

2013

Revisit Water Use Management Plan through CSDRM Framework in Sobara Panchayat, Ganjam, Odisha



*Empowering Gram Panchayats
for Improved Planning and
Delivery of Water and Sanitation
Services*

Gajapati District, Odisha

ICSD

Setting the context:

Water Use Management Plan (WUMP) project was a successful demonstration project to reflect the sustainable water management involving the communities and a successful model to demonstrate the bottom up approach in planning. This was also successful in showcasing that how the Gram Panchayats can be empowered to carry out improved planning and delivery of water and sanitation services in the villages of Gajapati District in Odisha.

The study area, that is, the Sobara Panchayat under Gosani block in Ganjam district in Odisha has a population 3,543 of which 55% is into farming. It has also been reported that nearly all the lower slopes of the hills in the Panchayat have been planted with a monoculture of cashew. They do not inter-crop cashew with other plants, unlike elsewhere in the district where some people inter-crop with pineapple, bananas, ginger and turmeric; inter-cropping helps improve soil moisture and reduce soil runoff. Gajapati district is one of Odisha's main cashew producing districts and the state agriculture and industry policies aim to develop this further.

Well and hand pumps were main resources for these villagers. In spite of the fact that there are four large and countless small streams and the average annual rainfall is 1,400 mm, the villagers were facing water shortage in summer. It has been learned that ground water levels have been declining gradually as well. The reasons are jhum cultivation, extensive monocultures of cashew plantations, increase of paddy cultivation and increase in population.

The Panchayat has 62 wells spread across the 11 hamlets. The Panchayat has 28 tubewells, of 21 are inside a village. These are less reliable than wells as only nine provide good water during summer. All 21 ponds in the Panchayat are situated outside villages, and only one is protected. Only three have usable water in summer and all communities can use water from 17.

Water Use Master Plan (WUMP) has been an exercise in village planning around water. By getting people to understand, map and plan to improve their water resources WUMP has effectively empowered them with an understanding about their rights, responsibilities, and government schemes and how to approach frontline bureaucrats. The underlying principle, as thought of by Arghyam, is empowering panchayats by helping them understand and plan for a sustainable water future. WUMP was an exercise to assess the total availability of water and future trends. It covered the following:

- Project current and future use (upto 10 years)
- Learn how to prepare water balances
- Learn about source sustainability
- Learn how to assess other natural resources
- Learn how to conduct a needs assessment
- Training for needs assessment and planning
- Execute an integrated water use master plan that included a capping mechanism to control the use of water, for example through changes in cropping patterns or alternative livelihoods
- Integrate sanitation into water use plans and understand the link with hygiene, health and the use of toilets, as well as giving money for making toilets where necessary

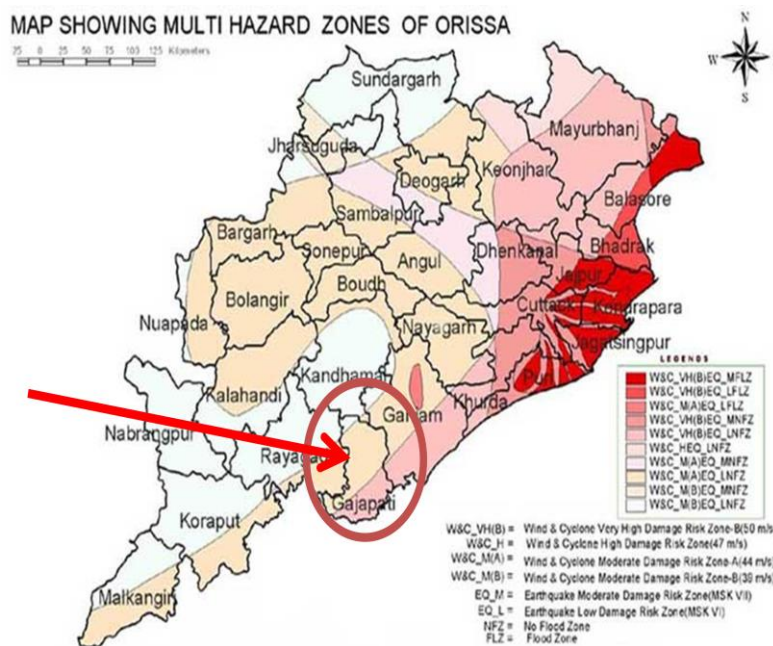
In the process, selected non profit organisations worked with palli sabha members to generate a series of planning tools. The bottom line was increasing awareness of water as a resource and its management as well as that of hygiene and sanitation, rather than on providing toilets and taps.

The WUMP has shown the ways for integration of cross departmental schemes. For example, the larger involvement of villagers in executing most of the actual work decided under WUMP was linked with the funds from MGNREGS. This project has created an enhanced level of awareness among villagers about their rights, sanitation and hygiene.

WUMP shows improvements in terms of water harvesting structures, the newly-built concrete skirting around wells, the better drainage around wells and hand pumps, the toilets that are being used, the new bunds, percolation tanks and check dams. As each village nestles at the foot of its own hillock, it occupies its own micro-watershed making such planning and construction easier than if they had shared watersheds. The structures selected for construction are simple and need little outside material or expertise to construct.

The WUMP mapping exercise helps each village to understand the links in the watershed between rainwater runoff from the hills and downstream wells. The NGO provided them substantial technical support by helping select the best place for the percolation pond. It also routed money to the SHG's bank account once the Panchayat approved the WUMP activities.

Despite substantial work and progress, the village still does not have a secured water future. They must identify the catchment area for the Mahendranaya River, and protect it. Watershed treatment around the river must include soil and water conservation and planting local species of trees. Jhum cultivation has completely stripped the hill slopes around Harishchandrapur of mature trees and what is not covered with cashew has only shrubs or very young trees. The hills have to be intensively protected from further denudation as jhum cultivation continues in some areas but their fragile ecology cannot sustain this.



Moreover, Gajapati district has been identified as one of the coastal districts susceptible to cyclones as per warning bulletins issued by IMD. In the recent past, post cyclone flood has been reported in this district. Therefore, the water use management plan in a district like Gajapati which is vulnerable to disaster events like drought, flood, and cyclone cannot afford to not considering the impacts of changing climate and related disaster events.

Objective of the study:

The objective is to find out how the project activities in the disaster prone zone can be modified to adjust to the changing climate and reduce disaster risk.

What is Climate Smart Disaster Risk Management (CSDRM)?

Climate Smart Disaster Risk Management (CSDRM) approach integrates the Disaster Risk Management (DRM) programme with Climate Change Adaptation (CCA) and development programmes. CSDRM is an integrated social development and disaster risk management approach



that aims, simultaneously, to tackle changing disaster risks, enhance adaptive capacity, address poverty, exposure, vulnerability and their structural causes and promote environmentally sustainable development in a changing climate. “It also provides a guide to strategic planning, programme development and policymaking and should be used to assess the effectiveness of existing DRM policies, projects and

programmes in the context of changing climate. It is an approach to help cross-check DRM interventions for their responsiveness to current and future climate variability. The three pillars within the approach, are founded on long standing concepts – mainly related to the progression of vulnerability from root causes to unsafe conditions (Wisner et al 2004) and to those associated with resilience, adaptive capacity and uncertainty (e.g. Holling 1973, Folke 2006)”.

Twelve components of CSDRM have been elaborated under the three pillars of actions as shown in the figure in the next page.

Tackle changing disaster, risks and uncertainties

Strengthen collaboration and integration between diverse stakeholders working on disasters, climate and development

Periodically assess the effects of climate change on current and future disaster risks and uncertainties

Integrate knowledge of changing risks and uncertainties into planning, policy and programme design to reduce the vulnerability and exposure of people's lives and livelihoods

Increase access of all stakeholders to information and support services concerning changing disaster risks, uncertainties and broader climate impacts

Enhance adaptive capacity

Strengthen the ability of people, organisations and networks to experiment and innovate

Promote regular learning and reflection to improve the implementation of policies and practices

Ensure policies and practices to tackle changing disaster risk are flexible, integrated across sectors and scale and have regular feedback loop

Use tools and methods to plan for uncertainty and unexpected events

Address poverty, vulnerability and their structural causes

Promote more socially just and equitable economic systems

Forge partnerships to ensure the rights and entitlements of people to access basic services, productive assets and common property resources

Empower communities and local authorities to influence the decisions of national governments, NGOs, international and private sector organisations and to promote accountability and transparency

Promote environmentally sensitive and climate smart development

Revisit Water Use Management Plan through CSDRM Framework:

The case study for the water use management system of Sobara Panchayat under Gosani block in Gajapati district of Odisha has been taken to see the existing system through a Climate Smart Disaster Risk Management (CSDRM) lens. An attempt has been put forward to find out the way through which the existing system can be made an integral part of the CSDRM approach.



Strengthen collaboration and integration between diverse stakeholders working on disasters, climate and development

- The Water Use Management Plan (WUMP) experience in Sobara is based on the concept of integrated water resources management (IWRM). WUMP helps to improve the ability of ward members to understand their roles and responsibilities as representatives of local self-governance. Local people were made aware about the basic requirement to protect their rights on water and to involve in planning for water management at village level. However, this entire project has been carried out without any ground water mapping. Even in the futuristic plan, no climate impacts or possible disaster impacts were considered. Moreover, Community wells, followed by individual wells have the highest priority in WUMP activities. This prioritisation has also not been backed by the studies related to changes in groundwater table. So the WUMP has not considered two important aspects of the integration, that is, climate change and disaster risk into its planning.
- WUMP has developed partnerships during its operation mainly with local people with NGOs and different district level Government organisations. More participations of state government institutes, research organisations and training organisations with specialities in crops, agriculture, water, and rural development is required to have an well informed convergence planning.

Periodically assess the effects of climate change on current and future disaster risks and uncertainties

- It was not made direct part of the initiative. However, WUMP was an exercise to assess the total availability of water and future trends. It covered the following: a) Project current and future use (usually after 10 years), b) Learn how to prepare water balances, c) Learn about source sustainability, d) Learn how to assess other natural resources, e) Learn how to conduct a needs assessment, f) Training for needs assessment and planning, g) Execute an integrated water use master plan that included a capping mechanism to control the use of water, for example through changes in cropping patterns or alternative livelihoods and h) Integrate sanitation into water use plans and understand the link with hygiene.

Integrate knowledge of changing risks and uncertainties into planning, policy and programme design to reduce the vulnerability and exposure of people's lives and livelihoods

- This has been done partially, as the plan was more based on local knowledge but not on a detailed scientific analysis or data projections.

Increase access of all stakeholders to information and support services concerning changing disaster risks, uncertainties and broader climate impacts

- WUMP programme definitely has been successful in providing enhanced access of all stakeholders to information pertaining to water management, existing government policies and roles and responsibilities at different level. But since the programme has not been designed to integrate the information and services pertaining to changing disaster risks, uncertainties and broader climate impacts, the stakeholder's access of information does not include these components.



Strengthen the ability of people, organisations and networks to experiment and innovate

- The WUMP programme has empowered the villagers, specially the women to take their active participation in the planning process and innovate new ideas suiting their need. WUMP helped map the water use by use and time, over 40 years. This illustrated the declining per capita water availability and, therefore, the need to plan for the future. The water budget this exercise created helped indicate how much water the village would need in 10 years and possibly beyond. The villagers used the planning exercise to decide on the number, type, size and location of water harvesting structures.

Promote regular learning and reflection to improve the implementation of policies and practices

- The panchayat discusses their findings about the water requirements and further actionable states such as the conservation structure at its monthly meeting and passes a resolution for their construction. The ward member brings this to the Panchayat meeting, which also passes it. They take it to the BDO for sanctioning MGNREGS funds for the activity.

Ensure policies and practices to tackle changing disaster risk are flexible, integrated across sectors and scale and have regular feedback loop

- Although the project has been developed because of the lower water availability in the region, the approach to drought management is not prominent. The project has attempted to develop a good governance system and overall awareness. However, it has a very limited role to play as far as the role of ensuring policies and practices to tackle changing disaster risks was concerned.

Use tools and methods to plan for uncertainty and unexpected events

- When overviewing the Water Use Master Plan approaches in relation to the CSDRM approach, one of the principal gaps that arises is the use of tools and methods to effectively manage the uncertainties related to climate change. This is principally because there are some significant uncertainties about climate change projections in India as a whole and there has been as yet very little downscaling of global climate scenarios – what has been done is basically confined to the national science institutes. The state-level institutions like universities are not as yet able to perform effective intermediary roles. Once science capacities are accessible, there are several models for training and knowledge dissemination to set up coherent and robust systems from state to panchayat level, including farmers' schools, which can deliver access to and manage unfolding knowledge.



Promote more socially just and equitable economic systems

- This is the aim of national and state policy and cannot be assessed here.

Forge partnerships to ensure the rights and entitlements of people to access basic services, productive assets and common property resources

- The NGO's work has created considerable social capital through activities in women's empowerment, strengthening panchayats, livelihoods and governance over the past decade. This essentially means a panchayat more aware of its rights, government schemes and how to get them.

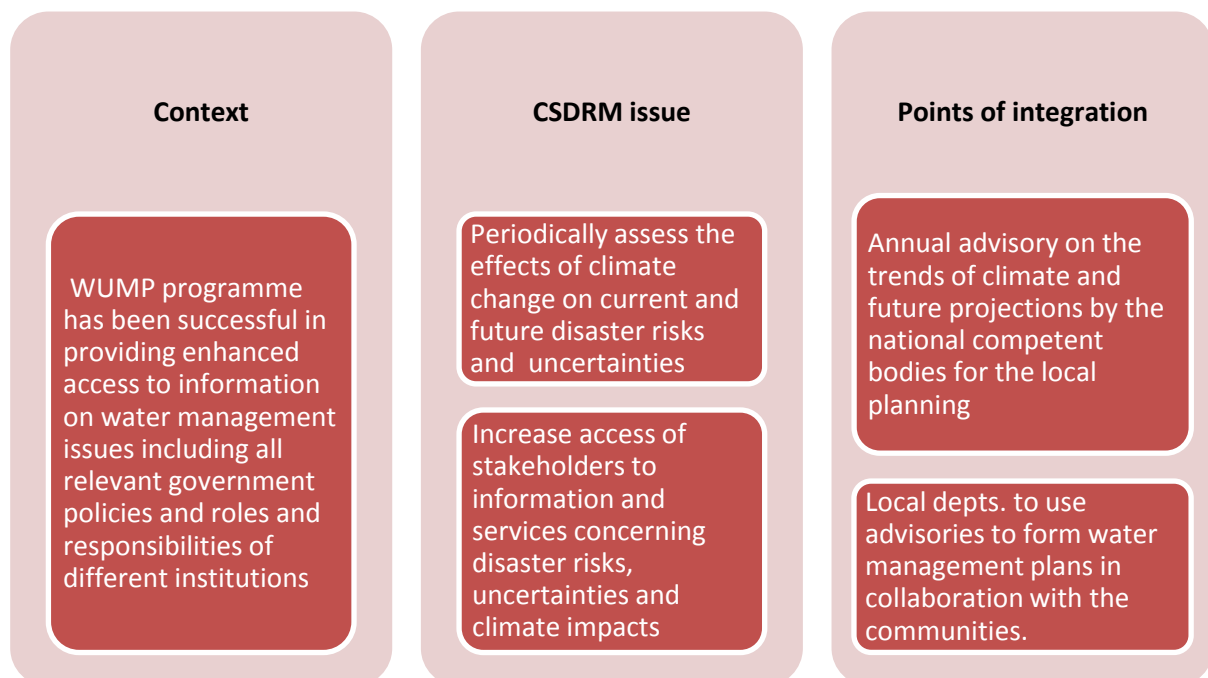
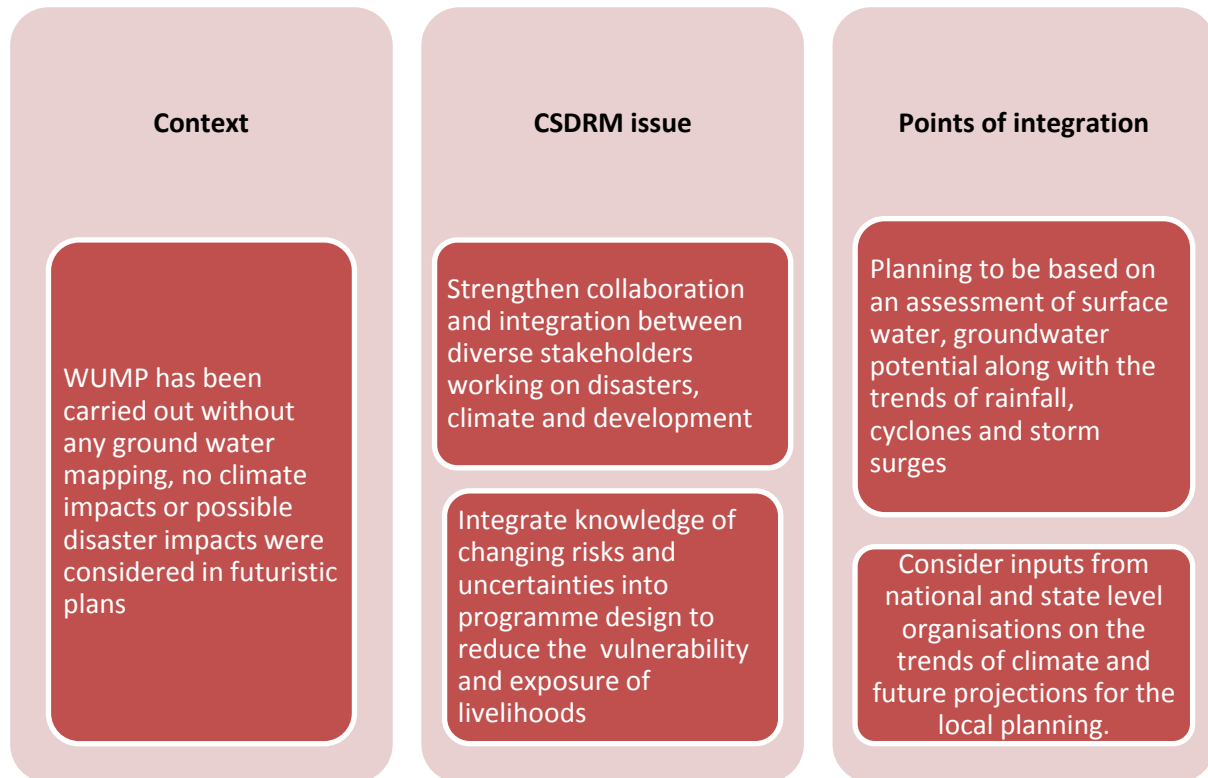
Empower communities and local authorities to influence the decisions of national governments, NGOs, international and private sector organisations and to promote accountability and transparency

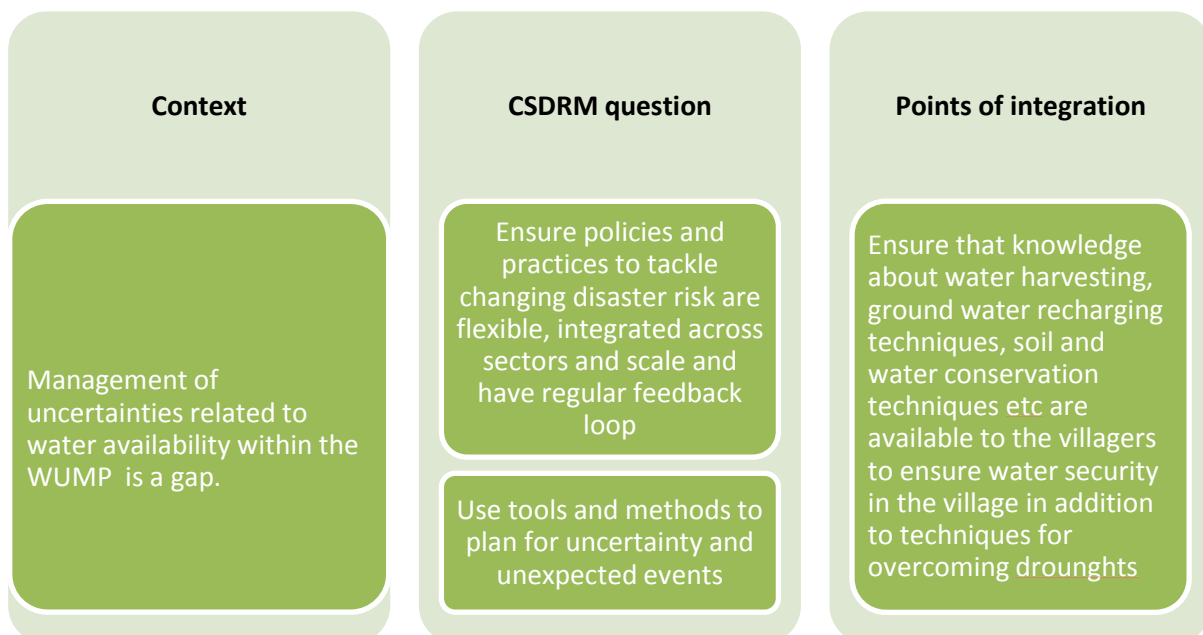
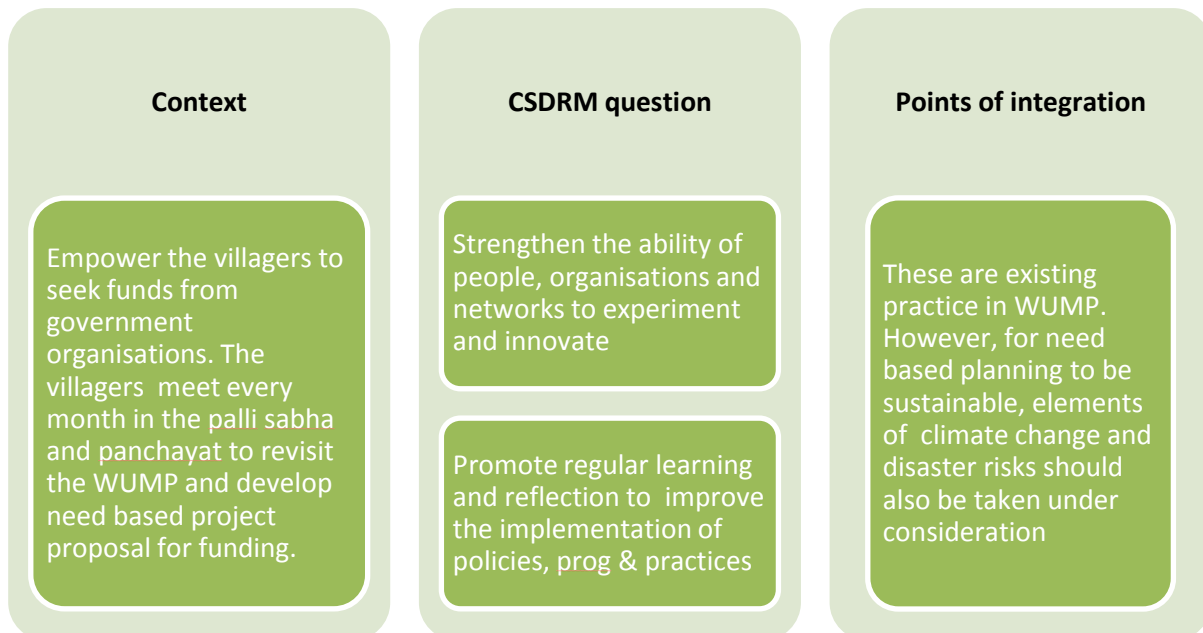
- It has set up all the self-help groups in the 11 villages that now include 90 per cent of the adult women. These active SHGs have made a significant difference to the lives of women in terms of giving them employment, and more importantly, in terms of empowerment. SHG women are more vocal, more politically aware and more ready to get their due from their elected representatives and government officials than those outside the SHG fold.

Promote environmentally sensitive and climate smart development

- Villagers in this region are mostly dependant on cashew plantation for their livelihood. Nearly all the lower slopes of the hills in the Panchayat have been planted with a monoculture of cashew. The monoculture will have long term implications for water availability as other plants are not allowed to grow under cashew trees. Therefore, extra soil and water conservation measure as needed. One solution is to intercrop cashew with other fruits. WUMP has not addressed this.

In brief the findings can be presented as:







Context	CSDRM question	Points of integration
<p>The NGO's work has created considerable social capital through activities in women's empowerment, strengthening panchayats, livelihoods and governance over the past decade.</p>	<p>Empower communities and local authorities to influence the decisions and to promote accountability and transparency</p> <p>Forge partnerships to ensure the rights and entitlements of people to access basic services, productive assets and common property resources</p>	<p>This essentially means villagers need to be more aware of their rights, government schemes and how to get them. This is an integral part of WUMP.</p>

Context	CSDRM question	Points of integration
<p>The monoculture of cashew has a long term implication on soil moisture and soil runoff as other plants cannot grow under cashew trees. Therefore, extra soil and water conservation measure are needed.</p>	<p>Promote more socially just and equitable economic systems</p> <p>Promote environmentally sensitive and climate smart development</p>	<p>Not relevant – a national and state government responsibility. However, in WUMP, VDC has 50% representations from women</p> <p>Focus on intercropping with pineapple, bananas, ginger and turmeric</p>

Points of integration:

In order to integrate the CSDRM approach into the existing programme of WUMP, the following points needed to be considered:

1. The climate variability of the village needs to be studied. The relevant information from the study of groundwater tables needs to be gathered, analysed and integrated in the existing programme planning.
2. The prioritisation of sources for water augmentation in the villages need to be based on an assessment of surface water, groundwater potential along with the trends of cyclones and rainfall.
3. Also need to consider the future projections of the same to make a sustainable water resource plan for the district. In doing so, the national institutions such as the IMD, Department of Earth Sciences, ground water board , Central water commission should annually produced advisory on the trends of climate and future projections for the local planning.
4. Simultaneously the local concerned departments such as PRIs, the soil and water conservation department, the irrigation departments who are entrusted with programmes for augmenting water resources in rural areas need to use this advisories to form water management plans in collaboration with the communities, so that the communities do not take wrong decision for ensuring their water security.
5. The stakeholder awareness and the bottom-up approach in planning should also include the climate change and disaster risks into consideration.
6. In WUMP areas, a detailed cropping system planning process has to be undertaken following participatory micro-shed planning methods, taking into account the change in climatic parameters from a watershed point of view. A focus should be given on the crop diversification. The opportunities of having intercropping needs to be explored.
7. Capacity development is an integral part of the WUMP programme. However, the climate change and disaster risks components needed to be incorporated in the awareness programme. WUMP is very successful in providing a framework for women empowerment. It is also required to make these schemes linked with the DRR/CCA programmes.

Opportunities at a glance:

- Planning of programme – need to consider the future projections while developing a sustainable water resource plan for the district
- Stakeholder awareness and the bottom-up approach in planning should also include the climate change and disaster risks into consideration
- Prioritisation of sources for water augmentation in the villages need to be based on an assessment of surface water, groundwater potential along with the trends of rainfall, cyclones and storm surges.
- Integrate to create climate resilient livelihood
- To link existing schemes with the DRR/CCA programmes