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Government of India

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IMPLEMENTING THE CO-BENEFITS APPROACH IN INDIA



In climate and sustainable development literature, the approach of studying, implementing, and replicating positive externalities of an action is what we may understand as the co-benefits approach. **Aayushi Awasthy** and **Kavya Bajaj** highlight that the co-benefits approach presents itself as an exceptionally apt mainstreaming practice for initiating such an approach, where resources can be pooled to streamline multiple goals and ensure we have true accounts of sustainable development. The authors also feel that India needs to work on three vital fronts—energy access, valuable employment generation, and ensuring basic environmental services for all.



In climate and sustainable development literature, the approach of studying, implementing, and replicating positive externalities of an action is what we may understand as the co-benefits approach. Implementing this approach requires fostering an environment for problem solving by encouraging the idea that the solution to global problems, such as climate change and development, have more synergies with each other than trade-offs. It aims to peel through the layers of international politics and diplomacy to bring to reality solutions on-ground. For India, ensuring that its principal developmental challenges are met would require significant investment; not only in terms of infrastructure but also in terms of research and development. The co-benefit approach endorses an approach recommending multiple benefits, a significant one being economies of scale from collaborations, which would not be accrued by individual country action. Another benefit is that this approach can be studied at disaggregated levels and emulated successfully under similar circumstances.

For a large developing country like India, climate mitigation presents unique challenges. There already exist challenges of basic provision to the people, and bearing in mind India's size, these provisions further add up. Given the current state of mature technologies in the country, India continues to rely on fossil fuels for these provisions. Further, the rate of inequality remains high; despite being the third largest economy of the world, India's per capita

income is a measly \$6000 per annum, and per capita energy consumption is approximately 1,000 kWh, a third of the global average. To address the problem of basic provisioning, India needs to work on three vital fronts—energy access, valuable employment generation, and ensuring basic environmental services for all. Below, we discuss what it would take to address these objectives through a co-benefits lens.

■ CHALLENGE 1: ENERGY ACCESS

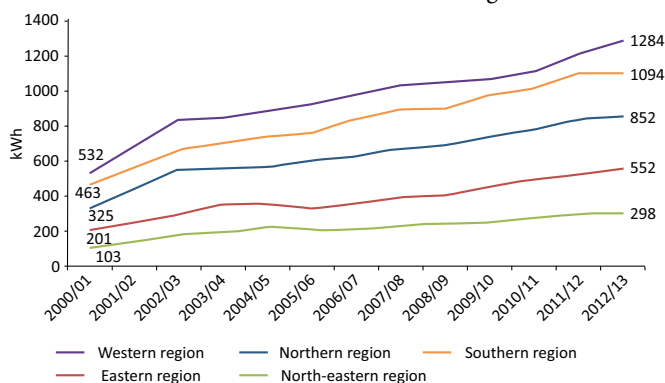
Being one of India's foremost challenges, significant efforts have been made towards energy access, particularly electricity access. As of March 2018, the Ministry of Power (MoP) claims, on average, complete electrification of villages in India. India had also set the ambitious target of complete household electrification by 2018 end. Despite these laudable goals, energy access surveys conducted by CEEW and TERI suggest that the current state of 'electricity access' to these villages is not enough for households to sufficiently consume and utilize electricity.

Electricity consumption in India has increased threefold in the past decade. However, this increase is not uniform across sectors. Despite the MoP claim, a close examination of electricity consumption figures presents a grim picture. Figure 1 (a) tracks the electricity consumption per capita, by the five regions of the country. There are a few observations from this graph, firstly that consumption has increased across all regions, second that the variation between

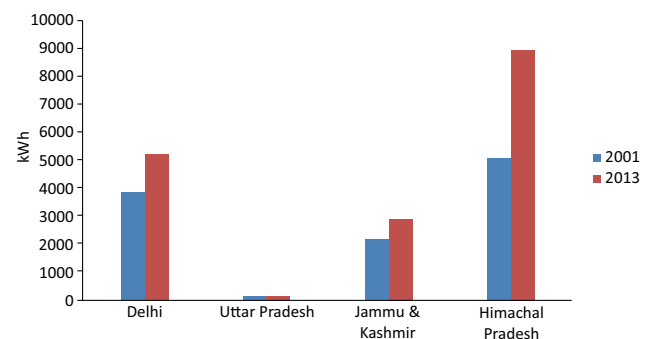
the regions is quite significant, and thirdly that the gap does not seem to be bridging. It seems to be that there is little scope for convergence of consumption between different regions in the near future. On looking into one region in detail [Figure 1 (b)], it is observed that there exists significant contrasts in consumption even within regions.

A survey conducted by CEEW in 2015 for the poorest six states covering about 8,500 households found that 50% of these households are in the lowest tier of electricity access, despite having an electricity connection. Further, more than half of the other 50% households that did not have an electric connection had grid connectivity near them. This indicates that despite being classified as electrified, the majority of households in these villages do not gain the benefits of electrification. Another analysis done by TERI, which combines the national sample survey organization (NSSO)'s data with a survey for 6500 households, tried to understand the factors affecting transition towards modern energy. They find that energy transition is a complex decision, which is influenced not only by the price of the fuel but also by other demographic factors such as type of house, influence of women in decision making in the households, social status, occupation, amongst others.

The co-benefit approach in this case would entail that instead of a complete grid-based electrification approach, India should target distributed generation to compensate for wherever the grid is unable to provide the complete benefits of electrification. There are provisions



» Figure 1 (a): Per capita electricity consumption of the 5 Indian regions



» Figure 1 (b): Northern region



in the Electricity Act, 2005, that ensure investments made in off-grid systems are protected. Over and above this investment requirement, the viability of off-grid systems needs to be reevaluated. Given the potential to supplement RE-based systems into distributed generation, it is possible to subsidize these systems to ensure economical affordability. The approach hence implies providing solutions to both these challenges, and hence, drawing resources mutually – from investment and mitigation.

■ CHALLENGE 2: ALIGNING EMPLOYMENT GENERATION TO THE NEEDS OF THE FUTURE

Considering the high employment generated in the energy sector, especially in the coal mining sector, a transition towards low-carbon solutions for India has been looked at in askance by many.

The co-benefit approach proposes a solution here by expanding the horizon of our thinking – to look at the problem of carbon lock-ins through a human lens. There will be a significant lag between freezing financial investments in the fossil technologies and employment in these fields. It is also true that the skills required for these jobs would be different. Therefore, the earlier we transition from fossils, the less encumbering it would be to transition the labour force from coal towards renewables. About 1 million jobs would be generated to achieve India's solar and wind energy targets, most of which would be in the solar rooftop space.

There is an urgent need for India to start capacity building programmes to ensure the people who will be joining the labour force in the next 2–3 years are prepared for it. Moreover, there is also a need to ensure that there is no expansion of the labour force in the fossil sector. Additional governmental resources should be provisioned for future jobs, considering the fast paced changes in technologies and aiming to avoid fossil industry relevant skill lock-ins. With challenges relating to robotics, automation and sustainability today, there

arises the vital challenge of disseminating appropriate skill development when creating jobs.

■ CHALLENGE 3: ENSURING ENVIRONMENTAL QUALITY

Ensuring environmental quality, an integral aspect of well-being, has been falling back as a priority for India, currently ranking at 177 out of 180 countries on the Environmental Performance Index. The two most pressing issues to ensure environmental quality in India relate to air quality and water availability. Air pollution and water scarcity have detrimental developmental impacts, and can be seen to directly affect human health and well-being. This, when considered with the 1.3 billion population, becomes an even further gruelling challenge. With the issues of urbanization and climate change exacerbating, these issues are reaching a crisis level, needing to be dealt with urgently.

Multiple studies conducted by TERI on air and water underline the gravitas of this challenge. According to WHO, several Indian cities are amongst the world's most polluted cities. The TERI study on nationwide urban air quality points at several factors—rapid urbanization, transportation, industrialization, power generation, and agricultural activities. On studying water availability, TERI observed that India had very rapidly gone from water abundant to water stressed, and is heading towards being water scarce considering the rate at which per capita water availability is declining. The catalysts of this issue are pointed towards inefficient water use and supply across several sectors, and water pollution.

The synergies under the ambit of air and water are clearer and need immediate action. Appropriate interventions are hence necessary to address these linkages. Further, we observe common sectors between water and air, that is, industry and agriculture. Incorporation of renewables and technological and efficiency improvements in key contributing sectors can significantly improve both air quality and water availability. For example, installing



solar pumps in agriculture can directly bring about the co-benefits of water use efficiency and air quality improvements.

■ CONCLUSION

While these are the broader and more upfront challenges, the buck definitely does not stop here. Even from the human right point of view, in order to have the 'opportunity' to exercise the rights to freedom, against exploitation, to education and foremostly, to equality, citizens should be provided access to electricity, jobs, and mobility. Providing these basic rights at the cost of the environment would be a violation of these very rights. The co-benefits approach presents itself as an exceptionally apt mainstreaming practice for initiating such an approach, where resources can be pooled to streamline multiple goals and ensure we have true accounts of sustainable development. Further, the approach, like and along the lines of the Talanoa Dialogue, inspires problem solving through the outlook of sharing benefits, and hence must also be looked at through the lens of the three Talanoa questions—where are we, where do we want to go, and how do we get there. The key is to move our method of thinking away from *burden sharing*, and towards *opportunity sharing*. ■

Ms Aayushi Awasthy, PhD Scholar, University of East Anglia; Ms Kavya Bajaj, Project Associate, Centre for Global Environment Research, Earth Science and Climate Change Division, TERI, New Delhi.