

In Conversation with Dr. Himanshu Kulkarni, ACWADAM, Pune on Aquifer Management in India

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The article on Groundwater: Towards an Aquifer Management Framework, by Dr. Himanshu Kulkarni and P.S. Vijay Shankar, published in the Economic and Political Weekly (February 07-13, 2009) was very insightful. The current debates on groundwater issues are quite encouraging as better solutions are being sought to cope through the crisis. The need for a National Groundwater Management Programme proposed by the authors though ambitious is achievable. The ideas have been extended to a new stage and the debate is now open. Himanshu Kulkarni strongly proposes that aquifer mapping and delineation is not that difficult a task as one would imagine. If a small organization like ACWADAM can do it in each project it has undertaken, Dr Kulkarni is confident that it is practicable for most organisations. Dr. Kulkarni shared his views on aquifer management in India with Surya Prakash Rai.

SPR: *Time and again, we have been wondering whether it is really feasible to delineate the aquifers? If so, there can be two major parameters for it; physical and institutional. The physical parameters comprise of aspects like the scale on which aquifers are to be delineated, the hydro-geological mapping and its detailed description and the relationship between exogenous processes (climate, surface flows etc) and the endogenous processes (porosity, transmissivity, storativity etc). Being clear on the conceptual framework and methodology, one moves on to the institutional parameters, which determine the success of any programme/ exercise. You are very clear on the methodology of aquifer delineation, but is it really possible to do it within a 'time framework' (considering the pace of deterioration in both the groundwater quantity and quality and the diverse agro-ecological and topographical conditions of India)?*

HK: *In short, if one understands the scale on which to delineate aquifers in an area, it is perfectly possible to do it within a time framework. Again, it does not matter if aquifers get delineated with lower confidence levels. Currently, they are not delineated at all! What is the harm in attempting to delineate them? However, one ought to be careful in not rushing the institutional parameters. Often, we put the cart before the horse and there are examples of institutions developing on groundwater management practice but there is no sense about the scale on which we fit them.*

SPR: *Further, the resources and the skilled manpower required for this task is again a major issue. This is quite crucial as in field conditions, one really needs to be motivated to do the task. For instance, in some of our project areas in the Water Governance Project, we tried to establish groundwater monitoring stations for selected wells. But, none of them could be operationalized so far; a reason being that only one or two monitoring wells could not be useful to determine aquifer properties at basin level (in fact, it is even not appropriate at a watershed scale!), especially in areas like Rayalseema and Vindhya. Rather, an inclusive approach would have been suitable, whereby well owners should be trained and they disseminate this to others, forming a sort of 'chain reaction'. It still may have some loopholes, but could be a reliable solution to bring in the stakeholder involvement.*

HK: *Agreed! Today, people are turning to groundwater as it is a 'hot topic'. When I began work, people called me crazy - going around measuring water levels. But that is precisely the point. Unless we look at and into wells, we cannot identify and delineate aquifers - and that itself is a challenge that few are ready to take on. We have had mixed experiences in stakeholder involvement. In Purandar (near Pune), it has worked, in some other areas it has not and we've had to mobilise a dedicated person / team to do the job. Somehow, Indians today are caught up in a different time-wrap - people acquire analytical skills but very few of these have data acquisition skills. Groundwater resources*

are viewed in the GIS framework - the G and S are very strong but the I is a big....?

SPR: *As far as our interactions with various government officials (implementing officials at local level) in various states are concerned, they are over burdened, there are numerous schemes/ programmes being implemented in recent years and Departments are understaffed. And it won't be surprising if the Government Departments merely take the responsibility of collation and managing records and stop implementation activities in the coming 15-20 years! At macro-level, we should hence focus on policy issues so as to bring a legal framework for the most practicable solutions to any problematic issue*

and at the micro-level, it should be the responsibility of civil society and academia in matters relating to aquifer mapping, data generation and other related crucial aspects.

HK: Agreed again! However, there is a need to change all that and that is precisely the reason for making a call on a 'groundwater management programme' that will attempt to integrate policy and practice in a more proactive manner through participative processes. Personally, I don't agree with regulation on groundwater - at least not in the way it is being shaped at the moment!