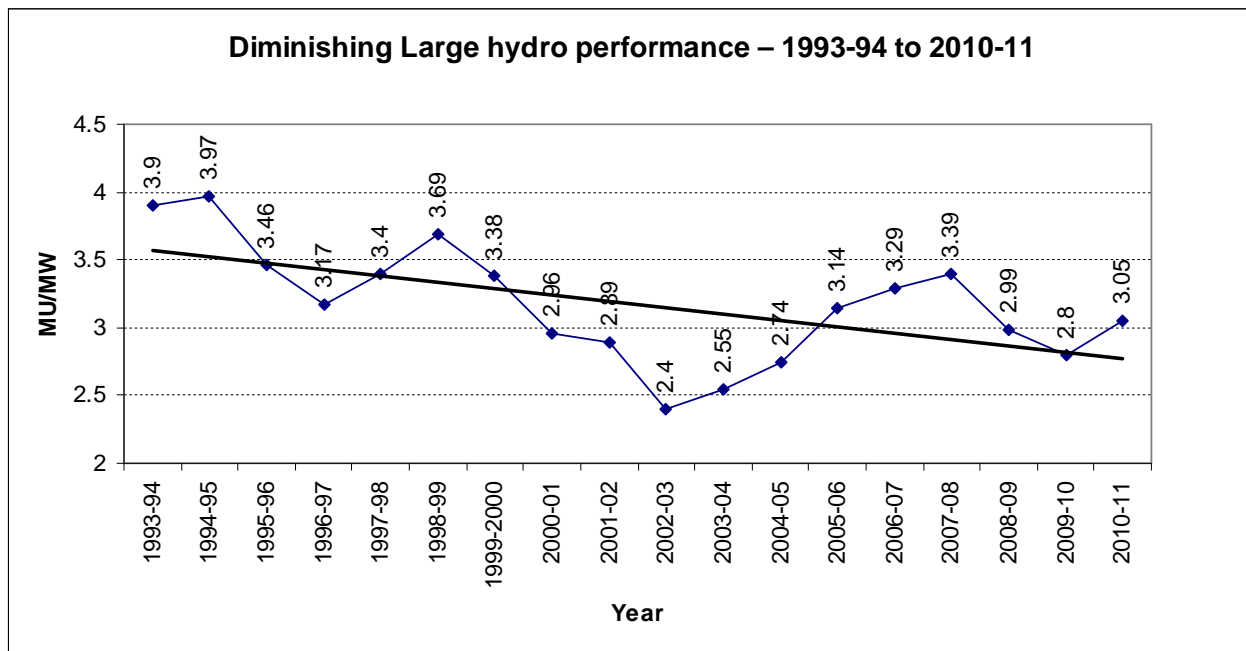


# Diminishing Returns from Large Hydro

The Union and state governments and power sector establishments there of in India has been pushing Large Hydro projects as if they are good in themselves. There has been no attempt at credible performance appraisal of hydropower projects in India. SANDRP has been doing performance appraisal of large hydropower projects of India for some years. In the given below we have plotted the Million Units (MU, one unit is equal of one kilowatt hour of power) power generated per Mega Watt (MW) installed capacity of all operating hydropower projects in India. We have done is based on the data from Central Electricity Authority for total power generated by existing operating hydropower projects of India in a given year and total installed capacity of such projects, for each of the last 18 years from 1993-94. The total installed capacity as on 31<sup>st</sup> March 2011 is 37467.4 MW.



The above graph also shows the trend line of power generation of Big Hydropower projects for last 18 years, it is clear the trend-line shows diminishing generation from existing hydro power projects of India.

- It shows that the per MW generation in 2010-11 has dropped by a huge 23.17% from the generation figure for 1993-94. This should be a matter of serious concern, but the CEA, Power Ministry or none of the other bodies are doing such an analysis and also understand why this is happening and what needs to be done to reverse this trend. The falling generation cannot be attributed to lower monsoon rainfall, since rainfall has been average or above average in most of the years under consideration.
- There are many reasons why this is happening: unviable projects, unviable installed capacities, optimistic hydrological assumptions, over development (development beyond the carrying capacity of the basin, catchment degradation, high rates of sedimentation, inadequate Repair & Maintenance, so called Run of River projects, etc.

There is no doubt that more detailed state wise, basin wise, type wise, age wise, etc analysis will have to be done to arrive at precise analysis. However, to continue to push large hydro without such informed analysis would only lead to bad decisions, leading to avoidable social, environmental, economic and opportunity costs.