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The Rajiv Gandhi Institute for Contemporary Studies (RGICS) works on five themes:

1. Constitutional Values and Democratic Institutions
2. Growth with Employment
3. Governance and Development
4. Environment, Natural Resources and Sustainability
5. India’s Place in the World

We bring out the monthly Policy Watch on each of these themes sequentially and every sixth issue is a Special Issue, where we carry articles from each theme. This is a special issue in which we carry one or two articles on each theme.

On the first theme, we carry two articles on the Uniform Civil Code, starting with a summary of the debates in the Constituent Assembly put together by the Centre for Law and policy Research (CLPR), Bangalore. It shows the issue was contentious even then and which is why it was eventually put in the Directive Principles which are non-justiciable. The second article is by Prof Yogendra Yadav and he takes a political view of why the UCC has been introduced now, less than a year to go before the General Elections.

The second theme - Governance and Development carries one article by Priya Ranjan and Prasant Kumar Panda on the pattern of development spending and its Impact on the Human Development Index (HDI) and the Gross State Domestic Product (GSDP) of low-income states (LIS) in India. The article shows that the LIS are giving emphasis on social sector development though the share of development spending for UP, Jharkhand and Rajasthan is still lower and needs to be improved. The data analysis suggest that development spending has a significant and positive influence on the state GSDP.

One percent increase in development spending leads to increased GSDP by 0.59%. Though statistical analysis did not demonstrate development spending to be significant in influencing human development outcomes, however, it was observed that increase in development spending helps for advancement of health, skill development and productivity of employees and ultimately various sectors of economy.

Furthermore, there is a long-run equilibrium relationship between IMR and health spending and similarly for education spending and school dropouts. Though initial results have been observed that the coefficient of development spending did not emerge to be significant for HDI indicators, but sector-specific analysis suggests that components of development spending have association with their outcomes. For example, increase in spending in the health sector does translate into improving the human development outcomes for LIS.

The next article deals with the theme Growth with Employment. Here we reproduce a recent interview by economist Dr Santosh Mehrotra with Saptarshi Basak of The Quint on the perils of India’s population rise with respect to employment possibilities.
In the early stages of development, the majority of the Indian population was working in agriculture, as it was in China and in India. However, as the economy grows, and industry and services grow, people move out of agriculture into these sectors. Prof Mehrotra explains: "Why is that a good thing? Why is it called a dividend? Because the productivity levels in industry and services are higher than in agriculture, leading to higher incomes. Hence, those in agriculture want to move into industry and services-based jobs in cities. As people get jobs with higher productivity, their incomes increase, and their savings increase.

The savings to GDP ratio as a result of any dividend tends to rise in the whole economy. Between 2004 and 2014, the Indian economy grew by 8 percent per annum. As a result of this, non-farm jobs grew rapidly. People began to be pulled out of agriculture. In fact, for the first time in India's post-independence history, the absolute number of workers in agriculture fell after 2004-05. And that continued all the way to 2019. But the absolute number of workers in agriculture rose by 45 million in that year alone, thanks to the reverse migration and the collapse of jobs after COVID.

The next article in under the theme: Environment, Natural Resources and Sustainability by RGICS Fellow Jeet Singh. This article is part of the series of articles that the RGICS had been doing on Jal, Jangal, Jameen. The RGICS has earlier concluded a year-long eight state study on groundwater, to identify and document locally appropriate solutions for regeneration and sustainable management of groundwater. (Click on https://www.rgics.org/event/research-report-groundwater-management-in-india-maharashtra-state-report/).

This article looks at two important nationwide studies. The first is the master plan for artificial recharge to groundwater in India released by the Central Ground Water Board in 2021 and the second is the first Census of Water bodies in 2018-19 released by the Department of Water Resources in April 2023. Jeet Singh argues that the two documents can be used to come up with a more precise strategy to recharge ground water using surface water bodies.

In the fifth theme, India's Place in the World, we carry a summary by Amit Ranjan of a Round Table by The Commonwealth Journal of International Affairs on India's foreign policy: shift, adjustment and continuity. Several scholars contributed to this round table. Interestingly, Dr S. Jaishankar, India's Minister of External Affairs spoke on a similar topic at the IIC, New Delhi on 5th July 2023 - Nine Years of Modi Government – Foreign Policy Overview. (see the video link). We hope the readers find the above articles enjoyable and informative. We would appreciate any feedback.

Vijay Mahajan
Director, Rajiv Gandhi Institute for Contemporary Studies
1 Constitutional Values and Democratic Institutions: The constitutional assembly debates on the UCC

The debate on the UCC started with the framing of the Constitution and has been kept alive by judiciary as well as political class. The issue has again been brought at the forefront of public debate with the recent judgment in the Shyara Bano case, which invalidated the triple talaq. This has also coincided with the Law Commission inviting public consultation on UCC in Oct 2016. But, before we move to the nuance of Uniform Civil Code in context of multi-cultural polity of India, we should begin by understanding the constitutional, judicial and the political history of UCC debate.

We begin by looking at how the framers of the Constitution debated UCC in this first part of the 4 part series on UCC. The story of the Uniform Civil Code in the Constituent Assembly begins at the committee stages of the Indian Constitution making process. The Sub-Committee on Fundamental Rights was tasked with drawing up a list of fundamental rights that were to be incorporated into the Constitution of India.

An initial step that the sub-committee took was to request its members to come out with their own personal drafts of fundamental rights. In the submissions of Ambedkar, Munshi and Minoo Masani, we find provisions that call for the adoption of a uniform civil code.

Around the same time, members of the sub-committee were toying with idea of splitting fundamental rights into two parts: justiciable rights and non-justiciable rights. As the terminology suggests, the former would be enforced by courts whereas the latter would not be.

After a couple of sittings, the sub-committee submitted its report to its parent committee- the Advisory Committee – with a list of fundamental rights – split into two parts. The uniform civil code founds itself in the second part – the non-justiciable fundamental rights. It seems like the majority of the subcommittee felt that the uniform civil code provision was best incorporated as a non-justiciable right.

https://clpr.org.in/ - To read the debate in detail please use the Centre for Law and Policy research (CLPR)’s CAD India website- cadindia.clpr.org.in and type in ‘uniform civil code’ in the advance search.
Not all members of the Sub-committee agreed with this decision. In a dissent note to the report – three members – M.R Masani, Hansa Mehta and Amrit Kaur expressed their views on the uniform civil code as being non-justiciable in the following way: “One of the factors that has kept India back from advancing into nationhood has been the existence of personal laws based on religion which keep the nation divided into watertight compartments in many aspects of life. We are of the view that a uniform civil code should be guaranteed to the Indian people within a period 5 to 10 years.” The dissent note then goes onto demand that the Uniform civil code be put into the justiciable part of the fundamental rights.

About a year and a half later, Ambedkar on the 4th of November, 1948 presented the Draft Constitution to the Constituent Assembly for deliberation. The uniform civil code provision found its place in the Directive Principles of State Policy as Draft Article 35. The text of Article 35 went like this “The State shall endeavour to secure for the citizens a uniform civil code throughout the territory of India’ On 23rd of November 1948, the Constituent Assembly took up this provision for discussion.

The Muslim members of the Assembly took a lead in this debate and proposed amendments which aimed to do 2 things: 1) introduce provisos to Draft Article 35 such that personal laws are kept out of its scope and 2) operationalize the uniform civil code only with the prior assent of the community in question. Muslim members who made important interventions in the debate and opposed the uniform civil code were: Ismail Sahab, Nazzirudin Ahmad and Pocker Sahib Bahadur.

The arguments they put forth consisted of the following: 1. That uniform civil code provision violated the freedom of religion provisions of the Draft Constitution. 2. The uniform civil code would create disharmony within the Muslim community. 3. No interference must take place in the personal law without the approval of religious communities. Pocker Sahib Bahadur went further and attacked the constituent assembly in strong terms: “Who are the members of this Constituent Assembly who are contemplating to interfere with the religious rights and practices? Were they returned there on the issue as to whether they have got this right or not? Have they been returned by the various legislatures, the elections to which were fought out on these issues?”

K.M. Munshi, Alladi Krishnswamy and Ambedkar took part in the debate and defended the uniform civil code. KM Munshi made the following points:

1. that the uniform civil code was important for unity of the nation and also for upholding the secular credentials of the Indian Constitution.
2. Till now the debate seemed to be around Muslim sentiments. Munshi argued that That even Hindus were insecure about this provision. He asked the members of the Assembly: How was any reform possible in the Hindu society – specifically with regards to the rights of women – if there was no uniform civil code.

3. Munshi asked the Muslim members: What was inheritance/marriage etc. got to do with personal law?

Alladi Krishnaswami Aiyar then joined the debate. He responded to the argument made by Muslim members that the uniform civil code would bring about disharmony. He suggested that the UCC would do the opposite – it would in fact create amity among communities. He further paid emphasis on the ability of the UCC to bring about unity in the country. Alladi then asked the Muslim members why there were no protests when the British interfered with Muslim religious practices by bringing about a uniform criminal code?

At this point, Ambedkar came into the debate: He further emphasized Allaid’s point about there was nothing new about the uniform civil code. There already existed a common civil code in the country except for the areas of marriage, inheritance – which are the main targets for the uniform civil code in the Draft Constitution. He reminded the Constituent Assembly that the uniform civil code was only optional. By virtue of it being in the Directive Principles, the state is not obliged to immediately bring the provision into effect. It can do so when it wishes to.

Responding to the initial amendments proposed in the debate – Ambedkar argued that the provision allowed future legislatures to legislate such that the UCC comes into effect only after the consent of communities was obtained. Ambedkar’s speech was the last intervention in the Constituent Assembly. Soon after, Draft Article 35, was put to vote. The Constituent Assembly adopted the article which would later be re-numbered as Article 44 of the Constitution of India. Let’s take a step back. Uniform civil code was a very controversial article during drafting of the Constitution – similar to the ban on cow slaughter and other provisions.

The proceedings of the Constituent Assembly seem to indicate that the decision of placing the uniform civil code in the Directive Principles and not the fundamental rights was an act of compromise – between members in support and members in opposition. It was a way for the Constituent Assembly to defer the taking a decision and allow future legislatures to take a final call.
The Bharatiya Janata Party government’s predictable move to reignite the controversy over the Uniform Civil Code has invited predictable responses. Opposition leaders have flayed this move. Questioning the need for the Law Commission to take this up again, several opposition leaders have effectively positioned themselves against the UCC.

Muslim organisations have gone a step further and condemned it as a sinister move that is against minorities and the Constitution. The stage appears set for an ideological battle, both tragic and ironic, with the BJP pushing for the constitutional promise of a UCC and the secular politics arrayed against it.

This is exactly how the BJP must have scripted this debate. It is a mark of our times that secular politics retreats from whatever ground the Rashtriya Swayamsevak Sangh (RSS) and the BJP illegitimately encroach upon—Hinduism, traditions, nationalism, and now the UCC. If this retreat must be halted, secular politics must reclaim the principled and progressive position on the UCC. It must assert that the UCC has nothing to do with customs and practices of any one religion; it is about asserting the uniform primacy of constitutional principles of equality between and within religious communities and uniformly ensuring gender justice. It must realise that opposing the idea of a UCC is poor politics. Besides, it is a bad political strategy in the run-up to the 2024 Lok Sabha election.

**The rationale behind it**

The idea of a UCC has a simple and powerful rationale: equality before the law. If all citizens can be governed by the same penal code, why not apply the same principle to civil code as well? Different communities can enjoy their separate customs and rituals, but how can any community be allowed to violate the fundamental rights of individuals? Can a community’s right to religion or culture be allowed to trump the right to equality for the women in that community?

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These are not BJP arguments. This was the rationale behind the original demand for UCC by women’s organisations. This was the broad consensus within the Constituent Assembly. In fact, there was a proposal to put this provision in the Fundamental Rights that was shelved in the context of Partition. The rationale given above was used by Jawaharlal Nehru, BR Ambedkar and Ram Manohar Lohia when they advocated for the UCC. And this was the ground for the feminist movement to demand the UCC in independent India.

Article 44 of the Constitution contains this non-justiciable Directive Principle: “The State shall endeavour to secure for the citizens a uniform civil code throughout the territory of India.”

Those of us who keep demanding that the State must comply with the Directive Principles enunciated in the Constitution cannot suddenly turn their backs to one of these key principles. We cannot say that 73 years after adopting the Constitution, the country is not ready for this idea.

**Question the substance, not the label**

The opposition to the UCC is also bad optics. The whole point of reviving this proposal, 10 months before the national election and five years after it was thoroughly discussed and rejected by the previous Law Commission appointed by the Modi government, is to open another site for minority bashing.

The purpose is to insinuate that the parties like the Congress could shove reforms of family laws down the throat of the Hindus but dare not do the same to the Muslims and Christians. The idea is to push the opposition into a photo-op with the conservative leadership of the Muslim and Christian communities. As in the case of the debate on triple talaq, the opposition is stepping into this trap.

Instead of opposing the idea of UCC, the opposition should question the BJP’s misreading of what a ‘uniform’ civil code would mean. Instead of objecting to the label, the critics should invite a debate on the substance of the proposed UCC. In this, the opposition could learn in this respect from the nuanced and principled position of the feminist movement that stands up to conservative religious orthodoxy as well as the BJP’s attempt to appropriate this idea. And it could draw upon the very detailed and cogent reasoning in the discussion paper prepared by the 21st Law Commission.

The BJP plays upon the literal and shallow meaning of the ‘uniform’ civil code. It assumes that uniformity implies singularity and sameness.
So, in this reading, a ‘uniform’ civil code must mean a single law that must replace the multiple family laws that exist in our country. And that law must contain identical provisions for marriage, divorce, adoption, and inheritance for members of all religious communities. This is the version the BJP wishes to push. And this is the version that BJP critics wish to resist. But this is a misreading of the constitutional directive.

Where the ‘uniformity’ in UCC lies

The vision of social reformers, intent of the Constitution makers, and demand of the feminist movement invite a deeper reading of what it means to have a ‘uniform’ civil code. A uniform code is neither identical nor singular; instead, it entails common principles but differentiated rules. This is similar to the well-accepted principle of common but differentiated responsibility in climate justice negotiations. Here, uniformity would mean that all religious and social communities would be subjected to the same set of constitutional principles. No family law of any community would be allowed to violate the right to equality, the right against discrimination, and the idea of gender justice. Any custom or family law that violates these principles would have to go.

At the same time, these common principles may take different forms for different communities, depending upon their existing or codified practices. Unlike Hindu customs, Muslim marriage is a contract based on nikahnama. A ‘uniform’ civil code need not require Muslims to abandon this, nor would it require Hindus to adopt it. Different communities can continue to follow radically different, even contrary customs and practices relating to marriage, divorce, adoption, and inheritance as long as they do not violate a uniform set of constitutional principles.

The UCC will not happen in one day through a single legislative stroke that erases everything that existed before it. The realisation of UCC in this approach would require three far-reaching legislative changes. First, it would require extensive reform of the existing personal laws as suggested by the 21st Law Commission. That should include restricting and discouraging the legally permissible but infrequent practice of polygamy among Muslims while safeguarding the interest of making provisions to safeguard the interests of women. It would also mean safeguarding the interests of women in the many instances of the legally impermissible but existent practice of polygamy among Hindus and other communities, simplification of divorce and adoption among Christians, and doing away with notice period under the Special Marriage Act.

The Law Commission has also recommended doing away with the doctrine of coparcenary under the Hindu law and tax privileges of the Hindu Undivided Family. All these changes may be resisted by the religious orthodoxy, both from majority and minority communities. But secular politics must stand up to that pressure.

Source: https://universalinstitutions.com/special-marriage-act-1954/
The second legislative change would involve the codification of customs and practices of different communities that are not yet covered by any law. For instance, the principle that the interest of the child must be paramount in any dispute concerning custody or guardianship needs to be included in law.

Third, the scope of the existing Special Marriage Act should be expanded to create a common civil code for those citizens who do not wish to be governed by any of the existing community-specific family laws. A prototype of such a code already exists in Goa and is applicable to all Goan citizens, irrespective of religion. Ambedkar had suggested a voluntary civil code along these lines.

For far too long, secular politics has vacated the ground that the BJP has intruded upon. The UCC must not become one more example of this self-defeating politics. Instead of running shy of the idea, the opposition must demand the UCC along the lines suggested above. Instead of playing to the BJP’s script and joining hands with the conservative leadership of minority communities, secular politics must call the BJP’s bluff and ask it to present a substantial draft of the proposed UCC.
2. Governance and Development: Pattern of development spending and its impact on HDI and GSDP in low-income states in India

Priya Ranjan and Prasant Kumar Panda

Introduction

In India, there is a large disparity in terms of resource endowments, income and human development across states. On the one hand, states such as Kerala, Goa, Himachal Pradesh and Tamil Nadu are doing exceptionally well in the field of health, literacy and social sector, and the same is reflected in human development index (HDI) score. The score for Kerala, Goa, Himachal Pradesh and Tamil Nadu has been calculated, respectively, as 0.911, 0.803, 0.647 and 0.633 (Mukherjee et al., 2014). However, some states are still lagging behind in the social sector which needs some special attention. Adequate increase in public spending on education, health and economic services is critical for promoting human development indicators and economic advancement in low-income states (LIS).

In theory, the importance of public expenditure is well explained. Development spending (DS) is found to be a significant contributor to per capita income and HDI (Paliova et al., 2019). Wagner's law (1883) and Keynes's law (1936) explore the possible causality between public spending and economic advancement of economies. Wagner's law shows the relationship of increasing public and state activities and economic growth.

According to him, economic growth can lead to an increase in real income, which in turn helps promote demand for infrastructure, health, and education and social security services.

Increase in these services arises because of expansion in industries and urbanisation. Government expenditure increases regularly to increase the level of these services. On the other hand, in the Keynesian framework, public expenditure can be used as a policy factor to generate employment, and boost economic growth as an exogenous factor. Irrespective of treating expenditure as exogenous or endogenous, it has influence on economic growth.
Though growth in the Indian economy has helped in reducing poverty, the benefits of growth remain uneven across states. In spite of remarkable developments as a whole for the economy, LIS—namely Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Odisha, Rajasthan and Uttar Pradesh—continue to remain at the bottom in comparison to other states. After 2005, all LIS, besides Rajasthan and Bihar, grew at a slower rate than other states. Decline in poverty in LIS was not following the economic growth in these states (World Bank, 2018). Thus, this suggests that growth in LIS is not that inclusive.

Human development indicators for LIS are comparatively lower than the nation's average. Some of the many important factors determining uneven human development are the varying revenue capacities and states' resources, and uneven DS across states. It is important to examine the impact of DS in LIS on their gross state domestic product (GSDP) and HDI. Thus, there is a need to analyse the pattern and growth of DS in LIS.

A major part of spending on development front is done by the state governments (Bhanumurthy et al., 2016). A larger part of social sector functions is state subject and states' spending on these services is important. So, the analysis of pattern of DS in LIS and its impact on GSDP assumes significance. In this context, the study is an attempt to analyse the pattern of DS in LIS and verify the impact of DS on economic advancement in terms of GSDP and HDI.

The rest of the study has been organised as follows. Review of the selected literature is presented in Section 2, and Section 3 outlines the empirical framework of the study. Section 4 analyses the patterns of DS in LIS. Empirical findings and results are provided in Section 5. Section 6 presents the concluding remarks and suggestions. [Section 2. Review of Literature and Section 3 Data and Methodology and parts of the other sections have been left out in this abridged version. The readers may refer to the original article in the link to see these technical sections]

The Pattern of Development Expenditure in the LIS

In this section, the pattern and dynamics of development expenditure are analysed using relative measures.

Development Expenditure as a Percentage of Total Expenditure

DS as a percentage of total expenditure in LIS is shown in Figure 1. From Figure 1, it is observed that initially, DS as a percentage to total expenditure in LIS remains slightly lower in comparison to that of in high-income states (HIS) and MS during the period 1993–94 to 2000–01.

However, from 2005 to 2006 onwards, DS as a percentage of TE for LIS has been consistently increased and the ratio is catching up with the same of HIS in recent years.
It is further observed that for the period of 2005–06 to 2011–12, DS ratios are converging with the same for HIS and for the current period, the DS ratio for LIS has been slightly higher than the same as compared to HIS and MS. This suggests that LIS are emphasising on DS in their total spending in recent years.

**Source:** Authors’ calculation based on the data collected from EPWRFITS.

**Figure 1.** DS as a Percentage of Total Expenditure

**Notes:** LIS, HIS and MS indicate low-income states, high-income states and major states; DS and TE indicate, development spending and total expenditure.

**Interstate Comparison of DS as Percentage of Total Expenditure**

Interstate comparison of DS as a percentage of total expenditure in LIS is shown in Table 1. The tables show that the share of DS in total spending during 1993–96 to 2012–15 for HIS has very marginally increased while the same for LIS has increased by 5.61%, which is significant.

DS of Bihar was 58.24% of TE in 1993–96 which has been increased to 65.56% in 2012–15, Chhattisgarh and Jharkhand bifurcated from their parent states in 1999 and data are not available for the time period of 1993–96 for these states. However, the size of DS to TE is impressive for them (72.58%, 62.54% in 2012–15, respectively).

The share of DS for MP is 65.88% of TE in 1993–96, which decreased to 61.66% in 2012–15; the share of DS for Odisha was 64.01% of TE in 1993–96 and it increased to 67.84% in 2012–15; the figure for Rajasthan was 62.01% of TE in 1993–96, which significantly increased to 68.48%; and for UP, it was 48.25% of TE in 1993–96, which grew to 58.39% in 2014–15.

DS of LIS as a percentage of TE has grown drastically (59.67% in 1993–96 and 65.29% in 2012–15), whereas HIS is maintaining the DS as a percentage of TE throughout the year (60.57% in 1993–96 and 61.05% in 2012–15) and DS for MS is also increasing (60.27% in 1993–96 and 62.85% in 2012–15). For LIS such as Bihar, Rajasthan, UP and Odisha, the share of DS has been increased to a greater extent.
### Table 1. Interstate comparison of DS as percentage to total expenditure in LIS.

<table>
<thead>
<tr>
<th>States</th>
<th>1993–96</th>
<th>2012–15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bihar</td>
<td>58.24</td>
<td>65.56</td>
</tr>
<tr>
<td>Chhattisgarh</td>
<td>NA</td>
<td>72.58</td>
</tr>
<tr>
<td>Jharkhand</td>
<td>NA</td>
<td>62.54</td>
</tr>
<tr>
<td>Madhya Pradesh</td>
<td>65.88</td>
<td>61.66</td>
</tr>
<tr>
<td>Odisha</td>
<td>64.01</td>
<td>67.84</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>62.01</td>
<td>68.48</td>
</tr>
<tr>
<td>Utter Pradesh</td>
<td>48.25</td>
<td>58.39</td>
</tr>
<tr>
<td>LIS DS to TE (average of three years)</td>
<td>59.68</td>
<td>65.29</td>
</tr>
<tr>
<td>HIS DS to TE (average of three years)</td>
<td>60.57</td>
<td>61.05</td>
</tr>
<tr>
<td>Major states DS to TE (average of three years)</td>
<td>60.27</td>
<td>62.85</td>
</tr>
</tbody>
</table>

**Source:** Authors’ calculation based on the data collected from EPWRFITS.

**Notes:** LIS, HIS and MS indicate low-income states, high-income states and major states. DS and TE indicate development spending and total expenditure.

### Quality of DS

It is important to examine the quality of DS in LIS. Development revenue spending (DRS) is incurred on the day-to-day activities of development activities like education, health and economic services. But for LIS, it is important to understand to what extent capital components of spending for these services increased. So, examining the revenue and capital components of DS in LIS is important.

### DRS as a percentage of Total Expenditure

DRS as a percentage of total expenditure in LIS is shown in Figure 2. From Figure 2, it has been observed that initially, DRS as a percentage of TE was the same in LIS as compared to HIS and MS in 1993–94. After a period of time, LIS start catching with the HIS and MS. Also, DRS as a percentage of TE for the LIS has been consistently increasing from 2004 to 2005. For the period of 2005–06 to 2014–15, DRS for LIS is converging with HIS. This suggests that for the LIS, the development revenue expenditure is increasing over the period of time.

**Source:** Authors’ calculation based on the data collected from EPWRFITS.

**Notes:** LIS, HIS and MS indicate low-income states, high income states and major states. DRS and TE indicate development revenue spending and total spending.

**Figure 2.** DRS as a Percentage of Total Expenditure.
Source: Authors’ calculation based on the data collected from EPWRFITS.

Notes: LIS, HIS and MS indicate low-income states, high income states and major states. DRS and TE indicate development revenue spending and total expenditure.

Figure 3. DRS as a Percentage of Total Expenditure.

Source: Authors’ calculation based on the data collected from EPWRFITS.

Figure 4. DRS as a Percentage of Total Revenue Spending

Source: Authors’ calculation based on the data collected from EPWRFITS.

Notes: LIS, HIS and MS indicate low-income states, high income states and major states. CDS and TE indicate capital development spending and total expenditure.

Figure 5. Capital Development Spending as a Percentage to Total Expenditure.
DRS as a percentage to total expenditure

DRS as a percentage of total expenditure for two different periods for LIS, HIS and MS are shown in Figure 3. The figure shows the DRS as a percentage of total expenditure for the period of 1993–96 and 2012–15. DRS for LIS, which was 51.28% in 1993–96, has slightly increased to 51.44% in the 2012–15 period, whereas HIS maintain the DRS as a percentage of TE throughout the period at around 51%. MS average, DRS as a percentage of total expenditure, increased from 50.77% in 1993–96 to 51.1% in 2012–15. This suggests that LIS are catching up on increasing developmental spending.

DRS as Percentage of Total Revenue Expenditure (Avg.)

Another important aspect of quality spending is the share of DS in total revenue spending. Considering the three-yearly average, Figure 4 shows the ratio of development revenue to total revenue spending in LIS, HIS and MS. The figure shows the DRS as a percentage of total revenue spending (TRS) for the period of 1993–96 and 2012–15 DRS for LIS, HIS and MS. DRS for LIS has increased from 61.96% in 1993–96 to 65.35% in 2012–15. DRS as a percentage of TRS for HIS has slightly declined from 62.05% to 61.59%. The DRS share in revenue expenditure for MS is increasing from 62.02% to 63.14% during the same period.

Source: Authors’ calculation based on the data collected from EPWFITS.

Notes: LIS, HIS and MS indicate low-income states, high income states and major states. DS and GSDP indicate, development spending and gross states domestic product.

Figure 6. Development Spending as a Percentage of GDSP.

Capital DS as a Percentage to Total Expenditure

The capital component of DS as a percentage to total expenditure for LIS is shown in Figure 5. Initially, capital development spending as a percentage of TE was low in LIS as compared to HIS in 1993–94. After a period of time, LIS start catching with the HIS and MS. After 2001–02, the share of capital DS in total spending constantly increased until 2007–08, which declined for some time and again increased. This shows LIS has emphasised on the capital component of DS in total spending. Similarly, after 2001–02, the share of capital DS in total expenditure for LIS remains at a higher level than the same for HIS and MS. This suggests for LIS capital DS is relatively given more emphasis in total spending. It is obvious that LIS needs to emphasise on capital component for the expansion of development infrastructure.
Development Spending as a Percentage of GSDP

DS as a percentage of GSDP in LIS has been shown in Figure 6. Initially in 1993–94, DS as a percentage of GSDP was slightly higher in LIS compared to HIS and MS. After 2001–02, the share for LIS maintains a higher DS to GSDP share than the HIS and MS, and it is increasing constantly.

Interstate Comparison DS as Percentage of GSDP

Interstate comparison DS as a percentage of GSDP for the period of 1993–96 and 2012–15 is shown in Table 2. DS as a percentage of GSDP for Bihar was 16.51% in 1993–96, which slightly grew to 16.94% in 2012–15.

DS for MP was at 13.19% of GSDP in 1993–96, which grew to 13.48% in 2012–15; DS for Odisha was at 11.34% of GSDP in 1993–96, and it increased to 13.12% in 2012–15; DS for Rajasthan was at 11.3% to GSDP in 1993–96, which has increased to 11.99%; and DS for UP was lowest among LIS, which as at 8.5% to GSDP in 1993–96, and it has grown to 12.82% in 2012–15. DS for LIS average was at 12.17% in 1993–96, which has increased 13.38% in 2012–15.

Whereas HIS is slightly decreased in the DS as a percentage of GSDP (10% in 1993–96 and 9.9% in 2012–15), and figure for MS is also increasing (10.72% in 1993–96 and 11.33% in 2012–15).

Table 2. Interstate Comparison DS as a Percentage of GSDP

<table>
<thead>
<tr>
<th>States</th>
<th>1993–96</th>
<th>2012–15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bihar</td>
<td>16.51</td>
<td>16.94</td>
</tr>
<tr>
<td>Chhattisgarh</td>
<td>NA</td>
<td>14.54</td>
</tr>
<tr>
<td>Jharkhand</td>
<td>NA</td>
<td>10.79</td>
</tr>
<tr>
<td>Madhya Pradesh</td>
<td>13.19</td>
<td>13.48</td>
</tr>
<tr>
<td>Odisha</td>
<td>11.34</td>
<td>13.12</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>11.3</td>
<td>11.99</td>
</tr>
<tr>
<td>Uttar Pradesh</td>
<td>8.50</td>
<td>12.82</td>
</tr>
<tr>
<td>LIS DS as a percentage of GSDP (three-year average)</td>
<td>12.17</td>
<td>13.38</td>
</tr>
<tr>
<td>HIS DS as a percentage of GSDP (three-year average)</td>
<td>10.00</td>
<td>9.90</td>
</tr>
<tr>
<td>MS DS as a percentage of GSDP (three-year average)</td>
<td>10.72</td>
<td>11.33</td>
</tr>
</tbody>
</table>

Source: Authors’ calculation based on the data collected from EPWRFITS.

Per Capita DS for LIS in Lakh Rupees

DS in per capita term for LIS vis-à-vis HIS and MS average is shown in Figure 7. Initially, per capita DS was higher in LIS than in HIS and the MS. After 2006–07, it remained lower in comparison to the HIS and MS average.

As observed earlier in terms of GSDP and DS for LIS, the later period is higher than the same for HIS and MS. But in contrast, per capita DS for LIS is lower in later part. One possible reason for this is may be higher population growth in LIS in comparison to HIS and MS.
Source: Authors’ calculation based on the Human Development Index data from Mukherjee et al. (2014) and Development spending from EPWRFITS. Mid-year figures are extracted through interpolation.

Notes: LIS, HIS and MS indicate low-income states, high-income states, and major states.

Figure 8. Relationship Between Per Capita DS and HDI Average for Low-income, High-income and Major States.
Relationship Between Per Capita Development Spending and HDI Average for Low-income, High-income and Major States

Association between per capita DS and HDI in LIS, HIS and MS is shown in Figure 8. Figure 8(I) shows per capita DS increased for LIS only after 2004–05. However, the HIS remained stagnant for 2004–05 to 2009–10 and increased thereafter. In LIS, HDI improved for some period, while it remained stagnant for certain period. However, for HIS and MS, a positive pattern of association is observed between per capita DS and HDI score.

Figure 8 shows that states which spend more on DS have a higher score in HDI and those who spend less have a lower score in HDI. LIS states are with lower per capita DS as compared to other states and also their HDI score throughout the period.

Conclusion

The main objectives of the study have been to analyse the dynamics and pattern of DS in LIS in India. Besides, the study examined the long-run association between DS with HDI and economic growth in LIS. It is observed that currently LIS have a higher percentage share of DS, DRS and capital DS to total expenditure as compared to the same of HIS and MS, whereas LIS have low percentage share of education spending to total expenditure than HIS and MS from 1993 to 2015. But in the case of health expenditure, LIS have a higher share of spending as compared to HIS and MS.

The empirical results show that share of DS in recent years for LIS is higher than the same for MS. This suggests that LIS are giving emphasis on social sector development. However, the share of DS for LIS like UP, Jharkhand and Rajasthan is still lower and needs to be improved. The capital component of DS needs to be improved further. Empirical results from the co-integration confirm the existence of a long-run equilibrium relationship among the GSDP and DS variables.

The long-run coefficients suggest that DS has a significant and positive influence on the state GSDP. One percent increase in DS leads to increased GSDP by 0.59%. DS has a positive influence on the growth. So, increase in DS in these states will help to increase the economic activities of these states in the long term. Emphasis on education, health and skill development and other social sector initiatives will help to improve GSDP. DS did not emerge to be significant in influencing HDI. Though share of spending in LIS has increased in recent years, it has not translated into human development outcomes. Proper and effective implementation of schemes is very important for LIS.

Furthermore, it has been observed that there is a long-run equilibrium relationship between DS with primary, secondary and tertiary sectors of economy. Increase in DS helps for advancement of health, skill development and productivity of employees and ultimately various sectors of economy. Furthermore, there is a long-run equilibrium relationship between IMR and health spending and similarly for education spending and school dropouts.

Though initial results have been observed that the coefficient of DS did not emerge to be significant for HDI indicator, but sector-specific analysis suggests that components of DS have association with their outcomes. It concludes that increase in DS though not translated into human development outcomes, but rising in spending in health sector does translate into improving the human development outcomes for LIS.

LIS should prioritise their spending and emphasise on the development components. This will help in the development of human development indicators and economic advancement in the long term. The LIS like Uttar Pradesh, Jharkhand and Rajasthan where DS is relatively low should mobilise their resources and have specific plans for increased spending on education, health and economic services. Besides, the Central government should prioritise these states in the allocation of share in taxes and grants, so that these states can meet increased developmental needs.
3. Growth with Employment:

'Focus on Jobs': Economist Santosh Mehrotra breaks down the perils of India's population rise

In an interview with Saptarshi Basak of The Quint

Data released by the United Nations earlier this week shows that India is poised to overtake China as the world's most populous country. The Quint spoke to Santosh Mehrotra, a developmental economist, to understand whether or not we should be worried about this new record.

Q: Broadly speaking, is this good news or bad news for the country?

Definitely bad news.

Q: And that is because ...?

Let's begin with the history of population change, China versus India. When we both became independent in the late 1940s, China's population was 550 million. After the partition, India's population was 330 million. The Chinese were 220 million people ahead of us. Now, while their population has grown like ours, we are still going to exceed them. So, we must have done something wrong and they must have done something right.

There are three things that the Chinese did right in the first 30 years after their independence, that we did not.

- Firstly, they invested in the health of their population, right down to the lowest level

- Secondly, they invested in primary school education for all the children across the country, which we did not. We became serious about health and education after the 1991 economic reforms began

- And thirdly, they ensured asset equality in a way that we did not. Let me explain this in more detail
They carried out massive land reform, including collectivization, which ensured that a poor country, when starting out on its journey of development, had relatively equal asset distribution. In our country, we had already inherited an extremely unequal distribution. This did not improve despite the abolition of the Zamindari system.

And on top of that, unlike China, we were an extremely unequal society, and socially stratified on the lines of caste, a phenomenon that does not exist in most other parts of the world. That has had implications for our human development and of course, our politics. Its result was an education system whose outcomes we are seeing to date. We did not believe that in a socially stratified society, many of the poorest people, who are also Dalits, Adivasis, or Muslims need to be educated.

Q: Is the optimism around India’s demographic dividend a bit misplaced? About ‘15-64’?

There is a potential for optimism. But the reality is pointing in the direction of pessimism. Let me give you reasons to be optimistic.

No one is denying that we still have a relatively young population. But the point is that we are a young population that is aging fast, and I don't think that this fact is recognized sufficiently by the general intelligentsia, including journalists, policymakers, and academics. Only demographers have understood this. Let me explain.

Every nation goes through a demographic dividend. We are also going through it. China's dividend is over. And the reason why there is some optimism in India, which I don't think is the case for the rest of the world, is that we still have about 15 to 17 years left in our demographic dividend to run out before we also become an ageing society. Our dividend began in the early 1980s. Then, the share of the working-age population began to rise and the share of our dependent population, which had been rising until then (from 1950-1980), began to fall. So, as the working-age population rises and the dependent population falls, that is called the demographic dividend.

Q: But why is it called a dividend?

The expectation is that in the early stages of development, the majority of the population is working in agriculture, as it was in China and in India. However, as the economy grows, and industry and services grow, people move out of agriculture into these sectors. Why is that a good thing? Why is it called a dividend? Because the productivity levels in industry and services are higher than in agriculture, leading to higher incomes.

Hence, those in agriculture want to move into industry and services-based jobs in cities. As people get jobs with higher productivity (hence higher incomes), their incomes increase, and their savings increase. The savings to GDP ratio as a result of any dividend tends to rise in the whole economy.

There is evidence in our own data, you could have a look at my book called “Realising the Demographic Dividend: Policies to Achieve Inclusive Growth in India,” where in chapter one, I explain this process.

As savings increase, the investable resources increase, therefore the investment rate increases and the investment to GDP rate rises. As the investment rate rises, the growth rate of the economy rises, which is exactly what happened in both India and China except that they did it much better and much faster than we did.

There is no question that our growth rate improved to 5.5 percent in the first decade of the dividend in the 1980s, compared to the 3.5 percent per annum that we had experienced in the first three decades after independence. And in the 1990s, it increased by an additional percentage point of about 6.4 percent per annum.

In this century, it has increased even further, with the highest rate being achieved between 2003-2004 and 2014-2015 of 8 percent per annum. As a result of this, non-farming jobs were growing rapidly.

People began to be pulled out of agriculture. In fact, for the first time in India's post-independence history, the absolute number of workers in agriculture fell after 2004-05. And that continued all the way to 2019.

Q: But now that trend has changed?

Yes, the catastrophic economic policy of this government prior to and during COVID has actually reversed the share of agriculture in total employment, which had been consistently falling from about 60 percent in the year 2000 to 42 percent in 2017-2018, which suddenly shot up in 2020 to 46.5 percent.

The absolute number of workers in agriculture rose by 45 million in that year alone, thanks to the reverse migration and the collapse of jobs.

When our economy contracted by 6.6 percent in the following year, we added another 7 to 8 million to agriculture. At the same time, the number of workers and the contribution of manufacturing fell in India, the exact opposite of what happened in China.

Today, in China, the maximum number of people working in agriculture as a part of the total workforce is 30 percent. In India, it's over 45 percent in 2022.

Q: So, all of this can be linked to the jobs crisis?

Yes, when I say we are doing everything possible to undermine our demographic dividend, one thing that we are managing to do is to not create non-agricultural jobs, and the exact opposite of what China did.

Secondly, while we inherited a literacy rate of 51 percent in 1991 when India's economic reforms began, China's literacy rate in 1979 when their economic reforms began, was about 75 percent. They managed to universalize and ensure 100 percent literacy within the next 10-15 years. We are still nowhere close to that. I'm talking about China being 20 to 25 years ahead of us in educational levels.

However, our educational investments increased immediately after 1991 with the Sarva Shiksha Abhiyan, the Right to Education.

As a result of all that, we managed to universalize. We also managed to universalise the mid-day meal scheme for all our children which brought our children to school. But does that mean our children are learning? If our children are just attending school and not learning, then why should we expect them to be employable?

So, on the one hand, the economy is not generating jobs because of bad economic policies. Take demonetisation, an unplanned and badly implemented GST, or the worst and the most strict lockdown in the world. And we are not investing in health and education.
Q: Can you provide some numbers on these investments?

Did you know that in the last three years of this government, the central government's allocation to the health budget has not increased? Despite COVID? We were promised in 2017 that in the National Health Policy, expenditure on education will be increased from 1 percent to 2.5 percent of the GDP. But we are only at 1.3 percent of GDP in Financial Year 2023. We are very far from achieving the 2.5 percent, despite a global pandemic intervening.

During the UPA years, we used to allocate 4 percent of the GDP to education, taking the state governments and the central government together. This government has come out with a new education policy which commits to 6 percent of GDP allocation. Do you know that the allocation of this government on education is 2.9 percent of GDP, states and central government combined? In other words, if we are not spending on education or on skill development, then how do we expect our youth, who are also poor and at low levels of learning, to become employable and find jobs? Economic policy failures are not generating jobs either.

Q: So we're not prepared? What could we do to prepare?

Every year gone is a year lost before the disaster, that is, before the demographic dividend end, and before becoming an aging society, proclaiming to the world that two-thirds of our population is below 35. In 20 years when the dividend ends, how old do you think they will be? The same people will be close to 45, near retirement age. We are not preparing for a disaster.

Invest in health. Invest in education. Focus less on a 5 trillion dollar economy and more on creating jobs. You will get a big economy if you create jobs.

Why? Because you will then generate aggregate demand. And then, people will spend more on the products of industry and services. People will spend less of their total money on food.

Today, people are surviving by spending their money on food and not having enough money to buy, say scooters. They are not going out to eat or to travel. You want the demand for services to improve, right? But you are increasing all the conditions for increasing income inequality by not reducing poverty. In the most recent economic recovery period, the demand for SUVs has increased, but the demand for entry-level cars and scooters has declined. Why? Think about it.

Source: https://images.news9live.com/h-upload/2022/06/16/433159-demographic-dividend.jpg?w=1200&enlarge=true
4. Environment, Natural Resources and Sustainability :
Review of water body census, 2023 and master plan for artificial recharge, 2021

Jeet Singh

Introduction

The average state of ground water extraction in India is about 63%, very close to the semi-critical categorization of the Central Ground Water Board. The ever increasing dependency on groundwater resources for all kinds of usage is expected to exponentially increase the stage of groundwater extraction across the country. According to the estimate of CGWB, the total demand for water in India in 2010 was 813 BCM, which is expected to increase to 1093 BCM in 2025 and 1447 BCM in 2050.

The rapidly increasing demand of water is a race against fixed utilizable water in India which stands at 1123 BCM from all kinds of sources (surface and groundwater). By 2050 our dependence on groundwater for domestic use will increase by two times, usage for industrial purposes will increase by five times, usage for energy production will increase by 26 times. Agriculture sector, which is the largest user of groundwater, will require a substantial increase from 688 BCM in 2010 to 1072 BCM in 2050. With these demand side changes, the per capita available water in 2050 will be 1140 cu m. per year per person which was around 5177 cu.m. per year per person in 1951.

Groundwater availability depends on a number of factors related to hydrology, geology, water usage and available technologies in a particular region. The CGWB has been mapping aquifers all across the country to understand characteristics of sub-surface water storage. Moreover, a lot of work is already being done to understand the hydrology and drainage system across the country. Being a highly diverse country, the availability of water is highly skewed in space and time. The CGWB monitors 6881 blocks across the country on an early basis to assess quantity and quality of the groundwater resources. According to the latest report of CGWB, 1186 (17%) blocks are over-exploited, 213 blocks (5%) are critical, 972 (14%) blocks are semi-critical and 100 (1%) blocks are saline.

To improve the stage of ground water development in the country and to sustainably meet current and enhanced future demand of water, the CGWB has developed a comprehensive master plan in 2021.

Source: https://www.gulftoday.ae/opinion/2023/05/23/india-first-water-body-census-released
This master plan to recharge groundwater through artificial recharge structures has carefully suggested state and region wise appropriate interventions. According to the master plan, 141 lakh different water structures are needed to recharge 537 BCM available sub surface storage.

Suggested water structures include check dam, roof top rainwater harvesting, percolation tanks, desilting, sub-surface dyke, watershed development and other structures. Many of these suggested water structures are surface water bodies such as check dams, tanks and ponds. These suggested water structures in the master plan take us to the recently released first census report of water bodies. The report released by the Department of Water Resources, River Development and Ganga Rejuvenation, GoI found 24.24 lakh water bodies across the country. The master plan on artificial recharge has suggested minor engineering work to transform existing surface water bodies into instruments of groundwater recharge. Taking cues from that report, many of existing water bodies can be used to artificially recharge sub-surface storage.

**Master Plan for Artificial Recharge to Groundwater in India**

The master plan for artificial recharge to groundwater in India released by the central groundwater board in 2021 is a comprehensive and detailed document that suggests water structures depending on the terrain condition of each region in the country. The master plan has found more than 25 types of structures in different states, but for the purpose of standardization, it has grouped them into 10 different categories. The plan has further studied traditional structures of ground water recharge and suggested revival and renovation of all such structures.

The master plan provides for construction of 141 lakh water structures across the country to recharge sub-surface storage. Of all suggested water structures, the Roof Top Rain Water Harvesting (RTRWH) dominates. It contributes 75% of total structures suggested by the plan document. It follows with ‘other’ category structures, which mainly comprises traditional water bodies in different states. The plan has provided for construction or revival of all such water bodies. The plan document suggests that revival of silted and damaged village ponds and tanks can be modified to serve as recharge structures by converting them into percolation tanks. According to the plan, additional construction of ‘Cut off Trench’ and ‘Waste Weir’ to village ponds and tanks can convert them into recharge structures.

<table>
<thead>
<tr>
<th>Structure</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check Dam</td>
<td>284,410</td>
</tr>
<tr>
<td>Recharge Shaft</td>
<td>401,816</td>
</tr>
<tr>
<td>RTRWH</td>
<td>10,613,793</td>
</tr>
<tr>
<td>Percollation Tank</td>
<td>141,810</td>
</tr>
<tr>
<td>Gabbion</td>
<td>325,096</td>
</tr>
<tr>
<td>Desilting</td>
<td>13,530</td>
</tr>
<tr>
<td>Injection Wells</td>
<td>35,762</td>
</tr>
<tr>
<td>Sub-Surface Dyke</td>
<td>2,425</td>
</tr>
<tr>
<td>Watershed Development</td>
<td>12,486</td>
</tr>
<tr>
<td>Others</td>
<td>2,344,016</td>
</tr>
<tr>
<td>Total</td>
<td>1,41,75,144</td>
</tr>
</tbody>
</table>

*Source: Compiled from Master Plan for Artificial Recharge to Ground Water*
The roof top rain water harvesting structures especially in urban areas have potential to conserve around 80% of surface runoff. The national plan of artificial recharge to groundwater suggests construction of these structures mainly in states like Gujarat, Jharkhand, Delhi, Kerala, Madhya Pradesh, Maharashtra, Punjab and Telangana. About 50% of total suggested RTRWH are planned for Maharashtra followed by Telangana, Rajasthan and Jharkhand.

For states like Haryana, Madhya Pradesh, Punjab, Rajasthan and states in North East India the focus is on locally appropriate rainwater structures. Many of these are traditional structures, which the master plan proposes revival and rejuvenation. In the case of Himalayan states, the plan has also suggested extensive activities related to spring shed management and watershed development.

The national plan has observed that Rajasthan has the largest available subsurface storage of 159 BCM, which requires 211 BCM water to recharge. However, the state has only 5 BCM surplus water for it. Other major states having large sub-surface storage are Punjab, Haryana, West Bengal and Andhra Pradesh. However, all of these states except Karnataka have very less surplus water available for groundwater recharge compared to their storage potential. States like Bihar, Chhattisgarh, Jharkhand, Karnataka, Kerala and Uttarakhand have more surplus water for recharge compared to their sub-surface storage capacity.

### Water Bodies Census, 2023

The Department of Water Resources, River Development and Ganga Rejuvenation started the first Census of Water bodies in 2018-19 in convergence with the sixth Minor Irrigation census. The census report released by the department in April 2023 states that it attempts to serve various purposes such as preparation of village level water budget, implementation of Atal Bhujal Scheme and efforts related to artificial groundwater recharge.

Moreover the census is important in better planning of fish farming and nationwide database for implementation of other programs. For the purpose of this census, all natural or man-made units bound on all sides with some or no masonry work were treated as water bodies. These water bodies are usually of various types and known by different names in different regions and states.

<table>
<thead>
<tr>
<th>No. of Water Bodies</th>
<th>WB in use No.</th>
<th>WB not in Use %</th>
<th>WB Encroached %</th>
<th>Natural WB %</th>
<th>Man-made WB %</th>
<th>WB Owned by Public %</th>
<th>WB Owned by Private %</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>24,24,540</td>
<td>83.7</td>
<td>16.3</td>
<td>1.6</td>
<td>22</td>
<td>78</td>
<td>44.8</td>
</tr>
</tbody>
</table>

*Source: Compiled from Water Body Census, 2023*

The first census report of water bodies found 24,24,540 water bodies across the country. Of these water bodies around 60% are ponds, 16% are tanks, 12% are reservoirs and around 13% are water bodies constructed under some water conservation schemes. As many as 3,94,500 water bodies (16.3%) were found not in use due to several reasons including encroachment, construction, drying up, siltation, destroyed beyond repairs, salinity, industrial effluents.

The census report suggests that individuals have invested heavily in the construction and maintenance of water bodies across the country. It found that as many as 13,38,735 (55.2%) water bodies are owned by private entities including individuals, groups and associations.

Government institutions own only 44.8% of the total water bodies in the country. More than 62% of water bodies owned by the public sector belong to Gram Panchayats. The share of privately owned water bodies are higher in states like Ladakh, all north-eastern states, Rajasthan, West Bengal, Goa, Kerala and Odisha.
The share of publicly owned water bodies are higher in states like Maharashtra, Tamil Nadu, Telangana, Karnataka, Chhattisgarh, Madhya Pradesh, Gujarat and Uttar Pradesh. Of the all water bodies, around 78% are man-made and just 22% are natural. Man-made water bodies are higher in number compared to natural water bodies in states like Jammu & Kashmir, Himachal Pradesh, Haryana, All north-eastern States, West Bengal, Jharkhand, Odisha, Maharashtra, Chhattisgarh, Andhra Pradesh, Gujarat and Madhya Pradesh.

**Connecting Water Body Census to Artificial Recharge to Groundwater**

The first census of water bodies released in April 2023 by the Department of Water Resources, River Development and Ganga Rejuvenation believes that the report will “serve as an authentic dataset for estimation of recharge of ground water.”

Moreover, the census report expects that the collected data will be useful in the implementation of flagship program of Government of India- Atal Bhujal Yojana in assessing Gram Panchayat level water budget, preparation of realistic water security plans and planning various supply/demand side measures through convergence of ongoing schemes. While these two objectives of the census report are promising, not enough data has been collected in terms of groundwater recharge capacity of these water bodies and detailed data on stored water in these water bodies. However, village level data of water bodies if published can help all stakeholders to optimize benefits of the report.

The master plan for artificial recharge to ground water released by the Central Ground Water Board in 2021 has also focused on revival and renovation of existing water bodies to enhance water tables in different regions. The plan provides for specific modification to existing water bodies to convert them into groundwater recharge instruments.

Water structures suggested for artificial recharge under the ‘Other’ category in the master plan are substantial in number and in most cases they refer to traditional water bodies such as Kul, Naula and Khatri in western Himalayan region, Apathani, Zabo and Dungs in Eastern Himalaya, Dighi, Baolis in Indo-Gang etc Plains and Cheruvu, Lohlis, Bandharas and Phad in southern part of the country. The important aspect of the master plan is that it has corroborated variables related to hydrological, hydro-geological and existing water bodies to suggest appropriate artificial recharge structures in different regions.
Both of these important publications released in the last two years have collected very useful information, which can be used in planning and implementations of various programs. However, the methodological compartmentalization of these two reports has restricted them from gaining from one another. For example the census report on water bodies is completely ignorant about characteristics of sub-surface water storage and hydrology and drainage systems in different regions. It has also not estimated additional run-off which can be tapped to recharge sub-surface aquifers.

On the other hand the master plan on artificial recharge could not collect information of existing water bodies and their potential to recharge the sub-surface aquifers. For example, eleven highly water stressed states have only 37% (9.06 lakh) of total water bodies. In these states the share of privately owned water bodies is very less compared to the national average. Individuals may be encouraged to invest in construction and maintenance of water bodies in these states. These two valuable documents can be integrated to harness following benefits.

### Coordinated Utilization of Surface and Sub-surface Water Storage

Big reservoirs largely constructed by public money constitute only 14% of the total water bodies available in the country. More than half of water bodies are in the form of ponds, tanks and lakes. Cumulatively, all water bodies in use create water storage capacity of 343 MCM. If dysfunctional water bodies are revived another 35 MCM water storage capacity can be created. This surface water is not just available but utilizable at any given time. Water bodies excluding big reservoirs have capacity to store 308 MCM water in a year.

This huge water storage capacity is highly dispersed and decentralized that makes it easily accessible by end users. Since, we know that more than half of these water bodies are owned by individuals, it also means that a huge amount was invested by individuals in construction and maintenance of these water bodies.

Large dams and reservoirs constructed by public finance for power generation, irrigation, flood control or other purposes have the capacity to store only 35 MCM water. Further, this water is highly centralized and a huge amount is invested by governments to construct and maintain these structures.

### Water stress states and water bodies:

<table>
<thead>
<tr>
<th>Water Stress States</th>
<th>Average Stage of Ground Water Extraction (%)</th>
<th>Total Water Bodies</th>
<th>Natural</th>
<th>Man Made</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Public</td>
<td>Private</td>
<td>Total</td>
</tr>
<tr>
<td>Punjab</td>
<td>165.99</td>
<td>15,633</td>
<td>379</td>
<td>16,012</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>151.0</td>
<td>7,906</td>
<td>9,033</td>
<td>16,939</td>
</tr>
<tr>
<td>Haryana</td>
<td>134.10</td>
<td>14,543</td>
<td>355</td>
<td>14,898</td>
</tr>
<tr>
<td>Tamil Nadu</td>
<td>75.00</td>
<td>98,139</td>
<td>8,181</td>
<td>106,957</td>
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<td>245,087</td>
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<td>25,327</td>
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<td>70,847</td>
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<td>96,767</td>
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<td>97,062</td>
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<td>53,979</td>
<td>90</td>
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<td>12,462</td>
<td>64,055</td>
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<td><strong>Total</strong></td>
<td></td>
<td><strong>764,023</strong></td>
<td><strong>142,549</strong></td>
<td><strong>906,572</strong></td>
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</table>

*Source: Compiled from CGWB reports on water bodies and groundwater resources*
The census reveals that most of these water bodies were filled adequately. However, the report also captures issues related to encroachment, not functional water bodies, siltation and not adequately filled water bodies. The report found that nearly 14% water bodies were filled below 25% of their optimum capacity. Revival of such water bodies can further increase the water storage capacity. Overfilled water bodies can be canalized to nearby groundwater recharge structures such as injection wells and percolation tanks. The aquifers provide ample space for overflowing and runoff water at very low cost. The aquifer storage also reduces water loss due to weather and climatic conditions.

**Enhancing Groundwater Recharge Potential of Water Bodies**

The national Master Plan for Artificial Recharge to Groundwater in India (2020) has estimated 537 BCM subsurface water storage capacity of India. Given the high rate of water draft and very un-even distribution of rainwater over space and time, the plan provides mechanisms for creating artificial recharge systems.

The report further identified 25 different types of water structures for artificial recharge to groundwater. These different structures have been further grouped into 10 categories namely Check dam, recharge shaft, roof top rainwater harvesting, percolation tank, de-silting, sub-surface dyke, spring shed development/watershed development and other structures. In this list of structures for artificial recharge many of them are surface water bodies such as check dams, spring and water shade management, recharge shafts, gabions and many others. On the other hand the census report of surface water bodies reveals that only 12% water bodies are used for groundwater recharge.

![Image of water being discharged into a body of water](https://d3hnfqimznafq0.cloudfront.net/images/Article_Images/ImageForArticle_1589_16564982171096854.jpg)

The Master plan for Artificial Recharge to Groundwater recognizes the importance of surface water bodies in the recharge of sub-surface aquifers. It recommends minor modification in existing surface water bodies such as ponds, lakes and tanks to convert them into groundwater recharge instruments.

The census report reveals that about half of surface water bodies were fully filled; it means that a lot of overflow of these water bodies can be conserved if designed properly. A more detailed study of existing water bodies are required to use them effectively for ground water recharge.
Modifying Water Bodies for Groundwater Recharge

According to the dynamic ground water assessment report, 2022, the monsoon and non-monsoon rain contribute about 60% of sub-surface aquifer recharge in a year. A substantial recharge of groundwater is done through other sources both during monsoon and non-monsoon season in India. The category of other sources of groundwater recharge are surface water bodies such as canals, surface water irrigation, tanks, ponds and water conservation structures. In 2022 a significant jump in groundwater recharge was observed in states like Bihar, Telangana, Andhra Pradesh, Tamil Nadu, Arunachal Pradesh, Odisha and Gujarat. The central ground water board (CGWB) attributed the change to changes in recharge from ‘Other Sources’.

According to the data collected by the CGWB, other sources for groundwater recharge contribute nearly 40% to the aquifer recharge. These sources contribute around 20% recharge during monsoon and 20% recharge in non-monsoon seasons. These data shows that the increase in surface water bodies can further increase their potential to recharge sub-surface aquifers across the country.

The Master Plan for Artificial Recharge to Groundwater has recommended various kinds of surface water bodies for recharge depending on the hydrology and geo-hydrology of the region. The plan proposes construction of 141 lakh structures across the country to optimally utilize the sub-surface water storage capacity of the country. In some cases, the plan has given importance for revival of existing water bodies such as the revival of the traditional Ahar-Pyne system in Bihar. However, in the case of most states, not much importance has been given to revival of existing surface water bodies.

Understanding Groundwater Recharge Capacity of Water Bodies in Different Locations

The master plan on artificial recharge to groundwater estimates recharge capacity of each type of structure based on the geo-hydrology, number of rainy days and numbers of filling in a year. For example in the case of Bihar the master plan observed that percolation tanks in hard rock areas have the potential to percolate 20% of the runoff, whereas the same structures can percolate 35% of runoff if constructed in marginal alluvial areas. Watershed management and spring shed management activities in all types of geo-hydrological situations have the potential to absorb 20 to 40% of the runoff.

Renovation and revival of traditional and existing water bodies can also play an important role in enhancing ground water capacity. For example, in the case of Bihar the master plan has found that renovation of the traditional Ahar-Pyne System in the Alluvial Areas can recharge 40% of its storage. Similarly, mere de-silting and revival of existing ponds in urban areas can help in recharge of 20% of their storage.

Source: https://www.intechopen.com/media/chapter/73757/media/F3.png
The surface water body census has found more than 24 lakh surface water bodies, out of which only nearly 4 lakh water bodies are not in use due to encroachment, siltation and other reasons. Even out of functional water bodies only 2.44 lakh water bodies are used as groundwater recharge structures. If all of these water bodies are properly re-designed as suggested by the master plan and revive all 4 lakh non-functional surface water bodies, the recharge capacity can be enhanced significantly.

What is Missing and How to Improve?

The master plan for artificial recharge to ground water and the first census of water bodies released in 2021 and 2023 respectively have a common goal to enhance sub-surface water level. The master plan aims to achieve this goal using artificial recharge structures and the census report aims to use the water body census database for effective management and conjunctive water use. Despite having a common goal, these two reports have been drafted in isolation and therefore, not producing a comprehensive mechanism to recharge sub-surface aquifers.

The master plan for artificial recharge has carefully examined the hydrology, hydro-geology, drainage and precipitation to suggest appropriate artificial recharge structures. The report also acknowledges the importance of water bodies in recharging of aquifers. Therefore, it provides for revival, rejuvenation and modification of water bodies to convert them into groundwater recharge tools.

However, the master plan has no idea about the number of water bodies, their location and the kind of modification needed in each case to convert them into groundwater recharge tools. On the other hand the census report of water bodies is ignorant about hydrological, geo-hydrological, drainage, geo-morphological and precipitation factors associated with water bodies. Without taking these factors in consideration, one cannot effectively use water bodies for groundwater recharge. These methodological constraints of above mentioned two reports restrict them from mutual learning and enable others to use them together for better planning and implementation. Therefore, some important upgrades to both of these reports are required to meet the common objective of enhancing groundwater level. Major up-gradation required as follows:

1. **Vision Upgradation:** Both the document must imbibe the idea that the surface water bodies and sub-surface aquifers must be used in coordinated way to store and withdraw water. Both the water sub-systems must be understood as a single unit and complementary to each other. The earth surface receives every drop of rain, holding that on the surface have many economic, geographical, climatic and physical limitations. On the other hand, the sub-surface aquifers provide us ready made storage for water with very few external limitations. Optimally connecting surface water bodies and aquifers can be a game changing transformation.

2. **Locating and contextualizing every Water Body:** The master plan for artificial recharge to groundwater report has not adequately focused on water bodies. The master plan must locate all existing water bodies and identify exact locations where more water bodies can be created. Further, the report needs to suggest appropriate modification to water bodies to optimally utilize them for groundwater recharge. The water body census data can be used to locate water bodies across the country. The census report can use GIS and other modern technology to geo-tag each water body and measure them.

3. **Linking Water Body to Nearby Aquifer**: The census of water bodies is ignorant about local hydrology, hydrogeology, morphology, precipitation and other related factors around water bodies. These factors are important to calculate groundwater recharge potential of a particular water body. The census report may draw this information from the master plan for artificial recharge report.

4. **Data Decentralization and Synchronization**: Data presented in these two reports are aggregated at the national and state level. These aggregated data are not useful for actual implementation as one requires micro level data to understand hydrology, hydro-geology, precipitation and other related factors. Unit level data of both reports needs to be digitized and publicly published for better use. Further, both reports need effort to synchronize their data for optimum use.

**References**


Soon after its independence in 1947, Indian foreign policy makers had to deal with an ideologically divided world. Western (liberal-capitalist) and Eastern (communist) blocs were led by the United States of America (USA) and former Union of Soviet Socialist Republics (USSR) respectively. Instead of joining any of the two blocs, India along with many of the then newly independent colonies established the Non-Aligned Movement (NAM) in 1961, which became a voice of the developing countries at multilateral forums.

The Cold War (1947-1991) based World Order crumbled with the disintegration of the former USSR in 1991. The end of the Cold War made many countries, including India, to re-think their foreign policy and adjust their economic structures. In the immediate post-Cold War years, India took political steps to improve its relationship with the USA, Western European countries, and China. In 1991, India also adopted a new economic policy based on liberalisation, privatisation and globalisation.

In the 30 years after India made a major shift in its foreign and economic policy much has changed in global politics. To secure its interests in a changed world India has deliberately, or out of compulsion, made certain adjustments in foreign policy.

However, some of the basic tenets of India’s foreign policy remain unchanged, though modified from time to time to achieve the country’s interests.

4 *The Round Table*, The Commonwealth Journal of International Affairs
Volume 111, 2022 - Issue 3: India at 75
Personality wise, the first prime minister of India, Jawaharlal Nehru, was considered a chief architect of Indian foreign policy in early years of India's independence, and Nehruvian policies endure. However, successive prime ministers, including those who led coalition governments, have played their part in shaping Indian foreign policy. Highlighting the role of a leader and political leadership, and changes in the Indian foreign policy after Narendra Modi was elected into power in 2014, some scholars started talking about a ‘Modi Doctrine’, and how Modi’s foreign policy is ‘different’ (Chaulia, Citation2016; Ganguly et al., Citation2016).

For Mohan (Citation2015) Modi has ‘reinvigorated’ India’s foreign policy. Pant (Citation2016, pp. 13–14) sees signs of a new dynamism and pragmatism in India’s foreign policy under Modi. At another level, Hall (Citation2015) finds that although Modi has brought a new energy, his foreign policy objectives are similar to those pursued by Atal Bihari Vajpayee and Manmohan Singh. Ganguly (Citation2017) observes that, although Modi has made certain departures from the past, he has not ‘fundamentally altered the orientation of India’s foreign policy’.

As in the past, one of the major concerns and challenges to Indian foreign policy in present times is: how to deal with China? Political tensions between the USA and China, and growing Chinese assertiveness in South Asia have a major impact on India. The Modi years have witnessed serious political and military tensions between India and China. In 2017 Indian and Chinese soldiers were engaged in a military stand-off for 73 days at Doklam in Bhutan. More seriously, in 2020 Indian and Chinese soldiers clashed in Galwan valley in Ladakh when 20 Indian and, as acknowledged by China in 2021, four Chinese personnel lost their lives (BBC, Citation2021).

Since then several rounds of talks between Indian and Chinese commanders, and officials have taken place; yet the tension at the border has not subsided. Interestingly, in this period trade between the countries has exponentially increased. In the first nine months of 2021 India’s trade with China touched US $90 billion which is an increase of 49% over the previous year. This trade is, however, balanced in favour of China (The Times of India, Citation2021).

Primarily to deal with the Chinese challenge, India is strongly promoting a Quadrilateral Security Dialogue (QUAD) which also includes Japan, the USA, and Australia. Chinese foreign minister Wang Yi termed QUAD a ‘huge security risk’ which has the potential to ‘stir confrontation among different groups … to maintain the dominance and hegemonic system of the US’ (Jiangtao, Citation2020).

This set of articles summarized below analyse various aspects of India’s foreign policy in the past 75 years. In no particular order, it has an article by Amit Ranjan which looks at how the anti-colonial ideology of Nehru shaped India’s foreign policy in the formative years. Those policies guided the successive prime ministers of India. Despite paradigmatic shift in the Indian foreign policy in 1990s, Nehruvian principles have not been entirely given up. Even the most ‘non-Nehruvian’ Prime Minister of India, Narendra Modi, has not been succeeded to steer Indian foreign policy away from shadows of Nehruvian and Nehruvianism.
Another article by Smruti S Pattanaik, recognises that India’s neighbourhood constitutes the core of the country’s foreign policy. It is entwined with the security and stability of India’s periphery which is home to diverse ethnic groups with familial ties and socio-cultural affinities that often criss-cross physical borders. A part of such connections was ruptured by the 1947 partition of the subcontinent.

The majoritarian conception of nation-building in the post-colonial states detested shared socio-cultural commonality and emphasised an ‘exclusivity’ of their national identity which only sharpened that rupture. This attitude degenerated into a mindset characterised by mistrust and suspicion preventing co-operation that could have optimised the economic potential of the region. India’s over-emphasis on its security linkages with its neighbours made it extra-vigilant to the domestic politics and foreign policy objectives of its South Asian neighbours.

Neighbours felt that such vigilance impeded on their sovereign foreign policy choices and constrained them in shaping their internal politics. As a result neighbours resented India. India’s neighbourhood policy, however, has undergone several shifts – it is slowly moving away from an overtly security-centric approach towards forging development partnerships with its neighbours as a means to ensure security.

Source: https://d18x2uvjeekruj.cloudfront.net/wp-content/uploads/2022/10/india-1024x341.jpg

Aseema Sinha’s article builds upon a vast literature and rarely used India’s Ministry of External Affairs Annual Reports. Sinha argues that India’s foreign policy actions through its 75 years are not unique or novel by any means but that any assessment of them must include an analysis of changing global structures and how they affect domestic imperatives.

Analytically, an ‘inside-outside’ perspective, usually deployed in studies of India with a focus on India's ideas and actions, must be combined with an ‘outside-in’ analysis. Such an outside-in analysis places India in the context of global structures across four phases of foreign policies [1947–1989; 1999–2000; 2000–2016, 2016–2021]. Global aspects must be analysed by paying attention to interactions between global economic and security structures, ‘multiplex’ features and ‘weaponised interdependence’ that make statecraft urgent and relevant.

Jivanta Schottli’s contribution looks at the idea of the ‘Indian Ocean Zone of Peace’ (IOZOP) that emerged during the 1950s and 60s, formalised in 1972 with the creation of a United Nations Ad Hoc Committee. India’s maritime strategy during the Cold War towards the major powers was refracted through the discourse and institutions of non-alignment such as IOZOP. In recent times, the emergence of the ‘Free and Open Indo-Pacific’ as a strategic construct that is shaping India’s maritime outlook marks a radical change in terms of power projection and political engagement. The article considers both the vectors and agents of change in India’s maritime strategy over time.

Another valuable contribution comes from Rajan Kumar. It talks about India’s multilateralism which, as the article finds, has undergone three distinct phases. A high-decibel universalism based on morality and idealism marked the first phase (1947–1961).
India was favourably disposed to the UN during this period. A gradual shift in India’s strategy occurred in the second phase (1961–1991) with attempts at ‘regime shifting’ or what may be referred to as ‘parallel-institutionalisation’. The Non-Alignment Movement (1961) and G-77 (1964) were constituted during this period. The third phase of India’s multilateralism began after the end of the Cold War in 1991.

NAM’s relevance became suspect with the cessation of bipolar politics. India embraced all sorts of organisations during this period. In the last two decades, it has joined four notable organisations, viz., the G20, the QUAD, BRICS (Brazil, Russia, India, China, and South Africa) and the Shanghai Co-operation Organisation or Shanghai Pact. India refers to it as a policy of multi-alignment. India’s intense interactions at the systemic level are in stark contrast to its low engagement at the regional level. It is yet to develop a robust multilateral framework in South Asia.

[For the full articles cited above, please go to the source: The Round Table, The Commonwealth Journal of International Affairs, Volume 111, 2022 - Issue 3: India at 75]

References


Nine years of Modi government-
Foreign policy overview

A video of a talk by Dr S. Jaishankar, India's Minister of External Affairs at the IIC, New Delhi on 5th July 2023

Click the link below to watch the video:

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