

## Dams Induced Displacement in India: A Spatial View

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### Abstract

Dams have often been alluded as development project. On the name of development till date, numerous dams have been constructed all across the nation. These projects fulfill its promise of development but at a huge price of displacement. In India numerous dams have been constructed till date; however rarely has been the extent of displacement is talked about. It is unfortunate that till date there no particular database has been compiled to have an idea about the extent of displacement caused by the dams all over the nation. The present paper is such an endeavor to understand the extent of displacement by dams.

**KEYWORDS:** Displacement, Uprooting, Loss of resources, Destitution

### Introduction

Dams have been portrayed as marvel of technology and innovation. Their contribution in catering the power requirements and provide food security has been recognized throughout the globe. Presently, they meet 16 percent of world's power requirements<sup>1</sup> and 30-40 per cent of world's agricultural land is irrigated by them (Altinbilek, 2002: 10).

It was recognizing such potential of dams in boosting up the pace of progress, with the launch of Bhakra Nangal project, Nehru declared dams as "Temples of Modern India". Post-partition, the country was facing the challenges of attaining self reliance in terms of food production and boosting the economic development. Considering dams as a solution to such challenges, post independence country witnessed major construction of dams. By 1980's with the construction of 1268 large dams, India witnessed unprecedented construction of dam (National Register of Large Dams, 2017: 2). Undoubtedly, such reckless construction succeeded in generating the benefits it claimed but it comes at the heavy price that was paid by the people displaced on the name of development.

Of the various projects launch on the name of development, dams have emerged as the largest agent of displacement. Displacement has been considered as an inevitable and serious repercussion of building a dam. In country like India, where majority of people live in rural areas and land is primary source of livelihood for majority of population; large scale land acquisition for building a dam is disputable issue.

With the acquisition, numerous people were forced to leave their houses, lands and people; that leaves them in the state of deprivation. However, such implications of the project on the project affected people are not taken seriously by the authorities. It is sad that implications of acquisition have been often viewed by the authorities as geographical dislodgement or loss of tangible property. They often fail to recognize that displacement also disrupts lives caused due to land use change; that affects the availability as well as accessibility of resources to the natives (Cernea, 1998: 2-3). The saddest part is most of these people displaced comprises of tribals (40 per cent), scheduled castes (20 per cent)

<sup>1</sup> <https://water.usgs.gov/edu/wuhy.html>

and rural population (40 per cent) (Planning Commission, 2011: 196). These sections are already vulnerable, which are further devastated by displacement due to the loss of various tangible (house, land) and intangible assets (social networks, heritage etc) that govern their quality of their lives.

If we go throughout the history of dams, projects such as Sardar Sarovar (Gujarat), Omkareshwar (Madhya Pradesh), Pong (Himachal Pradesh), Bargi (Madhya Pradesh) and Tehri (Uttarakhand) etc; it is quite clear that these project have brought nothing more than poverty and resentments in the lives of the displaced. Many scholars such as have suggested such an outcome of displacement is on account of underestimating the implications of displacement while planning for their rehabilitation. It has further been pointed that but also there is lack of a database of displacement by the dams. It has been more than fifty years of independence, more than 5000 large dams have been build on the name of country's growth; but there is as such no proper database about the people displaced. Such databases are essential for having an insight of the displacement that have taken till date and also for planning for the future

### **Objectives**

The present paper aims to give an insight of the situation of displacement triggered by dams all across the nation. It intends to find out the magnitude and spatial patterns of displacement triggered by dams across the nation.

### **Data sources and methodology**

In order to achieve the above objectives, nature of data collected is secondary in nature. Most of the data has been collected from various government reports such as National Register of Large Dams (2017), studies conducted by scholars and from the project offices of the various projects,

The analysis is done at the state level. The data collected has been edited, and analyzed in excel. Choropleth maps has been prepared using Arc GIS 10.1

### **Limitations of the study**

The country has built more than 5000 large dams till date. However, as such there is no full

fledge compilation of data of displacement by the dams. Since the data is collected from various sources, not every project office was able to provide the data. Of the total 5254 constructed large dams, data of displacement by 604 dams (11.5 percent) was available.

## **RESULTS AND DISCUSSIONS**

### **STATE WISE PATTERNS OF DISPLACEMENT BY DAMS IN INDIA**

On the global platform India secures third place as a dam building nation (International Commission on Large Dams). In spite of various controversies associated with these projects, the allure of dams has been such that there construction is often promoted. Presently, 447 large dams are being constructed in the country and in the upcoming years, further more dams will be constructed (National Register of Large Dams, 2017: 2).

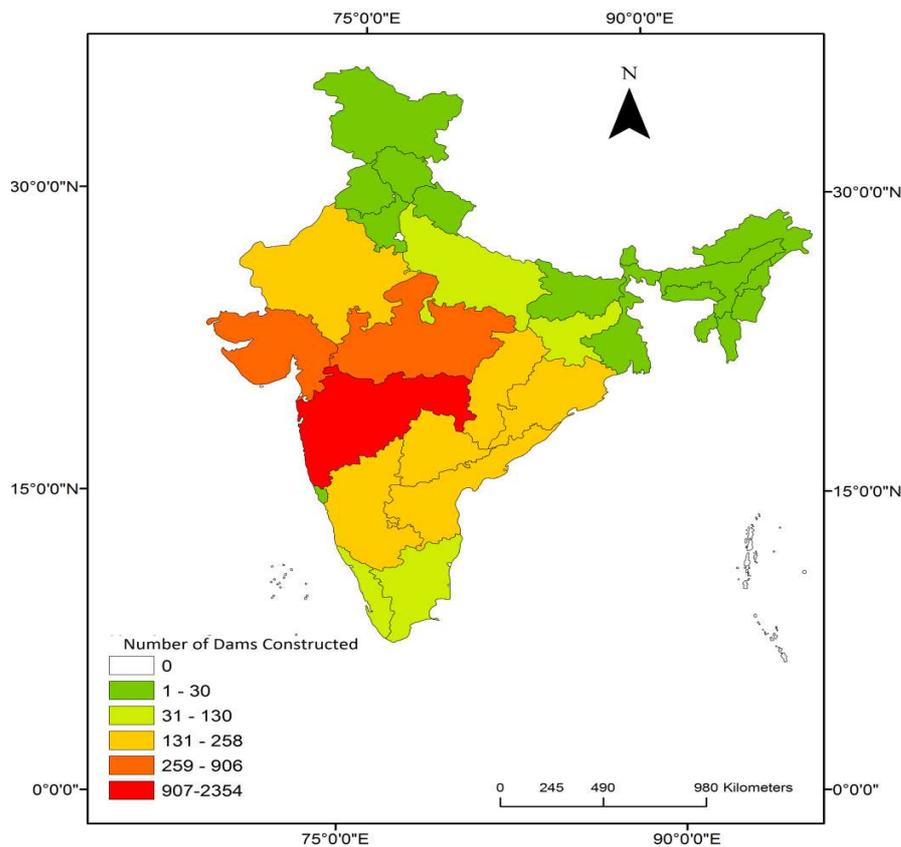
Besides generating benefits, these dams have been considered as biggest agent of displacement. Therefore, such allocation of funds to future hydel projects, have raised concerns among the academicians, human rights activist etc. Cernea has estimated an

average of nearly 13, 000 people<sup>2</sup> are displaced for constructing a dam. In India large dams have been constructed till date. Therefore, if we go by Cernea’s estimate, tolls of displacement have been summed up to 60-65 million of people in India.

Even if we go by such an approximation of displacement, the magnitude of displacement varies all across the nation. Being site specific projects, construction of dam is governed by various factors such as relief, perenality of river etc. Besides the topographical conditions, their distribution across the nation is result of various administrative and political decisions.

At an average the country has witnessed construction of at least 163 dams all over. In India, variations in the distribution of dams can be widely observed. As can be observed western and central India witnessed maximum construction of dams. Maharashtra (41.3 percent), Madhya Pradesh (16 percent) and Gujarat (11.1 percent) have emerged as biggest dams building states. These states cover more than half of the nation’s hydel projects. This is followed by states such as Chhattisgarh (4.5 percent), Karnataka (4.5 percent), Rajasthan (3.7 percent), and Orissa

Map 1  
DISTRIBUTION OF LARGE DAMS IN INDIA



Source: National Register of Large Dams, 2017

<sup>2</sup> ([http://sandrp.in/dams/Displac\\_largedams.pdf](http://sandrp.in/dams/Displac_largedams.pdf)).

(3.6 percent), Telangana (3.2 percent), Andhra Pradesh (2.9 percent), Uttar Pradesh (2.3 percent),

Tamil Nadu (2 percent), Bihar (.1 percent), Jharkhand (1.4 percent) and Kerala (1.1 percent) where moderate number (131- 258) of dams are constructed

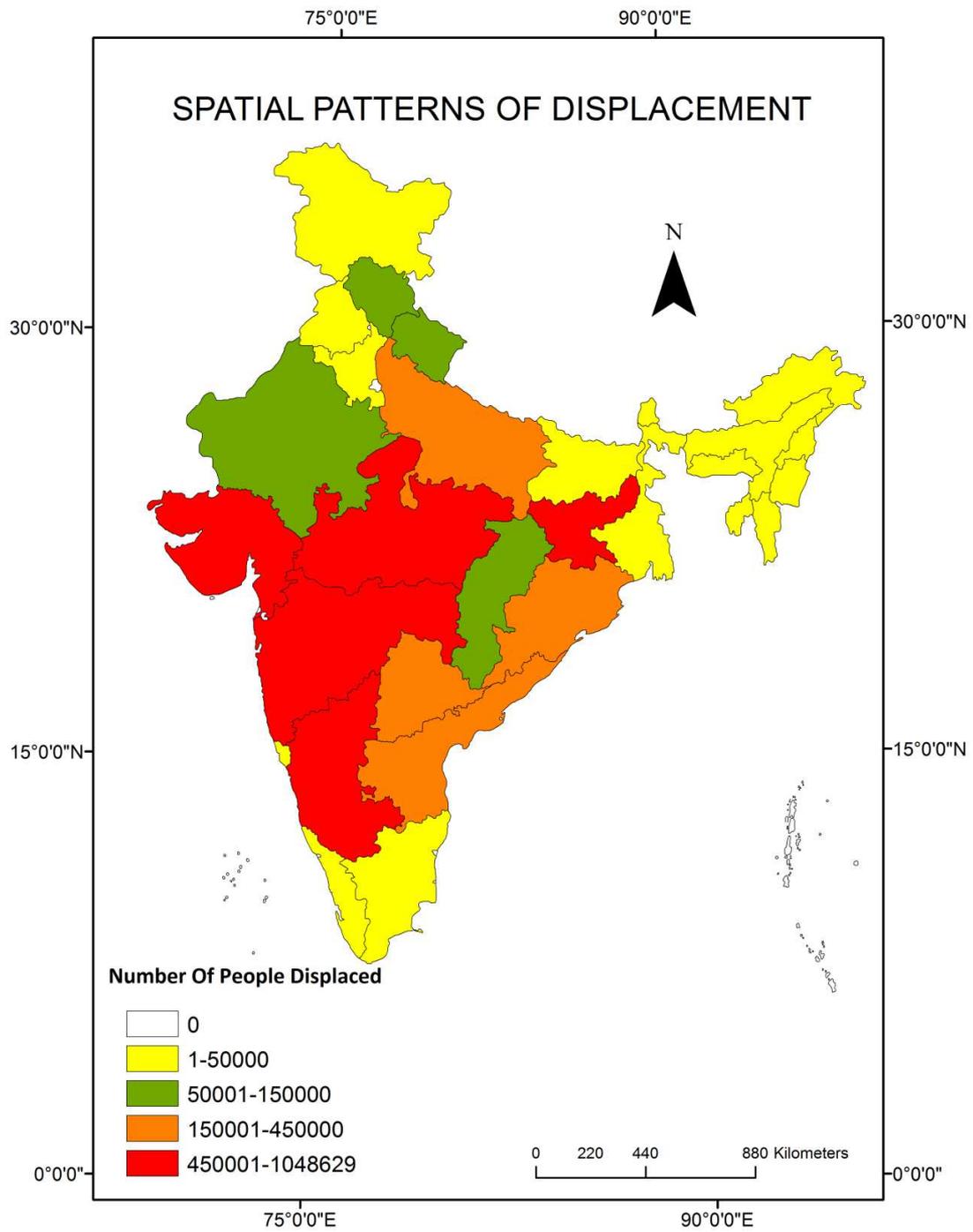
In terms of states where small number of dams ( up to 130 dams) are constructed , comes the state of West Bengal (.5 percent) , Bihar (.5 percent), Uttarakhand and (.4 percent), Himachal Pradesh (.4 percent), Jammu and Kashmir (.4 percent), Punjab (.3 percent) , Goa (.1 percent) , Haryana (.02 percent) and the north eastern states ( Arunachal Pradesh (.07 percent), Assam (.07 percent), Manipur (.07 percent), Sikkim (.04 percent) , Mizoram (.02 percent), Nagaland (.02 percent) and Tripura (.02 percent). In these states 1 dam at an average is constructed. Such small number of construction is because of the limited hydro power potential of the state and the resistance of the natives.

As can be observed from the map 1, there has been huge variance in terms of distribution of dams across the various states. With such a variance in terms of distribution of the dams, the magnitude of displacement also varies. In order to find out the extent of displacement, data of displacement by 604 large dams (12 percent) has been analyzed.

It has been found that with the construction of dam, till date approximately, 59, 36,258 people have been displaced by 12 percent of nation's large dams. Of these total people displaced in the country, the distribution has been classified into the five categories' on the bases of number of people displaced

**Areas With Very High Displacement (4.5 lakh and above):** Most of the south western and central states of the country fall in this category. Most of the states are major dam building state. This category includes states such as Maharashtra that have 17.7 percent of the total displaced population that is followed by Karnataka (16.1 percent) and Jharkhand (15.2 percent): Madhya Pradesh (11.8 percent), Gujarat (9.9 percent).

**Areas With High Displacement (1.5 lakh to 4.5 lakh):** It encompasses most of the south eastern states such as Odisha (7.2 percent) Telangana (5 percent) Andhra Pradesh (4.2 percent) along with the state of Uttar Pradesh (4.6 percent).



Map 2. Source: Data Collected from various project offices

**Areas with Moderate Displacement (50 thousand to 1.5 lakh):** Most of the states covered in this category are Himachal Pradesh (2.07 percent), Rajasthan (1.2 percent), Uttarakhand (1.4 percent) and Chhattisgarh.

**Areas With Low Displacement (up to 50 thousand):** It encompasses mostly north eastern such as Nagaland (.51 percent), Manipur (.10 percent), Goa (.1 percent), Assam (.1 percent), Arunachal Pradesh (.04 percent), Meghalaya (.02 percent), Mizoram (.02 percent), Sikkim (.01 percent), Tripura (.17 percent) along with the states Punjab (.36 percent), West Bengal (.31 percent), Jammu and Kashmir (.22 percent), Kerala (.19 percent), Tamil Nadu (.16 percent), Goa ,Haryana (.01 percent),

**Areas With No Displacement:** This includes the Union Territory of Delhi, Chandigarh, Daman and Diu, Lakshadweep, Dadar and Nagar Haveli, Andaman and Nicobar. Since, most of these areas have not witnessed construction of any large dams here

**Conclusion:** From the foregoing discussion, it is clearly indicated that throughout the country magnitude of displacement is uneven. Of the total states, only a small number of states (31.4 percent) falls under high to very high category where the share of displacement of population is quite high (91.7 percent). Most of such high extent of displacement is found in the Deccan states. In case of low proportion of displacement, north eastern states along is comprises a major part. Although the proportion of displacement in comparison to overall seems low, but the matter of the fact is that these states might be small sized and number of projects are small; but these states have limited ecumene areas and is mostly habituated by the tribal population. The present study portrays a picture about the magnitude of displacement but need is to understand the present picture of displacement in more sensitive context and to apprehend its implications in the future.

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