Summary of discussions from the Pune workshop

Rainfed agriculture plays an important role in the Indian economy. In India, 68% net sown area (136.8 m ha) comes under rainfed agriculture. In India, some 48% area is under food crops and 68% area under non-food crops. According to the National Rainfed Area Authority (NRAA) almost 50% rural work force and 60% livestock is dependent on rainfed agriculture

More than 177 districts of India, are dominantly rainfed districts. However, a significant increase in the irrigated areas, during the last few decades, is reported. Rainfed areas also match closely with the areas characterized by human poverty. Under various programs, government has invested almost thrice the amount in irrigation projects as compared to the development of rainfed areas. Subsidies are tied to irrigation, whether in the form of drips, sprinklers or fertilizers. Under the National Food Security Programme, more stress is given to crops like wheat and paddy. Various policy documents fall short on the manner of priority given to water, soil and rainfed agriculture. This is the straightforward rationale to revitalizing rainfed agriculture in India.

The assumption that large dams (and their canal networks) play a magical role in solving water scarcity and covering so-called irrigation backlogs becomes questionable. Experience from the last 20 years indicates that the actual contribution of these dams to irrigation is quite limited – in the range of 10% to 12%. Even in States like Punjab and Haryana, the contribution of groundwater is much higher than the contribution from large dams, bringing in a third dimension to the debate on 'rainfed versus irrigated systems of agriculture'. The conundrum of debates around rainfed agriculture makes the task of managing water resources from areas dependent on rains and rainfed farming all the more challenging.

The biggest challenge lies in protecting, conserving and intelligently using water resources from such (rainfed dominant) regions of the country. Such a strategy also holds the key to water management solutions in areas where large-scale groundwater overexploitation has occurred. Community awareness and sensitization around water management, especially in context to RRA, therefore gains significance. One of the principles that emerges as a commonality across many of the case studies presented involves accepting water as a "common pool" resource. Water resources, today, are increasingly being pulled into the private property domain whereas they should be treated as common pool resource – particularly in the RRA context.

With the population growth, ensuring food security has become a challenging priority. There is a need to calculate productivity and rejuvenate the practices of mixed cropping/inter cropping as one of the main components of water management under a programme that looks into revitaslising rainfed agriculture. Other productivity criteria such as water extracted per unit energy used or water extracted per unit of rainfed crops versus irrigated crops can also be

introduced into mainstream productivity calculations. All such issues can be pitched at the regional and national level, as a policy objective.

To achieve this, a typology can be prepared at the national level for rainfed advocacy. Some pilots can be implemented to revitalise rainfed farming in core irrigated areas to understand the importance of rainfed agriculture. Other pilots could be within the 'dominantly' rainfed regions. The pilots will to include institutional, physical, policy level thinking and capacity building, in addition to building a solid knowledge and skill base around water resources in planning and implementation of rainfed farming programmes. There is also a need to define the scale for the pilots and the geographies in which they can be rooted. Micro-interventions should be portrayed in the right way, in order to overcome the misplaced rationale of "*only large-scale solutions will work*". Training and capacity building around water management in rainfed agriculture is also a must.

Finally, water management in any area, rain fed or irrigated, should be in the form of a process and the next step in this direction is to begin the definition of the process through some key pilots.

FINAL DISCUSSION

Pilot	Situation 1	Situation 2	Situation 3	Situation 4	Situation 5
Pilot area	North Bihar, Eastern U.P.	Gujarat, Rajasthan	A.P., Karnataka, Tamilnadu	Central India	Hills, North India
Institutions					
Soil Fertility					
Water					
Seeds					

Additional points captured during final discussion:

- Community awareness and sensitization is very important. Water today is treated as private property and it should be treated as common pool resource.
- Population is increasing and so cropping pattern has changed significantly to fulfil the demand.
- Mono cultivation should be avoided, mixed cropping/inter cropping should be practiced.
- Food security is the need of the hour. Pulses don't need water so farmers should be promoted to use pulses. This will increase soil fertility.
- Productivity can be calculated. It should be identified depending upon the use of water for the crop.
- Soil fertility is measured on the basis of the amount of organic matter in the soil. It should be pitched at the regional and national level. Policy matters are challenging factors.
- Water mgt should be treated as a process and not as a model.

M.P. was purely rainfed till late 1990's. In the last 10 yrs the entire picture has changed.

Important issues-

1. A typology should be prepared at the national level for rainfed advocacy.
2. There should be some pilots at the irrigated areas to understand the importance of rainfed agriculture
3. Small things should be portrayed in the right way like Wadi programme of BAIF

4. Training and Capacity building in rainfed agriculture like APFAMGS for farmers
   Pilots should not be of physical level but should include institutional, physical, policy level thinking and capacity building. Need to define scale for the pilots.

What is a pilot? Is it a process? Which are potential areas, regions for piloting?

Rain fed areas were there some 20 yrs back. It increased with economic needs. This increased the rate of migration. Five scenarios

1. Choiceless rainfed agriculture, because of lack of choice.
2. Erratic support
3. Most assured irrigation
4. Support irrigation for Kharif but then rabi and horticulture not supported (Maharashtra is classic example 400-600 mm rainfall)
5. Number of Farmers rainfed by choice are very less. Every farmer irrigates in India if has a choice.

Absolute area under canal command has not increased by an inch. Farmers have land, water, infrastructure but do not irrigate due to lack of energy. These are some of the poorest farmers of India like N.Bihar, E. U.P and N.E. India. This indicates that high rainfall areas are mainly high poverty areas. The gaps can be identified. Micro irrigation techniques are needed to study. Changes at society level takes a long time. ***At least a decadal period is required to bring behaviour changes in farmers.*** Food security and income security is finally the most important aspect of rain fed agriculture.

WASSAN experience- Experiments A.P. GW can be shared. It involves cost, efficiency, strategies for the pilots. GW control is major thing. It should be a site specific approach. Example of Wadi experiment.

Issues not covered:

- *Micro irrigation and alternative energy resources are two important aspects not really covered in the area.*
- *Gujarat, Rajasthan and N. Bihar, E.U.P and N.Eastern India are two different geographical areas not covered.*