Using Transformative Scenario Planning to think critically about the future of water in rural Jalna, India

ASSAR
Adaptation at Scale in Semi-Arid Regions

August 2018

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The five-year ASSAR project (Adaptation at Scale in Semi-Arid Regions, 2014-2018) uses insights from multi-scale, interdisciplinary work to inform and transform climate adaptation policy and practice in ways that promote the long-term wellbeing of the most vulnerable and those with the least agency.

KEY POINTS

- From across the system, 40 stakeholder representatives of Jalna district – farmers from landholding categories, landless, poor, women, members of the Grampanchayat, farmer movements, government officials, a scientist of the water sector, academic institutions, college students, NGOs and media – participated in the TSP process.
- Participants agreed that the implementation of government policies and programmes, and collective action to manage the water resources are the two most important aspects which can help Jalna district address the water situation in the future.
- Rural stakeholders – the farmers and water users – realised the implications of inappropriate water-use practices and the need to take action urgently, at both personal and community levels.
- NGOs and other stakeholders – service providers, administrators, corporate sector and academic institutes – who play an important role in mobilisation, capacity building and implementation, decided to share their learnings of the overall TSP process with their peers, and to put it into action at their institutions.

Overview

Jalna, a drought-prone district in the Marathwada region of Maharashtra in India, faces serious water challenges. Some of the causes are recurrent drought, drought-like conditions and notable weather changes, crop loss and failure, and increasing demand on groundwater by farmers, industry and urbanisation, with declining groundwater levels. Water scarcity for domestic and livelihood needs of rural households is of grave concern. In recent times, thousands of families migrated to cities and towns in distress, in search of sustenance. While water requirements for industry and urban needs are met from the Jayakwadi dam, most of the rural population depends on declining groundwater and infrequent tankers in times of scarcity. At the same time, villages, NGOs and government have taken up water conservation projects, such as watershed development and the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), with encouraging results. Demand-side management practices, however, are poorly followed. Other practices, such as lifting safe groundwater into surface 'farm ponds', aggravate inequity and increase evaporation losses, while the improper implementation of land treatment projects affects the biophysical structure of land with long-term impacts on water availability.

Finding sustainable solutions to this complex water issue is beyond the capacity of any single agency. It necessitates the active engagement of all stakeholders. Developed by Reos Partners, Transformative Scenario Planning (TSP) offers a neutral space for stakeholders to present their views, and construct a shared understanding of the situation and the actions they can take to address it. This report provides an overview of two TSP workshops that were held in September 2017 and February 2018 at Krushi Vidnyan Kendra, Jalna.

Workshop #1

Step 1: Inviting participants with diverse perspectives

The workshop brought together 40 women and men representing various groups, who have a stake and may influence the water situation in Jalna district. The participant group consisted of farmers from different categories (rainfed, irrigated, horticulture, livestock), landless, women, members of Grampanchayat and community-based organisations, government officials from district and block levels, community leaders, academic institutes, scientists, NGOs, private institutions, journalists, industries and students. Participants voiced their opinions regarding water in the district.

The important concerns raised were:

- decreasing livelihood opportunities in rural areas;
- changes in livestock pattern;
- distress migration to cities;
- health problems due to inadequate and polluted water;
- farmer suicides because of crop losses/failure and the debt burden;
- water privatisation observed in packaged water bottles and farm ponds etc.;
- increase in cultivating water-guzzling crops;
- increase in tanker dependency;
- climate-related events such as unseasonal weather events and temperature rise;
- inadequate resources; and
- the lack of political will to solve the water problem.

Some questions raised by the participants:

- Can we sense what is possibly going to happen in the future?
- How can recurrent drought-like conditions in Jalna be addressed effectively?
- To what extent would the climatic factors affect water availability and livelihoods? And, will despairing farmers commit suicide in the future?
- Can farmers change their approach and use water more judiciously and also share water with other farmers?
- How will the increasing demand of water by industry affect the demands for agriculture and domestic use in rural areas?
- Can Public Private Partnership (PPP) be strengthened to address the different water challenges?
- Will state government show firm willingness and deploy adequate resources to implement the existing laws and acts in the water sector?
- Can this TSP workshop lead to concrete actions?

Step 2: Identifying the main drivers of the water problem in Jalna district

To understand the current situation in the water and related sectors in Jalna district and in the state of Maharashtra, headlines from mainstream newspapers of the last two months were used. The exercise illustrated how water is associated with the Social, Technological, Economic, Ecological, and Political (STEEP) aspects.

One-on-one sharing during a paired walk helped participants to voice their concerns about the future of water in the district. In an iterative process, 21 drivers were identified which were broadly clustered as: water management, crop planning, new technologies, mentality of water users, water policies and their implementation, impacts of climate change, water allocation and access, deforestation and depleting groundwater.

Following a voting process, debate and discussion, these were narrowed down to two highly uncertain and most impactful drivers which have high potential to influence the water situation in Jalna.

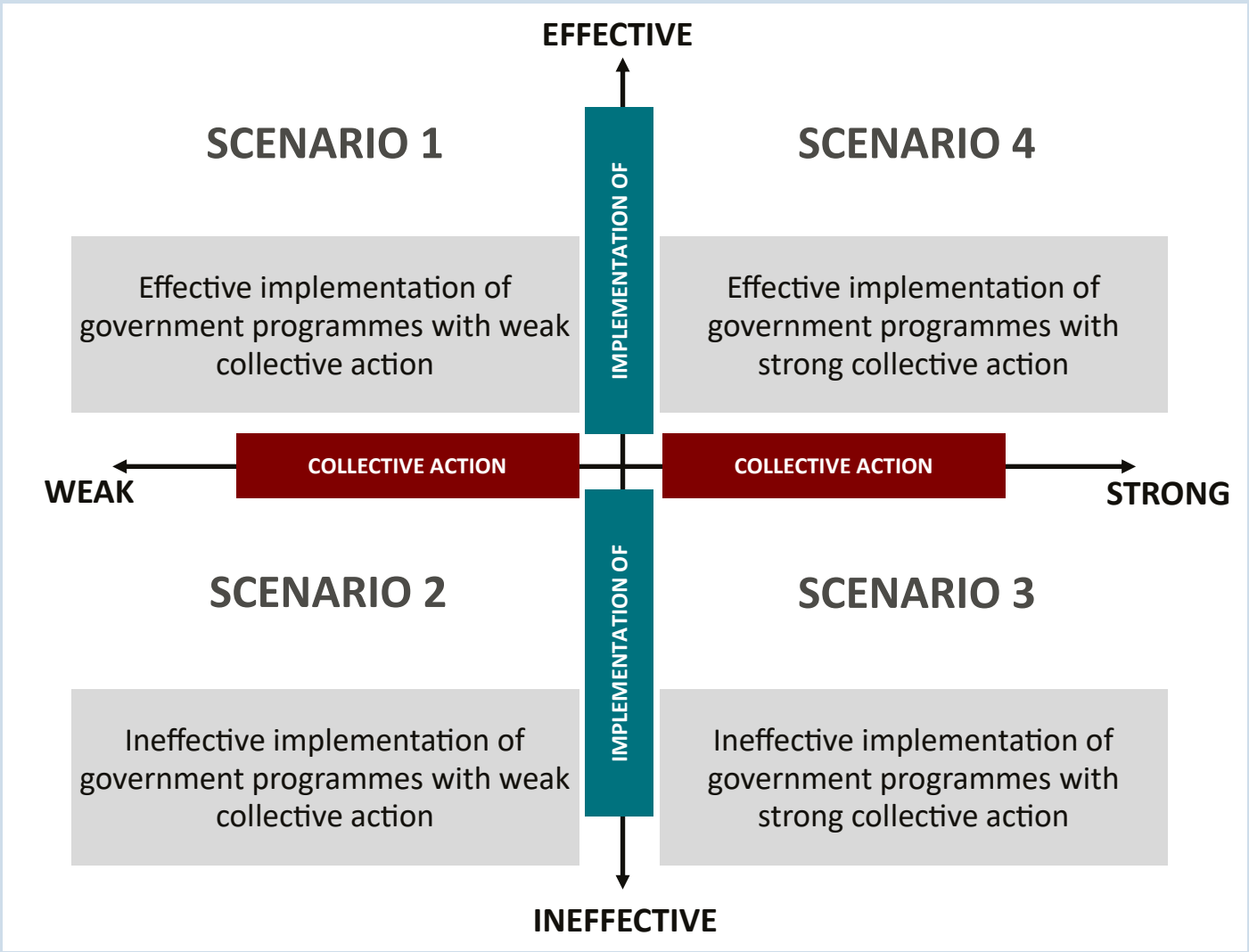
These key drivers 1) **Implementation of Government Programmes** (Effective/Ineffective Implementation) and 2) **Collective Action** (Strong/Weak) form the axes for the possible future scenario construction.

Step 3: Constructing stories about what could happen in the future

Based on the interactions of the driving forces plotted on two axes, participants were divided into four groups to work on building scenarios. User-friendly material – chart paper of different colours, coloured sheets, modelling clay, crayons, colour sketch pens, scissors and glue – was provided to the four groups to develop their models of how, in their given context, they imagined the water situation in Jalna district in 2030. After presenting the models to the others and receiving feedback, each group prepared headlines that indicated the different steps required to move from the current context to the respective possible scenario in 2030 (as constructed by the group). At every step, the participants were urged to build scenarios that were challenging, yet plausible and relevant to the Jalna context. After integrating the feedback from other participants, each group presented their story to the plenary in the form of role play.

Writeshop

Prior to the second TSP workshop, four stories representing four likely scenarios were developed by a scenario editing team. These stories were developed on the basis of discussions held during the first workshop and were further refined during a small writeshop with selected participants. The figure below shows these four stories plotted on the matrix developed during the first workshop.



Workshop #2

Step 1: Storytelling

The participants formed four groups with a good mix of stakeholder representation. The story of each scenario was read aloud slowly by a member of the story editing team. After reading the story, each participant was asked to write down for each respective story the following: 1) the threats and negative signals, and 2) opportunities and positive signals. These were then shared and discussed with other members of the group. Following the discussion, each group consolidated their group findings on each story. In plenary that followed, two representatives from each group presented the compiled points for a particular story and clarifications were given as asked for.

In the storytelling exercise, each scenario/story had four compiled sheets on 'Threats' and 'Opportunities' (one by each group), resulting in a total of 16 compiled sheets of threats and opportunities from all groups for all four stories. In the plenary session, the facilitator summarised the points that emerged from four sheets for each story and highlighted common threats and opportunities presented in each story. This exercise helped participants to get a big picture of the threats and opportunities highlighted in the four stories. The important threats and opportunities discussed in each story are presented in the following table:

Threats and opportunities that emerged from discussions on the four stories

Story 1: Obstacles on the Path		Story 2: One Step Forward, Two Back		Story 3: At a Snail's Pace		Story 4: We are almost there	
Axes: Effective Implementation of Government Programmes but Weak Collective Action		Axes: Ineffective Implementation of Government Programmes and Weak Collective Action		Axes: Ineffective Implementation of Government Programmes but Strong Collective Action		Axes: Effective Implementation of Government Programmes and Strong Collective Action	
Threats	**Opportunities**	**Threats**	**Opportunities**	**Threats**	**Opportunities**	**Threats**	**Opportunities**
Breakdown of drinking water projects because of poor maintenance increases burden on women to fetch water	Work opportunities from land-based government projects in villages lead to reduced distress migration	Groundwater depletion due to agriculture causes water scarcity and worsens water quality	People begin to realise the preciousness of water	Reduced impact of government schemes due to poor quality of implementation	Villagers active in implementation and monitoring of government schemes in respective villages	Villagers getting divided in fractions when individual needs are put above common goods	Conducive atmosphere in village to adopt water budgeting processes that benefit all
Decrease in agriculture labour opportunities due to use of machinery and technology	Implementation of Maharashtra Groundwater Act 2009 (ground water management)	Reduction in livestock because of water scarcity and lack of fodder Increase in indebtedness and desperation triggers farmer suicides	Government, NGOs and CSR speed up their developmental interventions	Insufficient information given to community on government schemes, hence poor quality work done; besides, the powerful and rich hijack the benefits while the needy beneficiaries remain poor	Sharing of experiences between farmers and adoption of group farming practices Community focus on water & agriculture gets adopted into political agendas in the local elections	Inappropriateness of policies and markets crash cause low price for agriculture production	Inclusion of rainfall, groundwater and weather monitoring processes improve productivity Sustainable agriculture practices benefit from efficient water use
Community has little control over government performance	Control over groundwater lifting by regulating borewell drillers and tanker operators	Increase in rural distress migration to cities	Few and scattered villages demand land and water rejuvenation projects	Delay in receiving government subsidy reduces people's trust in government	Collective action by villagers to address key issues obtains the desired impacts	Mechanisation in agriculture results in less labour opportunities	Good water budget considers water use for all, including ecosystems
Powerful and rich hijack government scheme benefits, while the needy are excluded	Support for micro-irrigation and water harvesting interventions	Privatisation and commercialisation of water; negative impact on poor	Few and scattered collective action by villagers to address the water problems	Reduced allocation / use of funds for relevant water and agriculture sector reduces desired result	Water efficiency and appropriate farming practices increase productivity		Women get organised through SHGs
Increase in production but no good market rates hence increase in indebtedness	Greater awareness generated on water issues	Increase in number of farm ponds that lift ground water	High push to micro-irrigation by state	Disputes and agitation by villagers against government officials	Good ground to promote good governance and water management practices		Increase in FPOs and food processing units
Political leaders influence beneficiary selection which excludes needy	Promotion of alternative livelihoods in rural communities	Poor quality implementation and less transparency	Media highlights crisis and mobilises external welfare support				Implementation of Groundwater Act 2009

Step 2: Visualising the desired future

The overview of threats and opportunities in the different scenarios provided important insights to the participants to understand and map the possible hurdles and threats, as well as the opportunities to prepare for the 'future (2030)' water situation.

As a next step, the participants were asked to imagine what their desired future for the year 2030 might look like. This visualisation process is important for two reasons: 1) to build consensus among participants regarding the desired future/possible ideal situation, and 2) to sketch a roadmap collectively to help secure that desired future.

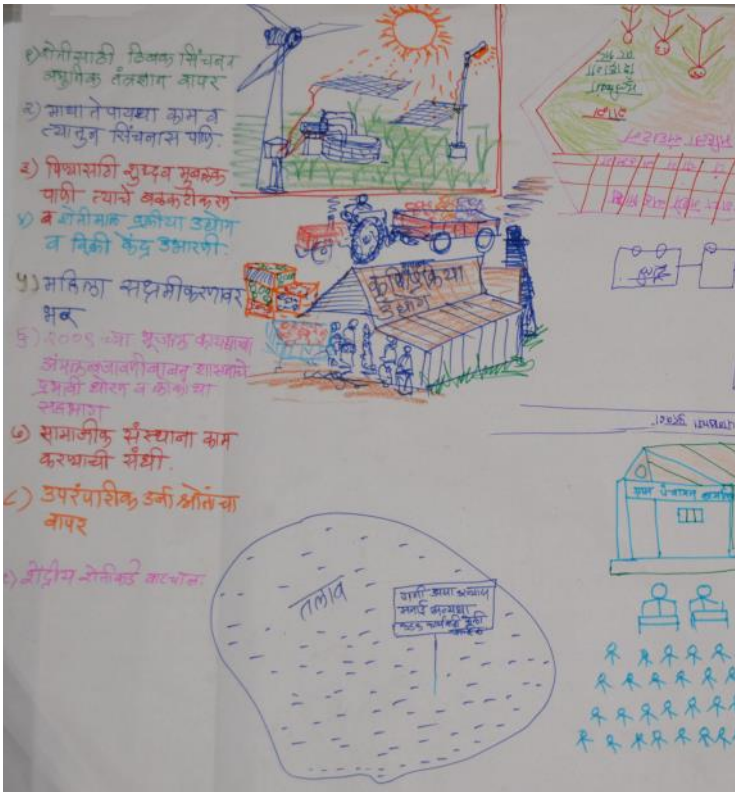
Sixteen charts of the compiled threats and opportunities from the four stories were placed on walls in the workshop hall, and participants spent time to go through these charts thoroughly. Participants were asked to note down the threats and opportunities they considered of vital importance, and essential actions to address those.

Following a detailed study of the charts, the participants in the four groups were asked to prepare a common sketch of the desired future, using crayons, colour pencils and colour sketch pens.

As the desired/ideal situation is subjective to an individual, the group was asked to discuss and then draw their ideas about the desired ideal future situation.

A chart was used in order to take account of the multiple components (from different individuals) in the possible desired future.

In plenary, each group explained their group drawing of the desired future. The four groups came with their respective drawings of the desired future. While there were a lot of commonalities, there were also variations in the issues highlighted.



Step 3: Transformative orientation: self-reflection

In the next step, participants were asked to reflect on a personal experience of having overcome a challenge to achieve a desired outcome. The purpose of this activity was to help them internalise the transformative process and become aware of their strengths and potential to meet different challenges and adverse conditions. Through a meditative relaxation exercise, the facilitator guided the participants to recall an important challenge they faced in their life and how they found the power to face and overcome that challenge. Each step and means used to overcome the challenge was identified.

Though this self-reflection activity was very personal, some of the participants shared their experiences and the way they addressed an important challenge in life. Other participants also shared their positive experience of the meditative relaxation process itself, which they found very energising. This step in the workshop was important in identifying personal strengths to handle challenges at both a personal and group level. In conclusion, the facilitator highlighted the immense potential individuals have to meet different challenges and transform situations.

Step 4: Working on strategic responses

For the participants to arrive at a logical conclusion of the TSP workshops, it is important to come up with an action agenda. It is important to note, though, that this logical conclusion is only the beginning of a process towards the desired future. And for Jalna this process is towards 'Water in Jalna for domestic and livelihood needs in 2030'.

As a next step, a road map was created which details the strategic responses the diverse participants need to take in order to secure the desired future. The participants listed the following points for consideration:

- What is to be avoided? Or, which problematic actions and practices need to be stopped?
- What is to be done? Or, which actions and practices by different stakeholders – individuals, groups, and local authorities – need to be implemented?

Various strategic responses were invited in plenary and, after a fair discussion on responses proposed by the various participants, the list was finalised.

The table below lists the important strategic responses that emerged from the workshop:

Strategic responses	
To be avoided	**To be done**
Sand mining	Taking up soil and water conservation work and maintenance of existing work
Flood irrigation	Use of micro-irrigation
Pumping groundwater for storing in surface farm ponds	Reducing rate of evaporation of stored water in farm ponds
Cultivating water guzzling crops in times of water scarcity	Safeguarding drinking water and its equitable distribution
Pumping water directly from water harvesting structures to farms	Crop planning based on the annual water budget
Excessive use of chemical fertilisers	Use of organic manure
Drilling bore wells below 200 feet	Implementation of the rules for water governance (Groundwater Act, 2009)
Tree felling/cutting	Recharge of dug wells and bore wells
Giving bribe to officials to receive benefits of schemes/ programme	Group micro-irrigation and/or group farming
Break up of village level committees and disputes in its functioning	Formation and strengthening/activating of village committees
Water sale from the village during periods of water scarcity	Establishing food processing units and value addition of farm produce
	Awards for farmers who use water efficiently
	Promotion of water literacy in schools
	Pushing the water management agenda in gramsabhas and local elections

Participants of the workshop expressed the need and their commitment to spread the above messages in their villages and make efforts to work accordingly. The workshop concluded by sharing the key highlights of the two days with district government officials of Jalna. The district officials shared their experiences, challenges and innovative experiments in water management with participants, and expressed their interest to take this overall process forward.

Going forward

The reflections that emerged from the TSP process on the crucial issue of 'Water in Rural Jalna in 2030' made all participants realise the urgency of addressing this problem. It also provided a set of actions needed:

- Farmers and water users need to urgently understand the implications of various behaviours and take action at both personal and community levels. Rural participants stated that they will share this in their villages, particularly the 'Do's and Don't's' discussed in the workshop as the strategic response.
- NGOs and other stakeholder groups decided to share learnings from the process with peers, and to put them into action at their institutions.
- WOTR and the WOTR Centre for Resilience Studies (W-CReS) will share the findings with government officials at all levels – district and state – and disseminate the same through their actions in implementation, and the training they provide at national level and state levels.
- WOTR also plans, as suggested by participants, to conduct a few such workshops at block level in Jalna where more water users will understand the value of the TSP process and get involved in practising and promoting action points. As a follow-up of strategic actions, under an ASSAR Grant for Local Adaptation Support (GLAS), WOTR has conducted two trainings on water budgeting for Grampanchayat members in Jalna district.
- W-CReS will take up research and action research studies that will contribute to the desired scenario and set of 'Do's and Don't's' that emerged from the TSP process.

Thank you to all the stakeholders who have been involved in this TSP process.

ABOUT ASSAR

ASSAR uses insights from multiple-scale, interdisciplinary work to improve the understanding of the barriers, enablers and limits to effective, sustained and widespread climate change adaptation out to the 2030s. Working in seven countries in Africa and South Asia, ASSAR's regional teams research socio-ecological dynamics relating to livelihood transitions, and the access, use and management of land and water. One of four consortia under the Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA), ASSAR generates new knowledge of climate change hotspots to influence policy and practice and to change the way researchers and practitioners interact.

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This workshop was carried out with guidance from Reos Partners through the Adaption at Scale in Semi-Arid Regions (ASSAR) project supported by UK Government's Department for International Development (DfID) and the International Development Research Centre (IDRC), Canada. We acknowledge Hindustan Unilever Foundation (HUF) for providing the financial support for the Water Stewardship Initiative and these workshops. The views expressed in this work are those of the creators and do not necessarily represent those of DfID and IDRC, its Board of Governors, the HUF and WOTR.

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Photo credit and support: Harshal Khade, Mohan Dhuldhar, Sachin Hirve, Vikas Joshi, Pragati Khabiya, and Vandana Salvi (all from WOTR). *Editing and layout*: Birgit Ottermann

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