
Proceedings of the First Consultative Meeting of

TECHNOLOGY RESOURCE GROUP

June 24th 2000 at WASSAN

1. Background:

Technology Resource Group (TRG) is a WASSAN's initiative to form an inter-disciplinary platform of technology resource centers and professionals specialising in the field of watershed development. TRG would share the new developments in their respective fields, debate on emerging technical issues and also, become a strong advocacy and referral center for promoting people-friendly and participatory watershed technologies. WASSAN would provide the necessary interface with practitioners. Also, WASSAN would incorporate the new developments and important issues debated in TRG into watershed training modules to operationalise the collective agenda of the group.

The first consultative meeting of the group was organised on 24th June, 2000 at WASSAN's office. The issues raised and debated in the meeting were summarised and presented in this note. Important issues that the group should take up immediately will be identified and circulated soon.

2. Details of the Meeting:

The meeting began with a welcome note by Shri B N Yugandhar, Managing Trustee, WASSAN. Ravindra, Secretary, WASSAN made a brief presentation on history and mandate of WASSAN. In this presentation, he mentioned that capacity building of PIAs on various aspects of watershed program (including technology) is the primary objective of WASSAN.

This was followed by brief self-introduction of participants. Each person also shared some details about their field of interest & expertise in the context of watershed technology.

Explaining the purpose of the consultative meeting, Sri B N Yugandhar highlighted the need for capacity building inputs to PIAs, as the scale of watershed programs in Andhra Pradesh is the highest in the country. To make this program sustainable in terms of its benefits, it is very important that the program has appropriate focus on technologies. While some technologies are accepted, simplified and internalized during the program (Eg: water harvesting structures like check dams, gabions, contour bunds, etc), many issues are yet to be addressed, such as

- a) Ability of WDTs to convince the community on the appropriateness of technical approaches/ choices, from technology point of view (particularly from site selection point of view).
- b) Technology is still an "outsider", it is not built on the local conditions/ knowledge.

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- c) Top Down approach in technological interventions is still prevailing.
 - d) Bio mass related watershed technology (grasses/ timber/ horticulture) is not yet stabilized in watershed context.

Looking at such field level scenario, he felt that WASSAN is taking the initiative to form and collaborate with the TRG, to seek their advice/ guidance/ expertise/ knowledge/ experience for the benefit of the PIAs/ WDTs. He mentioned that the individuals/ institutions could contribute to this process. WASSAN would use the outputs from TRG as inputs in training programs and capacity building of PIAs. He requested the participants to respond to this concept and suggest any strategies for operationalizing this.

This was followed by open discussion, during which each participant shared one's own views and discussed the issues of common concern, in the context of watershed technology. They are briefly presented below.

3. ISSUES DISCUSSED IN THE OPEN DISCUSSION:

1. Is there any process of *prioritization* of watershed treatment works?
2. *National Water Policy* as it is now, does not include any element of people's participation. Can we have a regional (South Indian States) session on the Water Policy and make a corrective statement?
3. It is important to promote the local leaders to convey the message of conservation like in Swadhyay movement in Gujarat and Tarun Bharat Sangh in Rajasthan.
4. Technology should not be understood as a substitute to peoples' participation. A technology is more acceptable to local community, if native wisdom in deciding technology is respected and an enabling environment for self-help initiatives is created, by providing necessary time frame.
5. It was pointed out that *ANGR Agriculture University* was not represented in the meeting.
6. At present emphasis in the watershed program is mostly on water conservation measures but the final **production benefits** to the farmers are generally neglected
7. There should be technical backstopping to the watershed implementing agencies. In this context, formation of *TRG is a right initiative*. ICRISAT is at present evaluating such efforts, a close look at which may be useful for the purpose
8. It would be better to involve National Remote Sensing Agency (**NRSA**) in the group. Especially mechanisms should be evolved to spread the usage of outputs of NRSA project under NATP.
9. Similarly, scientists from **fodder production demonstration** program in Mamidipally may also be invited to be partners of TRG.

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10. PROGRESS has developed **software on watershed planning**. Details about the software were also shared by PROGRESS. It was suggested that the software might be demonstrated in the next meeting of the TRG.
 11. More **exposure visits** would help the practitioners. Farmers and WDTs may visit several action-research watersheds or related activities of CRIDA to get exposure to sound technologies.
 12. It is necessary to increase *the diversity in thinking / approaches* in watershed program. The group can initiate processes in this direction.
 13. Sri. T. Hanumantha Rao presented the **'four waters' concept**, which integrates several disciplines. The salient features of this approach are ..
 - Recharging the discharge areas
 - Prioritising 'Kuntas' (small earthen dams in first order streams) vis-a-vis check dams whenever funds are limited. The catchment areas have to be given priority over downstream tanks.
 - More number of sunken ponds in the gullies are useful in rejuvenating the streams
 - Create storage in the first order streams
 - Conserving soil moisture by using cover crops
 - Preference for field bunds (properly laid out) vis-a-vis contour bunds
 - Recharge weathered zone aquifers so that water can be harvested by open dug-wells (17 lakh in number in A.P)
 - A model for fertilisation of tank / bunds needs to be practiced
 14. **Continuous Contour Trenches** create many problems
 - they increase discharge into the gullies by disturbing natural drainage, which may result in serious degradation of the natural gullies. Therefore, CCTs must always be coupled with downstream treatment activities in the gullies.
 - once breached, CCTs often result in the formation of new gullies and further degradation
 - often, CCTs were dug at the foothills (convenient for hydraulic excavator) against the convention of starting at the ridge
 - The present practice of using hydraulic excavators for CCTS is deplored both on technical and social grounds.
 15. Several issues related to **Tank systems** were discussed :

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- ◆ *Regarding the program on tank desiltation -*
 - ❖ Desiltation is a costly option. Creating water storage potential by desiltation of tanks costs two and half times more than creating additional storage capacity by new tanks. One investment on one cu.m of desiltation results in one cu.m of storage where as, same investment in new tanks create more than proportional storage capacity.
 - ❖ After certain time, like streams, tanks also establish its "regime" where there would not be any additional siltation. Therefore, a tank would not become 'defunct' unless it is breached.
 - ❖ Silted tanks also serve the purpose of recharge, particularly in redsoil areas.
 - ❖ Effective storage capacity in the silted Kuntas (storage created in first order streams) is high.
 - ❖ It is emphasised that desiltation mechanism should be built into the protocol of designing and implementing new structures. People should do it by themselves.
 - *However, there are differing views on the subject of 'siltation in tanks' within the group, which have been debated.*
 - ◆ Maintenance is required only for diversion channels in system tanks but not for stream / catchment fed tanks.
 - ◆ The question of impact of watershed program on tanks was raised referring to the Kasad experience in Karnataka. This aspect needs to be further studied.
16. Technologies should be **site specific**.
 17. While watershed program is scaled up, we should also highlight the limitations of the program. Particularly, it is important to work on productivity enhancing mechanisms after treatment.
 18. *Quantification of impacts* is necessary. Simple participatory mechanisms may be developed.
 19. To the suggestion of measuring turbidity levels in the stream flows, it was pointed out that the color of water is a reasonably good indicator, which people observe regularly.
 20. While we move towards micro-level planning, it is important to take note of the **indigenous technical knowledge** (ITK).
 21. While there is a general appreciation for ITK, this appreciation is not internalised in the system in practice.
 22. It is important for a sub-group of TRG look into the **farmers' perspective** on land management. Dr. Sanghi volunteered to take the initiative.
 23. We often see drainage course as simple discharge systems while farmers in many areas see them as a lifeline for production systems and propose to convert them into cultivable lands.
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24. At the same time, we should **resist the temptation to replicate** the successful ITK to other areas; many times, these technologies evolve as location specific techniques.
 25. Watershed program is scaled up to a large program. In spite of this, there is hardly any investment on relevant research (action oriented / in situ). It is important for this group to initiate a **research investment process** systematically.
 26. Whenever a group like TRG enters into a discussion on specific issues, it is important to **involve farmers** in the debate. It was also mentioned that the group should involve social scientists and HRD people, as the concept of technology is an inclusive one.
 27. The group endorses water as an important issue for future consideration.
 28. The issue of using bore well water for cultivating **water intensive crops** was also raised. The experience of APWELL and RWDP was mentioned as successful cases where the community successfully enforced restrictions on water demanding crops like paddy.
 29. As in the case of Adilabad and Nagaland, some part of the cultivable land should be left for storing water. This will help in harvesting good amount of water even in low rainfall years.
 30. An important issue that came up for discussion was the **restrictions on design of structures** imposed by MDTs with reference to a book compiled by Sri.T.Hanumantha Rao when he was the C.E., Minor Irrigation. It was pointed out that this practice is resulting in unnecessary cost escalation, as the technical standards in these circulars are very high. It was clarified that the dimensions mentioned in the book were not meant for structures in the watershed program but only, for large minor irrigation tanks. *It was agreed that there is an urgent need to specify more appropriate technical standards for structures in watershed program.*
 31. The issue of impact of **sand mining** on groundwater was debated.
 32. ICRISAT is presently evaluating the impact of technological backstopping on the quality of development projects in three states. The tentative results of this study, sponsored by ADB, further strengthen the present initiative.

4. Response to the Concept of TRG:

- A. The group welcomed the idea. Members broadly agreed to contribute to the process of capacity building of PIAs in watershed context.
- B. The group thought that the agenda of TRG would emerge more sharply in due course of time.
- C. Strategic thinking is very essential to bring together various technology focused organizations and individuals and channel their inputs to filed issues.
- D. Technical Support/ Back stopping arrangements are very essential, as many PIAs do not have necessary expertise. TRG can play critical role in providing this support.
- E. ICRISAT and AFPRO have similar experiences of offering support to PIAs. The present initiative by WASSAN may lead to emergence of a new model for support systems.

5. NEXT STEPS :

Sri. B.N. Yugandhar proposed a three-tier approach for the future course of Technology Resource Group and for operationalising the TRG. For each issue being discussed / debated in the TRG ..

Level 1:

Depending on the priority of the issues discussed, TRG can commission preparation of base papers by a sub-group reflecting the field situations/ needs of the watershed associations/ WDTs/ PIAs. Based on such discussion papers, the TRG would deliberate more deeply on the issues and evolve new approaches/ recommendations. The finalized discussion papers may get a stamp of approval from the group and used for advocacy purposes

What the TRG or WASSAN advocates on the basis of the above will be a quality input, as it incorporates experience of a cross-section of eminent people and specialists. This process would help in improving the quality of the mainstream watershed program.

Level 2:

Identify various resource persons/ institutes, who can visit the PIAs and help in capacity building aspects of watershed associations/ WDTs/ PIAs. Organizing various field visits to PIAs will help in capacity building and also, in proactively addressing the issues in the field.

Level 3:

Use the material/ outputs/ recommendations during training programs of WDTs. Facilitate the involvement of TRG during training programs.

The meeting concluded with a note of thanks. **The next meeting is fixed on 9th September 2000.** It is decided that a presentation/ demonstration by PROGRESS on the "Integrated Watershed SoftWare" be arranged on this meeting.

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