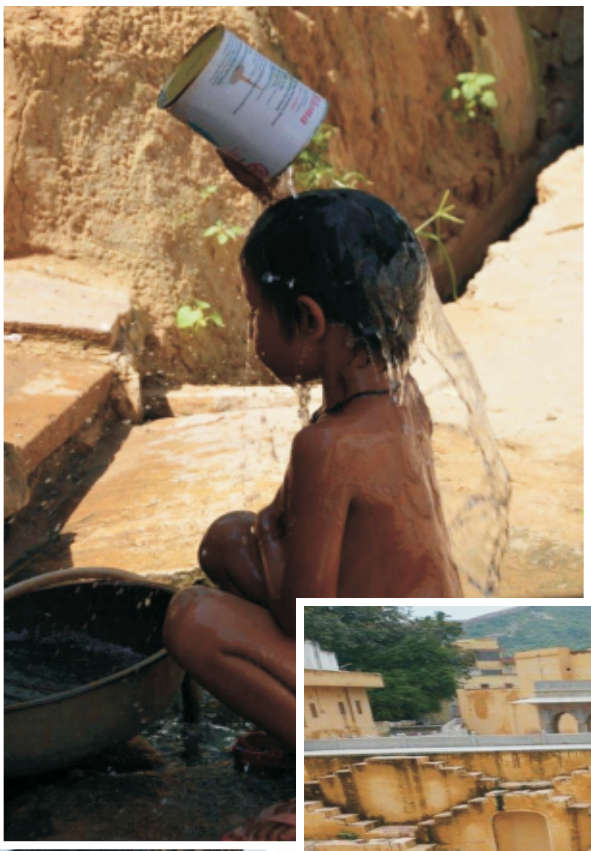
EUROPEAN UNION STATE PARTNERSHIP PROGRAMME

SPECIAL STUDIES SERIES

Rajasthan Study 2

IWRM AND LOCAL LEVEL PLANNING IN RAJASTHAN



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EUROPEAN UNION STATE PARTNERSHIP PROGRAMME

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Rajasthan Study 2

IWRM AND LOCAL LEVEL PLANNING IN RAJASTHAN

November 2012

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This project is funded by The European Union

A project implemented by ICF-GHK

Institute of Development Studies Jaipur

Infrastructure Professionals Enterprise Pvt. Ltd. New Delhi

CONTENTS

ACRONYMS

BDO	Block Development Officer
CBO	Community Based Organization
CEO	Chief Executive Officer
CPO	Chief Planning Officer
CSP	Country Strategy Paper
DoA	Department of Agriculture
DPR	Detailed Project Report
EC	European Commission
EU	European Union
GKN	*GraminKaryaNirdeshika* (PRRDD village scheme guidelines)
GIS	Geographic Information System
GO	Government Order
GoI	Government of India
GoR	Government of Rajasthan
GP	*Gram Panchayat* (PRI at the village level)
GS	Gram Sabha
GWD	Ground Water Department
IEC	Information Education Communication
IWDP	Integrated Watershed Development Programme
IWMP	Integrated Watershed Management Programme
IWRM	Integrated Water Resources Management
JE	Junior Engineer
JRM	Joint Review Mission
M&E	Monitoring and Evaluation
MIS	Management Information System
MNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme
MTEF	Medium Term Expenditure Framework
NADP	National Agriculture Development Programme
NGO	Non-Governmental Organization
NREGA/S	National Rural Employment Generation Act/Scheme
NRDWP	National Rural Drinking Water Programme
O&M	Operation and Maintenance
PHED	Public Health Engineering Department
PRA	Participatory Rural Appraisal
PR&RDD	Panchayati Raj & Rural Development Department
PRI	Panchayati Raj Institutions (institutions of local self-government)
RGNDWM	Rajiv Gandhi National Drinking Water Mission
RGWM	Rajiv Gandhi Water Mission
SE	Superintending Engineer
SPP	State Partnership Programme
SWP	State Water Policy
SWPAP	State Water Policy Action Plan
SWRPD	State Water Resources Planning Department
TA	Technical Assistance
TSI	Technical Support Institutions
UC	Utilisation Certificate
UG	User Group
VWHSC	Village Water Health & Sanitation Committee
WRC	Water Resource Centre
WRA	Water Regulatory Authority
WRD	Water Resources Department
WUA	Water Users' Association
WUG	Water Users' Group
ZP	*ZillaParishad*

EXECUTIVESUMMARY

Democratic decentralisation and local-level planning are often used interchangeably and viewed as vital for sustainable development through more accountable governance. Despite the long history of local-level Panchayats in India, the Panchayati Raj Institutions (PRIs) created in 1959 received a stimulus only with the passing of the 73rd and 74th Constitutional Amendment of 1992 and 1993. However, even after this, the performance of Panchayats has been generally weak and there have only been a few exceptions to the poor experience with local-level planning: (1) the user groups formed to support various government programmes; (2) the Kerala experience with decentralized planning, where around 40% of the state budget has been decided at district-level; and (3) the district-level planning based on PRIs that started from the 11th Five Year Plan (2007-2012).

The review of available experiences found the following:

- Limited PRI role in planning
  - State governments have done little to devolve responsibility to PRIs effectively or to build up their capacity to plan and implement.
  - Even in successful cases of decentralized planning (e.g. in Kerala, Madhya Pradesh and Maharashtra or in watershed management), the planning has been done by outside agencies (government line departments, Technical Support Institutions (TSI), NGO staff), either working on their own, or in partnership with the local community.
- Limited community role in planning infrastructure
  - Despite being given key roles in local-level planning and management, in reality, there may be very little actual involvement of local communities in PRI decision-making, with vested interests ensuring a lack of transparency in such decision-making processes.
  - There is also little community involvement in departmental planning while there is continuing involvement in construction and, to varying degrees, in operation & maintenance.
  - The planning of most mainstream departmental activities is largely non-participatory with limited involvement of either community or elected representatives.
  - The lack of clear guidelines and the absence of participation present the risk of a lack of transparency and elite capture, and importantly the likelihood of duplication and possibly a misuse of the water resource.
  - Community participation in the planning of activities is limited in two important ways: (1) Limited to ratifying or discussing aspects of pre-prepared plans; and (2) Limited to educated or experienced males who are considered 'technically-minded' enough to follow the planning process – and hence participate in.
  - The local community is deemed to be much more important in implementing plans, which local government staff are not able to do effectively. The community is thus given this responsibility – and left to their own devices to plan this.
  - Local communities need considerable amounts of capacity building, 'hand holding' and day-to-day management support to oversee implementation.
  - Exceptions to this are centrally-driven programmes such as the NRDWP and the EU-SPP though both have limitations in practice.
- Poor coordination across departments:
  - Departments are highly segregated and focused on supply-side, specialist engineering and there is little coordination across departments while planning water-related interventions.
  - Departments consult each other largely when requiring jurisdictional permissions.

- The local government structure achieves a limited degree of coordination of the technical planning processes only at District-level under the auspices of the District Collector, CEO and CPO.
- Coordination of the water sector remains weak without the authority and associated fund flows from the State-level.
- Only the centrally driven programmes with their specific funding and approval arrangements have achieved a degree of inter-Departmental interaction.
- Departments plan and implement in a 'compartmentalised' way with little interaction and there is very little sharing of planning data either vertically between State, District, Block or GP; or horizontally between Departments.
- There is an absence of a technical planning framework, methodology and tools to guide the application of decentralised and participatory planning for IWRM.
- There is limited vertical coordination of planning from village/GP to block and District except for the purposes of administrative approval and annual budgeting.
- Issues of scale and the need to nest local-level plans within intermediate and national level plans and/or basin and aquifer level planning processes both within and beyond the water sector therefore remain, even in successful cases of decentralized planning, as in Kerala

- <u>Special problems in natural resource management</u>
  - Although most pronounced in the case of forests but also in the case of multi-village schemes with distant sources and irrigation canals from far-away dams, there is a growing disconnect between local demands and demands from elsewhere in the 'system', leading to conflict among these different users.
  - Information and analytical requirements of planning for water for domestic uses, especially from ground water sources, are considerably more stringent than for agriculture or forestry or surface-water based irrigation.
  - Clear property rights regimes are necessary, but need to be supported by functional authority systems that provide guarantees to right holders and resolves conflicts among various stakeholders.
  - Decentralisation and the local-level management of groundwater is not easy to achieve due to the complexity of property rights over groundwater and the limitations of groundwater as a common property resource, the indiscriminate use of borewell technology, the incentives for water-intensive cash-cropping and low power tariffs, and ineffective regulatory structures

- <u>Limited possible role of panchayats</u>
  - Although most pronounced in the case of forests but also in the case of multi-village schemes with distant sources and irrigation canals from far-away dams, there is a growing disconnect between local demands and demands from elsewhere in the 'system', leading to conflict among these different users.
  - Local communities have different roles in the different dimensions to planning, such as selection of optimal technical design and optimal institutional design, estimating costs, identifying budgets and adjusting designs to the budgetand designating roles and responsibilities, procedures and processes for implementation. But the extent to which they have actual control over local resources (land, water and biomass) varies
  - Even if they do not oversee or otherwise 'control' the process of planning, Gram Panchayats (GP) ought to be informed of the plans and have to approve the plans formally before implementation. This, in turn, requires them to be fully aware of the details of the plans, so as to be able to discuss it meaningfully at the Gram Sabha(GS) or in the GP. However, there could

be conflicts when local communities do not agree with planned natural resource use.

Given this, the requirements of effective decentralized IWRM are rather large, and include the following:

- **Understanding local-level IWRM**
  - Assessing current water useto ensure that water demand across all local-uses is kept within available water resources, and is sustainable.
  - Identifying demand-supply balancing options including options to augment water supplies and to reduce water demand.
  - Redressing imbalances once the baseline situation is known and options are identified, using economic, legal and administrative and social regulations.
  - Setting management goals and priorities for local-level water use, and management options and triggers to achieve these
  - Avoiding future over-allocation of water resources by government or private sector actions, by ensuring adequate information to take informed decisions
  - Planning the cycle of interventions and re-visiting the objectives after implementation, monitoring and evaluation.
- **Requirements for effective IWRM**
  - Collecting information: A light water audit with participatory information collection is possibly the best option while water budgeting is a crude, but effective method to establish the 'water deficit' and thus spur villagers to achieve the real purpose of measurement: conservation. Such village-level water audits and budgeting exercises could be done by well-supervised local NGOs and local University students, who are trained by teams from IMTI, Kota. It would probably be ideal to do a quick rule-of-thumb water budgeting exercise followed by a more detailed though 'light' water audit.
  - Availability of information: A district Water Planning exercise could seek to consolidate all available information (e.g., on a spatial GIS platform), identify information gaps, commission studies to fill these gaps, and continue to update the District Water Resource Information System (WRIS) over time. This could be facilitated by anexternally-funded District Water Cell, like the Environment Cells in select Municipalities supported by GTZ.
  - Potential duplication or conflict in planning and plans: This can only be avoided by jointly sharing plans for water-using activities across all key water-using departments, coordinated by the District Collector and his staff,
  - Promoting greater equity and sustainability: Improved information on water abstraction and use across sectors should help identify the distribution of water across various uses, agriculture, drinking and industry and large water users (e.g., industrial consumers and pollution of surface and ground water by mines and factories). This information base should be the basis for corrective programming at district-level, based on prioritization based on the criteria in the State Water Policy, by the relevant line department heads of the district administration, in a committee headed by the District Collector, who oversees and signs off on the District Water Plan. Such joint planning of water resources should not only reduce the potential for duplication and conflict, but should (therefore) increase the sustainability of drinking water, irrigation and other water-using projects that are designed and implemented in the district.
  - Issues of scale and the nesting of plans: For consistency between larger-scale plans and the smaller 'micro watersheds' that make up the larger area. an externally-contracted technical team of the District Water Cell, could work with the District IWRM Teams and with the State Water Resources Centre at SWRPD.

- Challenges of formal and informal water economies: While mapping and measuring water quantities and flows and even fixing withdrawal quantities and limits are possible with some (considerable) effort, the more difficult issues are of redress when water-using limits and water-sharing agreements are violated – and usually by the politically powerful – in an 'informal water economy' such as India. With a large proportion of water users being 'direct users' and the inability of the legal system to give quick decisions, the best hopeis for the local community to take the initiative – at least in endorsing changed resource use patterns and enforcing them through social controls – but with the district administration providing active support.
- Conflicting demands (urban, peri-urban and rural water demands and use): When existing surface and ground water resources are insufficient to meet demand, intervention is necessary to correct existing imbalances and re-allocate water resources so that supply meets the highest priority demands. It will require considerable political will to resolve these conflicts based on existing policies. An urgent task, in the present context, would be to use all information available (including from the State Pollution Control Board, the Department of Mines and of Industries) to draw up the full list of water users in all project districts, and to discuss inter-departmental action to reduce demand wherever it outstrips supply.
- Ecological and environmental demands and uses of water: Considerations of water quotas to preserve environmental flows in surface water bodies in order to provide habitat for flora and fauna are seldom visualized or realized in the context of rural India. But these ecological needs have to be taken into account while reviewing and planning water use from existing water bodies and to take corrective action, where necessary, to ensure these needs are met for future generations.

- **Piloting a new approach: District Water Planning**
  - Giving IWRM Orientation to district- and local-level staff: In order that a common understanding of local IWRM, its objectives and processes is shared from state level to district, across government departmental staff to NGOs and the local communities, available training materials on local-level IWRM planning have to be updated as also the State Water Campaign.
  - Certifying technical capacities of NGOs: Since NGOs are likely to be the 'change agents' on the ground, it is essential that their staff are technically sound in local-level IWRM. All NGO staff working on this issue should be asked to pass a certification course given by IMTI, Kota or even by NABARD (for further replication across states).
  - Providing NGO support to GPs: Given that one of the lessons from the review of experience given earlier is that PRIs need support to undertake successful local-level planning, it is critical that NGOs are tasked with building awareness of technical issues and then the capability to understand, if not undertake, local-level planning of water supply, so that GP-level plans are sound, sustainable and effective.
  - Demonstrating District Water Plans: Since the concept of District Water Planning is new, it will require a special effort to hand-hold all the implementing agencies that are involved in piloting this approach, government, non-government and community organizations. This will require not only experts to closely monitor and support the process, but also experience sharing workshops and other feedback mechanisms to discuss and address issues that come up during day-to-day implementation of this new approach.
  - Tapping Progressive Sarpanches: As the approach is innovative and ambitious, it may be useful to tap into the association of progressive

sarpanches in Rajasthan, and to designate their villages as 'hubs', responsible for a set of villages around them. This could ensure better local-level understanding and participation in the planning process.

- Involving Retired Government Officers for monitoring: Another possibility is to include retired government officers (or even ex-army persons) into the piloting process, as done in Kerala, by building their capacity and then using their knowledge, enthusiasm and commitment to local development to drive the pilot planning process.
- Costs and requirements of planning processes: Ideally, the pilot planning process should start with the second batch of NGOs that are to be hired within the next 6 months, i.e., by April 2013. This should give sufficient time to prepare the ground, review and revise the IWRM training material, train the trainers, and to orient the district and state administrations on the District Water Planning approach, based on IWRM principles. Political support for the pilot will be a major advantage and so it would be advisable to present the pilot to the Chief Minister and Chief Secretary of the GoR and ask them to provide the necessary support. A list of supporting requirements – such as, not transferring district staff in the pilot districts for the duration of the pilot, support from local politicians for the process and coordination between line departments at state and district-level – would be a useful document to present at such meetings.
- Learning lessons and scaling up: The M&E of the pilot initiative will be critical to learning lessons for scaling up to other districts within Rajasthan and even to other states in the country. However, instead of just baseline and endline surveys – which is standard practice in M&E – the lessons learning could be spread across regular and concurrent stakeholder consultations that will be needed for shorter feedback loops for quicker corrective action. Scaling up, however, should not be 'automatic' but should be based on a careful analysis of what worked and what did not, based on certain pre-determined criteria.

- **Wider considerations for the new approach**
  - Stakeholder participation and participation: Linking the pilot initiative to the State Sustainable Water Campaign would help to reach a wider stakeholder audience. However, it would also help to share progress on the pilot through district-level multi-stakeholder meetings, which could be well-publicized with press briefings and coverage in the local language newspapers and TV networks. Regular information briefs from the Departments involved in the pilot would also help to reach a wider set of stakeholders. Within the pilot districts, there should be greater sharing of information and experiences, learning lessons from the WASMO initiative in Gujarat.
  - Transparency and accountability: Vital aspects in building up trust and confidence in the pilot process are transparency and accountability. These have to be addressed carefully and deliberately through systems and procedures at village and higher levels. And it is not just financial and beneficiary information that needs to be readily available, but also information on decisions taken – and the rationale behind the decisions. These, in turn, require clear demarcation of roles and responsibilities of all actors – from district administration and elected representatives to NGOs, CBOs and community members. The pilot will have to invest time and effort to prepare these roles and responsibilities, in partnership with all major stakeholders, test them and modify them to ensure their effectiveness.
  - Potential negative impacts: Any effort to change existing patterns of resource use is bound to come up against the interests that benefit from status quo. There are therefore likely to be adverse reactions against these

efforts, although obtaining prior political support should go a long way to help the pilot achieve its objectives. Apart from this potential political backlash, there are also likely to be mistakes made initially in the re-allocation of water across users and uses, which could have detrimental effects on the poor and marginalized. This will have to be safeguarded by the twin provisions of focused attention on potential impacts on these groups during the implementation process and during the regular multi-stakeholder sharing processes at district level.

INTRODUCTION

Democratic decentralisation and local-level planning are often used interchangeably and viewed as vital for sustainable development, for more accountable governance and– in natural resource management – to enable improved livelihoods and poverty reduction. This paper consolidates and reviews lessons learnt from Rajasthan and elsewhere in India about the positive and negative impacts of decentralised planning on integrated naturalresource management, on the processes of institutional decentralisation and coordination, local-level governance and planning andon local IWRM.

Why decentralization?

The rise of the decentralisation debate is closely associated with a wider recognition of the significance of governance as a determinant of sustainable natural resource management, and research evidence that poor governance can erode the natural resource base, with particularly pronounced effects on the poor, disadvantaged and marginalized sections of a society.

Protagonists of local level planning argue that decentralisation improves natural resource governance and sustainability in a variety of ways. The first is that collective ownership of natural resource priorities is more likely to emerge from involving affected communities, and this is facilitated by the principle of decentralisation and the institutional reform it implies. It is expected to lead to transparency in policies, the responsiveness and accountability of policy makers, more open flows of information, and hence less corruption (Seabright, 1996). The perceived benefits from decentralisation range from stimulation of economic growth to alleviation of rural poverty, to reduced project costs and – crucial to sustainability – improved asset maintenance (Bardhan, 1996; Mwangi, 2012, Manor 1999).

Critics of decentralisation caution however that greater inequality can occur where decentralisation results in political and elite capture and nexus formation between interest groups. Some research has concluded that unless supported by targeted support for poorer and weaker sub-national units, decentralised delivery systems may have benefited lower poverty regions, and that poorer regions easily get left behind, even deepening poverty (Bardhan, 2002; Bardhan and Mookherjee, 2000).

EU-State Partnership Programme

Background

The five-year EU-State Partnership Programme (EU-SPP) commenced in 2007 with a planned contribution of Euros 73.5 million to supplement the existing budget lines of the State government for the Rajasthan water sector. A further Euro 6.5 million provides for technical assistance (TA), reviews, evaluation and audits. Included within the latter is provision for a 6-monthly Joint Review Mission to review progress and recommend course corrections in programme implementation.

The original design of the EU-SPP proposed a standard package of measures, including a national or state water policy; legislation and regulatory frameworks; recognition of a river basin as a management unit; treating water as an economic good; and participatory water management. The design also covers the development of a medium term expenditure framework or strategy to improve alignment of budgets and plans across line departments involved in the water sector (excluding agriculture). The overall aim has been to provide the context and capacity for integrated water resource management (IWRM), as promoted by the Global Water Partnership and others.

During the Joint Review Mission (JRM) in July 2009, it was argued that a less formulaic approach to both sector reform and IWRM would be more pragmatic, incremental and more responsive to political economy of Rajasthan.

State Water Policy and the EU-SPP

A key SPP output has been to stimulate the new State Water Policy in Rajasthan, based on IWRM principles. Targeting eleven districts and eighty-two blocks, the SPP has assisted the State Government in the development and use of water resource information systems (MIS). However, because demand for water is outstripping supply there is an urgent need for shifting the emphasis to managing demand rather than supporting supply-side activities (mainly engineering and construction). With the new water policy promoting IWRM, the SPP is developing and piloting a decentralised planning process for IWRM. This is based on the necessary State-level reforms to enable information-sharing and integrated planning, and district and village level institutional frameworks for integrated water resource planning and management. At village-level, this includes piloting village-level planning for IWRM including a 'how-to' toolbox and planning guidelines.

Study Objectives

General Objectives

The special studies proposed by the JRM aim to provide a flexible demand-responsive framework for lesson learning that informs strategic discussions among key stakeholders in the SPP, including the Government of Rajasthan (GoR), the EC Delegation, the JRM and the TA team. They also seek to consolidate practical lessons from Rajasthan and elsewhere in India that are relevant to implementing the State Water Policy Action Plan and make this information available in a form that can be used to:

- Inform strategic decision-making at all levels within the SPP in Rajasthan
- Prioritise and pilot activities listed in the Water Policy Action Plan
- Improve relevant capacity building material for use by the SPP and others
- Improve measurable outcomes of the SPP in Rajasthan.

Objectives of this Study

Given the importance of local-level planning to the implementation of the SWP and SWPAP, this "IWRM and local-level planning" special study consolidates and reviews lessons learnt (positive and negative) from Rajasthan and elsewhere in India in terms of:

- **Institutional decentralisation and coordination**:
  - Institutional and governance conditions relevant to convergence of IWRM planning with other planning processes or the substitution or replacement of existing district or village level planning processes;
  - Existing local planning and decentralisation processes that seek to integrate or align the plans of different sectors and programmes in and outside the water sector (e.g. agriculture, forestry, horticulture, power, education, urban development, health etc.);
  - Knowledge and information sharing information horizontally between stakeholders at the same level and vertically between different levels;
- **Requirements for effective decentralised IWRM planning**:
  - Methods, tools and direct/indirect support for the planning process;
  - The availability, quality and accessibility of spatial and non-spatial information;
  - Potential duplication or conflict in planning processes and/or resulting plans;
  - The contribution of the planning process to support more equitable and sustainable water services delivery and conservation of water resources;
  - Issues of scale and the nesting of local-level plans within intermediate and national level plans and/or basin and aquifer level planning within and beyond the water sector;

- The challenges presented by the formal and informal water economies (Shah, 2011) and those posed by urban, peri-urban and rural water demands and use;
- Consideration of ecological and environmental demands and uses of water;
- Consideration of external factors outside the control of the implementers but that has the potential to derail the plan (e.g. climate change, major floods or droughts, sudden economic downturns, civil unrest etc.);
- Costs and requirements for planning processes and other resources (e.g. time, political support etc.);
- Potential for up- scaling of relatively small success stories;

- **Local-level governance and planning**:
  - Levels of participation of stakeholders (including women, the poor and the disadvantaged) in planning processes and ownership of resulting plans;
  - Levels of transparency and accountability;
  - Potential negative impacts of the planning processes and/or capture of the process by elites.

INSTITUTIONAL DECENTRALIZATION AND COORDINATION

Centralized and decentralized planning in India: a historical perspective

In India, decentralisation is often understood as the devolution of powers to locally-elected constitutional bodies, i.e., the *panchayati raj* institutions (PRIs). This three-tier structure of local governance consists of village-level Gram Panchayats (GP) at the base, followed at the intermediate level by either a MandalParishad, Block Panchayat or PanchayatSamiti (depending on the State), with representatives from GPs, and finally a ZillaParishad (ZP) at the district level, with representatives from all Intermediate Panchayats in the district. These are all democratic and formal institutions, which had an effective role in the early decades of independence, but which experienced erosion of powers in later years as a result of central and state level policy, conditional grants and loss of local capacity. However, understanding the decentralized *planning*of natural resources such as water requires a closer look at this transition.

Village panchayats managed local affairs in traditional Mughal and pre-Mughal India but infrastructure creation including building temples, large community water tanks, irrigation structures and canals was the responsibility of rulers (CSE, 1999; GoM, 1999). The British continued this tradition with canals in Punjab and south India, as did independent India with its large dams and reservoirs. Local communities were responsible for operating and maintaining this water infrastructure, with special institutions such as the *kohlis* in northern India and *neerakattis* in southern India to organize villagers to repair and maintain surface water infrastructure (CSE, 1999). Planning the construction of such infrastructure – including village tanks, dams and canals – was the responsibility of experts (e.g., engineers).

Despite this tradition of decentralized village-level *panchayats,*the Constitution of independent India did not even mention thePanchayats in the political system, in keeping with a 'widespread belief' that 'empowering panchayats politically, and entrenching them constitutionally, would mean that India would remain a primarily agricultural, village nation' (Upadhyay, 2005, pp. 9-10).[1] Thus, in its original formulation, the 'Constitutional obligation for village-based Panchayat system remained both feeble and vague', but it was admitted that they were useful as 'agencies of village administration' (*ibid.*). The vision of modern India centred on the idea that modern engineering would create infrastructure and that the government would control the 'commanding heights' of the economy.

Independent India thus opted for a system of Soviet-style planned economic development, with five-year and annual plans at central and state levels and development plans for each line department. Plans and budgets were centralized and departmental plans implemented according to available budgets. PRIs were introduced in 1959 as non-political development agencies, alongside the Community Development Programme (CDP) implemented since 1960 in all community development blocks in the country.[2]However, these non-political Panchayats were not very effective and the vision of 'integrated administration, especially at the block-level, emphasizing horizontal coordination of different activities' did not really materialize, being replaced by 'vertical line control of government departments'.[3]This became the norm and PRIs went into limbo until the early 1990s,[4] when PRIs were formally recognized as *political* institutions of local self-government with the passing of the 73rd and 74th Constitutional Amendment Acts for rural and urban India respectively.As per the 73rd Constitutional amendment, twenty-nine subjects - including all water-related departments

[1]Gandhi's vision of a nation-wide decentralized Panchayat system was deemed to be too radical and 'utterly decentralized' that it was never taken up in the Indian Constitution (Upadhyay, 2005, p. 8).

[2]These community development blocks have been abbreviated to just 'blocks', each with a Block Development Officer (BDO).

[3] S.N. Jha quoted in Upadhyay, 2005, p. 12.

[4] These institutions are said to have gone through three different phases during this period, viz., ascendancy (1956-1966), stagnation (1966-1976) and decay (1976 till early 1990s). A few states like West Bengal, Karnataka and Andhra Pradesh tried to revive these institutions during the 1980s but these were largely unsuccessful.

such as drinking water and sanitation, irrigation and watershed development - were to be transferred to PRIs.

While the Amendments helped to strengthen and systematise the PRIs institutions by stipulating the conduct of regular elections and the constitutionof State Finance Commissions, formal devolution of powers was in the hands of the state governments – who had to ratify the Amendment through state legislation. However, with the notable exception of a few states like Kerala and Madhya Pradesh, almost all state governments have been going slow on the full transfer of functions, functionaries and funds to PRIs and thus fully empower them to take responsibility for the subjects transferred to them through the Constitutional Amendments.[5]

There has been some momentum in the recent past, with the Ministry of Panchayati Raj of the GOI initiating several measures to empower PRIs, including signing of MoUs between the GOI and various state governments to carry forward PR reforms and the introduction of activity mapping in various states and UTs – to map activities relative to functions with a view to attributing each activity to the appropriate level of Panchayat, keeping in mind the principle of subsidiarity (this is discussed in greater detail below).

However, even with the Constitutional Amendment it has not been easy to correct the long-term bias against the PRIs, and thus although PRIs were originally meant to be institutions of local self-government, PRIs are not responsible even today for planning infrastructure (including water infrastructure), which remains the main function of line departments.At best, the view is that their role isto ensure effective implementation of the various government programmes that are planned and budgeted at state and national levels.

There are three notable exceptions to the history of weak PRIs in India. First, at least from the 1970s, all over the country, participatory but informal community-based organisations (CBOs) have pioneered and obtained state-level support for decentralised delivery systems for natural resources such as forests, water, watersheds etc in states such as Madhya Pradesh, Andhra Pradesh, Uttarakhand, Uttar Pradesh and Maharashtra, which have then been integrated with the PRIs. Second, following the Constitutional Amendments in the early 1990s, some states led by Kerala and including Madhya Pradesh, West Bengal and others, have taken strong steps to empower PRIs and decentralize planning down to the district-level. Third, since the 11th Five Year Plan (2007 – 2012), there has been a nation-wide attempt in the last decade to generate District Development Plans as a basis for the State Development Plans through the PRIs supported by the staff of the State Line Departments.A special part of this process is the Comprehensive District Agriculture Plans (C-DAPs) of Agriculture and Allied Activities (i.e., including animal husbandry, fisheries, agricultural marketing, etc.)[6], all of which will be continued into the Twelfth Plan Period (2012 – 2017).

All three experiences are explored further below.

User Groups: An Institutional Alternative

User groups refer to various community based organisations (CBOs) such as the Self Help Groups (SHGs) and to user groups (UGs) such as the Village Water and Sanitation Committee (VWSC), Water User Associations (WUAs) and the village-level Watershed Development Committee (WDC). The rationale for promoting these institutions in parallel with and in preference to PRIs has included the following: (a) UGs understand day-to-day problems better than elected political representatives; (b) PRIs have failed to deliver services effectively over decades, and (c) PRIs are known for elite capture and political patronage.

[5] It can be argued that PRIs were never really given a chance in terms of rights and responsibilities since devolution without control over funds amounts to devolution of responsibilities without any rights.The centre is now contemplating to further amend the Constitution to make complete devolution mandatory in the face of continuing resistance to devolution from the States.

[6]The full list of Allied Activities, as defined by the Planning Commission, are Crop Husbandry (including Horticulture), Animal Husbandry and Fisheries, Dairy Development, Agricultural Research and Education, Forestry and Wildlife, Plantation and Agricultural Marketing, Food Storage and Warehousing, Soil and Water Conservation, Agricultural Financial Institutions, other Agricultural Programmes and Cooperation

User groups were first formed to implement donor-assisted projects, given the perception of PRIs being too politicized and ineffective to be responsible project implementation. They achieved success in the 1980s and 1990s across a range of projects, such as the World Bank assisted Swajal Drinking Water and Sanitation Project in Uttar Pradesh and the DANIDA-supported Tamil Nadu Rural Water Supply Project, and watershed development projects implemented by the Watersheds Organizations Trust (WOTR) in Maharashtra. Although they had a mixed performance (Box 2.1), they were subsequently made key programme implementation units in mainstream government development programmes in the late 1990s and early 2000s, including the national watershed development programmes funded by the Ministry of Rural Development (MoRD)[7] and the national drinking water programme *Swajaldhara,* implemented by the then Department of Drinking Water Supply (DDWS).[8]

Box 2.1: Panchayat versus User Groups: Some Common Perceptions

- Panchayats are statutory bodies, User Groups are short-lived
- Panchayats interact with many departments, User Groups only with funding department
- Panchayats give representation to women/SCs/STs, user groups may not
- Bureaucracy favours User Groups as they are more amenable to bureaucratic controls than the Panchayats
- Panchayats cover many villages and ignore small villages
- Panchayats are interested in patronage, not participation
- Panchayats are based on conflict, whereas development requires consensus
- User Groups create a broader leadership base and provide an opportunity for more people to be involved in decision making
- Social capital in either case is hardly with the poor.

Source: National Workshop on Community Driven Management and Decentralisation, December 2000, New Delhi; quoted in Upadhyay, 2005.

The argument has always been how to bring these parallel institutions of User Groups under the purview of PRIs and thereby increase the accountability of such participatory institutions. In the last couple of decades, several states including Uttar Pradesh, Madhya Pradesh and Maharashtra, various user committees have been made sub-committees of the elected Panchayats, in order to allow them to receive government programme funding. However, there is still scope to increase this synergy and improve accountability, address the inadequacy of PRIs' powers and funds and improve the sustainability of development programmes implemented by PRIs. According to a study of the legal aspects of PRIs involvement in natural resource management (NRM) in Maharashtra, Madhya Pradesh and Rajasthan, the existing legal framework provides the requisite room to integrate the advantages of the user groups as smaller and specialized entities within the Panchayati Raj framework by the mechanism of committees (Upadhya, 2005). The functions enshrined in the 11th Schedule of the Constitution - and for which PRIs have been placed in control of planning, implementation and monitoring - can be broadly divided into three: core or basic functions (such as drinking water supply, health, and sanitation and other amenities), welfare functions and natural resource management (NRM) functions, and each has potential for greater CBO integration.

- **Core functions:** CBOs like Village Water and Sanitation and Health Committees handling core functions vested in PRIs from their inception can be made standing committees of PRIs with CBO members acting as pressure groups for greater efficiency and equity in implementation.
- **Welfare functions:** PRIs have to take primary responsibility for the discharging of welfare functions such as poverty alleviation programmes, women and child development, social welfare (Rural Housing and Managing Public Distribution System), but they can work in tandem with CBOs. For instance, in SHGs, Mothers Committees

[7] These comprise the Desert Development Programme (DDP), the Drought-Prone Area Development Programme (DPAP) and the Integrated Wastelands Development Programme (IWDP).

[8] The DDWS is now a full-fledged Ministry of Drinking Water and Sanitation (MDWS).

and Disabled Groups, some interface between PRIs and CBOs is desirable, even if powers are clearly with the PRIs.

- **Natural Resource Management:** In NRM activities such as water, watersheds, the PRI interface with CBOs is generally weak and CBOs formed to manage water resource such as Watershed Committees (WCs), and Water Users Associations (WUAs) need to be given larger role as they are found to be effective in managing such resources. Most of the functions require technical skills and knowledge of the management of the resource, which some CBOs have carefully acquired - more so than most PRIs which still lack key capacities for resource management. PRIs are likely to be most effective as monitoring institutions whereby accountability of the CBOs can be ensured to the constitutionally elected bodies In NRM related activities.

However, although various Acts and other mechanisms have created PRI representation in various CBOs, merely being ex-officio members without voting rights, has ensured that the linkage remains largely cosmetic. There is also a more extreme view that such institutions have not only weakened the PRI bodies, but are also potentially damaging to development (Manor 2000 and 2001). An improved interface between the PRIs and the CBOs would usher in better mechanisms of accountability, as stronger CBOs would be capable of better services and able to engage with the stakeholders at the Gram Sabha level. True integration cannot take place through government orders or legislation, but requires a sense of impact and ownership (Sitaram, 2002).

Effective empowerment of PRIs necessitates higher authorities to disempower themselves and devolve power and authority to the three-tiered PRIs so as to create space and opportunity for greater accountability. However, such definitive measures to devolve functions, funds and functionaries to the PRIs has been lacking, with the notable exception of Kerala – although many more states are beginning to join the reform movement, as seen above.

However, the extent to which departmental plans promoting participatory development programmes, such as JFM, PIM, watershed development and rural water supply, actually involve communities in creating and implementing plans varies considerably, as the subsequent section details.

Strengthening PRIs: The Kerala Experience

Kerala embarked on an ambitious programme of de-facto decentralization in 1996, wherein, among other measures, 40% of budgets were devolved down to district level. The result has been unprecedented people-centered development although it has had share of weaknesses and contradictions (e.g., Heller, et al., 2007; PEO, n.d.). Several other states, including West Bengal, Karnataka, Madhya Pradesh, Orissa, Maharashtra and Jharkhand have also embarked upon programmes of decentralized planning (GOI-UNDP, n.d.,), but the case of Kerala is profiled below as the most advanced of these cases.

Key reform measures undertaken by the Kerala government are the following (PEO, n.d.):

- Transfer of powers, functions, institutions and staff to local governments (1995 – 2000) transferred officials were given a dual responsibility and accountability to both the PRIs and the line Departments for execution of their respective plan programs;
- Decentralized financial allocation system: (since 1996) These included
    - Adoption of a separate budget document exclusively for Local Self Governments (LSGs) and the introduction of a formula for allocation of Plan funds (grants-in-aid) among LSGs;
    - Decision to devolve 35 - 40% of State Plan funds to local governments - around 90% of this amount was devolved with the condition that at least 30% should be spent on productive sectors, not more than 30% in infrastructure and at least 10% should be earmarked for women's development programs

- People's Plan Campaign (from 1996) with multi-pronged socio-political mobilization and sensitization of people with effective participation of organizations like Kerala SasthraSahityaParishad (KSSP), for institution-building at different tiers and levels;
- Legislative changes (1999) Restructuring of the Kerala Panchayat Raj Act and the Kerala Municipality Act based on the recommendations of the Committee on Decentralization of Powers (known as the Sen Committee)
- State Finance Commissions (1996 & 2001) Submission of First and Second State Finance Commission Reports, reviewing the financial position of Local Self Governments and making recommendations for improvement.

The massive preparation exercise involved an unprecedented and unique effort by government and civil society and included training by the Kerala Institute of Local Administration (KILA) of over 100,000 Key Resource Persons at local and district-levels (which were later extended and specifically targeted at women and SC/STs), involving a prominent NGO, the KSSP, to design and implement the state-wide awareness generation campaign, mobilizing participants through party cadres and organizing Neighbourbood Groups (*ayalkootams*) to increase women's participation (Heller, et al., 2007). The main institutional innovations were the following (PEO, n.d.):

- GramaSabha-level planning (GS):To ensure people's participation and which local officials of GP and implementing departments are required to attend. Vertical integration of GS plans was through block-level GSs consisting of GP Presidents and Block Samiti members and the District level GramaSabha consisting of GP presidents, BP Presidents and District Panchayat (*ZillaPanchayat*) members.
- Neighbourhood Groups (NHGs):A sub-system of GS,an NHG (Ayalkoottam) is an association of 20-25 women members, who form Self Help Groups (SHGs) and carry out the Women's Component Plan.
- Standing Committees:All GPs, BPs and ZPs have Standing Committees (SCs), each assigned certain subjects, and co-ordinated by a Steering Committee consisting of the President, Vice President of the Panchayat and the chairpersons of the SCs. Panchayats can constitute additional sub-committees to assist the SCs and have Joint Committees between neighbouring Local Governments.
- Expert Committees (ECs): ECs, evolved from Voluntary Technical Corps, are formed at block and district levels, with experts from within and outside the government. ECs provide technical advice to PRIs, vet PRI projects from a technical point of view and, wherever required, give technical sanction for works.
- District Planning Committee:AllPRI plans in the district are submitted to the DPC, for formal approval although neither the DPC nor the ECs has the power to alter the priorities fixed by PRIs, and could only ensure that the relevant guidelines were followed.
- State Level Coordinators:At the state-level, the State Planning Board co-ordinates with the Department of Local Self Government and guides the decentralized planning process at different tiers by issuing Guidelines and monitoring compliance and progress.
- State Level Expert Committee: This body vets all District Panchayat plans.
- State Election Commission:This body has been empowered to delimit the wards of PRIs for elections and to disqualify defectors.
- Ombudsman: A high-powered state-level institution comprising judicial dignitaries and formed to check malpractice in local governments while carrying out their functions.

The decentralized annual planning and budgeting process in Kerala has four basic steps (Heller, et al., 2007):

1. Gram Sabhas identify and prioritize problems – presided by local elected officials and facilitated by Key Resource Persons, to identify local development problems, generate priorities and form sub-sector Development Seminars where specific proposals are developed.[9]
2. Development Seminars develop Panchayat Plans – representatives from Gram Sabhas, members of the Panchayatsamithi, local political leaders, key local officials and experts meet to develop integrated solutions for various problems identified by the Gram Sabhas and produce a comprehensive Plan document for the Panchayat.
3. Task Forces convert the plan into distinct proposals - A Task Force (or Working Group) is selected by the Development Seminars for each of 10 development sectors (in general), including women's development and includes a member of the panchayatsamithi, the relevant local official and representatives selected by the Gram Sabhas. The Task Forces convert the broad solutions of the seminars into project or scheme proposals to be integrated into the final panchayat plan.
4. The Panchayats prioritizes and finalizes the Plan - Drawing on the shelf of sectoral projects designed by the Task Forces, the Panchayat drafts the District Plan given available budgetary resources, including grants-in-aid (the largest component), own resources (e.g., local taxes) and state or central government funds.

Reviews of the impact on the ground have found both positive change and challenges. The evaluation study of the World Bank, detailed the creation, for the first time in India, of effective participatory governance (Heller et al., 2007, p. 643):

'Our most important finding can be simply stated: the campaign has created structures of participatory governance where none existed before. The simple fact that local governments in Kerala now have functions and resources they did not have in the recent past represents a significant transformation. Until the passage of the 73rd and 74th constitutional amendments, local government in India (with a few notable exceptions) was little more than an empty institutional shell serving primarily as an extension of the planning and bureaucratic powers of states. Whatever authority local governments had was generally monopolized by local elites. Because of its history of land reform and social movements, Kerala departed somewhat from this pattern of local elite dominance, but panchayats have nonetheless historically been very weak and developmentally ineffective. That the campaign has irreversibly changed the importance of local government in Kerala is beyond doubt. Not only have resources been devolved—and we know this both from official sources, from direct data collected from our sample panchayats and from the almost unanimous opinions of our respondents—but new institutions have been built, new processes of local decision making have been created and new channels of participation have been opened up.'[10]

More specifically, the benefits noted are the following (PEO, n.d.):

- Gram Sabhas 'emerged as a prominent body of need articulation in the villages' and had 'ensured people's participation in need articulation, prioritization of projects/schemes and accommodating the needs of the vulnerable sections' (p. 6)
- Considerable awareness was created among both literates and illiterates about the planning process and high participation rates among even backward GPs
- There was a high degree of articulation of the needs of disadvantaged sections (women and BPL) in Gram Sabhas.

[9] These Gram Sabhas are 'always held on holidays, and in public buildings (usually schools). Preparations for the assemblies include extensive publicity, and the distribution of various planning documents. Minutes are kept, and each sub-sector group presents a report of its deliberations and produces a list of ''felt needs."' (*ibid*, p. 629).

[10] The evaluation also notes that 'Contrary to Crook and Manor's assessment that decentralized planning has little chance of success in India (1998, p. 49), all of our evidence points to the fact that the participatory planning took place in our sample panchayats.' (p. 643)

- There was improved coordination between GPs and departmental officials and an improved response by both GPS and Departmental officials towards people's needs
- The speed and cost effectiveness of project implementation improved.
- There was considerable impact of service sector projects, viz., subsidized latrine construction, house construction and repair, anganwadi feeding programmes and drinking water supply.

Nevertheless, there were challenges as well (PEO, n.d.), which are discussed in somewhat greater detail below as they are perhaps more useful in the present context:

- **Plan preparation**
  - *Inadequate capacity of GPs to create comprehensive and scientific plans*The report noted the lack of capacity of the PRIs to 'draw up production plans on a scientific basis. Attention was not paid to the forward and backward linkages, environmental impact, market signals and state policies' (p. 11). Agricultural project planning, for instance, was 'not focused, not outcome-oriented and not information-based' and the available departmental database was not used effectively (p. 6). Although this problem was noted at all levels, the reasons given for the lowest level of the Gram Sabha being unable to carry out the planning role were the following (problems at higher levels are discussed subsequently):
    - Pursuit of individual benefits by most GS participants
    - Individual GS members going outside the GS and directly to GP members, leaders and officials, to articulate their demands and
    - Low attendance of GS (around 36% did not attend in sampled GPs).
  - *Poor performance by Working Groups and Expert Committees*to create concrete project proposals and to vet them, respectively. This was attributed, in turn, to
    - Lack of regular attendance by officials (citing other official engagements) and other members (citing low levels of the 'sitting fees' that are given as an incentive)
    - Lack of capacity to create innovative solutions for specific local problems, within the budget available
    - No coordination and integration of different sectoral working groups
    - Frequent transfers of officials which disrupted continuity of work
  - *Poor vertical integration of plans* with infrastructural and productive sector projects not recognizing inter-linkages and the lack in District Plans of 'a clear-cut, sectorally differentiated and vertically integrated development strategy' and of clarity in 'the roles of different tiers'
- **Plan implementation**
  - *Problems in beneficiary selection* with undue favouritism being reported, by GS members, by the officials selecting beneficiaries, coupled with a low and dwindling turn out in GS meetings, which aided such biased selection
  - *Low beneficiary participation* in anganwadi and collective irrigation projects
  - *Inadequate follow-up and maintenance* especially of project-created assets.
- **Project-level impacts**
  - *Problems in all productive projects requiring integration:* While stand-alone projects performed relatively well, but those that required any horizontal or vertical integration performed poorly. In particular, agriculture, irrigation and animal husbandry projects had a 'negligible' impact (p. 10).

Overall, thus, the PEO evaluation recommended more comprehensive planning on a watershed basis, with the involvement of more subject matter experts, better use of available data, better vertical and horizontal integration and more stringent vetting of consistency between plans, and better integration also of state and central government schemes.
However, the Kerala experience is outstanding not only because it is a pioneering effort in the country, but also because it has managed to continue and grow despite political changes at the state and central levels. While some other states have taken up the challenge of

implementing decentralized planning, other states argue that Kerala is a special case and cannot be replicated everywhere in the country. Among the factors mentioned are (1) the high degree of literacy (99%), education and awareness; (2) a long history of communist rule and workers' empowerment; (3) the small size of the state; (4) the relative abundance of water resources (high rainfall state); and (5) relatively low poverty, given high remittances from abroad (the Gulf) and the (6) conducive political climate for change in the mid 1990s. Yet, the examples of West Bengal, Madhya Pradesh, Maharahstra, Orissa and Jharkhand show that the movement is catching on (see Annexure 2 for details of the progress made in these states, based on GOI-UNDP, n.d.).

The District Planning Process and C-DAPs

A major effort to revitalize the PRIs came during the 11th Five Year Plan (2007-2012), with the Plan Document insisting that State Development Plans were based on a 'district planning process'. The Ministry of Panchayati Raj (MoPR) and the Planning Commission constituted an Expert Group in 2005 which presented a report on Planning at the Grassroots level in March 2006 that defined three steps to streamline the decentralized planning process (Planning Commission, 2006):

(1) *Decentralized envisioning* to determine the main priorities and identify ways to ensure that the participatory process involves all stakeholders

(2) Decentralized planning using a participatory process at district level for human development (including health, education, women and child welfare), infrastructural development (involving achieving targets in rural infrastructure as aimed in the *Bharat Nirman*projectof the GOI in partnership with state governments and PRIs) and productive sector development (in terms of achieving the district's potential in human and natural resource development given resource constraints) over a 10-15 year horizon; and

(3) *Consolidation and integration*, through District Planning Committees (DPCs) set up to assist with planning at 'intermediate panchayat level' (i.e., between district and village) and responsible for 'preparation of the vision documents, maintaining databases, training planners, evaluating outcomes, and monitoring internal performance' (p. 2).

The Report further recommends the following steps to be undertaken to operationalize decentralized planning:

- **Activity mapping:** The functioning of panchayats should be clearly demarcated through activity mapping which, in turn, should be tied to a well structured process of devolution of funds.
- **Annual budgets to Panchayats:** State governments should analyze annual budgets with an objective of steering funds, without delays and diversions, to Panchayats in accordance with the functions devolved to them.
- **Direct fund transfers to Gram Panchayats:** Each state should maintain a database of the bank accounts of all village Panchayats and directly transfer funds to them through the core banking system, wherever available.
- **Information system**: At state level, an information system should be set up to ensure smooth, effective and transparent functioning of panchayats at lower levels.
- **Centrally-sponsored schemes:** Given that centrally sponsored schemes (CSS) lack a consistent institutional mechanism for decentralized implementation, all scheme guidelines should specify clear lines of administrative approval and sanction, on the basis of Activity Mapping.
- **Department officials under Panchayats:** Each Ministry should issue a statement that all grass-root level department functionaries are brought under the control of Panchayats

- **CBOs also under Panchayats:** All parallel bodies set up under various schemes to undertake similar tasks as Panchayats should be brought under Panchayats.
- **Programmes to give clear planning & implementation roles to Panchayat:** Flagship government programmes (e.g., SarvaShikshaAbhigyan, Mid Day Meal Scheme, Drinking Water Mission, Total Sanitation Campaign, National Rural Health Mission, Integrated Child Development Services, National Rural Employment Guarantee Programme, and Jawaharlal Nehru Urban Renewal Mission) and other central programmes (e.g., Bharat Nirman project) should assign a clear and precise roles for planning and implementing rural infrastructure to Panchayats.

Thus, the 11th FYP mandated decentralized planning as a central plank for delivering sustainable resource management, better production and livelihood opportunities for (and by) rural people (Planning Commission, 2011). This was the approach adopted for developing Comprehensive District Agriculture Plans (C-DAPs), an initiative started in the 11th FYP period. According to the Working Group on Decentralized Planning for Agriculture, decentralized planning for agriculture and allied sectors is 'essential, as the local level resources climate and agro-ecological features dictate success or failure of any intervention.' It elaborated the merits of decentralized (or local level) planning as follows (Planning Commission, 2011, p. 2):

'Local level planning ... helps to arrive at an integrated, participatory, and coordinated initiative for development of a sub-state geographical area. An essential step in this direction is to ensure that each Panchayat at any level or Municipality is treated as a planning unit and the 'district plan' is built up through consolidation and integration of these plans which eventually form part of the overall district development plan. Thus, it is a two-way interactive exercise that is horizontal and vertical integration of sectoral schemes and poverty alleviation.'

It observed that the C-DAP should be a 'comprehensive document incorporating steps towards development of agriculture and allied sectors, both in physical and financial terms with an objective to achieve sustainable growth in agriculture during the stipulated period' (*ibid.*).The C-DAP thus is expected to be an 'an integrated and comprehensive district agriculture plan taking into account the local needs and the resource (natural, human and financial) potential' that addresses the following (*ibid.*):

- All major issues related to agriculture and allied sectors
- Project identification and resource gap filling
- Convergence of central and state government programmes
- Stakeholder involvement
- Improved quality of life for farmers
- Increased agricultural productivity and food security

In addition to funds for C-DAP preparation – and a disincentive of Rs. 1 crore per district deduction if the C-DAP was not prepared – the RashtriyaKrishiVikasYojana (RKVY) was a major agricultural programme started during the 11th FYP as a tool for C-DAP preparation (see Annexure 2 for RKVK Guidelines).Despite all these efforts, however, reviews of the C-DAP process, carried out in 599 out of the 609 districts in the country shows that, while the approach is 'acceptable and should be pursued further', there are 'many bottlenecks on the way to decentralization' (*ibid.& p. 23*):

- Mindset change of stakeholders and those who are to implement process of decentralization and strong political support
- Lack of capacity building & handholding

- Understanding the spirit of process and accordingly providing required institutional arrangements well in time and write earnestly.
- Lack of periodic monitoring of the progress
- Lack of encouragements and censuring mechanism as per the performance
- Lack of authority for enforcing guidelines over PRIs
- Coordination mechanism at centre, state and district level
- Planning and Implementation cell
- Lack of awareness
- Delays in preparation and implementation of projects
- Horizontal and vertical linkage between panchayat and implementing agency
- Inter and intra sectoral coordination to ensure convergence of program based resources
- Lack of well defined criteria for allocation of funds for annual plan preparation to the districts.
- Ineffective conduct of SLSC
- Delays

In conclusion, the review found that effective implementation of decentralization and convergence requires a major mindset change, which can be done through education, persuasion and force putting all these in a strategic mode. The initiative continues in the 12th Five Year Plan, but with changes, to address the problems faced in the earlier Plan period. This underscores a national determination to support district-level planning.

DECENTRALIZED PLANNING IN PRACTICE

The extent to which the actual planning of development programmes has been decentralized varies across line departments and is almost unrelated to the decentralization of powers to PRIs. Thus, the practice of involving villagers in protecting forests, replanting degraded forest land and reducing illegal logging and grazing started in the late 1970s and became formalized into the practice of the Forest Departments as Joint Forest Management (JFM). Allowing farmers to participate in the management of surface water irrigation started in the 1980s, while implementing national watershed management programmes in a participatory manner started in the 1990s and the national demand-led community-based rural drinking water supply programme,*Swajaldhara*, started in 2002. The most recent entrant is the development of comprehensive 'bottom-up' district-level agricultural plans in the mid 2000s. While all these initiatives were designed to involve local communities in implementing department-specific development programmes, the extent to which communities were allowed to participate in the planning of activities varied considerably, both in intent and in practice.

Joint Forest Management

VanPanchayats (Forest Panchayats) were a feature of the sub-Himalayan forests in the region from Himachal Pradesh to Uttar Pradesh from the time of the pre-colonial Rajas and have continued through the operations of the colonial and post-colonial Forest Departments. Traditional community rights to forest produce are found all over India, from the Himalayas to Gujarat and Madhya Pradesh to southern India. But the historic *Chipko Movement* in the hills of Himachal Pradesh in the 1970s, against the illegal logging that was decimating the state's forests,and the people's protest in the 1980s against the government-proposed hydro-power dam in 'Silent Valley' in Kerala are high points of community involvement in the protection of forest resources. But all these examples are either about protecting forest resources or their use by the local forest-dependent communities. Even the Joint Forest Management(JFM) movement that started in Arabari in West Bengal in the late 1970s was basically an effort to involve the local communities in protecting forests against threats such as illegal logging, forest fires and open grazing and to concede to these communities, in return, some rights to forest produce – grass, non- timber forest products (NTFP) and timber. Indeed a key motivation was to increase the human resources available to the FD to carry out its functions, given that hiring more staff was becoming prohibitively expensive.

JFM does not, however, mean that local communities are involved in planning what species to plant, where and in what proportions and neither did they involve them in planning the harvesting, transporting and selling of timber and other NTFPs. All these 'scientific forestry' activities remain the preserve of the Forest Department (FD), most of whom continue to believe that forests are too precious and too complex to leave their management entirely to local communities. Annual departmental plans are made and budgeted by the FD as are the Catchment Management Plans (CMPs) designed to reduce run off into downstream reservoirs and dams (especially the micro-hydro stations in the Himalyan foot-hills).

The role of the local community in 'joint' management thus is essentially to help the FD to carry out its own plans for the protection and use of forest resources.

Participatory Irrigation Management

India has a long tradition of small-scale water harvesting structures or 'community tanks', constructed to harvest rain water in a range of terrains, from *oorani* and *aeri* in southern Tamil Nadu, *korambus, chiras*and*surangas*in Kerala, *katte*and*cheruvu*in Andhra Pradesh and Karnataka, *bandas, khatas and mundas*in Orissa, and *khadin, baudi* and *khunds*in Rajasthan (CSE, 1997 and 2012; Kelkar-Khambete, 2012). In several dry land areas of the country, this traditional technology has been promoted for water harvesting through rainwater management, while in some other cases, tanks were linked with the canal irrigation system for water refilling. These traditional irrigation tanks were thus central to socio-ecology

and irrigated agriculture and were managed and controlled under private property regimes before independence. After Independence, however, private tank ownership rights were abolished and transferred to State Governments. However, most of these traditional tanks have fallen into disrepair due to decades of siltation, poor organization and management, the decline of compulsory labour contributions in maintenance work, inadequate operation and maintenance budgets, meagre revenue and the increase in wells in tank command areas.

The degradation of these once-community operated (e.g., Wade, 1987) systems into open access resources has largely been due to weak institutional arrangements; lack of clearly and well-enforced property rights structures and a breakdown of the local authority system. But, particularly since 1947, these were all decisions taken by engineers and officials in government departments – and not by the local community – just as in the case of the large dams and canal systems that were constructed from pre-colonial times to today by state agencies and experts.

Canal Irrigation

The origins of Participatory Irrigation Management (PIM) is similar to that of JFM: in the face of continued conflict and consequent neglect and damage to water infrastructure created by the Irrigation Department in Maharashtra, in the early 1980s, a young irrigation engineer invited villagers to jointly manage the canal infrastructure – and thus to ensure that the infrastructure was protected, the rates were paid and distribution as equitable. When the approach succeeded, he spread it to other schemes and motivated other engineers and local NGOs to promote the approach.[11] Apart from the Wagad scheme in Nashik district, which is a striking example of the success of PIM, the Maharasthra Government has undertaken several other measures as well, to improve community participation in irrigation (Box 3.1).
With the failure of many large, medium and small irrigation projects all over the country to deliver projected benefits to farmers beyond pipe outlets underscoring the limitation of State control over canal irrigation water, and the successful examples of involving farmers, there was a huge push in the 1990s to promote Water User Associations and legislate for Irrigation Management Transfer (IMT). The hope was that these measures would arrest the erosion of large-scale irrigation capital investment, increase water and land productivity, and improve farmer wellbeing. Maharashtra has undertaken several measures to improve participatory

The impact, however, has been mixed with several isolated successes (like Wagad in Nashik and others in Gujarat), based on effective functioning of technical and institutional arrangements at the main canal system,appropriate incentives to farmers and their organizations, continuous capacity building, sustained hand holding by engineers or NGOs,[12]and perhaps most importantly, the political and bureaucratic will to share power with farmers and mitigate political barriers to the effective functioning of WUAs (Marothia, 2005).

However, the relevant issue here is the extent to which WUAs are responsible for local-level planning. According to the Andhra Pradesh Farmers' Management of Irrigation Act of 1997, the functions of WUAs include: surveys for diagnosis of irrigation systems; conducting regular General Body and Executive Committee meetings;[13] deciding on cropping patterns, water management and budgeting; resolving disputes among farmers; joint collection of water cess collection; participating in operational planning and maintenance works;

[11] S.N. Lele, considered the 'father of participatory irrigation management' in Maharashtra. Personal communication. October 2010.

[12] Even in the case of the Wagad scheme, there was a committed Gandhian NGO working with the local farmers while in the Gujarat case, such support came from the Aga Khan Rural Support Programme (AKRSP). In Andhra Pradesh and other states, there has been an increase in average irrigated area and land productivity due to assured supply of water with the advent of WUAs but the increases are not uniform across all reaches (Reddy *et al*, 2004). Also, the performance of these WUAs is determined by the availability of water, with more WUA meetings and greater farmer participation and cooperation in head and tail ends of irrigation systems – which is directly linked to intensity of problems faced.

[13] The Act also enables each WUA to have (1) a General Body, comprising of all the water users who are the landholders in a Water User Area; (2) a Managing Committee (MC) comprising of one member from each of the (elected) TCs of a water user's area and a Vice President and a President elected from among them and (3) Agriculture Officers from the State Agriculture Department appointed as the Competent Authority to guide the WUAs on agricultural aspects.

maintenance of accounts and other records as well as financial and social auditing; and training and motivation. And in practice, the General Body typically discusses the overall situation and the general approaches to water management, while the Executive Committee discusses and takes decisions on issues such as assessment of land, works to be carried out, fund allocations to works, water management, cess collection, etc. (Reddy and Reddy, 2005).

Box 3.1: Measures to improve community participation in irrigation,Maharashtra

- Participatory Irrigation Management: In July 2001 the GOM decided to hand over to Water User Associations the management of the entire command area of irrigation potential created under all its projects. A special campaign is organised every year since 2002 between 2 -16 October to create awareness for the formation of WUAs. In 2004-05 there were 774 operative WUAs operating in an area of 251,000 hectares.
- Participation of users in planning: Since 2004, it has become mandatory to involve the representatives of WUAs in formulating Preliminary Irrigation Programmes (PIPs) of major, medium and minor irrigation projects. In addition, representatives of local sugar factories, non-irrigation users, NGOs working in the irrigation sector and officers from the Agriculture Department are also involved in the preparation and finalization of irrigation PIPs.
- Participation of beneficiaries in canal maintenance: From 2002-03, a campaign called *VishweshwariaKalwaSwachchataAbhiyan*(Vishweshwaria Canal Cleaning Campaign) has been started to involve local beneficiaries and villagers to carry out annual maintenance of canals and distributaries.
- Maharashtra Water Sector Improvement Project (MWSIP): This World Bank financed project was signed in 2005 and aims to increase utilization of created irrigation potential by improving the performance of the existing irrigation system through the rehabilitation and modernization of about 286 irrigation projects (9 major, 13 medium and 264 minor schemes). The four main components are: (1) Institutional restructuring and capacity building – by establishing the MWRRA, strengthening the WALMI and setting up an integrated computerized information system; (2) improving irrigation service delivery and management – including participatory rehabilitation and modernization, dam safety works, formation and capacity building of WUAs, improved water management practices, strengthening agricultural support services in selected projects and drafting an environmental and social impact management plan; (3) innovative pilots – including the user-centred aquifer management project and innovative irrigation service management; and (4) project management – including setting up project preparation & management unit, M&E and IEC.
- Maharashtra Management of Irrigation Systems by Farmers Act 2005: The state legislature passed the MMISF Act in 2005 making all beneficiaries in the command of a distributory or minor canal members of a WUA, once the area is notified under the Act. The objective is to provide legal recognition to the contribution and operation of WUAs and speed up the pace of participatory irrigation management.

Source: GOM (2006a) quoted in Pragmatix (2006)

But the planning of the water supply infrastructure, the length and direction of the canals in the network, positioning of outlets and management rules of the dam are decided by engineers of the Irrigation Department (or as it is now called in most states, Water Resources Department). Yet, even in this limited context, studies of WUAs have shown that democratic decision-making is more or less absent in these canal system WUAs: important issues like fund collection and allocation are rarely discussed and WUA Presidents or Irrigation Department officials generally takes decisions even on simple issues.

Tank Irrigation

Since the 1990s, efforts began in some states to transfer the control and the management of tanks to village communities through Participatory Tank Irrigation Management (PTIM) initiatives. The primary objective of PTIM was to restore the storage and irrigation potential of

tanks with well-designed institutions, especially State Departments of Water Resources and Tank User Associations (TUAs). TUAs control the operation and maintenance under well-designed rules at different levels, but the tank rehabilitation programme lacks clarity on the efficient, equitable and sustainable use of resources. Thus, even when implemented by well-intentioned NGOs, which would like community participation in donor programmes, tank rehabilitation remains largely confined to physical rehabilitation (Marothia, 2009).

This is also the case with small water storage structures created by Water Resources and Agriculture Departments in several states to provide lifesaving irrigation to a rain-fed based cropping pattern. Even where PRIs were given the task of managing tanks, they could not do so effectively due to a lack of legislative and administrative powers to effectively manage such a common property resource: Panchayats could not evolve rules for the use of water, collection of fees and enforce their authority, so that these common property resources ultimately degenerated into open access (Box 3.2).

Box3.2: Micro-Minor Irrigation Tanks in Madhya Pradesh

In Madhya Pradesh, the State Department of Agriculture introduced a micro-minor irrigation tanks (MMIT) programme through its soil conservation wing in 1977-78 to increase food grain production, employment generation and to minimize migration. MMITs were constructed on government owned wastelands across the natural watercourses to store rain-fed run-off. The command area of MMITs is generally below 40 hectares. After construction, the Panchayats were given ownership rights of MMITs and were to manage under common property resource regime by group(s) of the farmers within the command area of a particular tank. An institutional analysis to assess the MMIT programme proved wrong the original assumption that farmers would contribute different types of resources-labour, materials and capital when they and Panchayats experience the benefits of MMITs. MMITs were largely unable to exclude 'free riders' - i.e., non-contributors in labour or capital resources from taking advantage of the water use - in the absence of well-defined structure of rights and duties for users. With the renewed initiative to rehabilitate MMITs after the formation of Chhattisgarh state in 2000, panchayats are now managing MMITs under a common property regime with effective institutional arrangements where the panchayats and village communities share responsibilities for decision-making.

In the case of the PaniPanchyats in Maharashtra there was initial success due to robust institutional design based on locally-understood design principles for surface water management (from shared community tanks), but the rules broke down when irrigation increasingly became based on ground water.[14] And attempts to transfer this model to other states have not yielded much success. In Orissa, for instance, the recent transfer of minor irrigation systems to newly formed PaniPanchyats has not achieved similar performance improvements– possibly due to the minor irrigation water bodies being multifunctional and therefore diluted in their focus (Marothia, 1997 and 2009).[15]

Role of PRIs across States

Currently, several states have legislated transfer of responsibility for irrigation structures to Water User Associations (WUAs) and PRIs, but the extent and the nature of responsibility varies (Table 3.1).

[14]Unlike Van Panchayats or the village panchayats, PaniPanchayats, are a relatively recent institution created by a visionary and supported by the NGO he helped to found.

[15]Community tanks and village water bodies that serve multiple uses, including fisheries, pose additional problems. Studies in Chhattisgarh and other states indicate that property rights are fundamental to the use of multiple-use water bodies for culture fisheries – and yet not a sufficient condition for sustainable use of multi-use water bodies for fish culture unless there is a functional authority system that can guarantee the rights and mitigate conflicts among socially-differentiated fishermen, irrigators and other stakeholders (Marothia, 1993 & 2006).

Table 3.1: Role of PRIs in local-level planning of minor and lift irrigation in selected states

States	Gram Panchayat	Intermediary Panchayats	District/ZillaPanchayat
Andhra Pradesh	• Membership of WUA	• No role	• No role
Gujarat	• Construction & maintenance of channels in MI schemes • Planning & maintenance of water bodies	• Construction and maintenance of MI schemes at *taluka* level • Providing credit for irrigation development • Construction & repair of wells • Increasing the use of sub-soil water • Timely and equitable distribution of water	• Supervising the execution of MI schemes • According administrative sanction up to Rs.0.5 million • Preparing proposals for projects costing Rs.0.5 - Rs.1.5 million • Implementation of schemes for wells • Repairing old wells • Assistance for the purchase of pumps
Karnataka	• Identification of beneficiaries • Quality control of schemes	• Implementation and monitoring. • Coordination with ZP	• Formulation of projects • Quality control and supervision • Coordination between departments at district-level
Madhya Pradesh	• Regulation of irrigation water use • Planning, owning and managing water bodies within GP • Leasing out minor water bodies fishing	• Sanctioning uptoRs. 0.5 million for construction of water harvesting structures, percolation tanks and ponds	• Construction, maintenance, management and coordination of MI schemes up to Rs. 1.0 million. • Transferring to GP after the construction.
Punjab	• Site identification, execution and monitoring of schemes • Maintenance of canals and water bodies	• Construction, repair and management of water sources • Providing technical assistance for execution of schemes	• Coordination of departments at district-level
Rajasthan	• Control & maintenance of tanks irrigating up to 50 acres • Encouraging farmers to utilize water properly	• Construction and maintenance of MI works, anicuts, LI schemes, wells & bunds • Implementing individual and community works	• Construction, renovation and maintenance of C&D class MI works up to 2500 acres and LI schemes • Implementation of schemes relating to construction of canals and WHS • Development and promotion of low cost water management technologies
West Bengal	• Identification & location of projects • Construction & maintenance of MI schemes, percolation tanks & field channels • Collection of water charges	• Obtaining technical vetting for MI schemes beyond its competence • Joint supervision & monitoring of schemes	• Scrutiny of schemes and recommendation to DSSC for final selection

States	Gram Panchayat	Intermediary Panchayats	District/ZillaPanchayat
	• Handing over schemes to User Committees		

Broadly speaking, however, the GP responsibilities are largely to do with field-level activities, e.g., identification and location of sites, organizing labour for construction, monitoring the use of the resources, checking and punishing misuse, identification of beneficiaries, resolving conflict in order to ensure regulated water use, leasing out water bodies, collecting user charges, and forming User Committees and handing over control to them. Intermediate and District Panchayats are largely vested with higher-order oversight and supervision – e.g., giving technical and financial sanctions to schemes, designing larger scale (multi-village) schemes, providing funds for construction and repairs of schemes, quality control, scrutinizing scheme performance and taking corrective action, encouraging the adoption of innovative technologies and coordinating between different government agencies.

And yet, these responsibilities – laid out in legislation or government orders – are based either on an ideal vision of decentralized government or on the need for local support given a shortage of departmental staff, rather than a realistic assessment of functional capacities at various levels of PRIs. And as shown earlier, PRI performance reflects this lack of capacity.

Watershed Development

National Watershed Management Programmes

Although watershed management has a long history in India, starting off basically as soil and water conservation programmes in the 1970s, integrated and participatory watershed management is widely acknowledged to have begun in 1994, with the publication of Guidelines for Watershed Development by the Ministry of Rural Development (MoRD), based on the recommendations of the HanumanthaRao Committee formed in 1993.[16]The key feature of these Guidelines was the stipulation that NGOs could be the Project Implementing Agencies (PIAs) – as opposed to the earlier setup where watershed projects were implemented by specialized agencies (e.g., CSWCRTI) or line departments (e.g., for the NWDPRA). However, this was changed in 2003 with the formulation of the 'Hariyali' Guidelinesthat stipulated that PRIs would be PIAs for all watershed management projects of the MoRD – although NGOs would have a role in social mobilization and in filling-in for PRIs when their capacity was deemed to be inadequate (Box 3.3).

[16]After the River Basin Organizations of the 1950s, the Central Soil & Water Conservation Research & Training Institute (CSWCRTI) started model watersheds in 1974, but both were largely technical soil and water conservation (SWC) exercises focused on improving the natural resource base (e.g., GOI, 2006). Small-scale NGO projects in 1970s and 1980s (e.g., Sukhomajiri in Chandigarh, Ralegaon Siddhi in Maharashtra and the work of NGOs like the Social Centre, BAIF and AFARM in Maharashtra and Myrada in Karnataka)spurred a movement towards integrated and participatory watershed development programmes by the GOI especially in drylands (e.g., GOI, 2006; Joshi, et al., 2004). Thus, the 6th Plan Period (1980-1985) saw the Integrated Watershed Management in the Catchments of Flood-Prone Rivers and 46 watershed management projects in dryland areas by the Indian Council of Agricultural Research, while from the mid-1980s, the World Bank supported pilot integrated watershed management projects started in 4 watersheds and were subsequently scaled up to 2000 watersheds across 99 districts in 16 states (Chopra, 2002, World Bank, 2006). These latter projects integrated SWC, cropping system improvements, horticulture, afforestation and pasture development, an approach also taken up by the National Watershed Development Programme for Rainfed Areas (NWDPRA) of the Ministry of Agriculture & Cooperation (MoAC). The HanumanthaRao Committee of 1993 advocated the integration of the three key programmes under the Ministry of Rural Development (MoRD), Desert Development Programme (DDP), Drought-Prone Areas Development Programme (DPAP) and the Integrated Wastelands Development Programme (IWDP) into the National Watershed Development Programme (NWDP); while the Mohan Dharia Committee of 1994 recommended the formation of the Department of Land Resources in the MoRD, done in 1999. Following the landmark 1994 MoRD guidelines, the MoAC formulated the Watershed Areas for Rainfed Agricultural Systems Approach (WARSA) followed by Common Guidelines in 2000 (GOI, 2006).

Box 3.3. Hariyali watershed development guidelines 2003

Objectives	• Rainwater harvesting for domestic and productive uses • Overall development of rural areas through Gram Panchayats • Employment generation, poverty alleviation, community empowerment • Mitigating adverse climatic conditions on crops, people and livestock • Restoring ecological balance by conserving natural resources • Encouraging sustained community action for asset creation and O&M • Promoting simple, easy &affordable technology &institutional arrangements
Watershed selection criteria	• People willing to contribute cash and kind for asset creation and O&M • Acute shortage of drinking water • Large population of scheduled castes and scheduled tribes • Preponderance of non-forest wastelands, degraded lands and common lands • Actual wages less than minimum wages • Contiguous watersheds that can be developed with average size of 500 ha
Implementation agencies	• District level: ZillaPanchayat or District Rural Development Agency • Field level: Gram Panchayat
Role of NGOs	• Can be contracted for group formation and social mobilization • Implementing agency where GP and/or ZP capacity is not adequate
Flow of funds	• GOI – MORD – DRDA/ZP – Gram Panchayat – Community
Priority Actions	• Development of small water harvesting structures (farm ponds, check dams..) • Renovation and augmentation of water sources, desilting tanks • Fisheries development in village ponds and tanks • Afforestation including agro-forestry, horticulture, block plantations, etc • Pasture development, independent or in conjunction with plantations • Soil and moisture conservation (contour bunds, terracing, planting on bunds..) • Drainage line treatment with vegetative and engineering structures • Repair, restoration and upgrading existing common property assets • Crop demonstrations • Promotion of energy saving devices, energy conservation, bio-fuel plantation..
Funding pattern	• 85% Watershed treatment, development, works • 5% Community mobilization and training • 10% Administrative overheads
Project duration	5 years
Cost sharing	10 % for work on private land, and 5 percent for common property land
Cost ceiling	Rs 6,000 (US$133) per ha at ZP/DPRA level
Source: GOI, 2003; quoted in World Bank, 2007	

Although the three national watershed management programmes were integrated into the national Integrated Watershed Management Programme (IWMP) in 2008, with revised Common Guidelines, the focus on implementing the programme through PRIs has remained (Singh et al., 2011).These guidelines reintroduced the village watershed development committee (WDC) as a sub-committee of the GP (see Box 3.4 for the institutional set-up in Andhra Pradesh).[17]

However, the actual involvement of the local community in watershed management programmes is much more than in PIM or JFM. Villagers jointly plan the siting and implementation of interventions for soil and water conservation, afforestation, pasture land development, livestock development and livelihood measures.[18] However, these tend to be 'stand-alone' plans and there is hardly any attempt to integrate GP-level plans at larger scales (i.e., above 500 hectares) and hence upstream-downstream linkages and externalities are not addressed (World Bank, 2006). Neither are these plans integrated with other departmental plans – and not even with plans for constructing soil and water conservations structures under the Mahatma Gandhi National Rural Employment Guarantee

[17]The state of Andhra Pradesh is in the forefront of implementation of watershed development programmes, with more than 10,000 watersheds covering 5 million hectares of land implemented under the new guidelines of 2008.

[18]This is, arguably, more effective in NGO-implemented watersheds, such as the watersheds implemented by WOTR, where 'gut-planning' of interventions on each farmer's land is done jointly by the NGO staff, WDC representatives and the local farmers (GOI, 2006).

Scheme (MNREGS), which are carried out by the same Departments (in Rajasthan, for instance, both are done by the Rural Development &Panchayati Raj Department).

Box 3.4: Institutional arrangements for watershed development in Andhra Pradesh

MoRD releases the funds to the concerned State Governments, and in AP the Watershed Programme Implementation and Review Committee has been under the Chairmanship of the Chief Secretary or other senior officials such as an Additional Chief Secretary or the Agricultural Production Commissioner or Development Commissioner, with senior officials representing related departments and 2 to 3 Gram Panchayats,State Agricultural Universities or state level training institutes like the State Institute of Rural Development (SIRD) and the Institute of Administration or Management Institute, as well as Watershed Development Team (WDT). Five to six representatives have come from NGOs or Village Associations. The State-level Department of Rural Development is the nodal agency to service this Committee. The WDC meets as necessary, not less than twice a year; to finalize and approve projects and annual action plans. The WDCs monitor and review the implementation of watershed development plans, resolve the disputes and lay down procedures for the operation and maintenance of community assets. The WDC elects a Chairman from its members and carries out day-to-day activities and is responsible for co-ordination and liaising with the GP, WDT, ZP / DRDA and the Government Departments for the smooth implementation of Watershed Development Plans. A full-time WDC secretary and three volunteers assist the Committee in programme implementation and to maintain the records and accounts. Watershed Development Associations (WDA) and WDCs are the main implementing arms at the village level, and the Watershed Development Team WDT is largely a technical advisory body to the WDC and the PIA while the Gram Sabha (GS) is more of an opinion/ consensus builder.

Role of PRIs across States

Although the Common Guidelines stipulate the central implementation role to PRIs (Table 3.2), in practice, many states have not delegated authority to village panchayats, although some state governments have made considerable progress. Even the usually reformist Andhra Pradesh has been silent on this issue but it has been a proponent of greater inclusion of CBOs through the framework.

Table 3.2: Role of PRIs in local-level planning of watershed management projects in selected states

States	Gram Panchayat	Intermediary Panchayats	District/ZillaPanchayat
Andhra Pradesh	• Selection, planning and implementation of projects • Constitution of user groups • Maintenance of created assets • Selection of beneficiaries	• Preparation of WSD projects at micro basin level • Formation of technical teams • Organizing payments • Monitoring & coordination • Providing capacity building	• Sanction and allocation of budgets • Reviewing progress
Karnataka	• Selection of beneficiaries; • Formation of WDC, with GP President as Chairperson of WDC	• Coordination with GP	• Identification, selection and approval of watersheds
Madhya Pradesh	• Approval of Micro-watersheds • Formation of WDCs • Maintenance of Water Harvesting Structures created	• Management of structures transferred by ZP • Monitoring in case of disputes	• Identification, selection and approval of watersheds • Coordination of inter-departmental issues
Punjab	• Assistance in organising and management of	• Assistance to GP for implementation of WSD activities	• Identification and approval of schemes. • Implementation and

States	Gram Panchayat	Intermediary Panchayats	District/ZillaPanchayat
	WDCs		coordination of watershed development programmes
Rajasthan	• Identification and Implementation of watersheds through PRA • Assistance in organising and functioning of WDC • Maintenance of assets	• Providing professional assistance in GP-level implementation of activities • Coordination with ZP	• Development and promotion of watershed projects • Coordination between departments • Supervision and review of work progress.
West Bengal	• Selection of beneficiaries • Assistance in organising WCs	• Organising farm demonstration for modern water management practices. • Approving plans for the watershed development programme	• Propagation of modern water management and delivery methods • Implementation and coordination of watershed development programmes

A recent assessment in Andhra Pradesh found that in watersheds where government line departments are the PIAs, the number of GS meetings varies across watersheds but in general WDC meetings are more regular with good participation (Reddy *et. al*, 2005). However, implementation varies across watersheds depending on the PIA while the degree of community involvement in watershed programmes depends on both the PIA and the existing socio-political conditions at the village level.[19]

In the case of Rajasthan, all the works have been officially implemented by GPs since 2004, but in practice a mixture of institutional arrangements exist, including parallel institutions promoted by NGOs that manage watershed activities and that are not linked to GPs (GoI, nd).

Rural Drinking Water Supply

Single and multi-village schemes for rural drinking water supply designed and constructed by engineers from the rural water supply (RWS) department or public health engineering department (PHED), with little or no community involvement in planning or design, was the norm across India till the late 1990s, when the Sector Reforms Pilot Projects began. This initiative introduced a community-based demand-driven participatory approach to RWS that had been piloted successfully in different donor-driven projects such as the World Bank supported SWAJAL in Uttar Pradesh (in parts that are now in the new state of Uttarakhand) and the DANIDA-supported Tamil Nadu Rural Water Supply Project.This new approach was subsequently scaled up nation-wide through the Swajaldhara programme of 2002 and continued in the National Rural Drinking Water Programme of 2009 (e.g., James 2004; James, 2005a; James 2011; GOI, 2010).

This NRDWP specifically stated one of the key elements of the paradigm shift it was engendering was that 'the State should transfer the program to the PRIs particularly to the Gram Panchayats for management within the village' so as to 'enable the community to plan, implement and manage their own water supply systems' (GOI, 2010, p. 3). It also mentioned that NWRDP plans ought to be converged with other government programmes including the MNREGS and the Total Sanitation Campaign.[20]

[19] Different caste groupings and political affiliations of farmers influence access and distribution of gains.

[20] The Total Sanitation Campaign or TSC has been subsequently renamed the Nirmal Bharat Abhiyan or NBA (GOI, 2012).

Role of PRIs across States

Largely because water is a state subject in the Constitution of India, the role given to PRIs for the planning and implementation of rural drinking water supply schemes, varies across states (Table 3.3), despite the stipulation in the Guidelines from Swajaldhara to NRDWP to devolve responsibility to PRIs.

Table 3.3: Role of PRIs in local-level planning of rural drinking water supply in selected states

States	Gram Panchayat	Intermediary Panchayats	District/ZillaPanchayat
Andhra Pradesh	• Identification of schemes • O&M • Ensuring good water quality • Formation of VWSC	• Planning, reviewing and monitoring of water supply schemes	• Planning and maintenance of Common Piped Water Schemes (CPWS) & Multi-Village Schemes (MVS) • Arranging for training & IEC • Review of DWSM
Gujarat	• Obtaining additional supply of water • Sanitation • Water conservation • Prevention and abatement of nuisance	• Recommendation of projects • Promoting community contribution • O&M of drinking water schemes executed by GWSSB and handed over to VPs • Providing facilities for pure drinking water	• Sanitation of drinking water related schemes • Follow up of projects in Planning Board • Provision and maintenance of drinking water supply
Himachal Pradesh	• Maintenance of HPs and other schemes • Prevention of water pollution • Identification of potential schemes • Providing information on scheme functioning • Checking misuse of funds	• Maintenance of HPs and other schemes • Prevention of water pollution • Identification of potential schemes • Providing information on the functioning of schemes • Checking misuse of funds	• Identification of potential schemes covering more than one block
Karnataka	• Distribution of water • O&M • Collection of water bills • Appointment of waterman • Helping ZP in case of new schemes	• Pass on the GP demands to ZP	• Formulation of schemes • Technical approval of schemes • Execution & implementation of schemes
Madhya Pradesh	• Construction, repair & maintenance of public water supply systems • Distribution of water • O&M	• Pass on the GP demand to ZP. Coordinate and Guide GPs within the block.	• Formulation of schemes • Technical approval of schemes • Execution & implementation of schemes
Punjab	• Identification of schemes. • O&M of Single Village Schemes (SVS) • Maintenance of water sources	• Integration of GP plans • Passing on GP demands to ZP • Reviewing and monitoring water quality.	• Formulation of schemes • Technical approval of schemes • Execution & supervision of schemes.
Rajasthan	• Identification, construction, repair	• O&M of HP and other schemes.	• Development of GW sources

States	Gram Panchayat	Intermediary Panchayats	District/ZillaPanchayat
	& maintenance of water sources • O&M of Hand Pumps and schemes. • Maintaining water quality • Ensuring equal distribution of water	• Implementation of sanitation schemes. • Planning of water supply schemes covering more than GP • Passing on GP demands to ZP	• Technical approval of plans. • Development of plans for Multi Village Schemes (MVS) • Organising training programmes
West Bengal	• Identification and location of schemes • Construction & repair of wells, tanks, HPs • Ensuring water quality	• Beneficiary selection for piped water supply schemes in consultation with GP • Seeking technical approval from ZP for projects beyond its competence. • Handing over schemes to GPs/User committees	• Formulation, technical approval and execution of major schemes that are beyond Intermediate Panchayats.

While the GP role varies from identification and location of schemes to construction and repair of water supply systems to checking of water quality, collecting monthly payments and ensuring equitable distribution of water supply, and the Intermediate and District Panchayats have larger roles of planning, oversight and supervision, these responsibilities have not been matched with suitable capacity enhancements. This has led to the situation where schemes continue to be planned and designed by engineers of the RWS and PHED, and presented for adoption by the Gram Sabhas and Gram Panchayats – to make it seem as if these have been generated by the community with the full awareness, participation and consent of the local communities.

Nevertheless, the community does have a larger role to plan in planning the construction of the rural water supply scheme, being engaged as construction labour for the earthwork and laying of pipes and construction of the OHTs and laying of pipelines, given the Guideline specification that 10% of construction cost must be borne by the community. They are also actively involved in the operation and maintenance of the scheme, with the stipulation that 100% of the O&M cost must be borne by the community. The RWS or PHED is thereafter responsible largely for major repairs and replacements that cannot be carried out by the community itself. However, actual performance varies considerably across states (e.g., James 2011).

A pioneering effort in community-based management in Rajasthan was the KfW-GOR initiative called *AapniYojana* (Box 3.5), and following its success, GoR laid down a phased programme in 2005 transferring legal ownership and responsibilities for management to Gram Panchayats by the end of India's 11th Plan period i.e., 2012.

Box 3.5; AapniYojna, Churu, Rajasthan

The Government of Rajasthan, with financial assistance from the KfW, implemented the community-based rural water supply project called *AapniYojana*(Our Project) in 370 villages in 3 (out of 33) districts of Rajasthan from 1994 to 2006, supported by a Community Development Unit, a consortium of five NGOs (led by the Indian Institute of Health Management Research) and a Project Management Cell (PMC) in the Public Health Engineering Department (PHED).

Coverage: A population of around525,000living in 370 villages and 2 towns covering anarea of about 20,000 sq km in the northern districts of Churu, Hanumangarh and Jhunjhunu, which were afflicted by a perennial shortage of drinking water, which worsened every summer.

Objectives: Overall, to improve the health and living conditions of the population through a large regional water supply scheme complemented with community based resource management. Specific aims were to reduce wastage of water, collect community contributions towards cost recovery, create awareness and responsibility for water conservation and consumption, construct low-cost sanitation facilities and launch women development activities and to promote family welfare measures

Main components: *Technical measures* including construction of infrastructure, treatment plants, pumping stations, reservoirs and laying pipeline by the PHED through a specially-created Project Management Cell headed by a Chief Engineer. *Complementary Measures* to ensure sustainability and enhancement of benefits were implemented by the Community Participation Unit and covered fair distribution of water, water conservation, health education, women's participation and sanitation.

Project processes: The project formed Water and Health Committees (WHCs) in each village, comprising five members (Communicator, Caretaker, Payment Collector, Sanitation Representative and a Woman Representative), and a PaniSamiti for clusters of villages (DRS, *undated*). The WHC signed an agreement with the PMC on behalf of the villagers. This agreement specifies the roles and responsibilities of both parties.

Main achievements

Water supply

- *WHCs:* In 360 villages, WHCs were formed, legalized and fully operational.
- *Community mobilization:* In 360 villages, the WHC ensured that social maps were prepared, sites were selected, payment models was finalized, security money was collected & deposited and voluntary labour was contributed (only in 352 villages).
- *Infrastructure:* In 370 villages, 3009 public stand posts (PSPs) were built of which 1,865 PSPs provided with proper drainage systems (soak pits, link to tree etc.); 618 central water tanks were constructed and 344 villages had functional water supply systems

Sanitation

- *School sanitation:* In 261 out of the 546 schools in the 370 villages, school committees were formed; In 361 villages, 1,133 school sanitation activities were done; 35,190 students were given health education; 95 school sanitation blocks were constructed.
- *Mason agreements:* A total of 1551 masons were identified in 339 project villages and agreements signed with 1012 masons in 276 villages
- *Toilet construction:* In 370 villages needing sanitation, applications were received from 358 villages and 22,384 toilets were constructed in 352 villages.

Women's participation

- *Groups*: 318 women's groups were formed and 222 self help groups (SHGs). The SHGs collected Rs. 2,231,274 in total, and 120 of them were linked with banks.
- *Participation in WatSan activities:* Women were involved in making social maps (356 villages); site selection (353 villages); security collection (344 villages); selecting sanitation beneficiaries (338 villages) contributing voluntary labour (335 villages); participated in trainings (320 villages).

Total responsibility of planning, implementing, operating and managing all types of water supply schemes and sanitation was to be devolved in a phased manner by the end of 12th plan in 2017. The plan was to delineate the roles and responsibilities of the state government with respect to issues like water quality, source sustainability, technical administration and financial support of big schemes like multi-village/ block schemes to GPs/VWSCs. However, only hand pump maintenance has been handed over to GPs so far. And even after five years of intensive efforts following *AapniYojana*, community O&M contributions in Rajasthan are only 28% of the target.

Local level Planning by Line Departments in Rajasthan

Coordination and integration of planning by line departments is a separate issue from the capacity of PRIs to carry out mandates given to them in policies and programmes. In Rajasthan, the actual practice of local-level planning by line department staff lacks coordination and integration not only with PRIs but also across departments whose activities affect water resource use.

Water Resources Department

Discussions with WRD officials revealed that although there are guidelines for the preparation of major, medium and minor projects, community-level interaction was not part of planning process. There is some limited and usually uni-directional collaboration with other government departments (see Box 3.6).

Box 3.6: Inter-departmental interaction: WRD and PHED

Notification is given to the local Executive Engineer (Ex En) of PHED about new irrigation projects, requesting information on drinking water demand that can be included in the project preparation process. (Since project approval depends on the benefit-cost ratio, and this ratio improves if the proposed irrigation project caters also to drinking water demand). But PHED normally does not respond to such requests during project preparation and prior to its approval. However PHED does approach WRD whenever their sources run dry and they need to access water from an irrigation project. If permission is not granted, they appeal to the government, and a direction is usually given to release water for the primary need of drinking.

And such lack of coordination with various government departments does have concrete impacts on both resource use and conflicts, as several examples from the state of Rajasthan show (Box 3.7).

Box 3.7: Consequences of lack of inter-departmental coordination

***WRD and PHED: Duplication and cost escalation*:** In 1998-99, a medium irrigation project was planned by WRD in Bandhi-Sandhra in Jalore district, 15 km from Binmal town to relieve an acute shortage of water. However, since the Jaipura River was perennial in those years, and the PHED planned to lay a 50 km pipeline to Jaipura River, with an intake well, tank etc. despite the WRD informing them that an irrigation scheme was being planned nearby from where they could source water for their drinking water scheme. The PHED scheme was constructed and the WRD project was also completed, but soon after, the Jaipura River ran dry, and the PHED came back and asked the WRD for water to be sourced from their medium irrigation project. More infrastructure was laid and water was provided, but at a higher cost because of the duplication of effort.

***WRD and Soil Conservation & Watershed Department (SCWD)*:**In the Bisalpur Dam catchment, there were less than 5,000 water bodies during its planning and design but there are more than 32,000 now, constructed by watershed development programmes and the MNREGS reducing the inflow of water into the reservoir.

***WRD and Revenue Department*:** AtRamgadhBandh, catchment areas have been converted into urban lands by the Revenue Department from the 1970s to the1990s. Encroachments, buildings and boundary walls have been constructed, cutting across old natural pathways for water inflows into Ramgadh, and not enough water has been collecting in this main source of water supply for Jaipur city. The issue is currently under litigation.

Public Health Engineering Department

Rural projects: The PHED is the agency leading the implementation of the NRDWP, which requires the preparation of Village Water Security Plans (VWSPs), based on NRDWP guidelines which set out the institutional framework, planning process and fund flows for the VWSPs. The process includes community meetings and works with the GP Village Water & Sanitation Committee. The VAP has been piloted in Rajasthan and a methodology developed for implementation (see Step by Step Methodology for Preparing Village Action Plan, available at http://www.ccduraj.org/PDF/201012055254.pdf) and PHED has so far covered 6000 villages in Rajasthan.

However, the PHED has a separate format for the preparation of new departmental projects – largely single and multi-village piped drinking water supply systems and standalone bore wells for hand pumps (mostly using groundwater sources) - which is used in practice. This includes collection of basic village data through a village survey – such as the number of households, existing infrastructure, number of schools and offices available for roof rain water harvesting etc.Village consultations are generally held before proposals are placed. Proposals may comprise a request of the village community or its representatives (e.g., Sarpanch), as a Gram Sabha resolution or from other political representatives (e.g., MLA, MPs) direct to PHED engineers at district or block-level. However, this is a one-time activity and there is no subsequent community- level interaction either in planning, implementation or O&M. The end result of the process followed in both cases is basically to use community members to collect the field-level information required to draw up the plan and the budget for the scheme being planned (Box 3.8).

Box 3.8: Local level Planning Process: PHED Rural

Routine PHED
Identify demand: According to the JE &ExEn: villages are identified based on requests from the village community (either through a GS Resolution or requests from political representatives): The local 'demand' is estimated from surveyed information, IMIS data.
Feasibility study: This is undertaken according to the context e.g. (a) where there is no source: have sufficient data from past studies to identify new source; HG ACE office at Regional level (if drilling wing capacities are not enough e.g., rotary machines, then ask GWD for drilling); 2011 data; GWD staff on deputation and now merged; or (b) where the existing source is distant or close by, the solution is to access the nearest groundwater source or surface water source; or more recently to use RW tankhas (agriculture department is undertaking tanks in IGNP area); and to produce a written report of yield tests to match availability with demand.
Scheme formulation: Solutions are proposed for prescribed service level demand.
Sanction: Previously administrative and financial sanction was sought before the technical sanction– breaking up the proposal into phases, first digging and drilling, then distribution system and other civil works; Now, the time has been reduced by doing both sanctions together.
Tenders: As soon as sanctions are issued, tenders are called for. Tender periods vary from 10 days to one month depending on the size of the scheme. Work completion period ranges from six months to two years for major projects.
NWRDP
The NWRDP Village Action Planning (VAP) process is the following

- A 3-day planning process including data collection and focus group discussion..
- A technical assessment and plan preparation is prepared by an NGO which is contracted at Block level to establish a Block Resource Centre.
- The VAP is prepared by the NGO and then presented to the GP for approval. Schemes are included in the VAP which is then submitted to the SE, PHED at District level.
- The VAP schemes are integrated by PHED at District level within the PHED District Annual Plan.
- Schemes are implemented by PHED with NRWDP funds.

Further, there is very limited inter-departmental interaction and, even where these occur, the objective is not for water resource planning and management of use but largely to obtain clearances, land or water (Box 3.9).

Box 3.9: Inter-departmental Interaction: PHED Rural

Ground Water Department, interaction occurs with GWD when (extra) hydro-geologists are needed or when drilling of bore wells is to be done;

Water Resources Department is contacted when necessary in order to source water from irrigation projects;

Revenue Department: interaction is required with the Revenue Department to obtain land allocations (through the patwari, tehsildar or sarpanch);

Forest Department: If pipeline< 1 m diameter and 2 m depth there is no need for prior sanction from the Forest Department, but if the pipeline dimensions are more than these, then sanction is needed. Also, if a structure or a tubewell is to be constructed or drilled, then permission is required from the local District Forest Officer.

As already identified above, the consequences of a lack of coordination is a duplication of effort and schemes, a cost escalation, and possible mismanagement of the water resource. It is to be noted that the NRDWP VAP guidelines do not consider water uses beyond human drinking water and livestock use. It therefore excludes irrigation, which is by far the largest user of water resources in the economy.

However, the PHED has introduced changes to its practice in particular to respond to the decentralisation agenda. The initiatives mentioned below are recent and ongoing. It is arguable however if these address coordination.

- A Sustainability Cell has been formed using earmarked NRDWP funds. Rs.2500 million is given to each district with targets to provide sustainability measures such water conservation and rainwater harvesting (see Appendix 3 for relevant NRDWP extracts)
- A decision-support system is being developed to assist planning and decision-making at GP level, including actions in different water-level scenarios.

Urban Projects: The local-level planning process followed by PHED for its urban projects also does not have any significant extent of community involvement (Box 3.10)

Box 3.10: Local level Planning Process: PHED Urban

- Schemes may be identified by a local political representative (e.g., Ward Member, Councillor) and this is then followed by a rapid survey in the proposed location
- Identified problems will first be considered with reference to the existing sources (e.g., increasing quantum of water supplied or pressure)
- If existing sources are not adequate a new source may be proposed, designed and budgeted
- Schemes may be financed by funds from local representatives (who have their own quotas of funds, e.g. MP Local Area Development (MP LADS) or MLA LADS)

Also, interactions with other departments are largely for permissions, as in the case of rural water supply projects (Box 3.11). Community interactions are only in the case of disputes.

Box 3.11: Inter-departmental coordination: PHED Urban

For urban water supply PHED has to interact with many departments e.g. the municipality, ward members, councillors and, in the case of disputes, with members of the public.If the road has to be cut in order to lay pipelines, permission is necessary from the Municipal Corporation or Urban Improvement Trust. If electricity wires or poles have to be shifted, permission is required from the Electricity Board.

Panchayati Raj Department

Village-level projects: All work done by the PR Department is on the basis of requests from the Gram Sabha (through a resolution), Gram Panchayat or local political representatives (using their own funds). Based on these requests, engineers carry out hand-pump maintenance, electricity repairs and fittings and environmental sanitation interventions (including roads and drainage) to eliminate water stagnation. There are no written guidelines for this planning although there are guidelines for the annual planning exercise by the GP, but the local-level involvement in the planning process is largely restricted to listing their requirements, while the actual planning is done by the Department's engineers (Box 3.12).

Box 3.12: Local-Level Planning Process: Panchayati Raj Department

The steps in the planning process generally comprise the following:

- *Initial requests:* Based on requests for action from the GS, activities are planned and funds utilized as necessary. Funds at the disposal of PR Department include the Twelfth Finance Commission (TFC) & State Finance Commission (SFC) funds. Thus, while small tasks are included at the request of local political representatives, for others, a GP resolution to use funds from existing schemes (e.g., MPLADS and MLA LADS) is submitted to the GS. Following the resolution by the GS, a request is made to the appropriate body (e.g. to the ZilaParishad)
- *Cost estimation:* An approved proposal is then submitted to the PRD junior engineer (J En) with a request to make a cost estimate. The J En sends it to relevant engineer.
- *Technical sanction*: There are different 'competent authorities' (junior, assistant or executive engineers) according to the size of the scheme, who have to give the 'technical sanction' to the scheme
- *Financial sanction*: Again there different competent authorities according to the size of the scheme (e.g. if over Rs1 million then the 'competent authority is the District Panchayat's CEO) who have to give 'financial sanction' for the proposed schemes
- *Approval letter to GP:* Following the approvals, an Approval Letter is sent to the GP
- *Implementation:* The GP then arranges for material (e.g., *bajri*, stones, cement, sand, bricks) or engages a contractor (who provides labour on muster roll) so that the scheme is completed. Utilisation Certificates (UCs) are submitted accordingly
- *Payments:* Theseare made by instalment either at the Block, ZP or GP-level, depending on the size of the scheme
- *On completion*: The Junior Engineer assesses the scheme. If the has been excess expenditure, the Block Development Officer (BDO) recovers excess at the time of final instalment, after the final assessment, after which Completion Certificate is given by the Junior, Assistant or Executive Engineer.

There is very little inter-departmental coordination.

EU-SPP Planning Processes

The EU-SPP programme is supporting the Government of Rajasthan in the implementation of the State Water Policy. The State water Resources Planning Department (SWRPD), with the assistance of the EU-SPP is piloting a local-level planning process for IWRM in 11 Districts and 82 blocks.

The institutional structure consists of the District IWRM team coordinated by the SE (WRD) and including the SE/EE (PHED), the senior hydro-geologist (GWD), the EE (Watershed Department), EE (Agriculture), and the CEO and CPO of the ZilaParishad;block-level, Water Resource Centres (WRC), staffed by NGOs that the programme is funding, to build

capacities of Village Water Health & Sanitation Committees (VWHSC) and GP members, and to facilitate and monitor the preparation and implementation of GP IWRM plans.

Community-level Interaction: Based on Operational Guidelines, a Training Manual and Toolbox for village IWRM planning, the village IWRM planning process is led by the GP VWHSC, whose members have received training from the block-level WRC. The planning process uses several PRA tools to analyse the current water resource status, the uses and demand, and to identify solutions and activities, after whicha format is completed at the WRC and handed back to the GP VWHSC before submission to the DIWRM team (Box 3.13).

Box 3.13: EU-SPP Local Planning Processes

- *Initial IWRM Plan:* IWRM Plan prepared by VWHSC (25 members) with NGO staff of Water Resource Centre (WRCs), i.e., Master Trainers (MT) and Project Coordinators (PC); developed over 10 days. Plans have to specify which activities will be funded by funds from which Departments (The *Operational Guidelines* specify the roles & responsibilities of different actors).
- *GS Approval for IWRM Plan:* Plan put up in GS for discussion, approved after discussion and sent to District IWRM (DIWRM) team.
- *DIWRM Approval of IWRM Plan:* After scrutiny by DIWRM Committee and returned back to GS for implementation.
- *Technical Proposal:* On the basis of plan approved by DIWRM Team, GS prepares DPR or Technical Proposal which is then sent to departments, for approval/sanction. The EU-SPP provides 'gap-funding' of Rs.0.2- 0.5 million per GP.

Inter-departmental Interaction: The DIWRM team scrutinizes GP IWRM Plans for approvals and to source different funds for different components of the IWRM Plan. However, the scrutiny is not to check water resource management *across* components of the IWRM Plan.Unlike the NWRDP VAP which considers only drinking water, the EU-SPP GP-level IWRM plan attempts to assess water demand from all users. It thus seeks to consider the implications of agriculture and irrigation.

The schemes proposed under the GP-IWRM plan seek funding from a number of sources including NREGA, NRWDP, Watershed, WRD etc. This implies a greater deal of coordination than, for example, the VAP schemes which focus on drinking water and NWRDP and PHED for funding.

The coordination required under the GP-IWRM plan process is greater than most other village or GP-level planning – particularly as implied by the more comprehensive demand assessment of all water users, the approval process by the District IWRM team and the variety of funding sources. However, since even the programme-inspired District IWRM team is not undertaking any water resources integration or coordination across Departmental plans and programmes, the consequences of a lack of integrated planning of water resources remain: for e.g., a decrease of inflows into rivers and other water bodies, and ground water depletion.

ANALYSIS AND DISCUSSION

Despite the now widespread understanding that community participation is central to improved effectiveness of government schemes in general, currently, the levels of community participation and thus local-level transparency, accountability and ownership of planning within the water sector vary considerably. The main points from the earlier discussion are the following:

- ***Limited PRI role in planning***
  - *Historical role:* Despite the historical tradition of Panchayati Raj, the planning of most water infrastructure from pre-colonial times was left to experts and engineers: communities participated in construction and were entrusted with operation & maintenance.
  - *Constitutional focus:* Even after Independence, PRIs were deliberately kept weak, as in the case of their Constitutional role, and despite latter efforts, Line Departments had the *de facto* role of planning water infrastructure
  - *Little effort to devolve responsibility or build capacity:* Despite the 73rd Constitutional Amendment in 1992, little has been done either to devolve responsibility to PRIs effectively or to build up their capacity to plan and implement.
  - *Outside support even in successful cases:* Even in successful cases of decentralized planning (e.g. in Kerala, Madhya Pradesh and Maharashtra or in watershed management), the planning has been done by outside agencies (government line departments, Technical Support Institutions (TSI), NGO staff), either working on their own, or in partnership with the local community.
- ***Limited community role in planning infrastructure***
  - *Limits to community involvement even in PRI planning:* Although centrally driven or externally funded donor programmes have attempted to define clear institutional frameworks for the local level planning and management of water resources and although intermediary and district panchayats hold key roles in terms of sanctioning programmes and funds, in reality, there may be very little actual involvement of local communities in PRI decision-making, with vested interests ensuring a lack of transparency in such decision-making processes.
  - *Lack of community participation in departmental plans:*Also, there is little community involvement in departmental planning while they continue to be involved in construction and, to varying degrees, in operation & maintenance. The planning of most mainstream departmental activities is largely non-participatory with limited involvement of either community or elected representatives.
  - *Lack of clear guidelines about community participation:* The lack of clear guidelines and the absence of participation present the risk of a lack of transparency and elite capture, and importantly the likelihood of duplication and possibly a misuse of the water resource.
  - *Limitations on community participation:* Community participation in the planning of activities is limited in two important ways: (1) Limited to ratifying or discussing aspects of pre-prepared plans – and not making plans de novo; and (2) Limited to educated or experienced males who are considered 'technically-minded' enough to follow the planning process – and hence participate in it (only relatively recently and in donor-supported projects are women being invited to participate in intervention planning: e.g., Utthan, Gujarat)
  - *Considerable capacity building necessary:* Even so, as most field-based NGOs will testify, the local communities need considerable amounts of capacity building, 'hand holding' and day-to-day management support to

oversee implementation: planning is considered less important (and less practiced) than crisis management.

- *Greater community role in implementation:* The local community is deemed to be much more important in implementing plans, which local government staff are not able to do effectively, and hence they are given this responsibility – and left to their own devices to plan this. Thus, for e.g., their role is emphasized in dealing with equity issues in the village (e.g., concession in user charges to households in financial and other distress such as, widows, abandoned women, those with elderly or sick dependents), resolving conflicts, establishing social protection rules, mobilizing contributions of labour and materials for construction, collecting user charges and convincing recalcitrant members of the community (who may be opposing the proposed activities). These are roles the communities seems more comfortable in playing, given that these are more familiar and less 'technical' than that of planning infrastructure.
- *Exceptions are externally-supported projects:* The exceptions to this are centrally-driven programmes such as the NRDWP which, whilst lacking inter-Departmental coordination, does include some elements of participatory data collection and consultation; and the externally-funded EU-SPP which, in attempting IWRM planning, includes inter-Departmental coordination at District-level and participatory planning at GP-level. Both the NRWDP and EU-SPP incorporate participatory planning tools within their GP planning methodologies – primarily for PRA and data collection. However, both community involvement and coordination have limitations in practice.

- ***Poor coordination across departments***
  - *Little actual coordination:* Currently, there is little coordination across departments while planning water-related interventions and this is particularly serious for water resources, both surface and ground water.
  - *Consultations largely for permissions:* Departments consult each other largely when requiring jurisdictional permissions, e.g., asking the Revenue Department for land, or the Forest Department for permission to work in forest land or PHED asking WRD for water from a canal or river for a piped water supply scheme.
  - *Institutional set*-up is a limitation: Departments are highly segregated and focused on supply-side, specialist engineering. The local government structure achieves a limited degree of coordination of the technical planning processes only at District-level under the auspices of the District Collector, CEO and CPO. Coordination of the water sector remains weak without the authority and associated fund flows from the State-level. Only the centrally driven programmes with their specific funding and approval arrangements have achieved a degree of inter-Departmental interaction. The centrally-driven and externally-funded programmes, the NRDWP and EU-SPP respectively, have introduced the Block Resource Centre and Water Resource Centre at block-level to support local-level planning but these are programme-funded and staffed by NGOs and thus their institutional sustainability is thus not guaranteed.
  - *Limited data sharing:* Departments undertake their planning and implementation in a 'compartmentalised' way with little interaction and there is very little sharing of planning data either vertically between State, District, Block or GP; or horizontally between Departments. There is an absence of a technical planning framework, methodology and tools to guide the application of decentralised and participatory planning for IWRM.
  - *Vertical integration of plans is a problem:* There is limited vertical coordination of planning from village/GP to block and District except for the purposes of administrative approval and annual budgeting. Issues of scale and the need to nest local-level plans within intermediate and national level

plans and/or basin and aquifer level planning processes both within and beyond the water sector therefore remain. Even in successful cases of decentralized planning, as in Kerala, the vertical Integration of plans and coordination across line departments proved to be problematic

- ***Special problems in natural resource management***
  - *Local versus larger priorities:* Although most pronounced in the case of forests but also in the case of multi-village schemes with distant sources and irrigation canals from far-away dams, there is a growing disconnect between local demands and demands from elsewhere in the 'system', leading to conflict among these different users. Water and forests are, however, different in that while it is difficult to get villagers to protect a larger area of forest (since villagers are only interested in protecting the small area from where their demands for NTFP, fuel, fodder and timber are met), villagers sometimes are forced to see water being carried in pipelines near their village to far-away villages, while their own demand for water is left unsatisfied.
  - *Water is special:* Information and analytical requirements of planning for water for domestic uses, especially from ground water sources, are considerably more stringent than for agriculture or forestry or surface-water based irrigation. Thus, creating district agricultural plans under the CDAP process is basically an exercise of aggregating quantitative demands (for inputs or outputs) across GPs and then blocks and districts – and working out resource requirements to fulfil those demands. Similarly, planning for forestry interventions is largely a question of finding a suitable area for plantations (or protection), planning resource use roles (e.g., cut and carry), creating social regulations and other means of protecting the forest (e.g., by digging ditches or making fences or instituting community-based punishments for violations), arranging labour for harvesting outputs and dividing the revenue across all the stakeholders. Also, planning for surface water irrigation largely consists of instituting user rules that divide water equitably across all user farmers, then enforcing these rules, setting user charges, collecting them, and providing an account of revenues and expenditures from this account. Water supply, on the other hand, uses sources that do not have clear property rights - if it is an 'invisible' ground water aquifer or when based on a surface water source without ring-fencing the supply to the drinking water system; faces competition from other uses and users (agriculture, industry); has a rising demand as population grows, requires constant maintenance and has to satisfy a daily need that places excessive and disproportionate burden on women. Planning for water supply is thus considerably more complicated.
  - *Complex property rights in water resources*:Lessons from studies of Chhattisgarh and other States indicate that property rights are fundamental to the use of multiple-use water bodies for culture fisheries. Property rights regimes are however a necessary, but not sufficient condition for sustainable use of multi-use water bodies for fish culture unless the rights regimes are supported by functional authority systems that provide guarantees to right holders. A multiple authority structure is also required to resolve conflicts among varied and socially differentiated multi stakeholders- fishermen, irrigators and others. Decentralisation and the local-level management of groundwater is not easy to achieve due to the complexity of property rights over groundwater and the limitations of groundwater as a common property resource, the indiscriminate use of borewell technology, the incentives for water-intensive cash-cropping and low power tariffs, and ineffective regulatory structures.

How far can communities really participate in planning?

There are different dimensions to planning, including (1) selection of optimal technical design; (2) selection of optimal institutional design (3) estimating costs, identifying budgets and adjusting designs to the budget, if necessary; and (4) designating roles and responsibilities, procedures and processes for implementation. And the local communities can have different roles in each of these, but the extent to which they have actual control over local resources (land, water and biomass) varies. At least 4 possibilities exist:

1. Local people oversee planning of local resource use: Even if they do not *themselves* do the technical planning of how the resource ought to be used, they are in charge of the process, i.e., hire the consultants, oversee the results, ask for changes, re-do some part of the analysis, check different alternative simulations and scenarios before deciding on the best possible use.
2. Local people can decide to change the pattern of resource use: Even if they do not oversee or otherwise 'control' the process of planning, they have the authority and power to change resource use, if they are not pleased with the results. Note: this is not the case in JFM, where the type of species is not under their control.
3. Local people discuss and approve the plans: Even if they do not oversee or otherwise 'control' the process of planning, they are informed of the plans and have to approve the plans formally before implementation. This requires them to be fully aware of the details of the plans, so as to be able to discuss it meaningfully at the village meeting (Gram Sabha) or in the Gram Panchayat. However, there could be conflicts when local communities do not agree with planned natural resource use (e.g., the recent controversy surrounding the setting up of the Kudankulam nuclear plant in Tamil Nadu).
4. Local people can discuss and approve – but actual resource use is controlled by (outsider or insider) vested interests: As in the case of mines & forests, this reduces the legitimacy and relevance of planning by GPs and other PRIs.

While type 3 is ideal, type 4 is most likely to happen in reality. While type 4 requires intervention at higher political levels and should be tackled separately, the focus is on type 3 taking place but in the context of an effective plan for IWRM. And the last is the subject of the next section.

EFFECTIVE DECENTRALIZED PLANNING

The discussion of effective decentralized planning is linked with but largely independent of the discussion on decentralization in the sense that local-level planning of water resources can be done even independent of the PRI system, but needs to be done within the official system of PRIs and line departments in order to be acceptable and thus sustainable. The contrast is with project planning by NGOs in donor-assisted projects like the World Bank assisted District Poverty Initiatives Project (DPIP) in Rajasthan, which formed Common Interest Groups (CIGs) to plan local investment-based livelihood activities, which were not sustainable beyond the project. The watershed development committees (WDCs) were initially unrelated to Gram Panchayats, but have recently been made sub-committees of the Gram Panchayats – as the Village Water and Sanitation Committees have been made in many states.[21] However, such local-level planning processes could be adopted to formulate the GP-level water resource management plans that are then discussed and adopted by Gram Sabhas and Gram Panchayats.

Understanding Local level IWRM

Assessing current water use

The basic principle of local-level IWRM is to ensure that water demand across all local-uses is kept within available water resources, sustainably (e.g., GWP, 2000).[22] This requires not only that all economically-feasible means of augmenting water supply are utilized but also that demand is managed so as to fit within available supply. Given that there is always some prior pattern of water use, with a high likelihood that this is not matched by available supply, the first step almost invariably is to measure available demand and supply. And, this information need not always be technical. Fieldwork has shown that community information on the sequence of wells running dry in summer, the frequency of droughts and floods and of overflows from the local community tank can be just as useful as analysis of secondary data on groundwater withdrawals, the capacity of existing water harvesting structures, water releases from dams and reservoirs, the quality of effluents released into water bodies by surrounding industries and institution (e.g., Batchelor et al., 2002). Even crude water balance studies undertaken with community, as done for instance by the AP Well and subsequently by the APFAMGS Projects, are sufficient to show the community that water demand is much higher than can be supported by available water resources.However, it is also necessary to undertake this analysis at a watershed or sub-basin level, so as to include all possible demands – including domestic, small-scale livelihoods, industrial and institutional demand from rural, peri-urban and urban areas as well – and all sources of supply, including groundwater and traditional water harvesting structures.[23]

Identifying demand-supply balancing options

Bringing water demand in line with water supply requires two sets of actions: (1) augmenting water supplies and (2) reducing water demand.

Supply augmentation not only includes the usual methods of rain water harvesting – such as household roof rainwater harvesting, digging water harvesting structures - but also includes creating trenches and bunds, planting vegetation (trees, bushes, grasses) on barren ridges or convenient open land and digging percolation tanks to cause rainwater runoff to

[21] In the case of the VWSCs formed by the World Bank assisted Swajal project in Uttar Pradesh in the 1990s, the state government passed legislation making these CBOs formal sub-committees of the Gram Panchayats – and hence made them part of the statutory PRI structure.

[22] The basic principles of IWRM are detailed in Annexure 4.

[23] A water audit is a useful tool for this assessment, although it can also be a 'light' and participatory water audit (Batchelor …), although such water audits are not to be confused with those done, for instance, by the Water Resources Departments to assess the status of their water infrastructure (e.g., GOM, 2006b)

infiltrate and recharge groundwater aquifers.[24] Water storage structures can be created overground or underground and indeed traditional Rajasthan is replete with examples of water storage structures such as *khunds*, *khadins, baodis* and *tankhas.* In addition to repairing these structures and building new ones, runoff can also be directed to abandoned dug wells converted to cisterns by plastering the bottom (see CSE, 1997; Rao et al., 2003; CSE, 2012 for a range of options). The idea of supply augmentation can be extended to also include reduction of water pollution by industries (including mines) – which can then increase the supply of fresh water – and reducing system leakages as well as transmission and other losses in drinking water systems.

Demand management is more difficult than supply augmentation and is therefore less practiced. However, this can also include a whole set of possible interventions, some of which are detailed below:[25]

(1) *Industrial water-reuse*: Another option to reduce demand is to persuade industries to re-cycle water. Substantial savings have been reported from the industrial estate of Manali, north of Madras city, where two public sector entities (Madras Refineries Limited and Madras Fertilizers Limited) had become zero discharge plants using reverse osmosis to re-cycle water for their industrial purposes.[26]

(2) *Supporting alternative non-water based livelihoods*: Promoting non-farm employment and promoting micro-enterprise activity outside of agriculture can also serve to reduce the dependence of local communities on water-based livelihoods. There are several central government schemes promoting micro-enterprises (e.g., SGSY for SHGs), while Rajasthan has the distinction of having a specialist organization called Rural Non-farm Sector Development Agency (RUDA) set up precisely to support the production and marketing of such products.

(3) *Decreasing domestic water storage*: Although household water demand cannot be reduced beyond a certain point (and indeed, needs to be raised in most cases to fit the rural norm of 40 lpcd), the unreliability of water supply leads to households storing water in pots, buckets and drums. This is then followed the next day, in many states, by households emptying out the stored water to collect 'fresh' water. Reducing this waste by improving the reliability of water supply systems can reduce water demand by households.

Redressing imbalances

Perhaps the greatest challenge, once the baseline water-balance situation is known, management options identified and goals & priorities set, is to redress imbalances. Since existing resource use usually has a strong political, economic or social motive, there is always likely to be resistance to changes in resource use. Three possible options exist to change existing resource use:

(1) economic – changing prices either directly (e.g., water cess, pollution taxes) or indirectly (e.g., electricity) can affect water use;

[24] Recharge zones could also be identified based on more rigorous geo-hydrological studies. Note that all these are measures usually addressed through watershed management projects, MNREGS programmes and regular line department programmes (e.g., soil and water conservation programmes, forestry and rural water supply), but are not usually coordinated to collectively plan water supply augmentation. Interactions between these interventions are ignored and they may not have the intended positive effects. Such interactions are called 'negative externalities' and have been poorly understood in general in the Indian context (e.g., Kerr at al., 2007; World Bank, 2006).

[25] Commonly-understood measures to increase irrigation efficiency need not really reduce water demand because, although shifting to less water-intensive crops and switching to so-called 'water saving technologies' like drip and sprinklers could reduce water use per unit of land, farmers usually tend to use the 'saved' water to extend irrigated cultivation to available but un-irrigated land. Even improving 'irrigation efficiency' by reducing canal transmission losses, for instance, need not reduce overall water use.

[26] Although all this innovation took place initially on account of Chennai Metrowater refusing to give them permission to drill borewells or to increase their water supply, the success of their operations led them to buy raw sewage from Metrowater subsequently and to process this water for their industrial needs.

(2) legal and administrative – setting rules for water use (e.g., permitting requisitioning of agricultural wells to supply drinking water during droughts; regulating water use through laws like the Andhra Pradesh Land Water and Trees Act of 2005?) can also change existing resource use patterns;

(3) social regulations – including Gram Sabha Resolutions banning summer irrigated cultivation or the drilling of additional borewells or the use of borewells for irrigation (e.g., in Hivre Bazaar, Maharashtra; see James, 2005b).

Setting management goals and strategies

Subsequent to initial efforts to redress imbalances, the focus of planning would be setting and achieving local water use objectives. For example, given the priority of domestic water supply (at least according to the National Water Policy), the local-level objective could be to ensure sufficient water supply for all households in the village throughout the year (without bringing water from outside in tankers – which could be the option of last resort). Summer being a period of greater water demand, and declining water supplies, the objective could be met by constructing and filling a summer storage tank (as done, for instance, by the RWS) using surface or ground water sources – which is then used to supply the overhead tank of the village. Or, an agricultural borewell with sufficient water could be identified and sourced for the village's piped drinking water supply.[27]

Such management arrangements, however, have to be linked to 'triggers'. For instance, in a village normally dependent on groundwater or traditional water sources, a pre-arranged trigger could be the falling of water levels beyond a certain point in the traditional *tankha*or *khund* or the drying up of a particular well identified by villagers to be an 'indicator well'. This could signal that there will not be sufficient water to last the summer – and could set off a series of actions including banning summer irrigated agriculture and starting to bring drinking water from an identified farmer's agricultural borewell.

Similar planning for crop water use could be done at the beginning of the monsoon season – as done for instance in the villages of APFAMGS in Andhra Pradesh. Here, based on a rough water budgeting exercise, farmers meet to discuss what crop each would grow and on how much of land – so that the total agricultural water demand was within the water expected to be available in that monsoon period. Agreement could also be made on possible limitations on the rabi and summer crops, given an assessment of the water scenario after the kharif crop and the monsoon.These plans will have to be made into Gram Sabha Resolutions and enforced using social regulations by the Gram Sabha.

Avoiding over-allocation of water resources

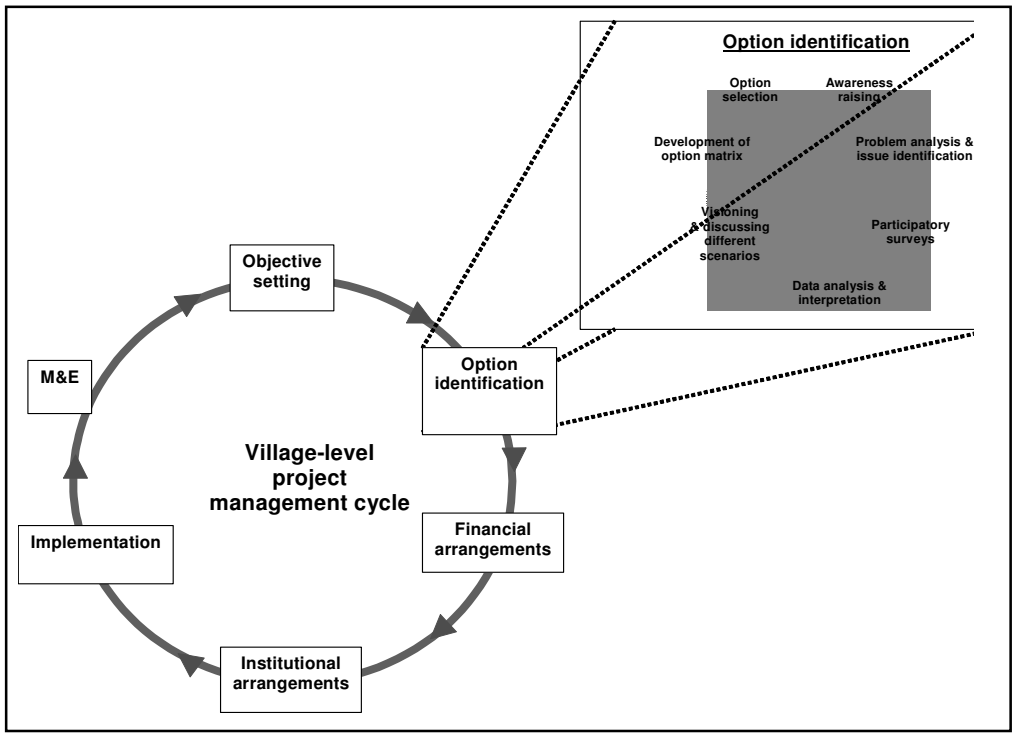
The ever-present danger to these local-level plans is the formulation of department-wise schemes that allocate the same water to additional uses.[28] Avoiding such over-allocation – and indeed, ensuring minimum ecological flows in water bodies – requires a careful and accurate assessment of available water resources and their present allocations. This means that Departments can no longer plan schemes on paper, without taking into consideration existing allocations from the same water sources. And such planning is impossible without spatially-presented and up-to-date information. If such information is available at district-level, and used by trained departmental staff working in coordination across departments, it would be possible to plan the allocation of water resources across all competing uses and sustain the availability ensured by the allocation through strict enforcement.

[27]This was done, for instance, during a period of water shortage in a village in Bijapur, Karnataka, where the GP agreed to pay the farmer Rs. 10,000 not to cultivate during the summer and hired tankers to fill and transport the water from his borewell to the village OHT (Personal communication, KAWAD Project, 2000).

[28]It is usual to have rural water supply schemes that source water from an existing irrigation canal, regardless of the fact that this abstraction will reduce the water available for downstream farmers (World Bank, 2006). It is also true in most combined water supply schemes where supply is to a small rural town as well as to a group of villages that, over time, with the growth of the town, the supply to the villages reduced to virtually zero (Malla Reddy, Personal communication, May 2001).

The Planning Cycle

The entire process if carried out at district block and village -level could use a planning and implementation cycle, such as the following:



Source: Moriarty et al., 2002, p. 23

Requirements for effective IWRM Planning

Collecting information: A light water audit with participatory information collection is possibly the best option while water budgeting is a crude, but effective method to establish the 'water deficit' and thus spur villagers to achieve the real purpose of measurement: conservation. Such village-level water audits and budgeting exercises could be done by well-supervised local NGOs and local University students, who are trained by teams from IMTI, Kota. It would probably be idea to do a quick rule-of-thumb water budgeting exercise followed by a more detailed though 'light' water audit.

Availability of information: Government information is frequently outdated, partial or contradictory with other government data.[29]Collecting primary data is difficult using government machinery and government officials prefer to use either private consultants or their field staff and NGOs to collect such 'additional' data.[30]Such data collection is expensive, however, and so it is unlikely that such information collection and the use of such data will be 'mainstreamed' into existing government planning and programming of water-based services.

However, a district Water Planning exercise could seek to consolidate all available information (e.g., on a spatial GIS platform), identify information gaps, commission studies to fill these gaps, and continue to update the District Water Resource Information System

[29]This was the experience, for instance, in the Water Audits conducted in Karnataka, as part of the DFID-supported Karnataka Watershed Development (KAWAD) Project and in Andhra Pradesh, the DFID-supported Andhra Pradesh Rural Livelihoods Project (APRLP), available as Batchelor et al., 1999 and Raoet a., 2003.

[30]S.K.Dave, Additional Commissioner (Watersheds), Government of Karnataka, personal communication. May 2001.

(WRIS) over time. This may be best facilitated by a District Water Cell, on the same lines as the Environment Cells supported by GTZ that are working in select Municipalities in the country.[31] These District Water Cells could be supported either by the State Government or donors such as EU, Unicef, GTZ or UNDP, and staffed by professionals who report directly to the District Collector.

Potential duplication or conflict in planning and plans: This potential for duplication and conflict exists currently and can only be avoided by jointly sharing plans for water-using activities across all key water-using departments. Currently a protocol exists by which WRD informs PHED of possible water resource developments and asks for proposals for water supply use, but this does not seem to be functioning well in practice.Hence, such joint planning at district-level may have to be coordinated by the District Collector and his staff, instead of leaving it to the Departments to coordinate among themselves. However, instead of only sharing information on budgets and programmes, the group of departmental representatives could share and discuss potential conflicts over proposed plans, possible synergies and efficient sharing of resources across Departments besides devising a District Water Plan for district-wide water resource development, funded and implemented over time in a synergistic fashion. This should ideally be done at the end of the year, before the budgets are drawn up and finalized in February-March for the start of the financial year from 1 April.

Promoting greater equity and sustainability:

Equity: Improved information on water abstraction and use across sectors should help identify large industrial consumers and pollution of surface and ground water by mines and factories. It should also help identify the distribution of water across various uses, agriculture, drinking and industry – and fairly basic water budgeting calculations should check whether or not the water policy priorities of drinking & domestic uses before agriculture and before industry are being honoured in the district. Also, the detailed studies within villages should help to identify whether the per capita norms of domestic water supply are being satisfied across different social strata, with particular emphasis on the poor and marginalized. This information base should, in turn, provide the basis for corrective programming at district-level if not state-level, as part of the preparation (and annual revision) of the District Water Plan. The criteria for prioritization could be taken directly from the State Water Policy and the prioritization done by the relevant line department heads of the district administration, in a committee headed by the District Collector, who should oversee and sign off on the District Water Plan.

Sustainability: Joint planning of water resources should not only reduce the potential for duplication and conflict, but should (therefore) increase the sustainability of drinking water, irrigation and other water-using projects that are designed and implemented in the district. For instance, such joint planning should be able to provide source protection for existing water supply schemes (through watershed management interventions like check dams, plantations and percolation tanks), multiple sources of drinking water for villages (through the rehabilitation of traditional water harvesting structures, installation of roof rainwater harvesting structures, channelling of runoff into abandoned dug wells converted into cisterns) and recharging of shallow dug wells for irrigation (through water harvesting interventions) – all of which, coupled with demand management, should improve the sustainability of water supply for drinking water, irrigation and other uses. Again, the responsible actors are the district administration, headed by the District Collectors, and in the process of preparing (and updating) the annual District Water Plans.

Issues of scale and the nesting of plans: While planning for water resources should ideally be at a larger scale, there needs to be consistency between these larger-scale plans and the smaller 'micro watersheds' that make up the larger area. These smaller-scale plans thus need to be 'nested' within the larger plan. This requires plans to be drawn up at both scales,

[31] These two-member Environment Cells are paid for by GIZ and provided free of charge to the local Municipality to assist with data management, especially with maps and databases. They are currently operational in 6 municipalities in India.

which need to be rationalized subsequently to ensure that supply meets demand – and that there is no duplication of water harvesting structures in a 'zero-sum game' (where new higher-level structures simply harvest the water otherwise collected older structures lower down the catchment). This is a ideally a job for the Technical Cell, working with the District IWRM Teams (responsible for finalizing GP-level IWRM Plans) and with the State Water Resources Centre at SWRPD (which will presumably have information and support from all the other major water-using Departments in the state). A trial run of such a District Water Cell, ideally with experts contracted from outside, and the entire process funded by a donor agency such as the EU or Unicef could be done as part of the EU-SPP.

Challenges of formal and informal water economies: While mapping and measuring water quantities and flows and even fixing withdrawal quantities and limits are possible with some (considerable) effort, the more difficult issues are of redress when water-using limits and water-sharing agreements are violated – and usually by the politically powerful – in an 'informal water economy' such as India. Water-related conflicts are on the rise (e.g., Joy, et al., 2008), leading to fights and even deaths, and it is easy to see how attempting to make existing allocations and uses more equitable and sustainable across deeply divided rural societies can create a range of new conflicts. These have the potential to become law-and-order problems, which ultimately will have to be decided by the administrative system (e.g., the District Collector or Line Department senior staff) or the legal system or, more likely, the political system. Water conflicts have pitted village against village while sharing common water resources and such conflicts have great potential for proliferation in the special case of caste-ridden Rajasthan. Inter-state disputes (e.g., between Tamil Nadu and Karnataka) have necessitated verdicts by independent tribunals set up by the central government – and even these have not worked in some instances, leading to lengthy battles in the High Courts and the Supreme Court. Thus, within states, water issues are likely to quickly become acrimonious and political – and lead to resolutions based on political compromise rather than on purely technical or logical grounds (the dispute on the water sharing from the Indira Gandhi Canal Project in western Rajasthan is a case in point).

With a large proportion of water users being 'direct users' (i.e., accessing the resource without any intermediary organization such as a Water Board), IWRM in India has been already hailed as an impossible venture. This is compounded by the inability of our legal system to give quick decisions, based on merit, so as to be useful in season-bound disputes over water access and use. The best hope, therefore, for successful local-level IWRM in India is for the local community to take the initiative – at least in endorsing changed resource use patterns and enforcing them through social controls – but with the district administration providing active support.

Conflicting demands (urban, peri-urban and rural water demands and use): When existing surface and ground water resources are insufficient to meet demand from different sectors and geographies (e.g., rural, urban and peri-urban), a certain 'rationing' has to be done to ensure supply meets the highest priority demands. According to the National Water Policy of India (GOI, 2002), this is drinking water, followed by agriculture. However, in practical terms, irrigation water has priority over drinking water. Similarly, in practical terms, industries and mining activity often have prior claim over water sources, by virtue of the fact that they can drill bore wells and discharge effluents into nearby water bodies without much hindrance from government regulatory authorities (e.g., the State Pollution Control Board) – and are thus also responsible for pollution, which reduces the availability of clean potable water. Taking these actors to task will require considerable political, bureaucratic and legal force – provided, of course, there is the political will to resolve these conflicts based on existing policies. An urgent task, in the present context, would be to use all information available, including from the State Pollution Control Board, the Department of Mines and of Industries, to draw up the full list of water users in all project districts, and to discuss inter-departmental action to reduce demand wherever it outstrips supply.

Ecological and environmental demands and uses of water: Considerations of water quotas to preserve environmental flows in surface water bodies in order to provide habitat for flora and fauna are seldom visualized or realized in the context of rural India. The norm is to exploit a

natural resource till extinction and to move on when it is no longer profitable to exploit. The rationale for such an attitude is of course the outstripping of slowly-growing supply by rapidly-growing demand. In the present context, however, these ecological needs have to be taken into account while reviewing and planning water use from existing water bodies andto take corrective action, where necessary, to ensure these needs are met for future generations.

Piloting a new approach: District Water Planning

Giving IWRM Orientation to district- and local-level staff: Perhaps the first step in the process is to updateavailable training materials on local-level IWRM planning to incorporate the issues outlined above, and substantiated by further research. It is vital that a common understanding of local IWRM, its objectives and processes is shared between all players – from state level to district, across government departmental staff to NGOs and the local communities. The State Sustainable Water Campaign would be the ideal vehicle for spreading such a common awareness of local-level IWRM.

Certifying technical capacities of NGOs: Since NGOs are likely to be the 'change agents' on the ground, it is essential that their staff are technically sound in local-level IWRM. All NGO staff working on this issue should be asked to pass a certification course given by IMTI, Kota or even by NABARD (for further replication across states).

Providing NGO support to GPs: Given that one of the lessons from the review of experience given earlier is that PRIS need support to undertake successful local-level planning, it is critical that NGOs are tasked with building awareness of technical issues and then the capability to understand, if not undertake, local-level planning of water supply, so that GP-level plans are sound, sustainable and effective.

Demonstrating District Water Plans: Since the concept of District Water Planning is new, it will require a special effort to hand-hold all the implementing agencies that are involved in piloting this approach, government, non-government and community organizations. This will require not only experts to closely monitor and support the process, but also experience sharing workshops and other feedback mechanisms to discuss and address issues that come up during day-to-day implementation of this new approach.

Tapping Progressive Sarpanches: As the approach is innovative and ambitious, it may be useful to tap into the association of progressive sarpanches in Rajasthan, and to designate their villages as 'hubs', responsible for a set of villages around them. This could ensure better local-level understanding and participation in the planning process.

Involving Retired Government Officers for monitoring: Another possibility is to include retired government officers (or even ex-army persons) into the piloting process, as done in Kerala, by building their capacity and then using their knowledge, enthusiasm and commitment to local development to drive the pilot planning process.

Costs and requirements of planning processes: Ideally, the pilot planning process should start with the second batch of NGOs that are to be hired within the next 6 months, i.e., by April 2013. This should give sufficient time to prepare the ground, review and revise the IWRM training material, train the trainers, and to orient the district and state administrations on the District Water Planning approach, based on IWRM principles. Political support for the pilot will be a major advantage and so it would be advisable to present the pilot to the Chief Minister and Chief Secretary of the GoR and ask them to provide the necessary support. A list of supporting requirements – such as, not transferring district staff in the pilot districts for the duration of the pilot, support from local politicians for the process and coordination between line departments at state and district-level – would be a useful document to present at such meetings.

Learning lessons and scaling up: The monitoring and evaluation (M&E) of the pilot initiative will be critical to learning lessons for scaling up to other districts within Rajasthan and even to other states in the country. However, instead of just baseline and endline surveys – which

is standard practice in M&E – the lessons learning could be spread across regular and concurrent stakeholder consultations that will be needed for shorter feedback loops for quicker corrective action.

Scaling up, however, should not be 'automatic' but should be based on a careful analysis of what worked and what did not, based on certain pre-determined criteria.[32]

Wider considerations for the new approach

Stakeholder participation and participation: Linking the pilot initiative to the State Sustainable Water Campaign would help to reach a wider stakeholder audience. However, it would also help to share progress on the pilot through district-level multi-stakeholder meetings, which could be well-publicized with press briefings and coverage in the local language newspapers and TV networks. Regular information briefs from the Departments involved in the pilot would also help to reach a wider set of stakeholders. Within the pilot districts, there should be greater sharing of information and experiences. In this regard, useful lessons are to be learnt from the WASMO initiative in Gujarat, where the focus was on spreading awareness – and curiosity – about the WASMO brand, by painting the name and logo in prominent locations (e.g., on water tanks and hoardings along highways and in small market towns and large villages). The curiosity of villagers then led to queries, which were answered through booklets and information kiosks at local weekly markets, and invitations to visit villages where WASMO was working. These visits and first-hand experience of benefits experienced by beneficiary villagers then spurred the visitors to ask for the 'WASMO experience' in their own villages.

Transparency and accountability: Vital aspects in building up trust and confidence in the pilot process are transparency and accountability. These have to be addressed carefully and deliberately through systems and procedures at village and higher levels. And it is not just financial and beneficiary information that needs to be readily available, but also information on decisions taken – and the rationale behind the decisions. These, in turn, require clear demarcation of roles and responsibilities of all actors – from district administration and elected representatives to NGOs, CBOs and community members. The pilot will have to invest time and effort to prepare these roles and responsibilities, in partnership with all major stakeholders, test them and modify them to ensure their effectiveness.

Potential negative impacts: Any effort to change existing patterns of resource use is bound to come up against the interests that benefit from status quo. There are therefore likely to be adverse reactions against these efforts, although obtaining prior political support should go a long way to help the pilot achieve its objectives. Apart from this potential political backlash, there are also likely to be mistakes made initially in the re-allocation of water across users and uses, which could have detrimental effects on the poor and marginalized. This will have to be safeguarded by the twin provisions of focused attention on potential impacts on these groups during the implementation process and during the regular multi-stakeholder sharing processes at district level.

[32] Such criteria were discussed in the case of the World Bank supported Andhra Pradesh Drought Adaptation Initiative (AP DAI) in 2007-9.

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Appendix 1: Decentralization Experiences of Five States

This Appendix is an edited extract from the study 'Good Practices of Decentralised District Planning in Selected States', (GOI-UN, n.d., pp. 24-25).

MADHYA PRADESH

Legal Framework

- Enacted Madhya Pradesh ZilaYojanaSamiti Adhiniyam,1995. The District Planning Committees in the state are headed by the Minister incharge of the District as Chairman, and elected members from the Panchayat and Urban Local Bodies are members of the District Planning Committee.
- The Collector of the district shall be the Secretary of the Committee and shall be responsible for maintaining the record of the Committee, preparing the record of discussions and communication of decisions and all other incidental and ancillary matters.
- Role of District Planning Committee(DPC)
- Provide leadership to Decentralised District Planning (DDP) & include local expectations, priorities, and play a leading role in participatory vision building.
- Decide on the development priorities of the district.
- After approval of the plan, review its implementation.
- Capacity building of representatives, officials, functionaries of concerned departments.

State level initiatives

Institutional Arrangement

- The state constituted a state Steering Committee headed by the Chief Minister to undertake the decentralized district planning which provided overall policy guidelines and direction for its implementation.
- At the state level, State Planning Commission (SPC) is the nodal unit. Within the SPC there is provision of a core group, technical training institutions and experts. The Steering Committee headed by the Chief Minister and expert groups inform the SPC.
- At the State level, 5 working groups have been constituted for examining various sectors of District Plans

Planning Process

- The State Government introduced decentralized planning process from 2001-02.
- The process of distribution of state budget into district budget was introduced in 2000-01 so that the resources are available for different schemes of various departments in the district.
- The most important step in the formation of District Plan is to allocate specific plan ceiling for each district. It was decided to earmark a minimum of 31.46% of the proposed State Plan outlay for the annual plan 2007-08 for this purpose.
- The second step was to distribute this outlay to various districts through a formula and local needs of the districts. The formula adopted for this purpose was as follows:

Population	25.00%
Area	12.50%
Extent of agricultural land	12.50%
Per hector value of agriculture production (inverse)	12.50%
No. of registered industries and No. of employees per 100,000 population (Inverse)	12.50%
Per capita electricity consumption	12.50%
Literacy rate (inverse)	12.50%

- The plan ceiling for all the Districts of the State is prepared and communicated to the District Planning Committees for formulation of District Plans for the year. It is preceded by month-long meetings in the State Planning Board to finalize the District outlays. During the discussions a thorough examination of schemes of various sectors is undertaken. After finalization, these district Plans are incorporated in to the State Plan's sectoral plan outlays.
- 28 sectors have been identified for purely District sector schemes. These include the development heads of Agriculture and Allied Activities, Rural Development, Minor and Micro Irrigation, Rural Electrification, Industries and Rural Industries Including Handloom, Khadi and Village Industry, Sericulture, Roads, School Education, Sports and Youth Welfare, Public Health, Water Supply and Sanitation, Urban Development Welfare of SC/ST/OBC, Social Justice and Development of Women and Children Welfare.
- State specific operational manual on Integrated District Planning was prepared and replicated in the field.
- Planning software application was developed to facilitate the data entry and analysis of data at each level of planning so that village, panchayat, janpad, district Plan and programme sector/scheme plans can be generated.Good Practices of Decentralised District Planning in Selected States

District Level Initiatives

Institutional Arrangements

- At district level 6 sub committees formed by the DPC represent different sectors. Gram Janpad and gram sabha from the panchayat level and urban bodies are responsible for giving final shape to the schemes
- There are different planning units at the district: (1)Panchayat (2)JanpadPanchayat (3)Gram Panchayat(4)Gram Sabha(5)Urban Bodiesand (6.) Other Planning Bodies(Ward Sabha,MohallaSamiti,etc)
- Planning groups facilitate in preparing the plans and linking them from one level to the other.TSGs at panchayat level comprising of 5-6 or more members are constituted. It consists of grassroot level officials, functionaries, experienced persons from active NGOs and VOs. These TSGs conduct the planning exercise in 2-3 panchayats. Village Development Committees together with the panchayat level TSG has to complete the process of plan preparation.
- The District Collectors were asked to have extensive consultations with the local bodies.
- Under the Decentralized Planning process in MP plans are prepared at the Gram Sabha level in rural areas and ward level in urban areas. These plans are consolidated to form the DDP. In order to take the plans forward from the lower level to the higher level various institutional arrangements have been made.

Key Initiatives

- Constituted a State Steering Committee headed by the Chief Minister to undertake decentralized district planning which provided overall policy guidelines and direction for its implementation.
- Constituted five working groups for examining various sectors of district planning
- Allocated a specific plan ceiling for each district.
- Developed software to capture activities of the district plan both level-wise and scheme-wise.
- Formed sub committees of the District Planning Committee (DPC) to represent different sectors.
- Constituted at Technical Steering Group (TSG) of 5-6 members at Panchayat level to conduct the planning exercise in 2-3 Panchayats.

WEST BENGAL

Legal Framework

- Enacted the West Bengal District Planning Committee Act, 1994
- The DPC act specifically delineated three categories of members for the District Planning Committee (section 3 of the Act). These are :
- Members to be elected by and from amongst the elected members of the ZillaParishad (ZP). However, Sabhadhipati (head of ZP) would not come in the purview of this section.
- Members to be elected by and from amongst the elected members of all the municipalities under the jurisdiction of the district and in the case of Siliguri subdivision of Darjeeling district, where there is Siliguri Subdivision Planning Committee, members of all the municipalities within this subdivision. Here also the condition is that the chairpersons of the municipalities cannot be the members under this section, i.e. subsection.
- Members to be appointed by the State government, but the total number of such members should not exceed one-fifth of the total number of members of DPC. Regarding the members of this category, the DPC Act specifically mentions that the State government will appoint Sabhadhipati of ZillaParishad and District Magistrate (DM) of the district as members of the committee where the Sabhadhipati will be the chairperson of the DPC and DM the secretary of DPC.

State Level Initiatives

Institutional Arrangement

- West Bengal State Planning Board was constituted in 1972,reconstituted in March 2007 and subsequently modified in March 2007.
- The State Planning Board undertakes interactive discussions with the plan implementing departments at the stage of formulation of Annual Plan.
- All schemes requiring funding from State Plan in excess of Rs. 20 crore have to be cleared by SPB from all angles before being initiated.
- Departments have been assigned to the board.
- Member wise allocations of districts have been done.
- District Planning Committee after preparing the draft development plan for the district as a whole shall forward the draft to the State Government (Planning and Development Dept). On the receipt of the draft plan the State government in consultation with the State Planning Board (SPB) will extend approval to the draft plan.

Planning Process

- The State Planning Board assists in the formulation of the Annual Plan of the State. Accordingly, the SPB takes up a series of meetings with the Plan implementing Departments on the plan priorities of the Departments at the formulation stage of the departmental annual plan.
- After due interactions the concerned Members of the SPB give their considered opinion on the draft proposals of the departments. When the plan proposals are finally put up to the MIC of that concerned Department for approval, the concerned Minister is aware of the recommendations of the State Planning Board.
- The Planning Cell of the Development & Planning Department deals with the formulation of the Annual Plan of the State and takes care of all Plan related matters in consonance with the guidelines of the Planning Commission and the State Planning Board and in collaboration with all the other Plan implementing Departments of the State Government.

District Level Initiatives

Institutional Arrangements

- The Planning Cell also provides guidance to the District Planning Committees for preparation of District Plan.
- For strengthening preparation of District Plan, a District Planning Committee Secretariat has been formed.
- The District Planning Officer shall be the Head of the Secretariat'
- The functions of the Secretariat shall be to assist the respective District Planning Committee in preparing and finalising the District Plan after examining the Plans of District / PanchayatSamities / Gram Panchayats and Municipalities.
- The Secretariat shall work in close conjunction with the Natural Resources Data Management System (NRDMS) of the Collectorate.
- At the PanchayatSamity Level' in each district, a dedicated set up is also hereby formed at each Block to help the BDO & Executive Officer, PanchayatSamities to finalise the PanchayatSamity Plan
- The District Planning Committee prepares District Plans by consolidating plans prepared by the Panchayats and Municipalities.
- The District Planning Committee also provides various supports to such local bodies including sharing its vision, perception and guidelines for the plan formulation.

Key Initiatives

- Made member-wise allocation of districts in the State Planning Board.
- Made the Planning Cell of the Development & Planning Department provide guidance for preparation of Districts Plans.
- Formed a DPC Secretariat formed to strengthen the preparation of District Plans.
- Created a new dedicated set up at block-level to assist the BDO - Executive officer, PanchayatSamiti, to finalize the PanchayatSamiti Plan.

ORISSA

- Reconstituted its State Planning Board
- Adopted the process of comprehensive district planning and identified Technical Support Institutions (TSIs).
- Constituted TSIs to appraise District Plans at state-level.
- Constituted DPMUs in each district to provide secretarial & technical support. Each DPMU has two Cells, General Planning and Analytical, while the Analytical Cell has two wings: Planning and Statistical.
- Formed 13 sectoral sub-committees at district-level to review CDP according to their areas of expertise
- Provided a budget for TSIs & District Planning offices from the Planning Department.

MAHARASTRA

- Formed a Statutory Development Board under article 371(2) of the Constitution of India, for removing regional imbalances.
- Created two high-level bodies at State-level: Planning Sub Committee & State Planning Board
- Made the district-in-charge the Member Chairman of the District Planning Committee (DPC).
- State government indicates financial ceiling and provides district-wise break up of allocation of expenditure of plan budget.
- Planning cell in the office of District Collector receives proposals prepared by Panchayats&Municipalities and submits to the DPC through collector.
- The Draft Annual District Plan is submitted by the District Collector to the Planning & Development (P&D) Department.
- A senior officer of the P&D examines it, prepares scrutiny notes and places it before the DPC.
- Simultaneously P&D communicates to the various administrative departments, the estimated size & lengths for proposals.
- The P & D ensures that departmental budgets of district-level schemes conform to the District Annual Plan.
- The State Government issues orders laying procedure for release of funds in respect of District Plan schemes.
- State government has vestedthe power of re-appropriation of savings in the DPCs.
- Classification of schemes into district & state level at the time of introduction of District planning.
- Initially allocation of funds in ratio of 60:40 for District & State.
- Started State Pool schemes for district level schemes under purview of DPC but was unable toplan or implement them.
- Introduced monthly monitoring system by evolving new software and installing it in all offices of DPOs. Reports are collected by the Directorate & Economics & statistics.

Appendix 2: Guidelines of the *RashtriyaKrishiVikasYojana*

The National Development Council (NDC) of India, in its meeting held on 29th May, 2007 resolved that a special Additional Central Assistance Scheme (RKVY) be launched. The NDC resolved that agricultural development strategies must be reoriented to meet the needs of farmers and called upon the Central and State governments to evolve a strategy to rejuvenate agriculture. The NDC reaffirmed its commitment to achieve 4 per cent annual growth in the agricultural sector during the 11th plan. The Resolution with respect to the Additional Central Assistance scheme reads as below:

Introduce a new Additional Central Assistance scheme to incentivise States to draw up plans for their agriculture sector more comprehensively, taking agro-climatic conditions, natural resource issues and technology into account, and integrating livestock, poultry and fisheries more fully. This will involve a new scheme for Additional Central Assistance to State Plans, administered by the Union Ministry of Agriculture over and above its existing Centrally Sponsored schemes, to supplement the State-specific strategies including special schemes for beneficiaries of land reforms. The newly created National Rain fed Area Authority will on request assist States in planning for rain fed areas.

Basic Features of the RKVY

The RKVY aims at achieving 4% annual growth in the agriculture sector during the XI Plan period, by ensuring a holistic development of Agriculture and allied sectors. The main objectives of the scheme are:

- To incentivise the states so as to increase public investment in Agriculture and allied sectors.
- To provide flexibility and autonomy to states in the process of planning and executing Agriculture and allied sector schemes.
- To ensure the preparation of agriculture plans for the districts and the states based on agro-climatic conditions, availability of technology and natural resources.
- To ensure that the local needs/crops/priorities are better reflected in the agricultural plans of the states.
- To achieve the goal of reducing the yield gaps in important crops, through focused interventions.
- To maximize returns to the farmers in Agriculture and allied sectors.
- To bring about quantifiable changes in the production and productivity of various components of Agriculture and allied sectors by addressing them in a holistic manner.

These guidelines are applicable to all the States and Union Territories that fulfil the eligibility conditions.

The RKVY will be a State Plan Scheme. The eligibility for assistance under the scheme would depend upon the amount provided in State Plan Budgets for Agriculture and allied sectors, over and above the base line percentage expenditure incurred by the State Governments on Agriculture and allied sectors. The list of allied sectors as indicated by the Planning Commission will be the basis for determining the sectoral expenditure, i.e. Crop Husbandry (including Horticulture), Animal Husbandry and Fisheries, Dairy Development, Agricultural Research and Education, Forestry and Wildlife, Plantation and Agricultural Marketing, Food Storage and Warehousing, Soil and Water Conservation, Agricultural Financial Institutions, other Agricultural Programmes and Cooperation. Each state will ensure that the baseline share of agriculture in its total State Plan expenditure (excluding the assistance under the RKVY) is at least maintained, and upon its doing so, it will be able to access the RKVY funds. The base line would be a moving average and the average of the previous three years will be taken into account for determining the eligibility under the RKVY, after excluding the funds already received. The RKVY funds would be provided to the states as 100% grant by the Central Government**.** The states are required to prepare the Agriculture Plans for the districts and the state that comprehensively cover resources and indicate definite action plans.

Since the RKVY is applicable to the entire State Plan for Agriculture and allied sectors, and seeks to encourage convergence with schemes like NREGS, SGSY and BRGF, the Planning Commission and the Ministry of Agriculture will together examine the States' overall Plan proposals for Agriculture and allied sectors as part of the Annual Plan approval exercise. At this stage, in consultation with the Ministry of Panchayati Raj it will also be decided if the requirements with respect to the District

Development Plans have been met or not. Advice may also be taken from DAHD &F, Ministry of Water Resources, MoRD, DARE, and NRAA, if the convergence has been appropriately factored in.

Once a state becomes eligible for the RKVY, the quantum of assistance and the process of subsequent allocation to the state will be in accordance with the parameters and the respective weights.

It will be permissible for the states to initiate specific projects with definite time-lines, and clear objectives for Agriculture and allied sectors excluding forestry and wild life, and plantations (ie., Coffee, Tea and Rubber). For this purpose, the RKVY would be available to the states in two distinct streams. At least 75% of the allocated amount shall be proposed under Stream-I for specific projects. The amount under Stream- II, will be available for strengthening the existing state sector schemes and filling the resource gaps. A review of the ratios between Stream-I and II will be made after a year's experience in the implementation of the scheme.

A State Level Sanctioning Committee (SLSC) headed by the Chief Secretary of the state will have the authority to sanction specific projects under the Stream-I. The Government of India's representative shall participate in the SLSC meetings and the quorum shall not be complete without the presence of at least one official from the Government of India.

There may arise a situation when a particular state becomes ineligible to avail of the funds under the RKVY in a subsequent year due to its lowered expenditure on Agriculture and allied sectors. If this were to happen, the states shall be required to commit their own resources for completing the sanctioned projects/schemes under the RKVY.

The pattern of funding is 100% Central grant and the eventual goal is that the additional investments made through the RKVY scheme will lead to at least 4% growth in agriculture. The states are given sufficient flexibility under the scheme to make appropriate local choices so that the outcomes are as envisaged in the RKVY objectives.

The Planning Process of RKVY

Each District will formulate a District Agriculture Plan (DAP) by including the resources available from other existing schemes, District, State, or Central schemes such as BRGF, SGSY, NREGS and Bharat Nirman, etc. The District Agricultural Plans shall not be the usual aggregation of the existing schemes but would aim at moving towards projecting the requirements for development of Agriculture and allied sectors of the district. These plans will present the vision for Agriculture and allied sectors within the overall development perspective of the district. The District Agriculture Plans would present the financial requirement and the sources of financing the agriculture development plans in a comprehensive way. Since RKVY is conditional to proper District Planning and since Planning Commission has already circulated guidelines for District Planning in line with Constitutional requirements, these requirements should be adhered to by the state as far as possible. The states will have to specify the institutional mechanisms evolved by them for District Planning as resolved in the NDC and submit a status report at the stage of the Annual Plan exercise. The SLSC will monitor and ensure this. The DAP will include animal husbandry and fishery, minor irrigation projects, rural development works, agricultural marketing schemes and schemes for water harvesting and conservation, etc. keeping in view the natural resources and technological possibilities in each district.

Each state will prepare a comprehensive State Agricultural Plan (SAP) by integrating the District Plans. The state will have to, at the outset, indicate resources that can flow from the state to the district. The DAP will integrate multiple programmes that are in operation in the district concerned, include the resources and activities indicated by the state, combine the resources available from the other programmes and finalize the plan. The elements that will be taken into account should cover at the very least:

(a) Sectoral and District segments of the State Plan.

(b) Centrally sponsored schemes, viz., NREGS (National Rural Employment Guarantee Scheme), BRGF (Backward Region Grant Fund), SGSY (SwarnJayanti Gram SwarojgarYojana) and Bharat Nirman, etc. and

(c) Tied and untied grants from the Central and State Finance Commissions.

The preparation of the State Agricultural Plan could be a two-way process. In one method, the state nodal department (Agriculture Department) could obtain the draft DAPs from the districts in the first instance and examine if aspects of importance to the state are properly covered in the district plans or not. For example, at the state level, the vision could be to set up fertiliser quality testing labs in certain districts. The state should, at this stage of scrutiny, ensure that establishment of the fertilizer testing labs is incorporated in the District Agricultural Plans of the districts concerned. Ensuring that the state's priorities with respect to Agriculture and allied sectors are appropriately captured in the District Agricultural Plans would be the responsibility of the nodal department/ State agency vested with the responsibility of preparing the SAPs. In the other method, the state Nodal Agency could communicate to the districts in the first instance, the state's priorities that ought to reflect in the respective district plans and the districts may incorporate these in their district plans. The preparation of the District Agriculture Plan is an elaborate, exhaustive and iterative process so every care should be taken by the state nodal department and the district agriculture department officials in ensuring that the DAPs are properly and comprehensively made. A pictorial representation of the DAP is in the box.

Several states/ UTs may already have prepared comprehensive district and state agriculture plans. They may ascertain if they could be updated and used for the purposes of the RKVY. However, in states with no such preparation, an exercise should immediately commence, so as to complete it within a three-month period. The district level potential linked credit plans (PLP) already prepared by the NABARD may be useful in this regard. The state governments are advised to make best use of the PLPs and SREPs (Strategic Research and Extension Plans) developed under the ATMA programme. The guidelines for preparing the District Development Plans have been communicated to the state governments by the Planning Commission. For the purpose of the RKVY, the District Development Plans so prepared, in accordance with the Planning Commission's Guidelines should be broadly sufficient. It should however be ensured that the convergence with other programmes as well as the role assigned to the PRIs are satisfactory. For the year 2007-08, a clear indication should be given by the states that they are encouraging the preparation of the district agriculture plans that are integral to the District Development Plan. The intent of the states would be known by the number of districts already covered, and the availability of a road map for covering the remaining districts. Eventually, ie., from 2008-09 onwards, no assistance under the RKVY shall be available unless all the districts are ready with the District Plans.

The finalized State Agriculture Plan will be placed before the Department of Agriculture (DAC) and the Planning Commission, as a part of the State Plan exercise, for Additional Central Assistance by the State Planning Department. The DAC and Planning Commission will approve the SAP with such suggestions as may be necessary. The states will provide complete rationale and justification for the assistance sought, well before the state plan discussions to give sufficient time to the DAC and the Planning Commission to firm up their views on the proposals and make such consultations as may be necessary with concerned departments.

The districts will be required to prepare a shelf of projects, for posing to the SLSC under Stream-I. At least 75% of the total funds under the RKVY that a state gets entitled to, will be available under the Stream-I. The Nodal Department/Agency will undertake/compile such projects from each of the districts, prioritize them and place them before the SLSC. The SLSC is vested with the authority to sanction the projects under Stream-I in a meeting that will be attended by representatives of the Government of India. The Nodal Agency will give at least 15 clear days of notice to the representatives of the Government of India while sending the meeting notice, along with a gist of the agenda. The projects posed to the SLSC under Stream-I shall be consistent with the District and State Agriculture Plans. The balance of the total RKVY funds will be available for strengthening of the existing schemes and for filling resource gaps under the State Plans. This would be untied assistance to the states.

A state is permitted to use up to 1% of its total RKVY funds for incurring administrative expenditure that includes payments to consultants, recurring expenses of various kinds, staff costs, etc. However, no permanent employment can be created, nor can vehicles be purchased. The DAC may retain a proportion of 1% of the RKVY funds at its level, so as to organize pan-India evaluations or for such administrative contingencies that may arise at various times.

Of late, under the new instructions, agriculture infrastructure plans of the states (SAIDP) would also be prepared.

Appendix 3: Guidelines of National Rural Drinking Water Programme

Provision of safe drinking water is a basic necessity. Rural drinking water supply is a State subject and has been included in the Eleventh Schedule of the Constitution of India, among the subjects that may be entrusted to Panchayats by the States. To accelerate the pace of coverage of problem villages with respect to provision of drinking water, the Government of India introduced the Accelerated Rural Water Supply Programme (ARWSP) in 1972–73, to support States and UTs with financial and technical assistance in implementing drinking water supply schemes in such villages. In order to address the major issues like sustainability, water availability and supply, poor water quality, etc., the Rural Drinking Water Supply Guidelines have been revised w.e.f. 1.4.2009. The revised program known as **National Rural Drinking Water Programme (NRDWP)** focuses on the following areas:

- Moving forward from achieving habitation level coverage towards household level drinking water coverage.
- Moving away from over dependence on single drinking water source to multiple sources, through conjunctive use of surface water, groundwater and rainwater harvesting.
- Ensuring sustainability in drinking water schemes and preventing slip back.
- Encouraging water conservation methods including revival of traditional water bodies.
- Convergence of all water conservation programmes at the village level;
- Ensuring household level drinking water security through water budgeting and preparation of village water security plans.
- Consciously moving away from high cost treatment technologies for tackling arsenic and fluoride contamination to the development of alternative sources in respect of arsenic contamination and alternate sources/dilution of aquifers through rainwater harvesting for tackling fluoride contamination.
- Developing the capability of preliminary drinking water testing at the Gram Panchayat level.
- Establishing Water Testing Laboratory facilities with respect to drinking water, at the district and subdivision level.
- Linking of Water Quality Monitoring & Surveillance with the Jalmani guidelines for implementation of standalone drinking water purification systems in rural schools.
- Encouraging handing over of management of rural drinking water schemes (RWS) to the Panchayati Raj Institutions (incentive of 10% of the NRDWP allocation for the States that transfer the management, is introduced).

NRDWP Guidelines

Components of the NRDWP

To meet the emerging challenges in the rural drinking water sector relating to availability, sustainability and quality, the components under the programme are NRDWP (Coverage), NRDWP (Sustainability), NRDWP (Water quality), NRDWP (drought prone areas-DDP areas), NRDWP (Natural calamity) and NRDWP (Support). In accordance with the policy of Government of India, the Department of Drinking Water Supply (DDWS) has earmarked 10% of the total Central outlay for the programme for the North-eastern States. The earmarking of funds by DDWS and the Centre: State share in funding, will be as follows:

At the Central Level

i. NRDWP (Coverage): 30% of the NRDWP funds will be allocated for Coverage, which will be allocated amongst States/ Union Territories (UTs) on the basis of prescribed inter-state allocation criteria on a 50:50 sharing basis between the Centre and States except for the North-eastern States and Jammu & Kashmir (J&K) for which, funding pattern will be on 90:10 basis.
ii. NRDWP (Water Quality): 20% of the annual NRDWP funds will be allocated for addressing water quality problems to enable the rural communities to have access to potable drinking water on a 50:50 sharing basis except for the North-eastern States and Jammu & Kashmir for which, funding pattern will be on 90:10 basis.
iii. Operation and Maintenance (O&M): 10% NRDWP funds will be allocated to be used by the States/UTs on O&M of rural drinking water supply schemes on a 50:50 sharing basis except

for the North-eastern States and Jammu & Kashmir for which, funding pattern will be on 90:10 basis.

iv. NRDWP (Sustainability) – 20% of the NRDWP funds will be earmarked for this component on a 100% Central share basis to be allocated among States/UTs, which will be used to encourage States/UTs to achieve drinking water security through sustainability of sources and systems. This component will be implemented in the form of decentralized, community managed, demand-driven programme on broad Swajaldhara principles wherein innovations will be encouraged. Capital cost sharing is left to the state to decide. The States are required to prepare district-wise Drinking Water Security Plans and the Sustainability component will be used to fund the gap in this plan.

v. NRDWP (DDP Areas): 10% of the annual NRDWP funds will be assigned amongst States having DDP blocks/districts funded on a 100% Central share basis.

vi. NRDWP (Natural calamity): 5% of the NRDWP funds will be retained by DDWS and used for providing assistance to States/ UTs to mitigate drinking water problems in the rural areas in the wake of natural calamities.

vii. NRDWP (Support): 5% of NRDWP funds will be allocated to States on 100% Central share basis for support activities that may include awareness generation and capacity building programmes through Communication and Capacity Development Units (CCDUs), water quality testing, MIS and computerization, R&D activities etc.

At the State Level the programme funds available for different components will be as follows:

i. 10% for O&M with 50:50 cost sharing basis between Centre & State (In case of J&K and North eastern States on 90:10 basis).

ii. 20% for sustainability on 100% Central share basis.

iii. 45% for coverage and 20% for water quality on 50:50 cost sharing basis (In case of J&K and North eastern States on 90:10 basis).

iv. 5% for Support activities on 100% Central share basis.

Criteria for State wise allocation of NRDWP funds: Under the NRDWP guidelines the criteria for inter-state allocation of NRDWP funds are given below:

Criteria % Weight age

- Total Rural Population 2001 Census 40
- Rural Scheduled caste (SC) and Scheduled Tribe (ST) Population 2001 Census 10
- Rural Population managing drinking water supply schemes 10
- States under DDP, DPAP, HADP and special category Hill States in terms of rural areas

Support Fund and Water and Sanitation Support Organisation (WSSO): There are many Support activities for which States would require funds to achieve the long-term goal of the sector. Thus support for information, education and communication, human resource development, water quality monitoring and surveillance, setting up water testing laboratories, engaging State Technical Agency and National Expert Groups for preparation of Projects, technical scrutiny and evaluation of rural water supply schemes can be taken up under the 5% Support fund of NRDWP. Satellite-data imagery, GIS mapping systems, use of GPS system for unique identification of habitations and water sources and delivery points, support for successfully deploying the central online monitoring system (IMIS) and such other activities can also be supported. This will be within the 5% support fund made available to states. The States are required to set up a Water and Sanitation Support Organization to take up the support activities.

Special Provisions for SCs / STs: The State/ UTs are required to earmark and utilize at least 25% of the NRDWP funds for drinking water supply to the habitations dominated by SCs and another minimum 10% for the ST-dominated habitations. Where the percentage of SC or ST population in a particular State is higher, additional funds can be utilized.

Sustainability of rural water supply sources & systems: The Department has accorded highest priority to “Sustainability” of drinking water sources and systems to prevent slippages. Sustainability measures like water conservation and rainwater harvesting lead to in-situ remediation of water quality and as such will have to be a priority in water supply sector. For this purpose 20% of the NRDWP allocation is made available to the States on a 100% grant-in-aid basis.

Water Quality Monitoring and Surveillance: In order to develop understanding and appreciation of safe and clean drinking water among rural communities and to enable them to determine the quality of drinking water, National Rural Drinking Water Quality Monitoring and Surveillance Programme was launched in February 2006. The programme aimed at empowering rural communities by:

i. Bringing awareness through Information, Education & Communication (IEC) activities to address health hazards due to poor drinking water quality, hygiene, sanitary survey, importance of environmental sanitation, etc.

viii. Training 5 villagers/workers in each Gram Panchayat for testing drinking water sources.

ix. In addition to 5 Gram Panchayat workers, 2 persons at the State level, 4 persons at the district and 5 persons at the Block level are also to be trained in water testing. Under this programme, Filed-testing kits are provided to each Gram Panchayat was made. 100% financial assistance was provided to the states for this task. With effect from 1.4.2009, the Water quality monitoring and surveillance programme has been subsumed under the NRDWP and these activities are now supported from the Support fund.

IEC and HRD activities: Based on the issues and challenges faced in the implementation of the National Rural Drinking Water Programme (NRDWP), the Department developed and is telecasting and broadcasting video and audio spots with messages on safe drinking water, repair of hand pumps and water quality testing. In February 2010, IEC guidelines were formulated and sent to States to help them to take up IEC activities with stakeholders. The Department has identified 20 institutions/ organizations having domain knowledge and expertise in the drinking water sector and selected them as National Key Resource Centres (KRCs). The national KRCs will be responsible for training, orientation and capacity development at all levels. They will be extending technical guidance to State Communication and Capacity Development Units (CCDU) of WSSOs for IEC and HRD activities.

Research and Development: In order to promote research and development in the area of rural drinking water supply and sanitation, the Department awards R&D projects to premier research institutes, universities, colleges and NGOs. DDWS has so far sanctioned 149 R&D projects, of which 133 have been completed. The Department has brought out a compendium on the same and it has been widely disseminated to States PHEDs for their use.

Jalmani: The purpose for this was to provide value and quality addition to the ongoing Rural Drinking Water Supply Programme. The existing Rural Drinking Water Supply programme aims at providing safe drinking water in adequate quantity to all rural habitations in the country including rural schools and Anganwadis. Due to variety of factors, the quality of drinking water is likely to deteriorate when it actually reaches the consumption point, especially in vulnerable areas like rural schools. In order to address this key requirement it has been decided to consider installation of simple Stand Alone Purification systems, to begin with, in 0.1 million schools as a value addition to the Rural Water Supply Programme. Finance Minister, while presenting the Union Budget for 2008-09, made an announcement for an additional allocation of Rs.2000 million to cover approximately 0.1 million school children with Stand Alone Water Purification Systems in the schools. Allocation criteria, funding pattern and release of fund for the Jalmani programme:

- This is a 100% centrally sponsored programme. The role of DDWS is to provide funds to the State Governments on the basis of allocation criteria, which will include the rural population (2001 Census) (80% weightage), the extent of DDP/DPAP/HADP areas (20% weightage). However, flexibility is available with the Department to allocate more funds to the States, which show better performance during the course of the implementation of the programme.
- The ownership of these systems will be vested with the school authorities. However, it will be the direct responsibility of the Village Panchayats that the systems are run effectively and the school children get quality water in sufficient quantity. The Village Panchayats may also take recourse to the funds provided to them under 12th FC grants for meeting any additional expenditure required for running the Programme.

Preparation of Ground Water Prospects on (Hydro geo morphological) maps: The Department is getting Ground Water Prospect (HGM) maps using the services of National Remote Sensing Centre, Hyderabad. The main objectives of preparing HGM maps are to arrive at:

i. Prospective ground water zones,
x. Prioritization of areas of planning recharge structures
xi. Tentative sites for taking up recharge structures to improve the sustainability of drinking water sources in the problematic habitations.
xii. Creation of a digital database

Preparation of HGM maps in Andhra Pradesh (part), Assam, Karnataka, Kerala, Rajasthan, Chhattisgarh, Madhya Pradesh, H.P., Gujarat, Orissa, Uttarakhand and Jharkhand States have been completed and handed over to the respective States. Preparation of similar maps in Andhra Pradesh (remaining part), Maharashtra, Punjab, Haryana, and parts of West Bengal, Uttar Pradesh, Arunachal Pradesh, Uttaranchal, Assam and J&K States are in progress. It is also proposed to complete preparation of HGM maps in all remaining States in a phased manner by end of 2012.

Based on the feedback received by NRSC from States, 2.49 lakh wells have been drilled in 6 states and achieved more than 90% of success rate, on average. Similarly, 12,528 recharge structures have been planned of which, 9,057 have been constructed which have significantly improved the sustainability of drinking water sources.

Appendix 4: Integrated Water Resource Management

IWRM Principles

The 1992 International Conference on Water and the Environment held in Dublin resulted in what are called the Dublin Principles to water resource development and management. These Principles found widespread international support, and contributed to the UN Agenda 21 (recommendations on Freshwater Resources) which were adopted at the 1992 UN Conference on Environment and Development (UNCED) in Rio De Janeiro (See Box 1).

BOX 1: Important milestones in the International Movement towards IWRM

- **The Delft Declaration** (1991) identified the weaknesses of the institutional capacity as the main cause for unsustainable water services and supported capacity building and integrated planning.
- **The Dublin's Principles** (1992) endorsed political commitments on the involvement of government and community towards institutional changes, the use of market economy & capacity building.
- **The UN conference on Environment and Development (Earth Summit)**(1992) Agenda 21 prioritised country-level adjustment of decision making systems and institutional arrangements to deal with emerging environmental issues of the 21st century.
- **The GWP Paper***Technical guidelines for integrated water resource management* that defines the process of IWRM and laid down the types of integration envisaged and the limitations of such integration.
- **World Water Foruml**, Morocco (1997)
- **World Water Vision on water, food and rural development** (ICID)(2000) stressed the need for continued irrigation expansion, increasing storages, and additional irrigation water use even after management improvements.
- **Integrated World Water Vision** (World Water Council)(2000).
- **World Water Forum-II**, The Hague (2000). Sectoral and consolidated visions for water use
- **The International Conference on Fresh Water**, Bonn (2001).
- **The Rio Plus Ten conference**, Johannesburg (2002). Reviewed agenda 21 and laid down action plans for implementation of agenda by the nations of the World.
- **World Water Forum-III**, Kyoto (2003). Reassessed the World Water Vision, and recognised the needs of the developing countries with growing populations.

Source: Mohile (2005)

Sometimes referred to as the Dublin-Rio Principles, these have found widespread support among the international community as the guiding principles underpinning the IWRM, and have been re-stated and elaborated at major international water conferences subsequently. These are, therefore, the IWRM Principles.

BOX 2: The Four Dublin Principles

I. Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment.

II. Water development and management should be based on a participatory approach, involving users, planners and policymakers at all levels.

III. Women play a central part in the provision, management and safeguarding of water.

IV. Water has an economic value in all its competing uses and should be recognized as an economic good.

Source: GWP, 2000, p. 13-14

Definitions of IWRM

The Global Water Partnership (GWP) published a technical paper on IWRM that has become a standard reference (GWP, 2000). This paper observes that 'the translation of these [Dublin] principles into concrete action is often referred to as *Integrated Water Resources Management (IWRM),* 'with the "M" referring to both "development and management" (GWP, 2000, p. 22).[33] Noting that that the concept of IWRM is widely debated and that an unambiguous definition of IWRM did not exist, it suggested the following definition for IWRM:IWRM is a process which promotes the co-ordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems. (p. 22)

The GWP Handbook on IWRM published by the GWP (GWP, 2004), simplifies this further. 'IWRM is a flexible tool for addressing water challenges and optimizing water's contribution to sustainable development. It is not a goal in itself. IWRM is about strengthening frameworks for water governance to foster good decision-making in response to changing needs and situations. It seeks to avoid the lives lost, the money wasted, and the natural capital depleted because of decision-making that did not take into account the larger ramifications of sectoral actions. It aims to ensure that water is developed and managed equitably and that the diverse water needs of women and the poor are addressed. It seeks to ensure that water is used to advance a country's social and economic development goals in ways that do not compromise the sustainability of vital ecosystems or jeopardize the ability of future generations to meet their water needs.' (p. 6) and 'An IWRM approach promotes the coordinated development and management of water, land, and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems. This includes more coordinated development and management of:

- land and water,
- surface water and groundwater,
- the river basin and its adjacent coastal and marine environment,
- upstream and downstream interests.' (p. 7)

[33] Water resource development typically refers to the creation of infrastructure to utilize available water resources, including the construction of canals, dams and other surface water infrastructure, as well as the digging of open wells and bore wells to tap groundwater. Water resource management, on the other hand, is about balancing the demand and supply of water resources, in an environmentally sustainable manner, and refers to the individuals, institutions, and instruments used in this task. IWRM considers the management of water demand with water supply at its most fundamental level. It promotes integration within the natural system (i.e., taking an integrated view of water resources as a whole) and the human system (i.e., in the planning, development and management of water resources) (GWP, 2000).

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This project is funded by The European Union