

**“Water is life’s matter and matrix, mother and medium. There is no life without water.”**  
— *Albert Szent-Györgyi, Nobel Prize winner*  
*Hungarian biochemist*

## EDITORIAL

## EIA Notification 2020

The new EIA notification proposed by the Ministry of Environment, Forest and Climate Change (MoEF&CC) has been prepared very diligently. Sharing of power or responsibility with the State Pollution Control Boards (SPCBs) and Union Territory Pollution Control Committees (UTPCCs) to carry out inspections and monitoring of compliance with regard to the conditions laid in environmental clearance (EC) is meaningful. Taking the NGT order with regard to OA No. 639/2018 into account, the responsibility sharing step by the MoEF&CC will be eco-friendly too. The projects could be reviewed both for consent and EC compliance in one go by the officials deputed for inspection. If executed properly, it could be successful, as the MoEF&CC was not able to review many projects after the grant of EC. Nevertheless, the extent of environmental degradation happened, despite availability of water act since 1974, the air act since 1981 and hazardous waste management and handling rules since 1989; is well known. Also, there is a significant increase in environmental activism pertaining to the matters handled by the SPCBs and UTPCCs. Therefore, it is a concern from a national perspective as to how things will yield.

The validity of EC to projects except Mining, River Valley or Irrigation projects or Nuclear power projects shall be 10 years, which was earlier for 7 years. With the EIA Notification 2006, some projects come back to authorities for expansion/modification of EC within 2 years, or even less time from the date of EC grant, which is much before the expiry of validity. Such projects could be observed as improperly planned. Many such projects come back with a higher pollution load. And, sometimes with a proposal of lesser greenbelt area. Obviously, this brings additional workload on the appraising authorities. On the other hand, there is a cost involved in the part of the government to appraise an application seeking EC. But there is no fee involved in the EC process. It is important to impose a significant amount of fee in the cases, which seek expansion/modification within EC validity with a high degree of pollution load. However, projects needing expansion because of national interest should be exempted.

The penalty clause for defaulters in compliance reporting is a welcome step. There were many projects going to sleep mode after obtaining EC. It is also a need to incorporate a generic structure and a list of enclosures to support the EC compliance reporting. The reports should also be prepared by professionals with appropriate knowledge and experience. The condition regarding availability of only the latest compliance reports on the project proponents' (PP) websites needs to be reviewed. As many times the government sites either found not accessible or don't provide adequate information, the compliance reports must be made available at least for 3 years on the PP's website. This is certainly not going to cause any hurdle in their ease of doing business. Further, the notification should also incorporate a clause regarding the revocation of EC in case of a project's regular and consistent failure in complying with the conditions outlined in it. The decision should be reserved by the MoEF&CC.

Dealing with the violation cases also needs a relook. If a project has been issued Consent to Operate (CTO) without prior-EC or prior-EP, the same should come to cease, once it is found to be in violation. Secondly, most of the violation cases practically fall in B1 and B2 category. Such projects fall under the SEIAA and UTEIAA. As the SPCBs and UTPCCs are now going to be involved in the post-EC monitoring, they should be given the responsibility to evaluate the applicability of EIA notification at the time of granting CTO. Further, there should be a provision that the projects under violation should compulsorily undergo public consultation, irrespective of its type and category.

## Water needs to be cured ecologically

By  
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**W**ater crisis looms across the globe and it is worsening by the day. Though, everyone from United Nations to national governments to local bodies and corporations

have been working towards conservation and restoration of water bodies, the global situation in last fifty years has worsen. It is envisaged that in coming years, the situation will get even graver.

People, plants and animals in growing numbers are parched today. There's rapid desertification, despite efforts to restore. The big question is – WIIY? Whether, our efforts have failed? If no, why is the situation worsening? To ensure that infuture, efforts on this front bear fruit, one has to look at both the approach and the process followed so far:

(a) Verify processes: To understand our processes and efforts that we are making to rectify mistakes in order to make water sufficiently available across the globe.

(b) Verify approach: To understand the basic philosophy of the processes, because not one or two but all seem to be going wrong. Let's begin with the processes first. By and large, across the globe people adopt four processes to conservation water, namely: i) Rainwater harvesting: Collecting, dumping and storing rainwater so that it gets soaked in the ground and helps enriching the underground aquifer. ii) Plantation drives: Planting more trees towards creating a greener planet. iii) Restoration of water bodies to make water available for potable and non-potable uses. iv) Setting up sewage or effluent treatment plants: Wastewater could be reused so that extraction of more groundwater is curbed.

Now let's analyse each of the above.

1) Rainwater Harvesting: Before we attempt to understand the reasoning behind failure of this process, it is important to know the forces of nature that would make it happen. There are two key things to be clear about, in order to understand this phenomenon. One is the underground aquifer while other is the soil moisture. Both are water, but the former is below the soil, while the later is within the soil. When we say harvesting, the basic idea is to be able to use it later. Now, both are used in different ways. The soil moisture is used by the plants to grow and the underground aquifer is the water that we take out for usage through borings and tube wells. The basic apparatus that we install for rainwater harvesting is pipelines from the rooftops of buildings to a pit installed with a tank with holes in the side walls. When the rainwater comes in to this tank through pipelines, it gets leaked and absorbed by the soil around the holes, and contributes to the soil moisture, but does not reach the aquifer below and does not raise the water table. Thus, the idea to recharge underground aquifer fails. But, it does help in increasing soil moisture. That is the reason why, all plantation drives succeed in the regions where rainwater harvesting is done successfully.

2) Plantation drives: The idea is indeed wonderful from the perspective of dealing with air pollution. But, plants have very limited role in water generation. Also, plants are water consumers. That is why, plantation drives fail when there is no provision of adequate watering. The quest for economic growth has led to spoiling of the ecology in soil, water and air that was sufficient for growing all the plants in any particular agro-climatic zone. With excessive chemicals in modern lifestyle and agriculture, ecology has been hit.

3) Restoration of water bodies: These surface

water bodies have been the natural rainwater harvesting apparatuses for years, which ceased to be effective due to many factors originating from wrong developmental practices.

We did it with sludge. Today, water has become the de-facto waste transport medium. All the waste and dirt is washed away with water, be it on cars or clothes, dishes to dandruff. All sewage on the planet is basically 95% fresh water and just 5% solid waste, added through anthropogenic activities. Thus, the idea of separating sludge from sewage and making it fresh again. Appallingly, this is just a half cooked idea. What will we be doing with the sludge - making compost or putting it in a landfill? It is only man-made waste, as nature has nothing known as 'waste'. Everything that comes out of nature goes back to nature.

In contemporary scenario, the methods adopted for restoration of water bodies could be categorized in three domains – namely, physics, chemistry and biology.

i) Physics: This is a three step process – decantation, de-sludging and refilling. Flaws in the process include – wastage of water, sludge management hassles, disturbing the biodiversity by mechanical dredging, and wastage of time, energy and money. And, despite all this the water body still remains where it was. Because, mechanical removal of sludge can't differentiate between sludge and silt and without silt the aquifer recharge wouldn't happen.

ii) Chemistry: Every chemical reaction has its own residue. In the quest of solving the sludge problem, we have ended up killing some of the microbes as a side effect of the chemical reaction, which again harms the ecology.

iii) Biology: This is primarily done by introducing an invasive species in the ecosystem, and not a sustainable practice. Also, be it the phosphates and nitrates consuming weeds on some floating islands or cyanobacteria treatment, both are foreign entities to the water body. Thus, they act as invasive species in ecological terms.

The only sustainable way of water body rejuvenation is an ecological restoration in, which sludge is consumed in the natural process, not removed physically; ensuring zero waste. If any residue of waste is left away in the process – that can't be called a natural process. And, no artificial process can be ecological. It could be good for a mid-gap arrangement, and not a long term sustainable solution.

4) The fourth activity that we do is practically a corollary of the third only. In sewage treatment the above mentioned three processes are predominant. The difference is just the natural water body and man-made physical structure of a treatment plant, be it STP or ETP. It's high time for us to understand that water pollution is not a physical or chemical or biological problem, but rather an ecological problem.

There is ecology in water. Natural waterbodies have life in it. It is an ecosystem in which millions of beings survive. How can it be sorted in to mere chemicals? Every human body is a chemical factory that secretes chemicals based on emotion and thoughts, which means every time a chemical analysis could bring different results, unless the body is a dead body. And the same holds good for water. Akin to a sick human or animal life, water needs to be cured, and not cleaned. The only possible way out is an ecological treatment. Just imagine this - with your thought and emotions, you can bring in chemical, physiological and biological changes in your body. With your thoughts and emotions, you can change the chemical secretion within the body. That means, your body chemistry can be corrected by yourself, if you have control over your mind.

**The same is true of water.**

*The views and opinions expressed in this article are those of the author.*