food security particularly at the outset of flood, as SRI<sup>9</sup> .

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<sup>8</sup> Solar Disinfection System

- Promote sustainable, locally available and affordable ***flood coping mechanisms*** aiming to protect and improve people's wellbeing

#### SOCIAL DEVELOPMENT, CAPACITY BUILDING AND ADVOCACY

- Build on individual and collective ***awareness on water issues***, through strengthening the dialogue on drinking water, water quality, community based water management, creating an environment that persuades people to gain more knowledge about the quality of water and its impact on human life, demystifying wrong notions of “good and clean” source of water, and create an milieu and system for collective action in the rural areas.
- Create a new ***functional model for collaborative action*** and make people believe that local efforts can yield conducive outcomes by demonstrating solutions to basic problems and
- Strengthen the capacities of the local people to carry out the proposed interventions independently, adopting the concept of ***do-it-yourself, together***.
- ***Building local capacities*** and skills of local organizations, village leaders, panchayat functionaries and block level officials for dealing with social and technical issues concerning water and livelihoods
- Work towards reviving the local flood management systems in rural areas through active ***partnership*** between the government, NGOs and the community
- ***Institutionalize the water testing*** and monitoring exercise in partnership with local people, panchayat functionaries and block and district level officials
- Create a ***repository of water testing*** results of all the 21 panchayats for intensive advocacy at district and state level
- Promote ***policy advocacy and cooperation with local administration and state government*** for propagating rainwater harvesting system and integrated water management strategies for the flood prone areas
- Create ***points of reference within the state*** for facilitating learnings regarding grassroots initiatives and management

#### RESEARCH

- Research and contribute to ***collectively hold knowledge*** on various issues related with floods, water management and sustainability in North Bihar
- Develop a ***repository of groundwater quality data*** through frequent scientific water testing exercise and sharing the information with multi stakeholders for greater awareness and sensitivity towards the existing problem
- Research and highlight the ***extent of flood related problems*** faced by local communities such as - water logging (country side), siltation and constant erosion of productive cultivable land (riverside), inaccessibility for government workers and of government services in the riverside (health, education etc).
- Assimilate local knowledge and understanding for developing a ***contextual alternative water management strategy*** and model in the region;

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<sup>9</sup> System for Rice Intensification is a method that applies customized and controlled practices in paddy cultivation to produce substantially higher yield, assuming that the plant growth depends on a micro environment, particularly within the root zone, which is consciously taken care of.

- Understand the way in which people live in the area as *applied knowledge for developmental action*

#### CAMPAIGN STRENGTHENING

- Develop the campaign as a *solid structure* offering knowledge based support to local and external NGOs and institutions
- Keep being *flexible* in understanding other emerging problems and experiment with solutions to address them
- *Document and communicate* activities, social processes and research output through different media, including a photographic exhibition cum seminar on 2007 floods
- Develop *partnership* with other NGOs, government agencies and other entities of the civil society
- Set up an *advisory committee* with national and international supporters that could help in terms of advice and outlook

#### The Approach

Multi-faceted social processes supported with diverse and innovative program activities have been the strength of the campaign. Firstly, establishing a *partners-relationship with the village community* remains a prerequisite. Therefore, work in the rural communities entails

- Establishing a relationship with the rural men and women through a dedicated team comprising of a male and female worker for each panchayat, coming from the local area. The team develops a rapport with the community through prolonged and sustained interaction over issues being addressed and highlighted by the campaign as well as the problems existing in the community
- Forming village level groups in order to foster partnership, delegate responsibilities and revive social accountability within the communities.
- Inculcating the concept of 'cost and responsibility sharing' concerning the interventions of the campaign
- Adopting knowledge based activism in order to strengthen the arguments and reasoning of the villagers while stating their problems, therefore building skills and capabilities of rural communities through dissemination of informed knowledge amongst the community members
- Utilizing the knowledge, outreach, and motivation of the village groups to create further awareness and motivation amongst the members of the community for transforming the social construct
- Constant follow up by the campaign workers of the work being executed in the village.

The campaign has adopted the following *activities* to support and further strengthen its social processes

- Door to door contact
- Focus group discussions
- Developing technical skills and knowledge regarding the interventions
- Jal Samvad yatra – Water march to promote decentralized water management practices in the village for self reliance and community ownership
- Jal Mahotsav - Water festival to celebrate water and ways of its effective management with women in the communities
- Jal Goshthi – Public meeting specifically on the current water status, its impact on the community and alternative solutions that needs to be explored and tried out
- Similar water meeting at the block and district headquarters to mobilize the government officials and panchayat functionaries
- Utilizing local folklore (puppet shows, street plays, participation in local events) in disseminating the message of the campaign amongst the beneficiaries



The next stage will consolidate the gains of the previous phases in terms of community mobilization around an issue of concern. While rainwater harvesting, community water management, and sustainable livelihoods will remain central to the campaign, the overall goal of the third phase will be to empower people and build self reliant communities in the flood prone region of north Bihar that address development issues through collective management and action. An area where the development processes are being manipulated and controlled by short term relief and rehabilitation measures, the vision is to establish an ***alternative development model*** that will enhance knowledge in the context of local reality, build social capital and improve governance patterns to ensure an effective response to peoples' needs and livelihood requirements.