



# Indian case study on 'Integrating Natural Capital into Government Post-COVID Economic Decision-Making and Economic Recovery'



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Development Alternatives

# Indian case study on 'Integrating Natural Capital into Government Post-COVID Economic Decision-Making and Economic Recovery'

October 2021



**Development Alternatives**

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This publication is part of a global study on nature-based recovery undertaken in partnership with the Green Economy Coalition and the International Institute for Environment and Development, and forms part of the Economics For Nature project.

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Led by four global alliances, the Green Economy Coalition, the Green Growth Knowledge Partnership, WWF France and The Capitals Coalition, we are working together to make the value of natural capital visible in economic and business decisions.

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Thank you all!

# ABBREVIATIONS

<b>PES</b>	<b>Payment for Ecosystem Services</b>
<b>SDG</b>	<b>Sustainable Development Goals</b>
<b>MSME</b>	<b>Micro, Small and Medium Enterprises</b>
<b>FDI</b>	<b>Foreign Direct Investment</b>
<b>DISCOMS</b>	<b>Distribution Companies</b>
<b>NMET</b>	<b>National Mineral Exploration Trust</b>
<b>MGNREGS</b>	<b>Mahatma Gandhi National Rural Employment Guarantee Scheme</b>
<b>PMGKP</b>	<b>Pradhan Mantri Garib Kalyan Package</b>
<b>EPF</b>	<b>Employees' Provident Fund</b>
<b>TDS</b>	<b>Tax Deducted at Source</b>
<b>CLSS</b>	<b>Credit Linked Subsidy Scheme</b>
<b>TCS</b>	<b>Tax Collected at Source</b>
<b>MUDRA</b>	<b>Micro Units Development &amp; Refinance Agency Ltd</b>
<b>VGF</b>	<b>Viability Gap Funding</b>

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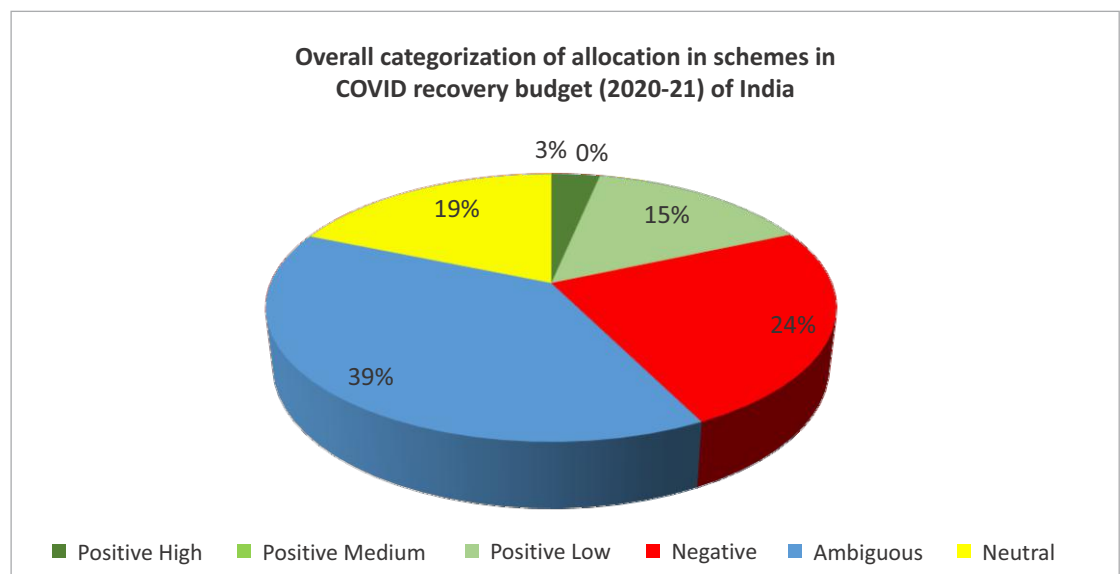
# EXECUTIVE SUMMARY

The COVID-19 pandemic created a wide-scale detrimental impact on the economy and society worldwide. The repercussions made developing nations like India more vulnerable and limited their population’s possibilities for attaining economic growth and development. The impacts on the Indian economy and society have ranged from death and disease, job and livelihood loss, shutdown of businesses, increased poverty and greater increased inequalities in resource access. At the macro level there has been a stagnated economy, falling market demand for certain products and services and declining economic growth rates. Different sectors in the economy have been affected in different ways and have been exposed to multi-faceted challenges.

In response to these setbacks, and with an objective of recovering the economy from this unprecedented shock, the Government of India announced a COVID recovery package or “Atmanirbhar Bharat Package” (i.e., self-reliant India) amounting to INR 20,97,053 Crores (approximately 260 Billion USD) in five phases in 2020. The government focused on certain priority sectors that needed immediate policy intervention to cope with the economic shock and which had the potential to boost the economy and make it self-reliant through generations of employment, income, and market demand.

At the same time, policy experts, researchers, and policy makers across the globe have identified “Green Economic Recovery” as a key to achieving sustainable recovery from the downturn of the world economies as a result of the pandemic. Some have been advocating for an economic recovery that is based on a policy design with the intent to strengthen and sustain the flow of “natural capital.” It has been found that in both wealthy and developing countries, restoring ecosystems and biological species enables the creation of new jobs and livelihoods. In some cases, ecological restoration generates more revenue than traditional businesses like mining and oil & gas. Governments can improve public health by investing in natural capital.

Hence, this study has made an assessment of the post-COVID policies of the Government of India for certain priority sectors to understand the extent of the incorporation of natural capital elements. While doing so, two major announcements of the government were considered, namely the COVID recovery package announced in 2020 and the annual expenditure budget for the financial year 2021-22. The policies and allocations in the priority sectors were assessed for both of these budgets and the direction and intensity of the natural capital impacts were identified. The allocations were categorized under four major natural capital impact types: positive, negative, ambiguous, and neutral. Based on the assessed intensity of impact, policies identified as positive were further categorized into three groups, i.e., high impact, medium impact, and low impact.



**Figure 1: Categorization of schemes based on natural capital impact of the allocations in selected five sectors in the COVID recovery budget of India**



The study assessed the five sectors, namely agricultural and allied, MSME (Micro, Small and Medium Enterprises), power, mining and social sector, in the COVID recovery package of India. The results in figure 1 showed that approximately 18% of the aggregate budgetary allocation has the potential to make positive (including sub-categories positive high and positive low) impact on natural capital. Additionally, the net impact on natural capital were ambiguous i.e. could not be identified for almost 39% of the allocations due to insufficient information, although these allocations have potential to make either positive or negative impact on natural capital depending on the scheme level components. Finally around 24% of the allocations clearly indicated a negative impact on natural capital.

In terms of specific policies, certain high positive practices for natural capital in which allocations were made in the COVID recovery budget are shown in Table 1.

**Table 1: Positive natural capital policies in the COVID recovery budget**

Schemes	Outcome details	Allocation in Billion USD (Approx.)	Type of policy
Efficient promotion of herbal cultivation	Promotion and support for herbal and organic cultivation	0.54	Fiscal
Bee-keeping segment	Interventions for Bee keeping	0.06	Fiscal
Additional allocation under MGNREGS	Providing social protection and empower the most vulnerable communities in rural India by creating employment opportunities, to enhance livelihood security of the rural poor, to rejuvenate natural resources in rural areas, to create productive rural assets and to strengthen decentralized planning	5.41	Fiscal

Table 2 shows policies with negative natural capital policies. These are mainly found in the agricultural and allied sector and mining sector.

**Table 2: Negative natural capital policies in the COVID recovery budget**

Policy/ Scheme	Details	Allocation in Billion USD (Approx.)	Type of policy
Fertilizer subsidy	To ensure adequate availability of fertilizers to farmers to enable timely availability of fertilizers in the upcoming crop season	8.8	Fiscal
Coal Evacuation	<ul style="list-style-type: none"> <li>Infrastructure development for evacuation of coal</li> <li>Mechanised transfer of coal (conveyor belts) from mines to railway sidings</li> </ul>	6.77	Fiscal

Overall most of the allocations were found to be ambiguous with regard to the impact on natural capital. Unless specific policy target outcomes are defined for those schemes to create positive impact on natural capital, these policies might also make detrimental impact on natural capital.

The study also identified certain policy gaps at the sectoral levels and overall . It was found that certain natural capital positive schemes in the COVID recovery package for agricultural and allied sector were discontinued in the annual budget of 2021-22. The COVID recovery package included only monetary policy instruments for MSMEs, without any initiative to incentivize green enterprises. Furthermore, in case of social sector the MGNREGS, which made provisions for rural employment generation, was the only scheme in both the COVID recovery package and the annual budget 2021-22, which has potential to make positive influence on natural capital. This study recommends that financial instruments to incentivize green businesses and practices and disincentivize activities with negative influence on natural capital are required, since majority of the monetary policy interventions in the recovery package does not take natural capital into consideration, and so green businesses or practices are not incentivized through financial instruments. MSMEs need to be supported with subsidies or tax reductions for using green inputs, producing green products and services. Furthermore, stringent environmental regulations and the removal of subsidies for polluters are required to limit pollution. Also, creating an enabling ecosystem for better waste management and adopting sustainable and green practices to limit the detrimental impact on the ecosystem and biodiversity is required.

One of the overall recommendations is to make the adoption of green practices economically viable. The strategy of the government needs to be for a green economic recovery which incorporates interventions for green research and innovation, capacity building for the adoption of green practices along with investment and infrastructural support for greening. This green recovery plan needs to be strengthened further to prioritize policy interventions towards natural capital and making a consistent allocation of the budget in those priority areas over the years.

# Introduction

The outbreak of the COVID-19 pandemic has impacted communities and economies across the globe while bringing economic activity to a halt as countries enforced restrictions to stop the virus' spread. The economic disruption is already visible worldwide, and it constitutes the world's worst economic shock in decades (Ghosh, A., Nundy, S., & Mallick, T. K, 2020). Deep recessions produced by the epidemic are projected to leave long-term damages due to lower investment, human capital depletion due to delayed jobs and schooling, and fragmentation of global trade and supply chains (Chakraborty, I.; Maity, P., 2020). The COVID-19 pandemic has posed severe challenges to the economy and society at micro and macro levels. Across the country, a substantial breakdown was seen in food security and livelihood. Hence, a comprehensive recovery strategy comprising the necessary fiscal, monetary, and trade policies across the vital sectors of the economy needs to be in place. For better resilience, it is essential to enhance public health services, address the issues posed by the informality of labour and employment, and adopt reforms that will support strong and sustained growth. Future decisions should prioritize inclusive, holistic, and comprehensive systemic improvements that will make us more robust and responsive to future environmental, economic, and health crises. In this regard, a green stimulus plan is vital to address short-term economic recovery and the economy's and planet's long-term recovery potential (Datta, 2020).

## 1.1 Context and Background

As a part of a global study<sup>1</sup> on nature-based recovery that includes Brazil, France, India and Uganda, this study has been contextualized on the post-COVID economic recovery strategy in India. While the government has come up with multiple measures for economic recovery after the outbreak of COVID-19 and the resultant economic downturn, it is vital to assess the potential of the recovery strategy to induce green and sustainable holistic economic recovery. India's post-COVID economic stimulus package (amounting to Rs. 20,97,053 to date, including packages announced by the central bank and Govt. of India) (Ministry of Finance, 2020) focuses on incentivizing new employment through measures aimed at various formal and informal sectors. It gives infrastructure and housing incentives, subsidy to the agricultural industry, liquidity support to stressed sectors, steps for demand recovery, promotes the use of the oil, coal, steel, and cement industries, promotes exports, etc.

This study analyses this national recovery package in India through the lenses of budgetary, fiscal, monetary, and trade policies to identify the direction of potential natural capital impact and the gaps in achieving a green recovery. At the same time, this study also proposes possible options for policymakers to bring in additional measures to make the post-COVID economic recovery follow a greener path. Hence, it is an attempt to enable the recovery strategy of India to meet its short-term goals, e.g., an immediate economic boost through the creation of employment opportunities, the revival of businesses, the uninterrupted operation of supply chains in the domestic and international economic space, etc., while also fulfilling long-term objectives. It is of utmost importance to carefully deal with vital resources, including natural capital. To limit the degradation of natural capital through policy implementation, understanding the role of natural capital is required to ensure sustainability of economic processes and maintaining other vital means like human and social capital, which are also an integrated part of holistic development (Thorpe, D, 2020, August).

<sup>1</sup> Undertaken in partnership with the Green Economy Coalition (GEC) and the International Institute for Environment and Development (IIED), and forms part of the Economics For Nature project.

## 1.2 Conceptualization of natural capital and policies impacting natural capital

First and foremost, it is vital to understand the conceptualization of natural capital by different global forums and the research community. Natural capital, in general, refers to the living and non-living components of ecosystems—apart from people and the products and services they produce—that contribute to building commodities and services of value to humans. Manufactured capital (buildings and machines), human capital (knowledge, skills, experience, and health), social capital (relationships and institutions), and financial capital (monetary wealth) are all examples of capital assets along with natural capital. The interactions between these various forms of capitals are also another vital aspect of having a holistic perspective.

The definitions of natural capital in the existing literature are shown in the following table.

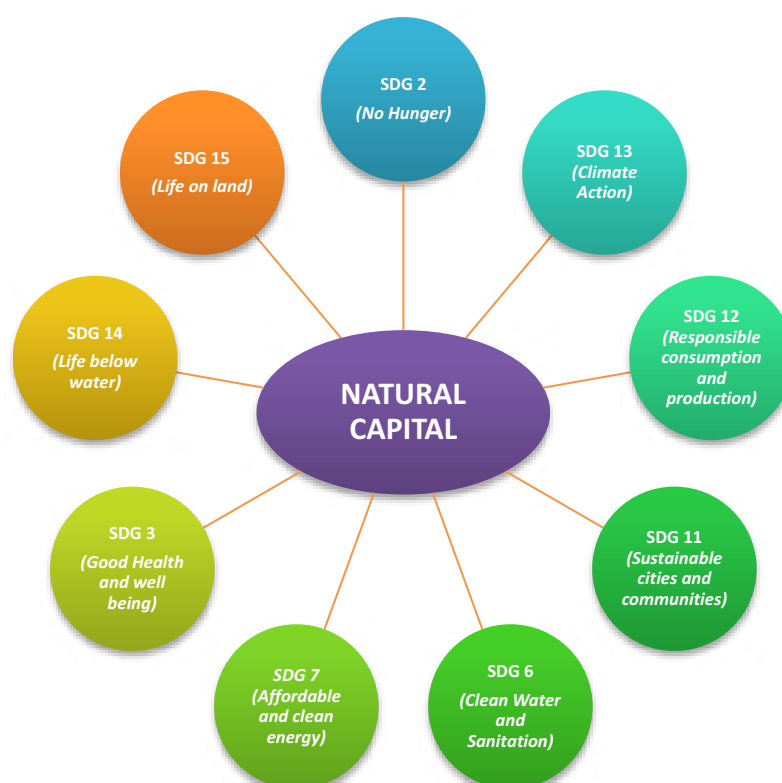
**Table 3: Definitions of Natural Capital**

Sl. No.	Definition	Source
1	Natural capital is described as 'the world's stocks of natural assets, which include geology, soil, air, water, and all living things'.	(World Forum on Natural Capital, 2020)
2	A stock that produces a continuous flow of natural services and tangible natural resources	(Daly, H. E., & Griesinger, P. R, 1994)
3	Natural capital refers to the pool of renewable and non-renewable resources (for example, plants, animals, air, water, soils, and minerals) that provide a flow of benefits to humanity. Natural capital offers a wide range of services, including food, water, electricity, shelter, medicine, and the raw materials we use to make products. Clean air, flood defence, climate regulation, pollination, and recreation are some of the less visible functions it supplies.	(Natural capital, 2021) (UNEP, 2020)
4	Natural capital is defined as 'the elements of nature that directly or indirectly produce value or benefits to people, including ecosystems, species, freshwater, land, minerals, the air and oceans, as well as natural processes and functions,' according to a working paper by the UK Natural Capital Committee. Species, biological communities, soils, freshwaters, land, coasts, seas, atmosphere, minerals, and sub-soil assets are among the ten kinds of natural assets listed in the study.	(OECD, 1997)
5	Natural capital refers to parts of the natural environment that provide socio-economic value through ecosystem services.	(Natural Capital Coalition, 2012)
6	Natural assets play an important role in economic production by supplying natural resource inputs and environmental services. Land, minerals and fossil fuels, solar energy, water, living species, and the services provided by the interactions of all of these elements in ecological systems are all examples of natural capital.	(UNEP, 2016) (OECD, May 21, 2021)

Hence, it comes out that there are essentially two distinct schools of thought related to conceptualization of natural capital. One focuses on the environmental goods and services that add productive value to the human world. The other one has a broader perspective that perceives the natural capital beyond solely its economic and social value to the human world.

Irrespective of the way natural capital is perceived, preservation of it is critical for sustained ecosystem service flows. However, it is insufficient to concentrate solely on trends in service delivery. By temporarily lowering natural means, the current provision of ecosystem services can be increased. Natural capital is being destroyed, and ecosystem services are being underserved, in part due to the failure of markets and other institutions to provide adequate incentives to maintain and value them (Kinzig, A. P., Perrings, C., Chapin, F. S., Polasky, S., Smith, V. K., Tilman, D., & Turner, B. L, 2011). Hence, natural capital accounts are a valuable addition to the toolkit for planning long-term growth. The growing "natural capital deficit" across the globe calls for structured state intervention (Natural Capital Committee, 2015). Because of that, global sustainability forums, international organizations, national governments, businesses, and non-governmental organizations/civil societies have begun to incorporate natural capital and ecosystem service information into policy and management in the form of Payment for Ecosystem Services (PES), environmental taxes, cap-and-trade programs, environmental laws and regulations, product certification, natural resource management practices, etc.

Natural capital theories place the worth of nature in the context of economic growth and human well-being. By fostering a better understanding of human impacts and dependencies on nature and highlighting the potential for investments in nature to help achieve the Sustainable Development Goals (SDGs), organizations and nations are empowered to integrate the value of nature into their decision-making (Falco Richardson, 2016). The diagram below highlights the 9 SDGs of 17 defined by the United Nations (UNDP, 2015) that are directly associated with strengthening of natural capital. In Indian economy natural capital has a major contribution in GDP and rural livelihood and income generation. Approximately one third of the GDP of the country is generated by sectors that have high dependence on natural capital. Those include agricultural and allied sectors, food processing industries, service industries like tourism and hospitality, construction, energy, water supply and so on. Certain ecosystems like forests also have significant contribution in rural livelihood generation. Almost 57% of the rural livelihood generation is done by the ecosystem services of forests. Also, India being a biodiversity rich country and having a wide variety of ecosystems, there is a strong association of natural capital with socio-cultural practices and community well being.



**Figure 2: Reference of Natural Capital in Sustainable Development Goals (SDG)**  
 Note: Diagram designed by authors based on (Platform, Green Policy, June 2020)

### 1.3 Impact of COVID-19 pandemic on Indian economy

The COVID-19 pandemic has exposed the human world to complex challenges. The United Nations Conference on Trade and Development (UNCTAD) (UNCTAD, 2021) estimates that the COVID-19 epidemic will cost India roughly USD 348 million in trade. The overall trade impact for India is estimated to be 129 million dollars for chemicals, 64 million dollars for textiles and apparel, 34 million dollars for automotive, 12 million dollars for electrical machinery, 13 million dollars for leather products, 27 million dollars for metals and metal products, and 15 million dollars for wood products and furniture. The impact of external factors on the Indian currency value, adding to its weight on the cost of goods and services imported into India, is very concerning from the point view of trade.

The Indian economy had already been suffering from a demand slowdown, but after the COVID-19 pandemic, both demand and supply have been impacted, resulting in multiple implications on the economy, including a decline in GDP growth rate, external supply and demand restrictions as a result of the global recession and disruption of global supply chains, domestic supply interruptions, and a drop in domestic demand. The economic downturn impacted both the formal and informal sectors. Table 4 highlights the sectoral impacts of COVID-19 in India for selected sectors. The recovery from this will be primarily determined by the Government and the Reserve Bank of India's (RBI) policy reactions during the crisis. Policymakers have already announced several planned actions, but several others are also needed (Dev, S. M., & Sengupta, R, 2020).

**Table 4: Selected sectoral impact of COVID 19 in India**

Sectors	Impact
MSME	MSME is a significant generator of employment, both formal and informal. The pandemic has critically impacted both the entrepreneurial activities and employment generation opportunities in the sector. Growth in the sector has stagnated due to lack of investment, market demand, access to basic facilities, etc.
Agriculture	Agriculture is a significant contributor to the GDP (16.38% in 2020-21) <sup>2</sup> of the country and employment. Farmers were unable to sell their crops to the market due to the shutdown of interstate transportation services and other basic facilities. Access to alternatives are limited. The poultry sector, which is the fastest-growing sector of the Indian economy, has also suffered significant losses due to misinformation circulated on social media, which linked the COVID-19 illness to the intake of meat and poultry products.
E-Commerce	The government has issued a specific advisory to preserve social distance to prevent COVID-19 from spreading throughout the community and has requested businesses to allow their staff to work from home. The statewide lockdown will significantly impact the E-commerce industry's operations, mainly when there is a high demand for goods to be delivered to people's homes. Their losses can be recouped if the government implements regulations such as allowing loss-making E-commerce enterprises to receive a GST refund and allowing certain operations with restrictions.
Healthcare Industry	COVID-19 has revealed the flaws in healthcare systems. Access to healthcare is a fundamental right, yet the widespread dread of COVID-19 has had a negative impact on many people's primary healthcare needs. Due to the epidemic, pregnant women cannot contact an obstetrician for prenatal visits and must instead rely on telemedicine. Many hospitals are primarily focused on COVID-19 patients. As a result, they overlook other people suffering from serious illnesses such as cancer and these patients are finding it challenging to receive adequate care. If current trends continue, the death rate from COVID-19 will be lower than from other diseases.
Tourism and hospitality	This sector is highly diversified in terms of spread across the country, size of businesses, value chain, generation of employment, and so on. It generates revenue from both domestic and international consumers. Being highly dependent on mobility, this sector is one of the worst hit due to the pandemic. As a result, the overall growth of the sector, profitability of small and large business, contribution to foreign exchange earnings, and employment have been considerably affected in the country.

Source: (Das, K. K., & Patnaik, S, 2020); (Chaudhary, Sodani, & Das, 2020)

<sup>2</sup> Source: <https://statisticstimes.com/economy/country/india-gdp-sectorwise.php>; Date of access: 13.08.21

## 1.4 Significance of green economic recovery and natural capital in the post-COVID scenario in India

Multiple challenges have been posed to the Indian economy as a result of the COVID scenario. Aside from the direct hazard to one's health, there is a slew of other issues to contend with, ranging from macroeconomic crisis to environmental hazards (Datta, 2020). COVID-19 has also stifled social and human development, which is inextricably linked to economic and ecological outcomes. The two main concerns in this context are to prepare immediate (short-term) coping strategies against external shocks and to build adaptive capability (i.e., long term) (Datta, 2020). This is critical to improving the human-environmental system's adaptive capacity to achieve sustainable development (Natural Capital Coalition, 2012).

Short-term measures to deal with the pandemic's immediate effects and efforts to reduce the pandemic's health risks are already in place in several countries. However, the long-term development of adaptive capability is essential for a post-COVID recovery. One of the most critical aspects in this context is environmental resource management. This entails recognizing the vital services that our different ecosystems across geographical areas provide and outlining policies and activities to ensure that ecosystem services are provided in the future. The COVID-19 problem has served as an eye-opener for India to review and reform its national policy priorities. While dealing with the pandemic's massive impact on community health, livelihoods, and total economic impact, the government should make the necessary efforts and develop regulations to increase readiness for future crises (Datta, 2020); (Nicolas Mansuy, 9th October, 2020); (Rachel Golden Kroner et al., 2021); (Ian Mell, Meredith Whitten, 2021).



# Objectives and Methodology

Based on the global and national context of green economic recovery against the outbreak of the COVID-19 pandemic and the role of natural capital, as laid out in the previous chapter, the objectives of this study are the following:

- Map the post-COVID recovery policy scenario in India and analyse the extent of green economic recovery
- Identify the gaps in the recovery package at the national level and provide a road map for strengthening natural capital leading to a green economic recovery

The methodology of this study is based on extensive analysis of the provisions made in the COVID recovery package announced by the central government of India and the central government annual budget announcement (for 2021-22) following the announcement of the COVID recovery package in 2020-21. For analysis of the budgetary allocations, the key focus is on the priority sectors chosen by the government in the COVID recovery package. The purpose is to understand the intent of the government in driving a “green” or “natural capital positive” recovery through allocations made in the priority sectors identified by the government for post-COVID economic recovery.

## 2.1 Analytical Framework

The analytical framework of this study is shown in Figure 3. This study primarily focuses on the mapping of the post-COVID recovery package, i.e., the Atmanirbhar Bharat Package announced by the Government of India (GOI, 2020) and analysis of the provisions made for fiscal, monetary, and trade policies under various priority sectors of the economy to enable a green economic recovery. In doing that, apart from carrying out analysis of the necessary components of the COVID recovery package to identify the potential “natural capital” impacts, focus has also been placed on the annual budget announced by the government immediately after the announcement of the COVID recovery package, i.e., the Union Budget 2021-22. The intent is to understand the provisions made by the government to continue with the interventions made through the COVID recovery package for a green economic recovery and also to identify the overall greening potential created by the government by making allocations to schemes with a positive impact on “natural capital.” Along with that, it is also necessary to look into schemes and policies that have potential detrimental impacts on “natural capital.” Hence, in this study, both the COVID recovery package and selected sectoral schemes of the Union Budget 2021-22 have been analysed to identify the schemes with both “positive” and “negative” impacts on “natural capital.” The schemes with no apparent positive or negative impact on natural capital have been marked as “neutral.” There are also certain schemes which do not give a clear indication of the direction of their net impact on “natural capital.” Those schemes are marked as having “ambiguous” impact on “natural capital.” Further, the schemes with positive impact on “natural capital” are categorized into “high,” “medium,” and “low” impact based on the intensity of their positive impact on natural capital. The methodology for this categorization of the schemes is discussed later in this chapter.

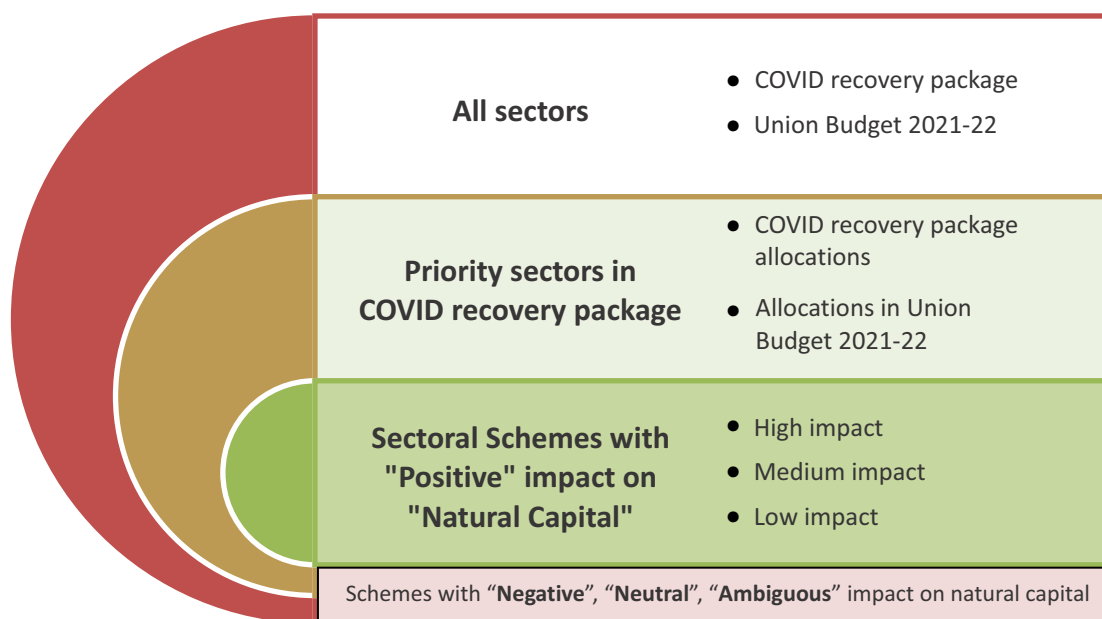


Figure 3: The Analytical Framework

## 2.2 Key Steps and Methodology

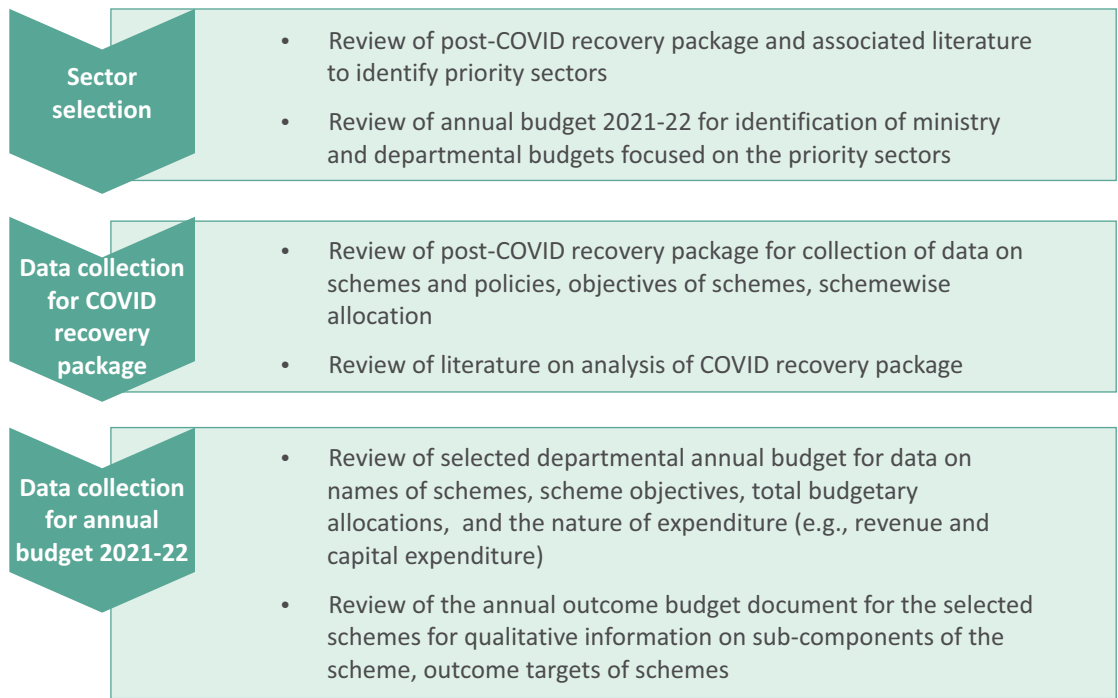
In this process, the first step is the selection of sectors for this study. That is done based on the key sectors incorporated in the post-COVID recovery package of the Government of India having potential impact on natural capital. Those included agricultural and allied sectors (e.g. agriculture, fisheries, animal husbandry, dairy and food processing), MSME, mines and minerals, the power sector, and the social sector, including rural development (Figure 4)

Key sectoral focus in the post-COVID recovery package of India
<ul style="list-style-type: none"> <li>• <b>Small businesses:</b> Collateral-free loan, revision of MSME definition, etc.</li> <li>• <b>Power distribution companies:</b> Financial provisions for enabling power distribution companies to pay dues to power producers</li> <li>• <b>Social security:</b> Food, housing, cash transfers, etc.</li> <li>• <b>Infrastructure upgradation of agriculture and allied:</b> Strengthening the farm gate infrastructure like cold chains, post harvest storage infrastructure, strengthening of fisheries value chain, marketing reforms, etc.</li> <li>• <b>Power, coal, minerals, civil aviation, defense sector</b> Increase in FDI, public investment, corporatization, etc.</li> <li>• <b>Social sector</b> (Health, education)</li> </ul>

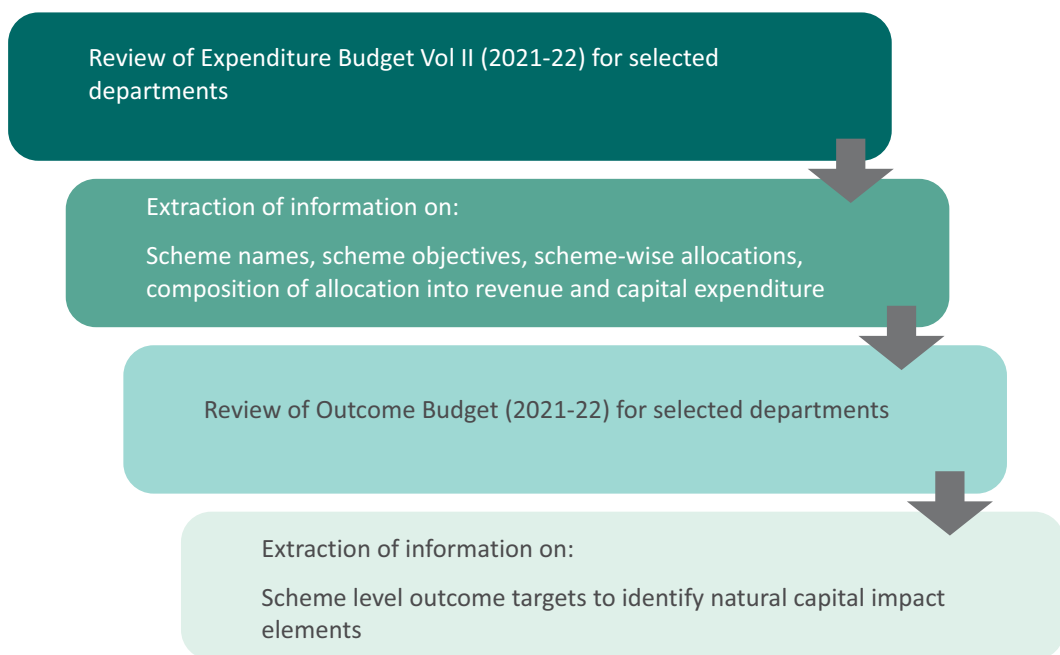
Figure 4: Key sectoral focus in the post-COVID recovery package of India

Data Source: (PIB Delhi, 2020); (GOI, 2020); (KPMG, 2020)

In the second step, detailed secondary data collection, both quantitative and qualitative, has been carried out by reviewing the allocations made for the selected sectors in the post-COVID recovery package (GOI, 2020) of the government and the Union Budget 2021-22. In doing that, the following methodology was applied.



**Figure 5: Data collection methodology**

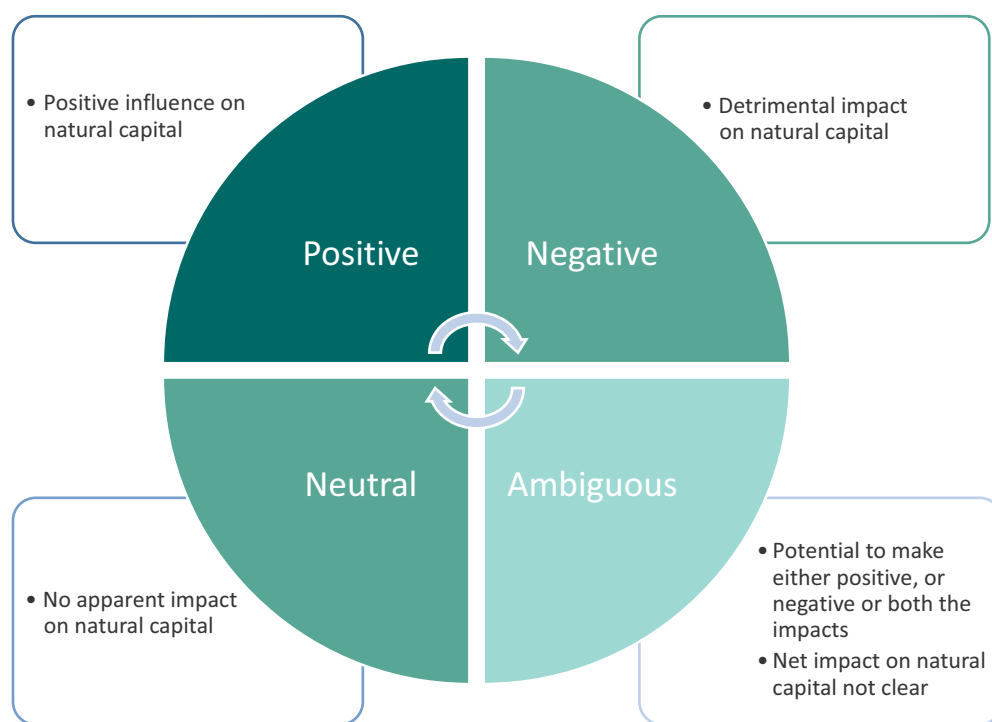


**Figure 6: Data collection methodology for Annual Budget analysis**

As seen in Figure 5, the collected data includes information on names of schemes/programmes, scheme level information on objectives or sub-components of the scheme, outcome targets of schemes, total allocation, and the nature of expenditures (e.g., revenue and capital expenditure) in the scheme-level budget. Secondary data from ten selected departmental<sup>3</sup> expenditure budgets (Vol II) (Ministry of Finance, Govt. of India, 2021) of the Central government of India were collected for this purpose. Along with that, the detailed scheme level information on the outcome targets of some of the selected schemes were obtained by reviewing the Outcome Budget (Ministry of Finance, Govt. of India, 2021) for the same year.

<sup>3</sup> Department of Agriculture, Cooperation and Farmers' Welfare, Department of Agricultural Research and Education, Department of Fisheries, Department of Animal Husbandry and Dairying, Ministry of Food Processing Industries, Ministry of Micro, Small and Medium Enterprises, Ministry of Mines, Ministry of Power, Ministry of New and Renewable Energy, Department of Rural Development

The third step was comprised of the categorization of schemes. Two types of categorizations were performed in this study. First, the schemes were marked as fiscal, monetary, or trade interventions. In the second type of categorization, based on objectives and target outcomes of the schemes, other scheme-level secondary information was collected and expert consultation was undertaken for vetting of the methodology. The analysis was performed based on the direction and intensity of the potential “natural capital” impact of each scheme. The schemes were broadly categorized as having “Positive,” “Negative,” “Neutral,” and “Ambiguous” natural capital impact depending on the direction of potential impact on “natural capital.” Further, the schemes marked to have “Positive” impact on “natural capital” were re-categorized into “High,” “Medium,” and “Low” based on the assessment of intensity of impact. For the selected sectors, this categorization is applied using the methodology laid out in Table 5. Schemes without any immediate “natural capital” component mentioned in the scheme-level details or without any indication of impact on “natural capital” were marked as natural capital “neutral.” Finally, schemes which have a “natural capital” component but for which the net impact could not be assessed based on the accessible information were all marked to have “ambiguous” impact on “natural capital.”



**Figure 7: Categories of direction of natural capital impact**

**Table 5: Methodology for categorization of schemes based on direction and intensity of impact on natural capital**

Sector	Positive			Negative
	Positive High	Positive Medium	Positive Low	
Agricultural and Allied sector	Protection and conservation of ecosystem services (e.g. land, soil, water, biodiversity etc.) through hard infrastructure, adoption of green practices (including nature based solutions) of resource management	Research, training and capacity building activities for adoption of "green", nature based solutions, sustainable practices, waste management	Strengthening of financial and community resilience of farmers through crop insurance, credit availability, price and market support, strengthening community based farming institutions	Negative incentives to cause depletion of natural capital
Micro, Small and Medium Enterprises (MSME) Sector	Protection and restoration of ecosystem services through land and water management, adoption of nature based solutions, resource efficiency	Waste (e.g. solid, liquid and electronic) management practices, training and capacity building for greening	Promotion and support for green products and enterprises (overall and marginalized social group specific), Local production and utilization for avoiding burden on natural capital during transportation and communication	Unregulated monetary injection
Mines and Minerals Sector	N.A.	N.A.	N.A.	Exploration activities causing detrimental health impact to people with high exposure
Power Sector (renewable and non-renewables)	Investment and incentives for renewable energy (except Hydro-electricity)	Information, Education and Communication, Training support, Conservation and energy efficiency of non-renewable energy sources	Access to affordable energy	Investments in thermal and hydro power projects
Social Sector	Land and water resource development, social forestry, Environmental protection, management, sustainable development	Waste management, development of social capital through promotion of learning, boosting empowerment, networking, communication and information exchange, planning and evaluation	NA	NA

As seen in Table 5, across all the selected sectors, schemes with the potential to make direct positive impact on natural capital through interventions in preservation, conservation and restoration of natural resources and biodiversity, enabling resource efficiency, incentivizing and investing in green and nature-based solutions/technologies are put under “Positive High” category of natural capital impact. Schemes making interventions for research, education/awareness building, training to build capacity for adopting nature-based solution, green and sustainability practices and schemes related with waste management are marked as “Positive medium,” since these kinds of interventions create future potential to positively influence natural capital and to limit natural capital depletion. In addition to that, the skilled and aware human beings with capacity are an asset to conserve and protect natural capital presently and also in future, and therefore, the training and capacity building components are marked as medium positive across all schemes. Finally, there is a third kind of intervention which does not act toward enhancing a positive influence on natural capital but limits the potential negative influence on natural capital (e.g., strengthening resilience of farmers against external shocks, promotion of local produce to avoid resource consumption, transportation loss, rural electrification/ non-renewable energy efficiency limiting air quality loss, use of fossil fuels, etc.). This third category of schemes does not have any intended (as per target outcome) natural capital impact but has indirect potential to limit loss of natural capital. These schemes are marked as “Positive low.” The schemes with “negative” and “ambiguous” impact on natural capital are not categorized further based on the intensity of impact.

Finally, based on the assessment of the selected sectoral schemes, the overall post-COVID policy direction of the country is analysed using the lens of “natural capital” or “greenness.” This also aids in identifying the policy gaps that must be filled to lead the economy toward a greener recovery.

# Findings and Analysis

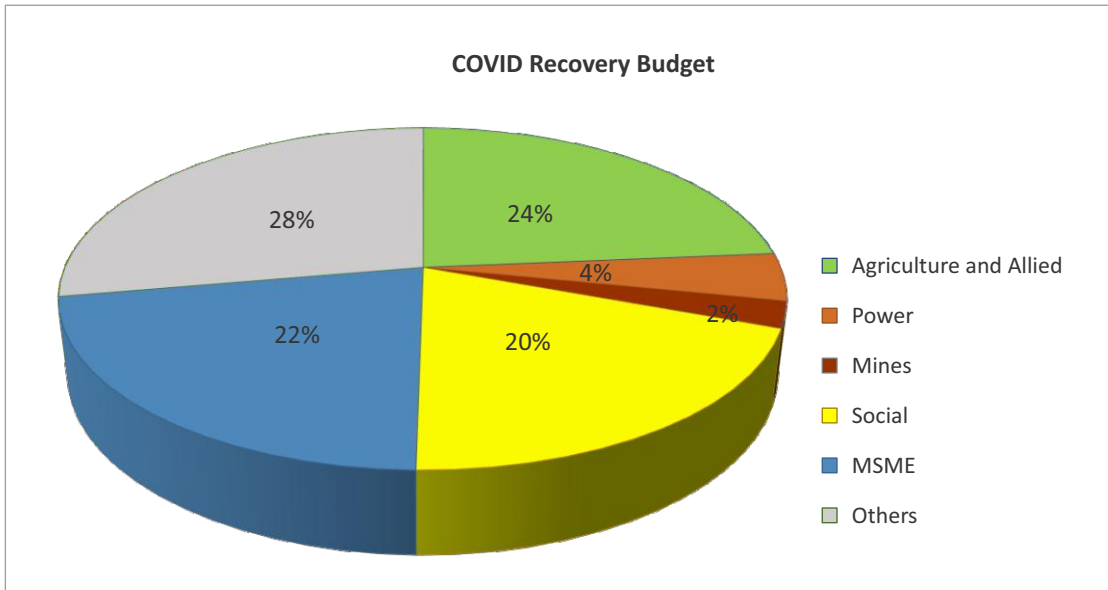
## 3.1 Overview of the post-COVID recovery package of the Govt. of India

The Government of India announced an economic recovery package (GOI, 2020) in response to the COVID-19 Pandemic in multiple phases. It included measures for food systems (e.g., public distribution system-related measures), income support through direct benefit transfers, healthcare, social security, tax relief, economic stimulus for key sectors (e.g., MSME, real estate, transport, power sector, banking and finance, corporate-related, etc.), urbanisation, and so on. This special economic and comprehensive package of Rs. 20,97,053 crores<sup>4</sup> (approximately 260 Billion USD) was equivalent to 10% of India's GDP (Aatma Nirbhar Bharat, PRS, 2020). This recovery package was called 'Aatma Nirbhar Bharat' or the Self-Reliant India Movement. This package was introduced in five phases. Phase-I (announced on 13th May, 2020) focused on businesses including MSMEs; Phase-II (announced on 14th May, 2020) focused on the poor, including migrants and farmers; Phase-III (announced on 15th May, 2020) focused on agriculture; Phase-IV (announced on 16th May, 2020) focused on new horizons of growth; and Phase-V (announced on 17th May, 2020) focused on government reforms and enablers. The five pillars of the 'Aatma Nirbhar Bharat Abhiyaan,' as highlighted by the Government, were economy, infrastructure, system, vibrant demography, and demand (Ministry of Finance, 2020). This budget focused on reviving and re-building the country post-COVID. In addition, several economic provisions, critical reforms, and regulatory policies were put forward in this budget. In this economic recovery package, priority was given to health and well-being, capital, and infrastructure, as these have the potential to revive and grow the economy. The importance of agriculture, fishing, and migratory workers reflected inclusive development. Revival of human capital and manufacturing were identified as the key to growth. Innovation and R&D were intended to encourage talent and create value (Jaishankar, S, 2021).

The Figure below shows the allocations in the COVID Recovery Budget.

<sup>4</sup> See Table 14 in Appendix



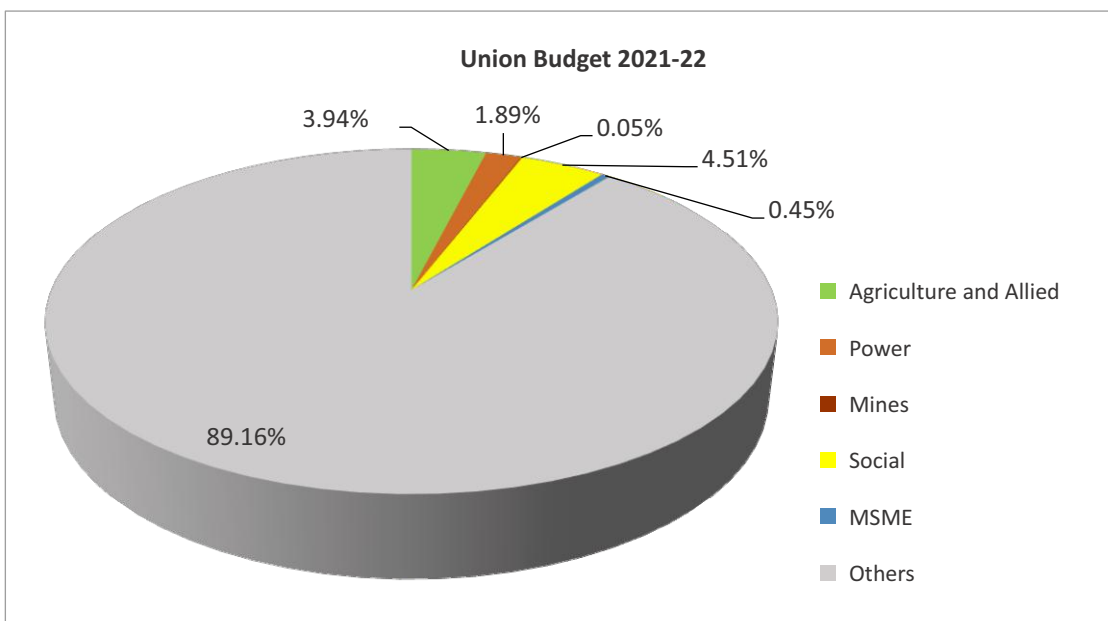


**Figure 8: Share of allocation of COVID recovery budget in selected sectors<sup>5</sup>**

*Data source: (Ministry of Finance, 2020)*

The above figure illustrates that approximately 24% of the COVID recovery budget is dedicated to the agriculture and allied sectors, 4% to the power sector, 2% to the mining sector, 20% to the social sector, 2% to the MSMEs, and 28% to all other sectors. (KPMG, 2020).

The Government proposed spending Rs 34,83,236 in 2021-22 in the Union Budget 2021-22. The six pillars of policy focus in the Union Budget were: Health and Wellbeing, Physical & Financial Capital and Infrastructure, Inclusive Development for Aspirational India, Reinvigorating Human Capital, Innovation and R&D, and Minimum Government and Maximum Governance (Ministry of Finance, 2021).



**Figure 9: Share of allocation of Union Budget 2021-22 in selected sectors**

*Data source: (GOI, 2021)*

<sup>5</sup> 'Others' includes several other sectors including banking, civil aviation, defence, etc.

The figure above shows that approximately 4% of the Union Budget 2021-22 is dedicated to the agriculture and allied sectors, 2% is dedicated to the power sector, a negligible percentage is dedicated to the mining sector, and 5% is dedicated to the social sector. 89% of the total allocation is dedicated to other sectors. Some of the other sectors in the Union Budget 2021-22, which were not considered in this study, included atomic energy, petroleum, natural gas, civil aviation, defence, large and heavy industries, communications, electronics, information technology, housing, etc. As already mentioned, this study only focused on the sectors prioritised in the COVID recovery budget of the country. However, it has been found that (Figure 8 and Figure 9) although in the COVID recovery budget (2020-21) more than 70% of the allocations were made among these priority sectors, the aggregate share of these sectors in the annual budget (i.e., Union Budget 2021-22) of the next financial year was only around 10% of the total.

## 3.2 Mapping and categorisation of the sectoral policies in India in the post-COVID scenario

In this section, the policies of the chosen sectors are mapped based on the budgetary allocation in different schemes in the post-COVID recovery package or the Aatma Nirbhar Bharat budget (GOI, 2020). Along with that, the allocations in the consecutive annual Budget or the Union Budget 2021-22 (Ministry of Finance, Govt. of India, 2021) for the selected sectors are also analysed. A comparative analysis of both the budgets with respect to the selected sectors is carried out to understand the Natural Capital intensity of the post-COVID recovery policy of the country's national Government.

### 3.2.1 Agricultural and Allied sector

The agricultural and allied sector is one of the major sectors prioritized by the Government of India in the post-COVID recovery package. This sector is comprised of activities related to agriculture, fisheries, animal husbandry, dairy, and the food processing industry.

In the Atmanirbhar Bharat budget, an allocation of Rs. 4,72,762 has been made in different phases. The policy focus for this sector was on strengthening the farm gate infrastructure like cold chains, other post-harvest storage infrastructure, strengthening of the fisheries value chain, etc., comprising both fiscal and monetary interventions. Along with that, certain marketing reforms were also incorporated as a part of the recovery policy. The following Table 6 shows the policy interventions, provisions, and allocations made under the post-COVID recovery package announced by the Government of India. Along with that, certain regulatory changes have also been proposed by the government for this sector. Those included amendment of the Essential Commodities Act of 1955 to de-regulate cereals, edible oils, oilseeds, pulses, onion, and potato. The objective was to liberalize the regulatory system related to the production, supply, distribution, trade, and commerce of these commodities (PRS, 2020). Also, the government proposed certain reforms in agricultural marketing to encourage farmers to sell their products to the open market instead of relying on government procurements at minimum support prices.

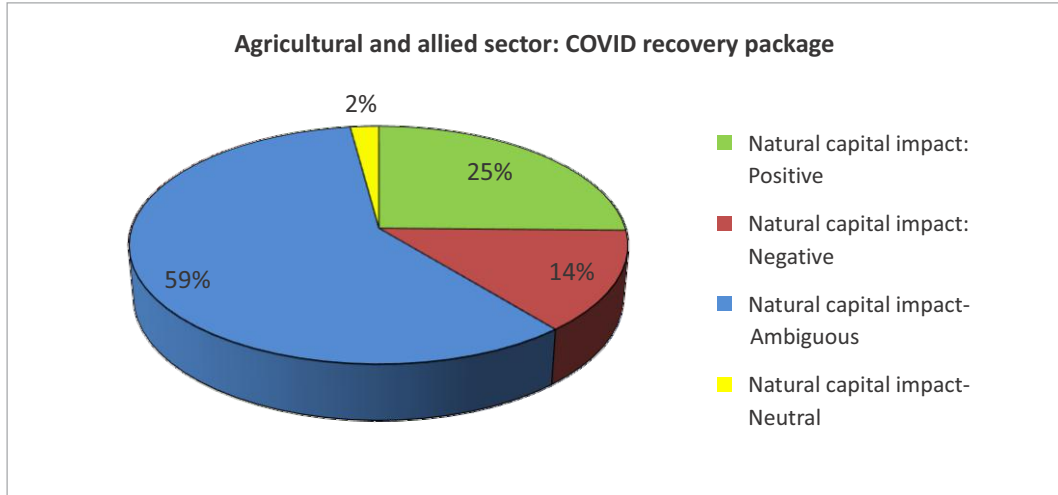
**Table 6: Interventions and allocations made for the Agricultural and Allied Sector in India's Atmanirbhar Bharat Package**

Policy/ Scheme	Details	Potential impact on natural capital	Type of policy	Allocation (INR in Crores)
Agriculture Infrastructure Fund - The agricultural cooperative societies, farmer producer organizations (FPOs), and start-ups will be given funds to encourage farm-gate infrastructure	<ul style="list-style-type: none"> <li>To drive investment across the agriculture value chain</li> <li>Improving marketing infrastructure and for building community farming assets</li> </ul> <p>Decentralized governance</p>	Positive	Monetary	100,000
Pradhan Mantri Kisan Samman Nidhi Yojna (PM-KISAN)	<ul style="list-style-type: none"> <li>Interest subsidy and credit guarantee to farmers' collectives and entrepreneurs</li> </ul> <p>Enable them to invest more profitably in assets that enhance the value of their produce</p>	Ambiguous	Fiscal	90,000
Kisan Credit Card	Credit boost through Kisan Credit Cards	Ambiguous	Monetary	143,262
NABARD fund	Additional Emergency Working Capital Funding for farmers through NABARD	Ambiguous	Monetary	25,000
Fertilizer subsidy	To ensure adequate availability of fertilizers to farmers to enable timely availability of fertilizers in the upcoming crop season	Negative	Fiscal	65,000
Formalization of micro-food enterprises	To boost fish production	Neutral	Fiscal	10,000
PM Matsya Sampadana Yojana		Ambiguous	Fiscal	20,000
Vaccination of cattle, buffalos, sheep, goats, and pigs		Positive	Fiscal	13,000
Animal husbandry infrastructure		Positive	Fiscal	15,000
Efficient promotion of herbal cultivation		Positive	Fiscal	4,000
Beekeeping segment		Positive	Fiscal	500

Sources: (PIB Delhi, 2020); (G. & Naik, 2020); (Arya, 2020); (GOI, 2020)

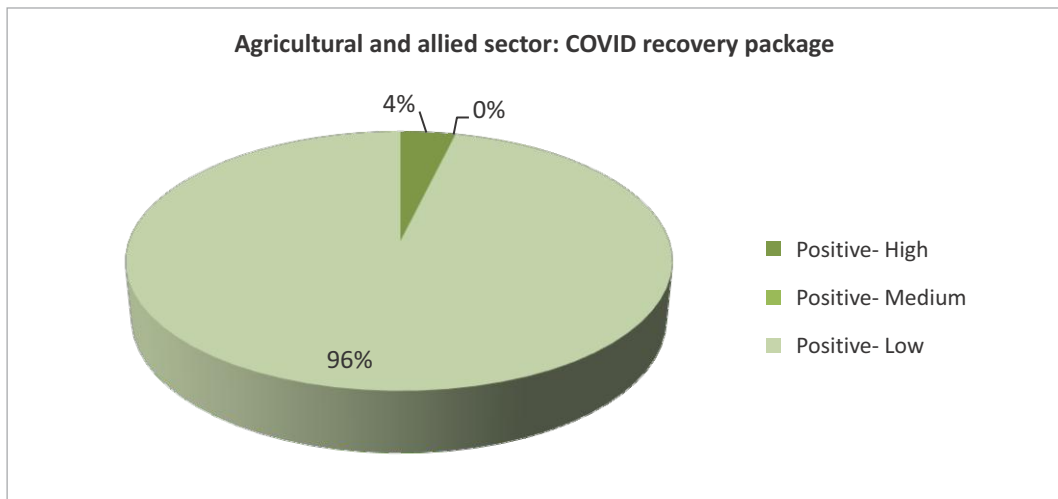
Based on the methodology laid out in Chapter 2, the schemes and respective allocations listed in Table 6 have been categorized based on direction of impact on natural capital. Figure 10 shows that approximately 25% of the allocations had potential positive impact on natural capital. Among them, as per Figure 11, approximately 4% of the allocations had a highly positive impact on natural capital and 96%

had positive but low impact on natural capital. On the other hand, among the overall allocation in the agricultural and allied sector, 14% of the schemes had potential negative impact on natural capital, whereas for the remaining 59% of the allocations made in agricultural and allied sectors in the Atmanirbhar budget, the net impact on natural capital could not be assessed and hence was marked as ambiguous. 2% of the schemes were found to have no apparent impact on natural capital. Hence, those were marked as “Neutral.”



**Figure 10: Share of allocation of Atmanirbhar Bharat Budget in agricultural and allied sector based on direction of natural capital impact**

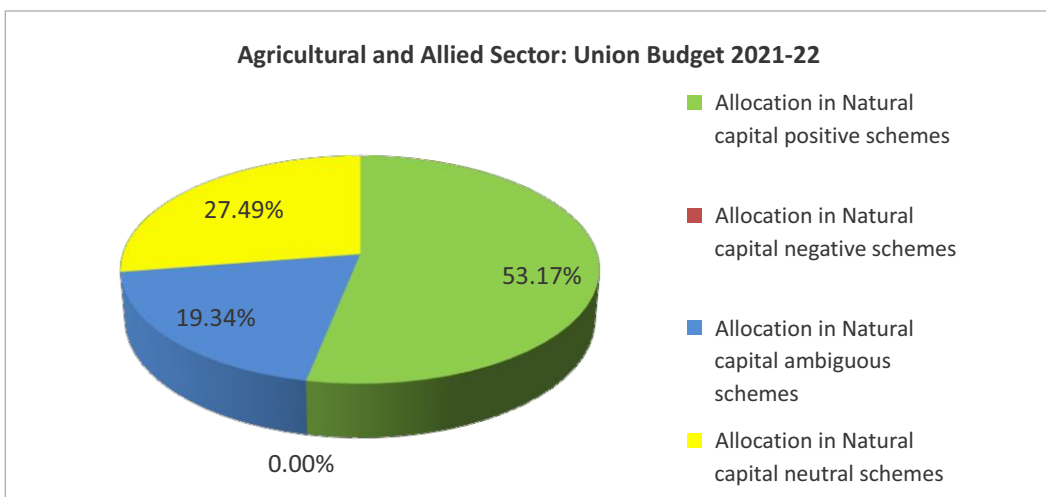
Data source: (PIB Delhi, 2020); (G. & Naik, 2020); (Arya, 2020); (GOI, 2020)



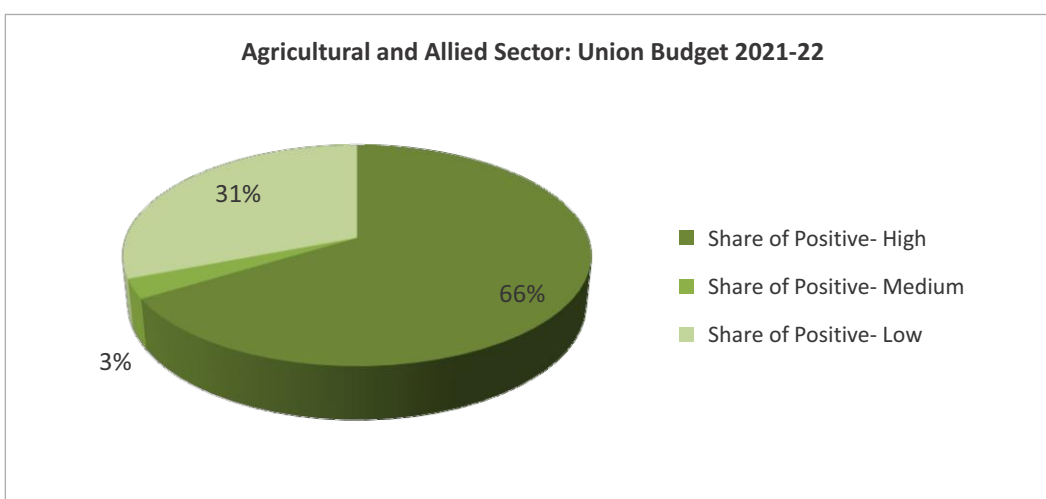
**Figure 11: Share of allocation of AtmaNirbhar Bharat Budget in natural capital positive schemes in the agricultural and allied sector based on intensity of positive impact**

The assessment of allocations made in the successive annual budget for 2021-22 showed a different picture. It was found that (Figure 12) almost 53% of the total allocation made in agricultural and allied sectors had potential positive impact on natural capital. Almost 19% of the allocations under different schemes were found to be ambiguous, since the net impact on natural capital was unclear for those schemes. Around 27% of the allocations were not found to have any impact on natural capital, so those were categorized as natural capital neutral. None of schemes were found to have a negative impact on natural capital based on the available information in the Union Budget 2021-22.

In Figure 13, the results of further categorization of natural capital positive schemes have been developed based on the intensity of impact. It is found that almost 66% of those allocations in natural capital positive scheme had potential high impact, 3% had medium impact, and rest of the 31% had low positive impact on natural capital.



**Figure 12: Share of allocation of Union Budget 2021-22 in agricultural and allied sector based on direction of natural capital impact**



**Figure 13: Share of allocation of Union Budget 2021-22 in natural capital positive schemes in agricultural and allied sector based on intensity of positive impact**

If the COVID recovery package and the annual budget are compared, then it is found that in the annual budget, better allocations toward positive natural capital impact have been made. Also, the annual budget 2021-22 has a higher share of natural capital positive schemes with high impact, which is a good indicator for a greener recovery. The schemes included in the COVID recovery package for this sector were not necessarily new schemes or interventions, but additional allocations were made in some of the existing schemes for the financial year 2020-21. But some of the schemes in the COVID recovery package have not been continued in the annual budget of 2021-22 and less allocation was made in the annual budget 2021-22 for some of the schemes present in the COVID recovery package. For example, interventions related to promotion of herbal cultivation and beekeeping have not been incorporated directly in the annual budget 2021-22. However, given the presence of schemes on promotion and incentivization of organic farming in the annual budget of 2021-22, it could be the case that promotion of herbal cultivation is included in that, although there is no clear evidence of this. Moreover, in case of some of the important pre-existing agricultural sector schemes like the Agriculture Infrastructure Fund, which has the potential to create natural capital impact through strengthening of community-based farming institutions, post-harvest storage to limit crop loss, wastage, and distress selling, the allocation in the annual budget 2021-22 was reduced significantly compared to that of the COVID recovery package. Allocations for the PM-KISAN scheme, which has the potential to strengthen social capital, which is also an essential factor for holistic development, were also reduced considerably in the annual budget following the announcement of the COVID recovery package.

**Table 7: Good policies in agricultural and allied sector in the post-COVID budgets**

Schemes	Outcome details
Promotion of Agricultural Mechanization for in-situ Management of Crop Residue	Greater adoption of in- situ crop residue management among farmers
Pradhan Mantri Krishi Sinchai Yojana (PMKSY)- Per Drop More Crop	Crop diversification under micro-irrigation, Improved water use efficiency, Drought proofing of agriculture
National Food Security Mission	Self-sufficiency in food grains production
Crop science	Expected improvement in potential crop productivity, Enhanced adoption of farming techniques under crop sciences
National Mission on Horticulture	Increased acreage of horticulture crops High production & productivity of horticulture crops
Bee-keeping segment	Interventions for Bee keeping
National Bamboo Mission	Under the Mission, steps have been taken to increase the availability of quality planting material by supporting the setting up of new nurseries and strengthening of existing ones. To address forward integration, the Mission is taking steps to strengthen marketing of bamboo products, especially those of handicraft items.

### 3.2.2 Micro, Small & Medium Enterprises Sector

The Ministry of Micro, Small and Medium Enterprises is the primary executive authority for forming and administering rules, regulations, and legislation about micro, small, and medium enterprises in India. Several interventions were made for this sector in the COVID recovery budget. With effect from July 01, 2020, the Ministry of MSME notified a new definition of MSME. As per the new definition, in micro-enterprises, investment in plant and machinery or equipment should not exceed Rs. 1 crore, and annual turnover should not exceed Rs. 5 crores. In small enterprises, investment in plant and machinery or equipment should not exceed Rs. 10 crore, and Annual turnover should not exceed Rs. 50 crores. In medium enterprises, investment in plant and machinery or equipment should not exceed Rs. 50 crore, and annual turnover should not exceed Rs. 250 crores (Ministry of MSME, 2020). The total allocation for this sector was Rs. 370000 Crore in the COVID recovery package.

**Table 8: Interventions and allocations made for MSME Sector in Aatma Nirbhar Bharat Package of India**

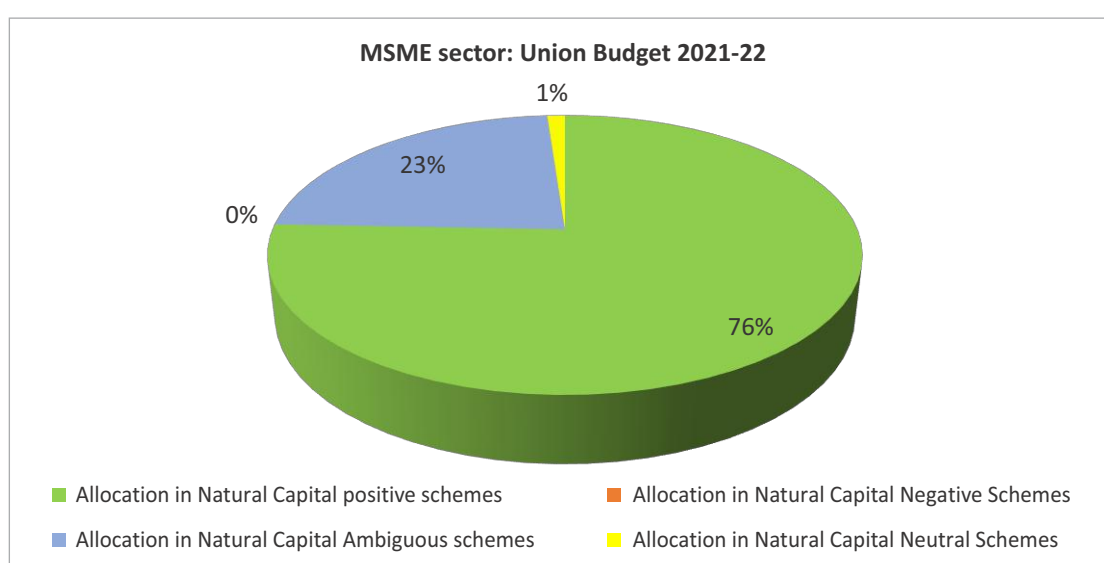
Policy/ Scheme	Details	Potential impact on natural capital	Type of Scheme	Allocation (INR in Crores)
Collateral free automatic loans	All MSMEs were provided with collateral-free automatic loans.	Ambiguous	Monetary	300,000
Subordinate debt for stressed MSME	Under the scheme, promoters of MSMEs were given debt from banks, which were infused into the MSMEs as equity, aimed to support stressed MSMEs.	Ambiguous	Monetary	20,000
Equity infusion through funds of funds	This scheme provided equity funding for MSMEs with growth potential and viability.	Ambiguous	Monetary	50,000

Source: (Aatma Nirbhar Bharat, PRS, 2020)

Based on the methodology, the schemes and respective allocations listed in Table 8 have been categorised based on their impact on Natural Capital. However, it has been observed that all the schemes had an ambiguous impact on Natural Capital. Most of the schemes involved only monetary funds given to the entire MSME sector. The net impact on Natural Capital could not be assessed from these schemes due to the absence of sufficient information on the disbursement of funds intended to make a Natural Capital impact. All the schemes in the COVID recovery budget were assessed to have an ambiguous effect on the Natural Capital.

In the Union Budget, the main policy focus of the Government was to revive the stressed MSME sector by providing them with debt resolution. Furthermore, the Government revised the definition of MSMEs in terms of an increase in investment threshold limits. In addition, a conciliation mechanism was set up for quick resolution of contractual disputes. The total allocation made to this sector was Rs. 15,700 crores (Ministry of Finance, 2021).

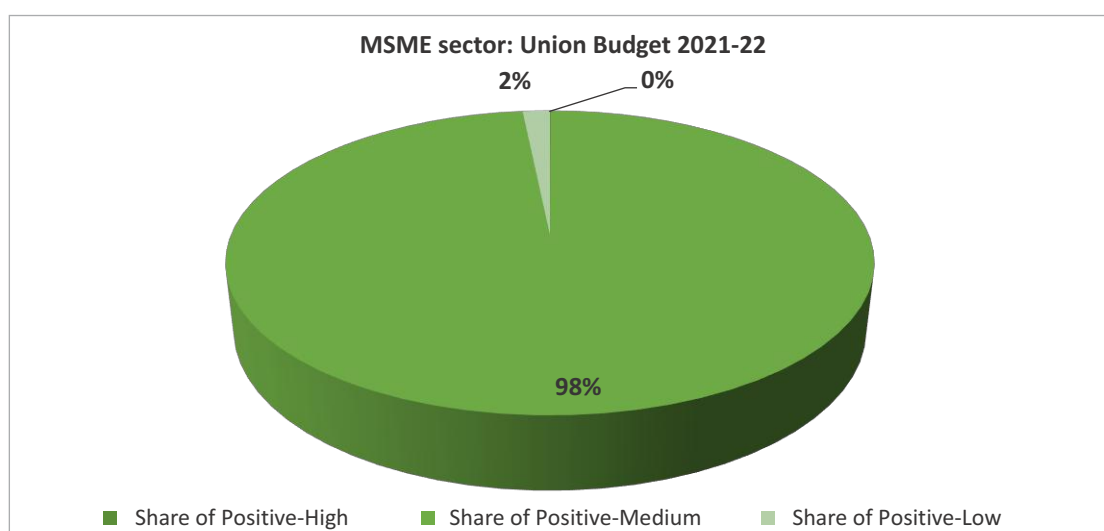
The figure below shows the allocation of the Union Budget in Natural Capital positive schemes in the MSME sector based on the direction of Natural Capital impact.



**Figure 14: Share of allocation of Union Budget 2021-22 in MSME sector based on the direction of Natural Capital impact**

Data Source: (GOI, 2021)

The Figure below shows percentage share allocation of the Union Budget in the MSME sector based on the direction of Natural Capital positive intensity.



**Figure 15: Share of allocation of Union Budget 2021-22 in MSME sector based on intensity of positive impact**

Source: (Union Budget 2021-22 PRS, 2021)



The schemes and respective allocations in the MSME sector listed in Table 5 have been categorised based on the direction of their impact on Natural Capital. It was observed that approximately 76% of the schemes had a positive impact, 23% had an ambiguous impact, and about 1% of the schemes had a neutral impact. There were no schemes identified with a negative Natural Capital impact. All the schemes that had a positive natural capital impact furthermore were analysed to have 98% positive-medium impact, and 2% positive-low impact.

A comparative analysis of both the budgets depicts that the union budget had a more significant effect on the MSME sector. It had a more positive natural capital impact than the COVID recovery budget. The recovery budget mentioned some monetary injections in collateral loans, whose natural capital impact could not be assessed due to insufficient information access. The Union Budget reflected the Solar Charkha mission, which involved employment, especially for women and youth, and sustainable development, helping stop migration from rural to urban areas. Solar charkhas were to be operated using solar power, which was a renewable energy source. This would help in the development of a Green Economy, as it is an environmentally friendly programme. It would also generate sustainable employment for artisans. The Union Budget likewise encouraged organic non-synthetic materials and bio-degradable products, supporting local traditional industries and artisans for their long-term sustainability, supporting upgraded products for the rural industry to gain wide acceptability in local and global markets. It supported village-based enterprises, women-owned enterprise, effluent treatment, infrastructure development, research and evaluation studies, etc. Apart from these, the Union Budget similarly involved Information, Education and Communication, and Assistance to Training Institutions, which was a positive initiative for learning innovation and R&D activities, which may support natural capital in the long term. Hence these policies need to be strengthened further through consistent budgetary allocation and strategic planning for implementation.

**Table 9: Good policies in the MSME sector in the post-COVID budget**

Schemes	Details
Solar Charkha Mission	The scheme envisages setting up of Solar Charkha Clusters, which would mean a focal village and other surrounding villages.
Scheme for Fund for Regeneration of Traditional Industries (SFURTI)	The objectives of the Scheme are as follows: To ensure inclusive growth by generation of employment, especially for women and youth, and sustainable development through solar charkha clusters in rural areas. To boost rural economy and help in arresting migration from rural to urban areas.
Khadi Vikas Yojana	Khadi vikash yojana encourages natural fibre, Biodegradable, natural capital component.
Infrastructure Development and Capacity Building	Cluster Development approach has been adopted as a key strategy for enhancing the productivity and competitiveness as well as capacity building of Micro and Small Enterprises (MSEs) and their collective in the country. Infrastructure support has been provided in the form of common facility centres (for testing, training centre, raw material depot, effluent treatment, complementing production processes, etc.) and infrastructural facilities in the new, existing industrial areas. Clusters of MSEs, including setting up of Flatted Factory Complexes. Special emphasis has been given to micro, village based enterprises, women owned enterprises and SC,ST units in the form of higher assistance. Associations of Women Enterprises will also be assisted.

### 3.2.3 Power Sector (renewable and non-renewable)

In the COVID recovery package, the policy focus for the power sector was safeguarding consumer rights. The aim was to reduce the inefficiencies of power distribution companies (DISCOMs). Standards of Service and associated penalties for DISCOMs were defined to ensure adequate power and avoid load-shedding. The total allocation was Rs 90000 crores in the COVID recovery package (Aatma Nirbhar Bharat, PRS, 2020).

**Table 10: Interventions and allocations made for the Power Sector in India's Aatma Nirbhar Bharat Package**

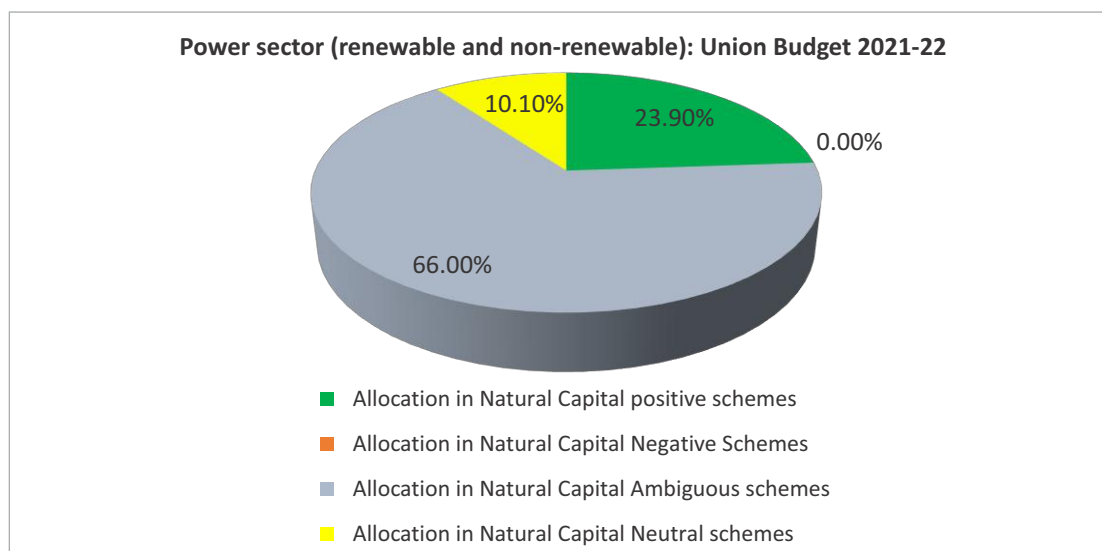
Policy/ Scheme	Details	Potential impact on natural capital	Type of Scheme	Allocation (INR in Crores)
Liquidity injection for Power Distribution Companies (DISCOMS)	Ensuring adequate power	Ambiguous	Monetary	90,000

Source: (Aatma Nirbhar Bharat, PRS, 2020)

There was only one scheme in the power sector in the COVID recovery budget, which was identified to have a low positive impact on Natural Capital. Monetary injection for the generation of power for rural electrification had a positive impact on the environment. This initiative has the potential to reduce the use of polluting materials for lighting (e.g., diesel generators, kerosene lamps, etc.) and cooking (e.g., firewood, kerosene stoves, etc.) by switching even to non-renewable sources of electricity in the rural areas.

In the annual budget 2021-22, a reform-based scheme was announced to provide assistance to power distribution companies for infrastructure creation. A framework to provide choice to consumers among distribution companies was launched. An independent gas transport system operator has been proposed to be set up to coordinate standard carrier capacity booking in all-natural gas pipelines. A Hydrogen Energy Mission was also launched to generate hydrogen from green power sources (Union Budget 2021-22 PRS, 2021). In the renewable energy space, allocations have been made under development of renewable power with use of solar, small hydro, wind and bio-energy. Interventions like development of smart grid system, green energy corridor, research, testing and capacity building activities have also been planned, as per the budget.

The Figure below shows the percentage share allocation of the Union Budget in the power sector based on the direction of Natural Capital impact.

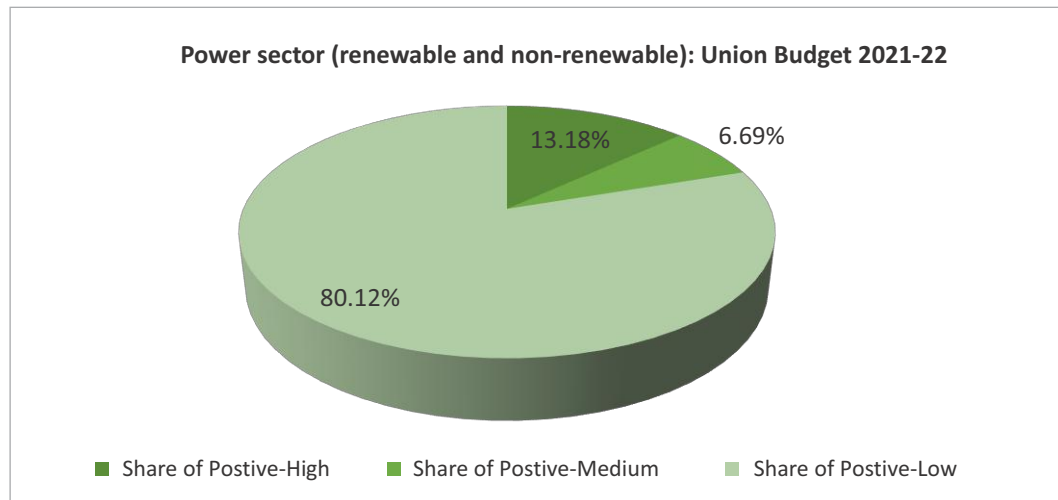


**Figure 16: Share of allocation of Union Budget 2021-22 in Power sector based on the direction of Natural Capital impact**

Data Source: (Ministry of Finance, 2021)

The above figure depicts that about 23% of schemes in the renewable and non-renewable power sector had a positive impact, around 66% had an ambiguous impact, and about 10% of schemes had a neutral impact on Natural Capital. Although none of the schemes were found to have entirely negative impact, but the schemes marked as “ambiguous” has potential to impact natural capital both positively and negatively. The net impact of those schemes on natural capital could not be identified based on the available information.

The Figure below shows the percentage share allocation in the Union Budget toward the power sector based on the intensity of Natural Capital positive schemes.



**Figure 17: Share of allocation of Union Budget 2021-22 in Power sector based on direction of Natural Capital positive intensity**

Data Source: (Ministry of Finance, 2021)

The above figure depicts that around 13% and 6% of the allocations in natural capital positive- schemes in the sector has potential high and medium intensity, respectively. Rest of the schemes were found to have positive low impact among the schemes having potential positive influence on natural capital.

When comparing the two budgets, it can be seen that the Union Budget is much better in terms of its schemes, allocations, and Natural Capital impact. The Recovery budget only includes one scheme of a liquidity injection for power distribution companies, but the Union Budget includes schemes on energy conservation, rural electrification, and an integrated power development scheme. Electrification of rural villages allows for the use of power-saving devices, stops the use of diesel engines and fossil fuels, and allows for appropriate and sustainable lighting, which brings potential health, education, social, and economic benefits to the people who have previously lived in homes with excessive indoor air pollution. Electrification will bring cleaner air, healthier homes, good jobs, and empowered workers. It also expands access to affordable clean energy and energy efficiency to reduce monthly energy bills for pollution-burdened communities. Further, funds allocated for training and research, conservation of energy, establishment of smart grid system, green energy corridor, promoting renewable energy also creates potential for greening the power sector. The Union budget also includes Information, Education and Communication, and Assistance to Training Institutions. All these have a substantial positive natural capital impact and can be identified as good policy practices in this sector.

### 3.2.4 Mining Sector

Mining is a significant economic activity in India, with 1,531 operating mines (India Brand Equity Foundation, 2021). While the private sector does participate in mining, the Government continues to be the primary participant in the domestic mining industry through its many public-sector entities (Pradeep S Mehta, 2002). In March 2020, the COVID recovery budget introduced a regulatory reform as a minerals amendment bill. This bill opened the coal sector for commercial mining. As a result, 50 blocks of coal mines were auctioned throughout the country (PRS Legislative Research, 2020). Total allocation in this sector was Rs 50000 crore in the COVID recovery package.

**Table 11: Interventions and allocations made for Mining Sector in India's Aatma Nirbhar Bharat Package**

Policy/ Scheme	Details	Potential impact on natural capital	Type of Scheme	Allocation (INR in Crores)
Coal Evacuation	<ul style="list-style-type: none"> <li>• Infrastructure development for evacuation of coal</li> <li>• Mechanised transfer of coal (conveyor belts) from mines to railway sidings</li> </ul>	Negative	Fiscal	50,000

Source: (Aatma Nirbhar Bharat, PRS, 2020)

It was observed that the coal evacuation scheme is categorised as an adverse Natural Capital impact driver. Exploration causes soil erosion, formation of sinkholes, loss of biodiversity, and contamination of soil, groundwater, and surface water by chemicals. It also causes other environmental impacts on wildlife and fishery habitats, harms the water balance, negatively impacts rainfall patterns, causes pollution, and contributes to depletion of forests and loss of vegetation, biodiversity, and ecosystem health, etc. Exploration activities also cause high detrimental health impacts to people with high and prolonged exposure, so the given scheme was categorised as negative (The future of strategic natural resources, 2016).

The main policy focus of the mining sector in the Union Budget was related to the Transfer to National Mineral Exploration Fund. The National Mineral Exploration Trust (NMET) was constituted under section 9C of the Mines & Minerals (Development Regulation) Amendment Act, 2015. The Trust's objective is to use the funds accrued through the Trust for regional and detailed mineral exploration. The total allocation to this sector was Rs 1879.5 crores<sup>7</sup>. It has been observed that all the schemes under the Union Budget have a potentially negative Natural Capital impact.

In both the union budget and the COVID recovery budget, all the related schemes were assessed to impact Natural Capital negatively, as any mining or coal evacuation activities have a negative environmental impact.

### 3.2.5 Social Sector

The COVID recovery budget primarily focused on the Employees' Provident Fund (EPF) support for businesses and workers, along with a reduction in EPF rates. This was mainly done to boost investments and revive the growth of business in the economy. The Government also focused on building housing facilities for poor and marginalised communities. However, the most significant area of focus was the generation of employment through MGNREGS, which has been identified to have highly positive impact on natural capital. In both the budgets analysed in this study, this is the only scheme in social sector which has intended positive influence on natural capital.

The MGNREGS was introduced under the MGNREGA (Mahatma Gandhi National Rural Employment Guarantee Act) passed by the Parliament of India in 2005. Later on in 2009 amendment was made to the act. The goals of this rural employment guarantee scheme, as defined by the Govt. of India, are to provide social protection and empower the most vulnerable communities in rural India by creating employment opportunities, to enhance livelihood security of the rural poor, to rejuvenate natural resources in rural areas, to create productive rural assets and to strengthen decentralized planning. Through these targets, this scheme integrates physical, human, social and natural capital oriented actions.

These resources and possibilities will empower our country's youth, and India will benefit from the demographic dividend. The Government focused its efforts on digitisation through initiatives like increased funding for MGNREGS, and promotion of technology-driven education. These initiatives will merge into a comprehensive development roadmap based on all human development indicators and benchmarks (KPMG, 2020).

<sup>7</sup> See Table 11 in Appendix

**Table 12: Interventions and allocations made for Social Sector in COVID Recovery Budget of India**

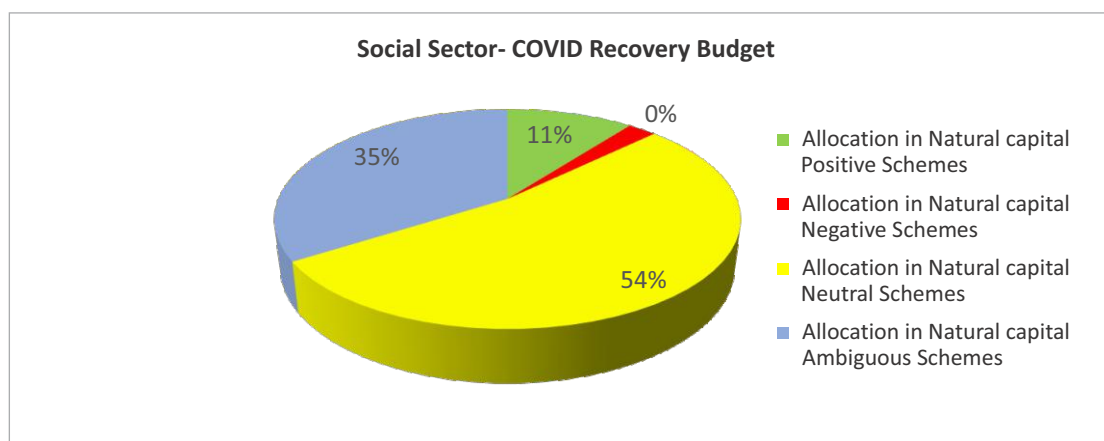
Policy/ Scheme	Details	Type of Scheme	Allocation (INR in Crores)
Additional MGNREGS allocation	Employment opportunities	Fiscal	40,000
PM's Poor Welfare Package (PMGKP)	Insurance scheme for health workers fighting COVID-19 in Government Hospitals and Health Care Centres, etc.	Monetary	170,000
PM announcement for the health sector	Compensation of Rs 50 lakh for health professional, who while treating COVID-19 patients, meet with some accident	Fiscal	15,000
EPF support for business and workers	Employees' Provident Fund Regulations were amended to include Pandemic as the reason to allow the non-refundable advance of 75 per cent of the amount or three months of the wages, whichever is lower, from their accounts.	Monetary	2,800
Reduction in EPF rates	The rates for EPF were reduced	Fiscal	6,750
Reduction in TDS/TCS	The rates for TDS/TCS were reduced	Fiscal	50,000
Free food grain supply to migrant workers	Supply of 1 kg of pulses per migrant worker family (according to regional preferences for the next three months ) to ensure adequate protein availability.	Fiscal	3,500
MUDRA Sishu loans	The loan could be used for various purposes such as for working capital, modernisation, expansion, equipment purchases or renovation, by business owners who needed small capital to start their business.	Monetary	1,500
Particular credit facility to street vendors	Bank credit to each street vendor for initial working capital of up to Rs 10,000 to facilitate easy access to credit	Monetary	5,000
housing CLSS-MIG	Under the Ministry of Housing and Urban Poverty Alleviation (MoHUPA), the Government of India has launched 'Credit Linked subsidy Scheme (CLSS)' for Urban Areas under the ambit of Pradhan Mantri Awas Yojana.	Monetary	70,000
Viability Gap Funding	Viability Gap Funding (VGF) for social infrastructure projects was increased by up to 30% of the total project cost.	Monetary	8,100

Source: (Aatma Nirbhar Bharat, PRS, 2020)

The schemes and respective allocations listed in Table 8 have been categorised based on their impact on Natural Capital. The schemes in the social sector are assessed to have 13% positive impact, 53% neutral impact, 34% ambiguous impact, and no schemes were found having a negative impact on Natural Capital. For example, schemes focusing on education, women empowerment, and child education have a tremendous socio-economic impact, whose value can be evaluated only in the long run. A significant scheme, which is a continuation of the previous Budget for MGNREGS, is also considered under the Aatma Nirbhar Bharat Abhiyan. This was employed during the difficult period arising from COVID-19 (Ministry of Rural Development, 2020). The total allocation to this sector was Rs 372650 crores in the

COVID recovery budget. We categorised only this scheme under natural positive medium (Jahangir Ahmad Bhat & Dr. Pushpender Yadav, 2015). The objective of MGNREGS was to provide employment opportunities, improve institutional capacity, and create durable assets. It also focused on providing new work opportunities and rural assets (micro-irrigation, afforestation, creation and renovation of water bodies, improved institutional capacity, etc.). The employment generated by MGNREGS would lead to the creation of rural assets and the empowerment of socially disadvantaged groups (Union Budget 2021-22).

The Figure below shows the percentage share allocation of the COVID Recovery Budget in the social sector based on the direction of Natural Capital impact.



**Figure 18: Share of allocation of COVID Recovery in Social sector based on the direction of Natural Capital impact**

Data Source: (Aatma Nirbhar Bharat, PRS, 2020)

The above figure illustrates that about 13% of the schemes in the COVID recovery budget have a positive natural capital impact, about 34% of the schemes have an ambiguous impact, and about 53% of the schemes have a neutral impact on the Natural Impact. There was no scheme assessed to have a negative impact on natural capital. In the COVID Recovery Budget, the Government raised the allocation for MGNREGS schemes by another Rs 40,000 crore, in addition to the allocation of Rs. 61,500 crore announced in the Union Budget 2020-21 (Aatma Nirbhar Bharat, PRS, 2020). The objective of this additional allocation was to help generate a total of 300 crore person days' work to mitigate the impact of the coronavirus-induced lockdown on the rural economy. The allocation was made in the fifth and final stage of the Government's COVID recovery budget.

The social sector<sup>8</sup> in the Union Budget<sup>9</sup> comprises the Department of Rural Development, Ministry of Women and Child Development and the Department of Empowerment of Persons with Disabilities (see table in appendix). The policy focus of the social sector in the Union Budget was mainly to facilitate credit flow for SCs, STs, and women. The margin money requirement under the Stand-Up India scheme was reduced from 25% to 15%. 750 Eklavya model residential schools were established in tribal areas (Union Budget 2021-22 PRS, 2021). Particular emphasis was given to MGNREGS, Jal Jeevan Mission to enable universal water supply and liquid waste management in urban areas, National Education Mission for women and girl child education, and Pradhan Mantri Awas Yojana, as a housing facility for all people. MGNREGA is a demand-driven programme, whose work is executed in Gram Panchayat level and therefore, there was no such target for execution. Works were captured in MIS on a daily basis. Thus, identifying a target for any indicators as proposed in a outcome-output monitoring framework was not possible (Ministry of Finance, 2021-22).

Schemes like Pradhan Mantri Gram Sadak Yojana and AMRUT and the Smart Cities Mission mainly focus on rural road development. Swachh Bharat Mission 2.0 would focus on sludge and wastewater

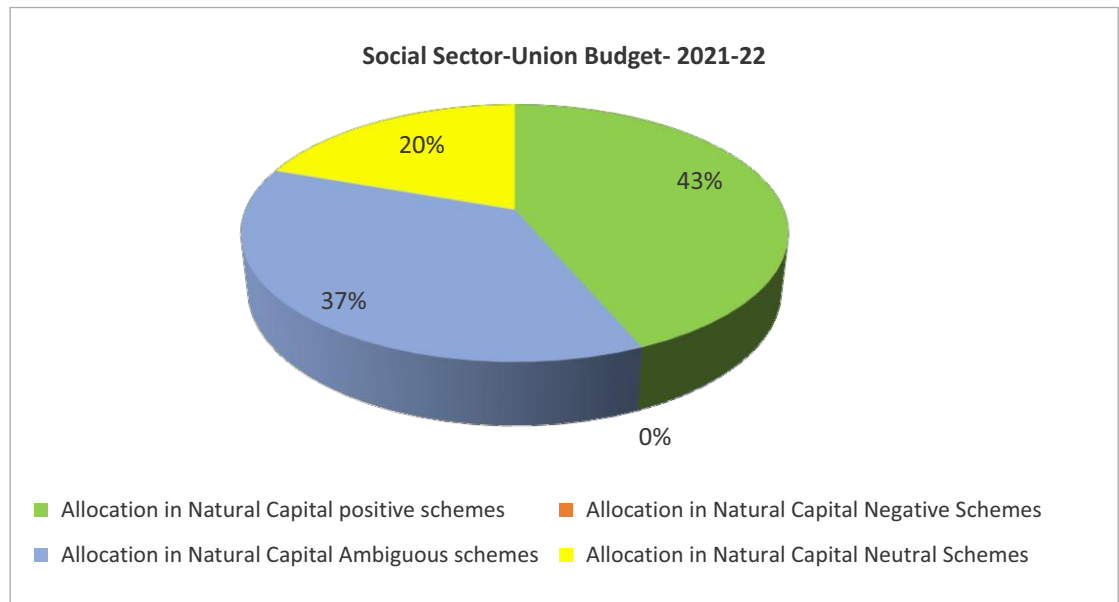
<sup>8</sup> See Table 12 in Appendix

<sup>9</sup> See Table 13 in Appendix



management and reduce single-use plastic and air pollution (Union Budget 2021-22 PRS, 2021). The total allocation to this sector was Rs. 59,990.52 crore. The government increased the provision by Rs 40,000 crore in the COVID Recovery budget to help generate a total of 300 crore person days of work to alleviate the impact of the coronavirus-induced lockdown on the rural economy. The provision was provided as part of the government's COVID recovery budget's fifth and final stage.

The Figure below shows the percentage share allocation of the Union Budget in the social sector based on the direction of Natural Capital impact.



**Figure 19: Percentage share allocation of Union Budget in the social sector based on the direction of Natural Capital impact**

*Data Source: (Ministry of Finance, 2021)*

The above figure depicts that about 43% of the allocations have been made in natural capital positive scheme i.e. in MGNREGS, 37% of the schemes have an ambiguous impact with potential for both positive and negative impact on natural capital and almost 20% of the schemes have a neutral impact on natural capital.

Schemes focusing on education, women empowerment, and child education have a tremendous socio-economic impact, whose value can be evaluated only in the long run. So, we were unable to assess the immediate impact of these schemes on Natural Capital. The Government had allocated an additional Rs 40,000 crore for the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGA) amid the COVID-19 crisis in the COVID recovery budget. The infusion of additional funds will also boost the rural economy with improved production and create more durable and livelihood assets. The Union Budget allocated Rs 73,000 crore to MGNREGA, 34% less than the budget estimate for 2020-21 (Ministry of Finance, 2021). Therefore, we have considered only this as a positive scheme, which has been further classified as a positive medium. In the previous year, the Union Budget had initially allocated Rs 61,500 crore for the Mahatma Gandhi National Rural Employment Guarantee Scheme in the Union Budget to generate 289 crore person days' work.

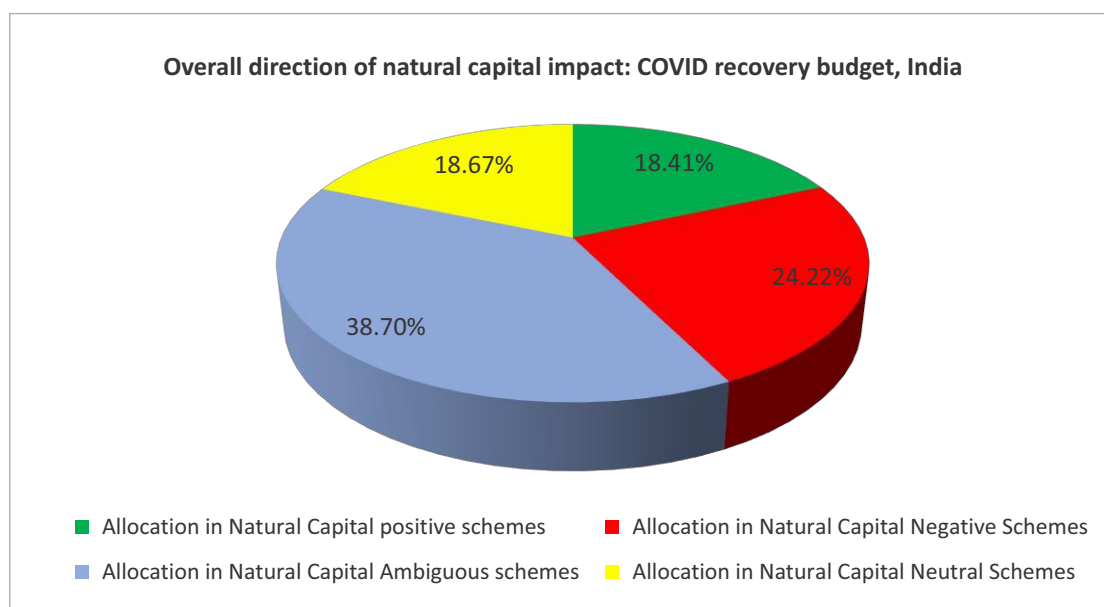
The COVID Recovery Budget has given significant importance to the creation of employment opportunities for poor people. It included the PM's welfare package, an employment provident fund for businesses and workers, and a free food grain supply to migrant workers. This was done primarily for the people who were directly affected by the pandemic. In addition, a particular credit facility was given to street vendors, termed the PM Street Vendors' Aatma Nirbhar Nidhi (PM SVANidhi) scheme, to help the vendors who lost their income due to the imposition of lockdowns (Union Budget 2021-22 PRS, 2021).



The Government also provided additional allocations of the MGNREGS Scheme for improving employment opportunities.

### The overall impact

The aggregated outcomes the assessment of the COVID recovery budget for these five selected sectors showed that almost 18% of the allocations had potential positive impact on natural capital, almost 24% had negative impact and around 38% of the allocations had potential to make either positive or negative or both the impacts on natural capital.



**Figure 20: The overall direction of natural capital impact of the allocations in selected sectors in COVID recovery budget of India**

### 3.3 Gaps in stimulating an economic recovery that supports Natural Capital

In the previous section of this chapter, the Natural Capital components of the recovery package across the selected sectors have been highlighted along with the same in the annual Budget 2021-22. Both of these budgets are important to define the greenness of the economic recovery of India.

Based on the assessment, some of the critical gaps in stimulating a green economic recovery supporting Natural Capital have been identified throughout this study. Those have been highlighted below.

- **Agricultural and allied sector:**
  - Allocations in some Natural Capital positive interventions related to agricultural infrastructure development and strengthening community-based farming institutions were significantly reduced in the annual budget of 2021-22. The details of the allocations made in the annual budget further showed that no provisions for capital expenditures had been made. This signifies that there is limited scope for expansion of agricultural post-harvest infrastructure, which is one of the critical challenges faced by the rural farming community in India. This gap limits the farming community's ability to contribute to Natural Capital by adopting improved practices to increase crop productivity and sustainably manage land and water resources.
  - In the water resource management scheme listed in the annual Budget 2021-22, to increase crop productivity through micro-irrigation and drought-proofing of agriculture, significant capital investments are expected to be in place. This scheme has the potential to make a positive

Natural Capital impact. But the breakdown of the allocation made in the scheme showed that there is no provision for capital expenditure to construct micro-irrigation structures or for complex engineering measures for drought-proofing. Provisions have only been made for maintenance and operational costs in the annual budget. Therefore, it limits the opportunity to make any substantial impact on Natural Capital. For most of the schemes listed in the annual Budget 2021-22 in the agricultural and allied sector, no provisions have been made for capital expenditure.

- A few schemes with a potential high positive impact on Natural Capital listed in the COVID recovery package were missing in the annual budget 2021-22. E.g. schemes on herbal plantation and beekeeping.
- **MSME Sector**
  - The budget allocation in some of the schemes like the Solar Charkha Mission are negligible. For example, the Union Budget 2020-21 had allocated Rs 100 crores to this scheme, but now the allocations have been reduced to only Rs. 5.05 crores.
  - The details of the allocations made in the Union Budget 2021-22 further exhibited that no or very minimal provisions for capital expenditures have been made.
- **Power Sector**
  - The COVID recovery budget included monetary injection for power distribution companies. The COVID recovery budget has less evidence of power generation using more renewable sources of energy.
  - In the Union Budget, there was less capital investment in schemes like energy conservation.
- **Mining Sector**
  - Though India currently has several schemes related to mining and evacuation activities in both the Union Budget and COVID recovery budget, the history of the mining sector in the country shows that it has often led to injustice with poor communities and harms the environment. In addition, the Government announced coal auctions for commercial coal mining in June 2020, intensifying the debate over the transition to clean energy. Although energy specialists, environmentalists, and those who deal with affected communities also agree that mining is necessary but, the Government should not overlook the issue of environmental conservation and ensuring justice for the local communities.
  - The Government brought in reforms to attract more investment in the mining sector to revive the economy following the pandemic. However, boosting mining brings many problems, including land disputes, clashes with locals, and negative environmental consequences.
- **Social Sector**
  - The Government has given the budget for the social sector the utmost importance, yet the Budget schemes had insufficient evidence of Natural Capital impact. The emphasis on improving household water access in urban areas was a positive step. However, there was no mention of addressing water quality issues in the budget. The funds released by the Government for higher education were an excellent step towards the country's betterment. Still, the schemes in the budget lacked education specialised in green skills to promote sustainable economic, environmental, and social outcomes in industry and the community.
  - The COVID recovery budget only focused on generation of employment activities through its MGNREGS scheme. It did not have any focus on natural capital impact, whereas the union budget focused on creation of rural assets (micro-irrigation, afforestation, creation and renovation of water bodies) along with generation of employment activities through MGNREGS.

# Conclusion and Recommendations

In the context of the large-scale economic downturn caused by the COVID-19 pandemic and multiple natural and anthropogenic threats to the natural resources that sustain human well-being, this study was conceived. With a broader vision of achieving a green economic recovery, to what extent does the national government of India prioritize natural capital in the post-COVID decision making process? This was what this study sought to assess.

After the outbreak of the pandemic in 2020, the Central Government of India announced multiple relief measures (both monetary and fiscal) comprised of interest rate subsidies on credit for priority sectors, reduction in vital tax rates (e.g., of Income Tax, GST, Customs & Central Excise, Corporate Affairs, etc.), government contributions to the Employees Provident Fund, direct benefit transfers for income and livelihood support, interventions related to public distribution systems, certain key sectoral measures, and monetary policy interventions. The primary intent of this COVID recovery package was to boost the economy immediately through income generation and a rise in consumer demand along with securing community health, which were all extremely important in the existing scenario. But, in a developing country like India, there is high dependence on natural resources or natural capital for sustenance and vital economic activities. Along with that government investment in the creation of infrastructure, which was another objective of the recovery package, large capital investments play a role and this has implications on natural capital. This aspect of natural capital plays a critical role in determining whether the economic recovery is holistic and inclusive or not and defines the sustainability of the economic recovery and the building of social and economic resilience against future shocks. It is also important to note that a number of Sustainable Development Goals have linkages to natural capital. Hence, to enable the country to cope with the immediate impacts of the pandemic and to meet long-term economic and developmental goals while building resilience, framing policy strategy for a green economic recovery is the need of the hour

This study, identified the proportions of budgetary allocations toward interventions that have either positive, negative, or no potential implications on natural capital. This study also attempted to highlight the policy focus of the government for driving an economic recovery towards greening. The sectoral gaps pertaining to the incorporation of natural capital components in the respective policies and consistent budgetary allocation towards that has been listed in the previous chapter. Based on that, the relevant policy recommendations for the selected sectors are given below.

**Policy recommendations:**

- Agricultural and allied sector:
  - o The government strategies and implementation of existing schemes in this sector requires more focus towards strong natural capital positive influence. The government needs to strengthen the outcome targets of these schemes along with consistent allocation to maximize the long-term effectiveness of these schemes. Schemes like organic farming, herbal plantation, beekeeping, micro-irrigation, drought-proofing of agriculture, etc. were some of the strong natural capital positive schemes. Most of these schemes are not explicitly mentioned in the Union budget 21-22, which should have been continued as it was in the covid recovery budget. The advocacy of these initiatives are the need of the hour.
  - o Fiscal instruments like subsidies or tax reductions for green inputs like organic fertilizer, indigenous seeds, sustainable irrigation practices, etc. need to be in place to incentivize and support use of green inputs in this sector. At the same time, subsidies need to be eliminated or taxes need to be increased for environmentally harmful products like, chemical fertilizers, and pesticides, cultivation of non-indigenous varieties of crops, plants, invasive species etc. Therefore, subsidies or tax reductions for green products, stringent environmental regulations, and removal of subsidies for polluters need to be implemented to limit environmental pollution, waste management rules to be implemented stringently and adoption of sustainable and green practices to be promoted to limit detrimental impacts on ecosystems and biodiversity. Hence, one of the key focuses should be to make adoption of green practices economically viable.
  - o To drive a long-term natural capital positive recovery, the government needs to introduce and strengthen green R&D subsidies, green skill development, investments in nature-based solutions, and green infrastructure. These also require the government to make increased allocations in capital expenditures of certain programmes and schemes, which is relatively low in the current union budget.
- MSME sector
  - o The COVID recovery package included only monetary policies for MSME sector without any focus on natural capital. It is very much recommended to introduce natural capital thinking into MSME businesses (which are often natural resource dependent, locally oriented and less capital intensive). These MSME businesses needs to be incentivized to adopt natural capital friendly practices which will minimize detrimental impact on natural capital and produce green products and services. In addition to these, Govt. needs to also build capacities of the stakeholders to adopt green practices.
  - o The Solar Charkha Mission is the only scheme in the Union Budget related to energy efficiency and has a positive high Natural Capital impact. There should have been more allocation of the budget to this particular scheme. Moreover, more schemes related to energy efficiency for a higher and significant Natural Capital impact on the environment should have been provided for. Significant capital investments should have been made in Infrastructure Development and Capacity Building. Digital economy is to be promoted more vigorously to minimize paper works which is also indirectly impact on natural capital..
  - o Capital expenditures are extremely important for MSMEs, as they are an integral part of the supply chain and contribute a significant portion to overall exports. Additionally, MSMEs play an important role in employment generation (Ministry of MSME, 2020). Thus, the Government must focus highly on capital investment in this sector.
- Power sector
  - o The Government should focus more on power generation and power distribution from the renewable resources instead of fossil fuel but, again, this would add to the ecosystem services and the Natural Capital impact on the environment.

- o In the Union Budget, there should be more capital investment in schemes like energy conservation. The funds would be utilised to carry out awareness campaigns for energy conservation through print, electronic, and other media for the general public, upscaling efforts to create and sustain the market for energy efficiency, project management, and environmental protection, etc.
- o Capital expenditure is equally important for the power sector, as along with rising demand for electricity in the country, there is a growing demand for energy. The increasing activity in the sector, especially the mergers, acquisitions, and entry of new players, indicates interest being expressed by various stakeholders. With India's ambitious renewable energy generation targets, the sector holds tremendous potential for both public and private investors (Vatsal Khullar, 2019). The government must focus more on capital investments in this sector.
- Mining sector
  - o The Government should focus on the shift to renewable energy from coal. This would be one of the main pillars of a transition to protect the health of communities and boost the economy's growth (Mayank Aggarwal, 2020).
  - o Mining is a significant economic activity, but it causes several negative externalities, like soil and water pollution, loss of biodiversity, and health hazards. The Government should emphasise sustainable mining, developing more policies to reduce these hazards.
  - o Foreign capital flight has exceeded inbound FDI (Foreign Direct Investment) in the mining sector. Mining capital from India is relocating to other countries, resulting in new job possibilities and socioeconomic development. In contrast, the domestic mining industry is suffering from significant employment losses as a result of mine closures. Thus, investments should be boosted by the government in the mining sector (Jayajit Dash, 2020).
- Social sector
  - o Employment generation schemes like MGNREGS, which has clearly defined positive natural capital elements in the outcome targets laid out by the government, are demand driven. This limits the implementation of the scheme uniformly across all states of India. Hence, materialization of the full potential of natural capital elements depends also on the intent of the respective state governments. It is recommended to address this gap in the implementation of the scheme.
  - o More emphasis should be given by the scheme to safe drinking water. With such a vast number of people affected by water quality, it is impossible to achieve the goal of providing everyone with clean and safe drinking water at present (KPMG, 2020).
  - o With significant increases in infrastructure investments and reform measures, India's Union Budget 2021 laid out clear directions for a green, quick, and resilient recovery. In addition, continued investment in the clean air program and an increase in sustainable transportation measures and implementing a vehicle scrappage policy assist in improving urban air quality in most regions (Aatma Nirbhar Bharat, PRS, 2020). Thus these kind of policies need to be continued and strengthened further.
  - o The budget's emphasis on solid and liquid waste management is commendable, but it lacked recommendations and plans for improving water supply through source strengthening and wastewater recycling. These need serious policy focus.
  - o The budget schemes should focus more on education specialized in green skills to promote sustainable economic, environmental, and social outcomes in industry and the community. This would establish a sustainable economy that will use natural resources efficiently and have a lower environmental impact.
  - o Health, education, and workforce skilling are examples of soft infrastructure that would pay off in the long run. For reaping the benefits of the demographic dividend, lowering income inequality, and ensuring long-term economic growth, investment in the social sector by the government would be really beneficial (Sinha, 2019).

In general, the COVID recovery package of India was found to be heavy on monetary policy compared to fiscal. One common criticism against it has been the fact that fiscal interventions to boost employment, income, human, and social capital through interventions in health and education are some of the key elements for generating market demand in the economy, which were insufficiently addressed. Effectiveness of monetary policy instruments depends on several enabling factors and the outcomes are not observed immediately in the economy. Moreover, for creating pro-natural capital policies, strategic designing and planning are required in that direction. In case of most of the major interventions in the recovery package, the scheme level objectives and strategies did not prioritize or consider elements of natural capital. Additionally, in the annual budget announced by the government after the announcement of the recovery package, allocations were missing or lesser for capital expenditures that determine the scope for long term capital investment for certain kinds of projects (e.g., water resource development, afforestation, infrastructure development for sectors with positive natural capital influence, etc.). Strengthening of environmental regulations also requires sincere focus. Finally, lack of access to sufficient information on schemes listed in the COVID recovery package and missing schemes in the outcome budget document (which lays out detailed outcome targets and indicators for the schemes) related to the annual budget were some of the challenges faced in carrying out this study. Hence, in addition to the sectoral policy gaps and recommendations, these overall gaps also need the attention of the government.



## REFERENCES

1. Aatma Nirbhar Bharat, PRS. (2020). Summary of announcements : Aatma Nirbhar Bharat Abhiyaan. PRS Legislative Research.
2. Arya, N. (2020, May). Atmanirbhar Bharat: A Consolidated List of All Agricultural Reforms Announced in the Special Economic Package. Retrieved February 25, 2021, from Krishi Jagran: <https://krishijagran.com/agriculture-world/atmanirbhar-bharat-a-consolidated-list-of-all-agricultural-reforms-announced-in-the-special-economic-package/>
3. Capitals Coalition. (2021). Natural Capital for Biodiversity Policy: What, Why and How? Capitals Coalition.
4. Chaudhary, Sodani, & Das. (2020). Effect of COVID-19 on Economy in India: Some Reflections for Policy and Programme. *Journal of Health management*, 22(2).
5. Daly, H. E., & Griesinger, P. R. (1994). Investing in Natural Capital. Investing in natural capital: The ecological economics approach to sustainability. International society for Ecological Economics.
6. Das, K. K., & Patnaik, S. (2020). THE IMPACT OF COVID 19 IN INDIAN ECONOMY—AN EMPIRICAL STUDY. *International Journal of Electrical Engineering and Technology (IJEET)*, 3(11), 194-202.
7. Datta, S. (2020). India's environmental laws and COVID-19. Retrieved June 10, 2021, from Green Economy Coalition: <https://www.greeneconomycoalition.org/news-and-resources/indias-environmental-laws-and-covid-19>
8. Datta, S. (2020, November). Valuing Nature and Ecosystem Services post-COVID. Development Alternatives Newsletter. Retrieved from Development Alternatives Newsletter.
9. Dev, S. M., & Sengupta, R. (2020). Covid-19: Impact on the Indian economy. *Indira Gandhi Institute of Development Research. IGIDR Report.*
10. Falco Richardson. (2016). Natural capital and sustainable. Uppsala: Department of Earth Sciences, Uppsala University ([www.geo.uu.se](http://www.geo.uu.se)), Uppsala, .
11. G., G. S., & Naik, G. (2020). Atmanirbhar Bharat Abhiyan and Agriculture. *EPW*, 55(35).
12. Ghosh, A., Nundy, S., & Mallick, T. K. (2020). How India is dealing with COVID 19 Pandemic. *Sensors international.*
13. GOI. (2020). <https://www.indiabudget.gov.in/anbp/>. Retrieved 06 01, 2021, from <https://www.indiabudget.gov.in/>: <https://www.indiabudget.gov.in/anbp/>
14. GOI. (2021). Expenditure profile 2021-22. Retrieved March 03, 2021, from [Indiabudget.gov.in](http://Indiabudget.gov.in): <https://www.indiabudget.gov.in/doc/eb/vol1.pdf>
15. Ian Mell, Meredith Whitten. (2021). Access to Nature in a Post Covid-19 World: Opportunities for Green Infrastructure Financing, Distribution and Equitability in Urban Planning. *International Journal of Environmental Research and Public Health.*
16. India Brand Equity Foundation. (2021). Metals and Mining. India Brand Equity Foundation.
17. Indranil Chakraborty Prasenjit Maity. (2020). COVID-19 outbreak: Migration, effects on society, global environment and prevention. *Science of The Total Environment.*
18. Jahangir Ahmad Bhat & Dr. Pushpender Yadav. (2015). MG-NREGA: - A Pathway for achieving Sustainable Development. *International Journal of Engineering Technology, Management and Applied Sciences.*
19. Jaishankar, S. (2021, February 02). View: Post-Covid recovery or beyond, this budget will shape India's strategic global role. *The Economic Times.*
20. Jayajit Dash . (2020). Foreign capital outgo exceeds FDI inflows in the mining sector. *Business Standard.*
21. Kinzig, A. P., Perrings, C., Chapin, F. S., Polasky, S., Smith, V. K., Tilman, D., & Turner, B. L. (2011). Paying for ecosystem services—promise and peril. *Science*, 334(6056), 603-604.
22. KPMG. (2020). Government and institution measures in response to COVID-19. Retrieved February 02, 2021, from KPMG: <https://home.kpmg/xx/en/home/insights/2020/04/india-government-and-institution-measures-in-response-to-covid.html>
23. KPMG. (2020). Government and institution measures in response to COVID-19. KPMG.
24. Mayank Aggarwal. (2020). India's mining sector: Present is tense and future could be imperfect. *Mongabay Series: Environomy, Just Transitions.*



25. Ministry of Finance. (2020). Atma Nirbhar Bharat Package-Progress so Far. Ministry of Finance, PIB.
26. Ministry of Finance. (2021). Key Highlights of Union Budget 2021-22. Ministry of Finance.
27. Ministry of Finance, Govt. of India. (2021, February). Expenditure Budget 2021-22. Retrieved March 03, 2021, from Indiabudget.gov.in: <https://www.indiabudget.gov.in/doc/eb/allsbef.pdf>
28. Ministry of Finance, Govt. of India. (2021). Outcome Budget 2021-22. Retrieved 05 15, 2021, from Indiabudget.gov.in: [https://www.indiabudget.gov.in/doc/OutcomeBudgetE2021\\_2022.pdf](https://www.indiabudget.gov.in/doc/OutcomeBudgetE2021_2022.pdf)
29. Ministry of MSME. (2020). Ministry of Micro, Small and Medium Enterprises, GOI.
30. Ministry of MSME. (2020). What's MSME: Composite Criteria: Investment in Plant & Machinery/equipment and Annual Turnover. MINISTRY OF MICRO, SMALL & MEDIUM ENTERPRISES, GOI.
31. Ministry of Rural Development. (2020). MGNREGS. Ministry of Rural Development.
32. Natural capital. (2021). Government Dialogue on Natural Capital. Natural Coalition.
33. Natural Capital Coalition. (2012). Natural Capital Protocol. Natural Capital Coalition.
34. Nicolas Mansuy. (9th October, 2020). Stimulating post-COVID-19 green recovery by investing in ecological restoration. *The Journal of the Society for Ecological Restoration*, 1343-1347.
35. OECD. (1997). NATURAL CAPITAL. United Nations, New York: Series F, No. 67.
36. OECD. (May 21, 2021). Biodiversity, natural capital and the economy. OECD Environment Policy Papers.
37. PIB Delhi. (2020). Ministry of Agriculture & Farmers Welfare. Retrieved February 25, 2021, from <https://pib.gov.in/PressReleasePage.aspx?PRID=1646286>
38. Platform, Green Policy. (June 2020). Natural Capital and the Sustainable Development Goals (SDGs). Green Growth Knowledge Partnership (GGKP).
39. Pradeep S Mehta. (2002). The Indian Mining Sector: Effects on the Environment & FDI Inflows. CCNM Global forum on International Investment, Conference on FDI and Environment.
40. PRS. (2020). The Essential Commodities (Amendment) Ordinance, 2020. (PRS Legislative Research ) Retrieved February 2021, from <https://prsindia.org/billtrack/the-essential-commodities-amendment-ordinance-2020>
41. PRS Legislative Research. (2020). Summary of announcements : Aatma Nirbhar Bharat Abhiyaan. PRS Legislative Research.
42. Rachel Golden Kroner et al. (2021, March). COVID-ERA POLICIES AND ECONOMIC RECOVERY PLANS: ARE GOVERNMENTS BUILDING BACK BETTER FOR PROTECTED AND CONSERVED AREAS? Special Issue.
43. Rajani Sinha. (2019). India needs to bolster investment in human capital. *Business Line*. The future of strategic natural resources. (2016). Environmental Risks of Mining. The future of strategic natural resources.
44. Thorpe, D. (2020, August). How investing in the green economy is the best way to post-Covid-19 economic recovery. In *Proceedings of the Institution of Civil Engineers-Civil Engineering* (Vol. 173, No. 3, pp. 100-100). Thomas Telford Ltd.
45. UNCTAD . (2021). COVID-19 Response. UNCTAD.
46. UNDP. (2015). The SDGs in action. Retrieved 06 21, 2021, from UNDP: [undp.org/sustainable-development-goals](http://undp.org/sustainable-development-goals)
47. UNEP. (2016). NATURAL CAPITAL ASSESSMENTS AT THE NATIONAL AND SUB-NATIONAL LEVEL. United Nations Environment Programme.
48. UNEP. (2020). NATURAL CAPITAL FINANCE ALLIANCE. UNEP Finance Initiative.
49. Union Budget 2021-22. (n.d.). Mahatma Gandhi National Rural Employment Guarantee Scheme. Demand for Grants, GOI.
50. Union Budget 2021-22 PRS. (2021). Union Budget 2021-22 Analysis. PRS legislative Research.
51. Vatsal Khullar. (2019). Financial Investments in the Energy Sector. Invest India.
52. World Forum on Natural Capital. (2020). What is natural capital? World Forum on Natural capital.



# APPENDIX

**Table 13: Selection of Departments and Ministries in Union Budget 2021-22 for Sectoral Analysis.**

Sector	Details
MSME Sector	Ministry of Micro, Small and Medium Enterprises
Power Sector	Ministry of Power, Ministry of New and Renewable Energy
Agriculture and Allied Sector	Department of Agriculture, Cooperation and Farmers' Welfare+ Department of Agricultural Research and Education+ Department of Fisheries+ Department of Animal Husbandry and Dairying+ Ministry of Food Processing Industries
Mining Sector	Ministry of Mines
Social Sector	Department of Rural Development+ Ministry of Women and Child Development+ Department of Empowerment of Persons with Disabilities

**Table 14: Break-up of stimulus from Aatma Nirbhar Bharat Abhiyaan package**

Item	Amount (in Rs crore)
Stimulus from earlier measures	192,800
Stimulus provided by announcements in Part 1	594,550
Stimulus provided by announcements in Part 2	310,000
Stimulus provided by announcements in Part 3	150,000
Stimulus provided by announcements in Part 4 and Part 5	48,100
<b>Sub Total</b>	<b>1,295,400</b>
RBI Measures (Actual)	801,603
<b>Grand Total</b>	<b>2,097,053</b>



**Development Alternatives**

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