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FEBRUARY 2022

COVID-19 RESPONSE

COVID-19

Response and Recovery

Mobilizing financial resources for development

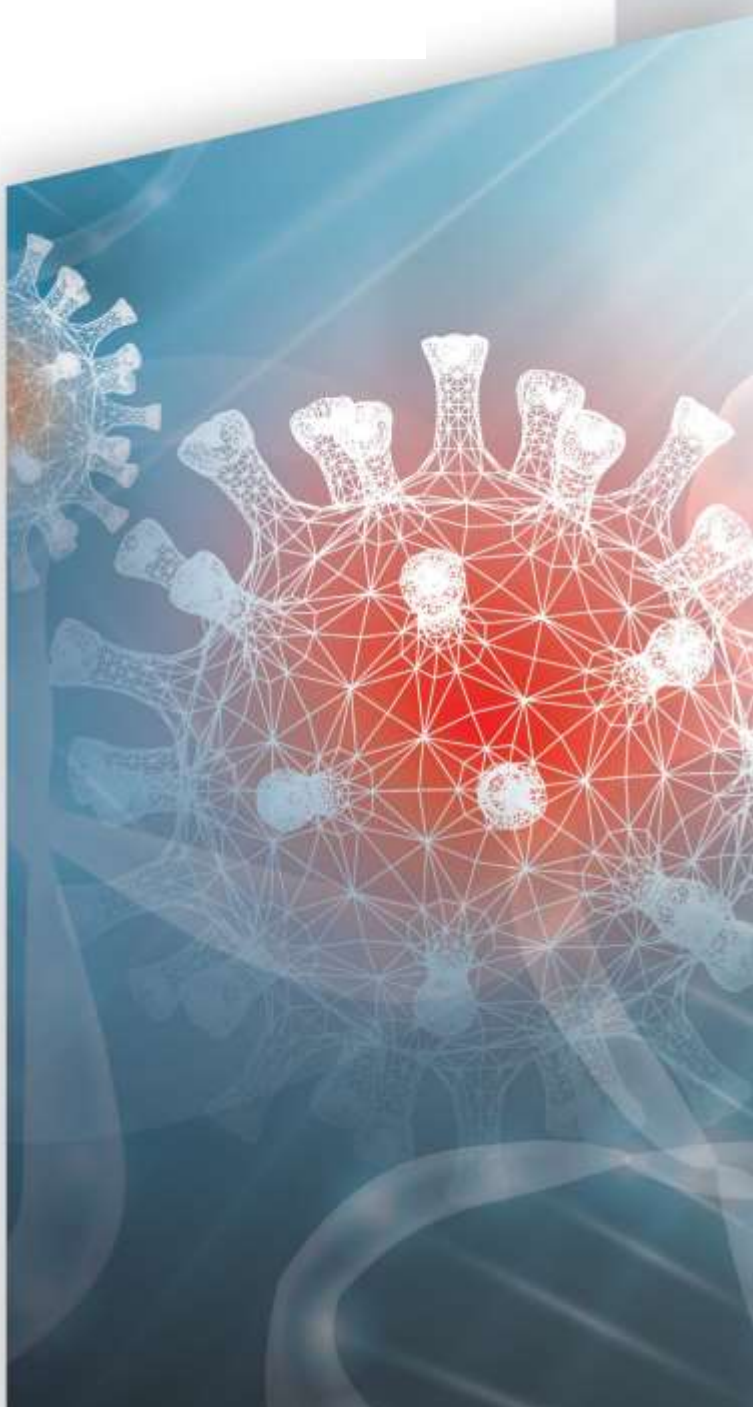
DA-COVID-19 project led by Debt and Development Finance Branch, Division on Globalization and Development Strategies (DDFB/DGDS)

UNITED NATIONS ESCAP
Economic and Social Commission for Asia and the Pacific

Fiscal Stimulus for an Inclusive, Green and Forward-Looking Recovery, Leveraging the SDG Agenda

An Assessment for Pakistan

FEBRUARY 2022



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About the COVID-19 Response and Recovery project

This paper is an output from the project "Response and Recovery: Mobilising financial resources for development in the time of COVID-19", which is co-ordinated by the Debt and Development Finance Branch of UNCTAD and jointly implemented with ECA, ECLAC and ESCAP. This project is one of the five UN Development Account short-term projects launched in May 2020 in response to the COVID-19 crisis.

The project aims to enable low-income and middle-income developing countries (LICs and MICs) from Africa, Asia-Pacific, and Latin America and the Caribbean to diagnose their macro-financial, fiscal, external financial and debt fragilities in the global context, and design appropriate and innovative policy responses to the COVID-19 pandemic leading toward recoveries aligned with the achievement of the Sustainable Development Goals (SDGs).

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Abstract

This study assesses Pakistan's fiscal stimulus response to the COVID-19 pandemic, evaluating the degree to which it has managed to support a recovery, which is inclusive, green and forward-looking. In order to align recovery from COVID 19 to SDGs agenda of the country, it is crucial for Pakistan to; expand social protection, mainstream gender in all approaches and measures, roll-out a mass COVID-19 vaccination campaign, shift to green transport, cut fossil fuel subsidies and achieve an inclusive digital transformation. The study identifies the estimated costs and outline financing options for these recommendations. Finally, the study simulates macroeconomic, social and environmental impacts of investment in people, green energy and digital infrastructure on key macroeconomic indicators of the country which include public debt, GDP growth, (un)employment, poverty and CO2 emissions. Findings from these simulations, using the ESCAP's Macroeconomic Model, support a strong economic and environment case for investments recommended in this study.

Keywords: Building Back Better, Fiscal Stimulus, Inclusive, Green, Forward-Looking, Digital Transformation, COVID-19 Recovery, SDGs, Fiscal Space, Macroeconomic Model

JEL classification: C82, E00, E60, O23, Q01

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List of Acronyms

BBB	Building Back Better
CHW	Community Health Worker
CNIC	Citizen National Identification Card
CPEC	China Pakistan Economic Corridor
CPI	Consumer Price Index
DHS	Demographic and Health Survey
ECC	Economic Coordination Committee
EECP	Ehsaas Emergency Cash programme
FLFP	Female Labour Force Participation
GBV	Gender-based Violence
GOP	Government of Pakistan
LFPR	Labour Force Participation Rate
LSM	Learning Management System
MDG	Millennium Development Goal
MoITT	Ministry of Information Technology and Telecommunication
NDMA	National Disaster Management Authority
PPE	Personal Protective Equipment
PTCL	Pakistan Telecommunication Company Ltd.
SAARC	South Asian Association for Regional Cooperation
SDGs	Sustainable Development Goals
SMEs	Small and Medium Enterprises
SOPs	Standard Operating Procedures
USF	Universal Service Fund
VRE	Variable Renewable Energy
WAPDA	Water and Power Development Authority

1. Introduction

The novel coronavirus pandemic, commonly known as COVID-19, has now entered its second year,[1] infecting nearly 172.2 million people globally and claiming 3.7 million lives (WHO, 2021). In the beginning, governments of the world attempted to contain domestic outbreaks of the virus through tight restrictions on movement. As national lockdowns, flight bans, and shelter-in-place measures were enforced globally, business and trade took a hit, bringing economic activity to a virtual standstill.

As the crisis intensified, countries shifted their attention towards containing infections and implementing economic rescue plans, and away from long-term sustainable development. As a result of the COVID-19 pandemic, between 119 and 124 million new poor are expected to have been created (Gerszon Mahler, et al., 2021). Millions face major disruptions to their livelihoods, health and education, with key indicators regressing for the first time since the end of the twentieth century (UN, 2020). If this trend continues, evidence suggests post-pandemic recovery will likely leave the poor worse off than before. To prevent this, countries must re-evaluate the traditional policy-making processes that are predominantly structured to favour economic growth whilst failing to protect both people and the environment (ESCAP, 2021). As COVID-19 recovery plans are fashioned, fiscal policy responses must be realigned to the SDG agenda once again, which will require recovery to be inclusive, green and resilient.

Pakistan, which registered its first confirmed cases on 26th February 2020,[2] appears to have better handled the pandemic relative to most of its neighbours. Till now, infections and loss of human life have remained subdued, contrary to the devastation unravelling beyond its borders e.g., in India and Nepal – by November 2021, confirmed deaths per million in India and Nepal were reported at 329.32 and 384.7 respectively, while in Pakistan they were 126.40 per million (Ritchie, et al., 2021a). Nonetheless, COVID-19 has undoubtedly left a mark on the country, with the pandemic anticipated to have single-handedly reversed much of the progress achieved in poverty over the last two decades, pushing levels up to 40 percent (UNDP, 2020).

Since March 2020, Pakistan has commenced a string of policy interventions designed to minimise the socio-economic fallout from the pandemic, thereby cushioning its population from adversity amidst a global health emergency. The country implemented a fiscal stimulus of PKR 1.2 trillion - roughly 3 percent of its GDP - in the form of direct cash transfers to poor households, health infrastructure expenditures, support to SMEs etc. (Javed, 2021a). Additionally, an accommodative monetary policy was adopted, with the policy rate being cut down from 13.25 to 7 percent within less than two months of the start of the pandemic. The State Bank of Pakistan (SBP) also undertook a wide range of measures to ensure market liquidity within the country.

In light of these developments, this study will assess Pakistan's fiscal stimulus response to the COVID-19 pandemic, evaluating the degree to which recovery measures remain congruent to the country's priority SDG agenda - specifically, how well the fiscal stimulus has managed to support an inclusive, green and resilient recovery. The study carries out this reconciliation by employing the popularised paradigm of '*building back better*'.

1 Earliest COVID-19 case detected in November 2019 in China. Globally however, the World Health Organisation officially declared the outbreak to be a pandemic on 11th ,March 2020.

2 (Hassan, 2020)

Section 2 provides a brief overview of the extent to which the COVID-19 pandemic has disrupted the country's economic and social fabric. Section 3 then introduces the concept of building back better, delving into how this can be conceptualised to help Pakistan rebuild itself in a socially, environmentally and economically sustainable manner. It also highlights several measures that are part and parcel of the country's current fiscal stimulus. Section 4 assesses the impacts of these measures on Pakistan's priority SDG agenda, and where, if so, they fall short. Following this review, section 5 draws lessons on how to better reconcile Pakistan's recovery with its long-term sustainable development priorities, recommending additional policy actions needed. The study estimates the potential cost of such a policy package for Pakistan in section 6, while section 7 estimates its macroeconomic, social and environmental impact using the ESCAP's Macroeconomic Model. Finally, section 8 proposes a number of strategies for mobilising the necessary resources.

2. The Socio-Economic and Environmental Impacts of the COVID-19 Pandemic on Pakistan

As of mid-March 2021, local cases have escalated at an alarming rate after a third and deadlier[3] wave of the virus emerged. While infections spread slowly at first, they were enough to strain the country's chronically underfunded and underdeveloped healthcare sector, as well as its fragile economy - which was overstretched long before the onset of the pandemic. COVID-19 has caused severe and extensive damage to both society and economy, such that, were Pakistan to successfully recover from the pandemic in a single year, it would continue to incur an estimated loss of $19 billion till 2025; even more if recovery is slower (Aslam, et al., 2021).

2.1. ECONOMIC CONSEQUENCES

With closures ensuing, Pakistan's growth took a tumble: GDP suffered a steep contraction, falling from 1.9 percent in 2019, down to -0.5 percent (table 1) – making it the first time since 1952 that the economy exhibited a negative economic growth (Javed, 2021a).

As pandemic-related expenditures rose in the face of diminishing revenues, more loans were taken by the government and the concentration of debt in the economy increased from 85.6 to 87.2 percent. Gross Debt is projected to continue rising in 2021 and is only anticipated to fall beyond 2022. National inflation surged considerably, with CPI climbing to 10.7 percent from pre-pandemic levels (table 1). While CPI is projected to begin falling again in 2021, it is not expected to reach pre-pandemic levels till 2024.

Table 1: Pre and post-COVID medium-term projections of macroeconomic indicators for Pakistan

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	2020		2021[a]		2022[a]		2023[a]	
	Pre COVID estimates	*Post COVID estimates*	*Pre COVID estimates*	*Post COVID estimates*	*Pre COVID estimates*	*Post COVID estimates*	*Pre COVID estimates*	*Post COVID estimates*
Real GDP Growth	2.4	-0.5	3.0	1.3	4.5	2.0	5.0	3.4
Inflation (CPI)	11.1	10.7	8.0	8.7	6.0	8.01	5.0	7.3
General government net lending/borrowing (% of GDP)	-7.4	-8.01	-5.4	-7.1	-3.9	-5.5	-2.8	-3.9
General government gross debt (% of GDP)	78.6	87.2	76.1	87.7	72.5	83.3	69.0	77.7
Unemployment (%)	4.5	6.2	5.1	5.0	--	4.8	--	4.7

Source: Data obtained from IMF reports (2019a, 2019b, 2020, 2021) and World Bank (2021).
Note: [a] Projections.

3 3 @Asad_Umar. (2021, March 18). Retrieved from https://twitter.com/Asad_Umar/status/1372427416468131842

2.2. SOCIAL CONSEQUENCES

As infections rose, shortages were faced in everything from ICUs and ventilators to PPEs, masks and testing kits. Lockdown measures also disrupted several economic sectors – the unemployment rate surged to 42 percent in urban areas and 38 percent in the rural non-farm economy, while average incomes of people in these areas fell by 48.7 and 47.2 percent respectively (Cheema & Rehman, 2021).

Additionally, the pandemic uncovered a digital divide within the country. Nearly 40 million students were affected as a result of school closures due to the pandemic (UNICEF, 2021). While most big-city private and elite schools switched to distance learning with ease, schools in poorer rural localities were unable to follow suit. Likewise, overwhelmed with a tailback of COVID-19 patients and unable to shift functions online, most public hospitals were forced to shut-down non-emergency outpatient departments. This imbalance in the ability of certain groups over others in adapting to the pandemic serves as a stark reminder of the inequitable access to technology that still exists in Pakistan.

The pandemic also perpetuated many existing inequalities e.g., unemployment disproportionally impacted specific vulnerable groups, such as the elderly, disabled, informal-sector workers and women – who experienced high poverty rates even before the pandemic (Rasheed, et al., 2021). Likewise, the gender divide widened as restrictions triggered layoffs across a number of women-intensive sectors e.g., agriculture, manufacturing and the domestic-service industry - exposing women to socio-economic vulnerabilities. As stay-at-home orders commenced nationwide, women also faced a registered rise in gender-based violence (GBV), as well as restricted access to reproductive healthcare (Majid & Siegmann, 2021, UNODC, 2020, Munir, et al., 2021).

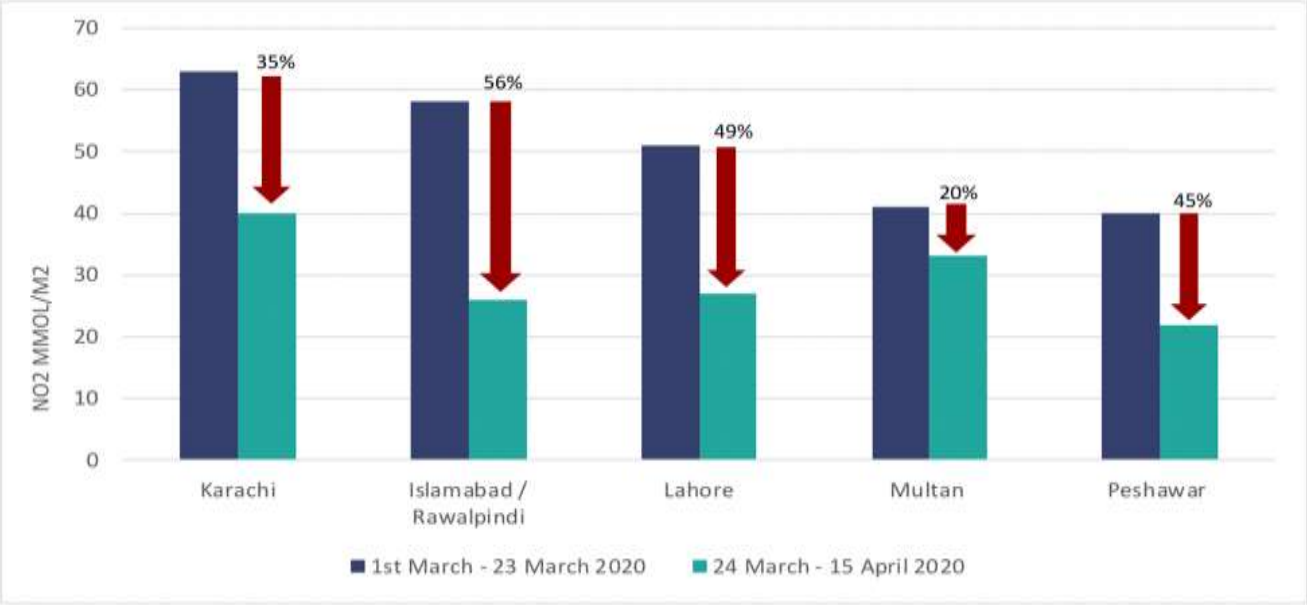
Moreover, extended school closures put many adolescent and young girls at greater risk of early marriages and pregnancies, many of whom may never return to school again (Javed, 2021a). In fact, of the almost 50 percent of enrolled students who did not return when schools briefly reopened last year, 60 percent were girls (Ali, 2020). A survey revealed that 63 percent of respondents did not intend to send their daughters back to school, while 94 percent were willing to do so in the case of their sons (Ibid).

2.3. ENVIRONMENTAL CONSEQUENCES

While difficult to imagine, the pandemic has had a few silver linings – which unfortunately come at the expense of large socio-economic costs. As lockdowns and travel bans were extended, energy demand patterns altered: manufacturing and industrial activities slowed, fewer people drove to work, and even fewer flew. As a result, CO_2 emissions gradually dropped and air quality drastically improved in major cities (figure 1) (Awais, et al., 2020). Additionally, electricity demand in Pakistan's commercial and industrial sectors fell by 75 and 65 percent respectively, while residential areas reported an increase. Overall, energy demand fell by 8.4 percent in 2020 (Aslam, et al., 2021).

Although a win for the environment, restrictions have adversely impacted the economy, as revenues dwindled, and power bills could not be recovered. Much of the environmental gains remain temporary and come at the cost of rising poverty and unemployment, as many economic structures experienced complete shutdowns. In fact, most of the reported decline in emissions and pollution levels is expected to reverse when lockdowns end. For example, in Karachi, after an initial decline during lockdowns, NO_2 emissions grew 48 percent by May 2021 in comparison to May 2020. Likewise, Islamabad too reported a sharp increase, though comparatively less (Mercer-Blackman & Norton, 2021). Globally, carbon emissions were seen to rebound strongly after dropping in early 2020, with levels rising above those recorded in 2019 – year-on-year emissions reported for December 2020 alone were 60 tonnes above those in 2019 (IEA, 2021). Unless we are able to permanently restructure our consumption and production systems towards sustainable green growth, much of the environmental gains from COVID-19 will not remain long-term.

Figure 1. NO2 levels in cities across pakistan before (1st March - 23 March 2020) and after (24 March - 15 April 2020) the national lockdown



Source: (Awais, et al., 2020)

3. Building Towards an Inclusive, Green and Resilient Recovery - Assessing Pakistan's Current Fiscal Stimulus

Before assessing the efficacy of Pakistan's fiscal response in ensuring an inclusive, green and resilient economy, it is worth understanding what it takes to ensure such a recovery in the first place. Response strategies aimed at alleviating the immediate suffering of people must also emanate long-term welfare and prosperity. For this, COVID-19 reveals both the need and the opportunity to *build back better*.

The notion of *building back better* is not new. It has been proposed time and again, as an all-encompassing approach to post-disaster response. Against the backdrop of COVID-19, the concept delineates a meaningful framework for post-pandemic recovery, requiring national governments to adopt a multifaceted approach to the crisis - leveraging SDGs while simultaneously striking a balance between temporary relief measures and sustainable developmental efforts.

While the slogan has become exceedingly popular in development policy literature, its practical application remains abstract, providing governments with the autonomy to charter their own individual approaches. For the purpose of this study, a more explicit conceptualization has been utilized (Fig 2 below) – which compartmentalizes recovery measures into three distinct categories i.e., ***inclusive, green*** and ***forward-looking*** (ESCAP, 2021). Based on this framework, post-pandemic policy packages have the ability to restore economic processes while effectively positioning economies onto a fairer, more environmentally-friendly and far more resilient path than before.

Overall, BBB provides a well-defined framework for post-pandemic recovery - protecting the economy, people and the environment. If executed correctly, it can reduce poverty and unemployment, curb carbon emissions and raise potential output levels (ESCAP, 2021).

Please note that, while the discussion characterises recovery as being distinctly either inclusive, green or forward-looking, there exists a degree of interchangeability between all three components which must be acknowledged when designing future strategies, e.g., a gender lens must be present in all green and forward-looking policies, while inclusive policy measures must be on the table when advocating for green growth, etc.

As countries begin to tackle the extensive economic and social damage sustained over the last year, the practical application of building back better will require recovery plans to be shaped by different considerations (Figure 2). Current fiscal stimulus measures pertaining to each category (inclusive, green and forward-looking) are discussed below:

Figure 2: Conceptual framework for a post COVID-19 recovery package

Source: Author's elaborations based on ESCAP's (2021) "building forward better" package.

3.1. PAKISTAN'S CURRENT FISCAL STIMULUS MEASURES

By March 2020, the Government of Pakistan had approved a PKR 1.2 trillion fiscal stimulus package in response to the pandemic (with an additional PKR 100 billion supplementary grant introduced later on) (Javed, 2021a).[4] The announced relief package was used by both the federal and provincial governments in containing the outbreak and protecting citizens from its fallout. In this section, some prominent programmes and measures under Pakistan's COVID-19 fiscal stimulus response have been highlighted - of which some have either commenced or are in the pipeline. These measures have been categorised as either inclusive, green or forward-looking, based on the nature of their impacts.

3.1.1. Fiscal Stimulus Measures Promoting an Inclusive Recovery

Fiscal stimulus measures have aided in alleviating many of the pandemic's adverse impacts. They have been instrumental in reducing household vulnerability and poverty, particularly at a time when high food inflation constituted greater food insecurity. Additionally, measures directed at healthcare ensured the availability (albeit delayed) of many life-saving medical equipment and medicines, helping hospitals better cope with the tailback of patients.

1) Ehsaas Emergency Cash Programme

The Ehsaas Emergency Cash Programme (EECP) was launched in April 2020 as a social protection measure, making cash transfers of PKR 12,000 to approximately 15 million people at risk of extreme poverty. Under EECP, a total of PKR 203 billion was disbursed in two phases, aimed at raising household resilience to pandemic-induced economic shocks (GOP, 2020a).

4 For a detailed assessment of the fiscal stimulus package and associated fiscal space, please refer to: Javed, S.A. (2021), Socioeconomic Impact of COVID-19 in South Asia-Fiscal Policy Response and Fiscal Needs for Supporting Economic Recovery. Islamabad: United Nations Economic and Social Commissions for Asia and the Pacific (UNESCAP).

On 25th March 2021, the World Bank approved $600 million to expand the programme. This will fund the development of the upcoming Crisis-Resilient Social Protection Programme (CRISP) (World Bank, 2021), which will leverage a number of initiatives under Ehsaas, e.g., widening current scope to reach more beneficiaries and creating a hybrid saving scheme that beneficiaries can utilise, on top of cash transfers, during economic downturns (Ibid).

2) Strengthening Healthcare Capacity

In healthcare, the government undertook steps to build the sector's capacity against the pandemic. Import tariffs on emergency health equipment were lifted early into the outbreak, which lowered the cost of essential items needed in combating the spread of the virus, e.g., PPEs, masks and ventilators etc. (Khan, 2020). Additionally, NDMA was allocated PKR 25 billion for the additional purchase of necessary medical equipment (Javed, 2021a).

The government also attempted to reduce supply chain disruptions by undertaking domestic production of certain essential items, e.g., ventilators, sanitisers, drugs approved for use in COVID-19 treatment (KPMG, 2020a). Overall, nearly PKR 144 billion was injected into healthcare which, though a sporadic reaction to the crisis, is still impressive considering the 2019-20 budget allocation to health was merely PKR 11.06 billion (Ministry of Finance, 2019).

Comparatively, the 2021 budgetary allocations to the health sector[5] have almost doubled to PKR 21.72 billion, with an additional PKR 100 billion to the COVID-19 Emergency Fund and PKR 175.4 billion ($1.1 billion) for vaccines (Qasim, 2021) – signalling the importance of the health sector, and its central role in eventually reopening the country's economy.

3) Employment Retention: Construction Sector Tax Package

By April 2020, the GOP announced its decision to introduce a special incentive package to kickstart economic activity, after a severe downturn amidst nationwide lockdowns. The PKR 100 billion package was targeted at the construction industry, where a sizable portion of the country's daily-wage and low-skilled labour is employed, many of whom had been laid off as a result of pandemic-related restrictions (Ministry of Finance, 2020).

Under this package, the construction sector was provided: 1) an exemption from all lockdown restrictions (which also applied to all associated industries) so activities could once again fully resume and millions of labourers could return to work, 2) an increased public spending on the sector, and 3) a number of tax relief measures, e.g., a fixed tax regime for builders and developers alike, and tax exemptions on the purchase/construction of people's first house (KPMG, 2020b). Moreover, the sector was also presented a unique amnesty measure under the Naya Pakistan Housing and Development Authority (NAPHDA),[6] encouraging investment by adopting a 'no-questions-asked' policy regarding the source of funds used.

4) Firm Liquidity Support

Countless businesses faced challenges in meeting their financial needs and obligations during the pandemic. In a bid to assist these organisations in remaining operational, the government introduced liquidity support measures tallying PKR 250 billion, which included:

1. A PKR 100 billion tax refund to export-oriented sectors.

2. Deferment in loan repayments, provided to various sectors e.g., agriculture, manufacturing, energy, export and import

5 It is to be noted that, health in Pakistan is devolved to provincial governments, and is subject to provincial budgetary allocations. Punjab, for example, the country's largest province by population, earmarked PKR 106 billion for its COVID-19 relief package, PKR 80 billion for universal health insurance and PKR 10 billion for vaccinations in the Budget 2021-22 (Lodhi, 2021).

6 "Construction Sector Amnesty Ordinance" - Naya Pakistan Housing and Development Authority (January 21, 2021): https://naphda.gov.pk/naphda.gov.pk/docs/Construction%20Sector%20Amnesty%20Ordinance.pdf.

oriented sectors etc.

3. Raising the regulatory limit of credit extension to SMEs.

4. Additional financial support of PKR 100 billion to SMEs and agriculture, including subsidies, utility-bill payment extensions and various tax incentives etc.

5. A PKR 50 billion allotment to Utility Stores, to provide subsidized essential food items to the poor (Javed, 2021; KPMG, 2020a).

5) Electricity & Gas Relief Package

To counter rising unemployment and income insecurity, the ECC rolled out a PKR 110 billion utility-bill assistance plan, allowing consumers to defer their electricity and gas bills and repay them in instalments at a later date. Additionally, PKR 50.69 billion was also provided in electricity relief to commercial and industrial MSMEs through the governments 'Chota Karobar o Sannat Imadadi' Package (GOP, 2020).

3.1.2. Fiscal Stimulus Measures Promoting a Green Recovery

Pakistan took the opportunity provided by COVID-19 to amalgamate its economic development into its environment. For this, it used a number of innovative financial instruments:

1) The Green Stimulus Package

Introduced in early 2020, the 'Green Stimulus Package' is a concerted effort to address rising pandemic-induced unemployment, while simultaneously resuming climate action. Expanding on the '10 Billion Tree Tsunami' initiative, the government gave the forestry sector a green light to resume activities by employing thousands of out-of-work labourers to plant trees and protect national parks (and conversation areas) from illegal logging and accidental fires.

While it may be too early to ascertain the direct environmental impact of this fiscal response, afforestation, on the whole, has been pushed for its role in climate change mitigation, being known to help prevent flooding, cool temperatures and capture CO_2 emissions. In China, for example, the World Bank-supported Shandong Ecological Afforestation Project, which managed to plant trees across 66,915 hectares from 2010 to 2016. It also aided in increasing forest cover and sequestering approximately 12 million metric tons of CO_2, over the project's 30-year lifetime (World Bank, 2017). In the case of the Green Stimulus Package, work is being carried out on approximately 6000 hectares of state-owned land. Based on the Shandong Afforestation Project's example, where each hectare absorbed approximately 179.33 metric tons of CO_2 over 30 years, Pakistan's own project may anticipate an absorption of approximately 1.076 million metric tons of CO_2 across the same period[7]. While this may not seem much in comparison, however, with approximately 50 million samplings anticipated to be planted by the end of 2021, the initiative is expected to generate significant gains for ecosystem restoration (Khan, 2020).

The package has effectively created a pool of employment opportunities, spending nearly PKR 10 billion to generate 85,000 jobs so far, with plans to bring in 115,000 additional placements in the coming months (Khan, 2021). Furthermore, the World Bank also pledged $120 million this year (2021) to support the initiative (Achakzai, 2021).

2) 'Debt for Nature' Swap Scheme

The 'Debt for Nature' swap scheme was introduced as a financing tool to aid countries in making headway on their debt crisis, while concurrently allowing them to continue undertaking climate action. In exchange for some form of debt relief (whether a discount on the principal amount, lowered interest rate or

7 Figures have been provided for the sake of comparison only and are not a precise estimation of the environmental benefits experienced by Pakistan under its Green Stimulus Package. Calculations on the ability of these projects to sequester carbon are subject to a number of limitations: the species of samplings used, lifespan of plantations and other ecological differences etc.

complete debt forgiveness), Pakistan would be able to locally fund domestic conservation and climate change initiatives through money saved from the exchange. The scheme remains in the pipeline, with efforts being undertaken to attain $1 billion in funding.[8]

In the past, Pakistan has entered into debt swap agreements with a number of Paris Club donor countries. In 2006 for example, Italy cancelled one half of its debt to Pakistan in exchange for projects for Afghan refugees in the country, while for the remaining half, a debt swap was signed (operational from 2009) for development which included financing basic infrastructure projects for environmental protection. The timeline for the Pak-Italian Debt Swap Agreement (PIDSA) was extended till 2020. To date, debt worth approximately PKR 6.41 billion has been cancelled (The Nation, 2018). Pakistan is currently set to sign debt-for-nature swap agreements with Germany, the United Kingdom, Italy and Canada in 2021 (Ahmed, 2021).

3) Ecosystem Restoration Fund (ERF)

The ERF was launched to help Pakistan incorporate serious restoration and conversation efforts into its post-COVID-19 recovery (Aslam, et al., 2021). Initiatives include the development of ecotourism, afforestation, ocean and land biodiversity conservation, etc. ERF will also support the 'Recharge Pakistan' initiative, which intends to redirect floodwater to restore 14 wetland ecosystems along the Indus basin. Additionally, $188 million has also been signed under the Pakistan Hydromet and Ecosystem Restoration Services Project for afforestation and ecological preservation efforts (Ibid). The initiative is anticipated to create almost 200,000 jobs (Khan, 2021).

4) Green Euro Bond

Pakistan kickstarted its entrance into green and sustainable investment by issuing green euro bonds, with plans already underway to issue bonds for $500 million through Water and Power Development Authority (WAPDA). These funds will be utilized for the development of hydroelectric power.

3.1.3. Fiscal Stimulus Measures Promoting a Resilient & Forward-Looking Recovery

1) Digital Pakistan Vision

Despite over half of Pakistan's population residing in rural areas, by 2018 internet usage in villages was reported at merely 8 percent (GISWatch, 2018), with most rural and remote areas lacking basic internet connectivity. As a result, the Digital Pakistan Policy was introduced in 2018 to create a digitally inclusive country. Under the policy, 8 projects were approved in 2021, worth almost PKR 5.85 billion. Some of these include:

1. ICT Internship programmes, providing fresh graduates with the skills necessary to join the labour market.

2. The creation of 72 telehealth facilities in various rural areas across all provinces.

3. Data protection and cyber security measures (MoITT, 2021a).

Furthermore, in response to the current pandemic, an online telemedicine service 'Yaran-e-Watan'[9] was launched, bringing in volunteering overseas physicians to provide free health services (online and through WhatsApp) to patients and collaborate with local medical professionals for research (Maqbool, 2020). Additionally, partnerships with private EdTech companies were made to share high-quality educational content, e.g., Taleemabad (Orenda) and Sabaq Foundation.

2) Universal Service Fund

The USF is a subsidiary project of Digital Pakistan, created in 2006 to promote universal access to fast and affordable telecommunication and broadband services in rural and remote areas. Since March 2020, the USF has awarded contracts worth over

8 For a detailed assessment of Debt Swaps in Pakistan, refer to: Javed et al., 2021. Debt Swap for Green Recovery: Options, challenges and way forward for Pakistan, Sustainable Development Policy Institute.

9 Urdu for Friends of the Country

PKR 8 billion to various cellular service providers under its 'Next Generation Broadband for Sustainable Development' initiative, aimed at expanding mobile broadband services to nearly 6 million individuals in previously unconnected remote areas across Pakistan (MoITT, 2021b).

Its most recent initiative (in April 2021) included a PKR 2.07 billion contract with Ufone (a local cellular service provider owned by the country's national telecommunication company PTCL), to provide services in Balochistan. Additionally, it also awarded contracts for Optic Fibre Cable projects (Ibid).

3) e-Taleem

As lockdowns forced nationwide school closures, access to education was greatly disrupted. To help students continue learning, the Ministry of Education launched e-Taleem, which broadcasted educational lessons through televisions and radios. Lessons are available for a number of different grades and subjects, with the transmission of lessons for each respective grade allotted one hour and carried out one after another.

4. Impact of Policy Measures under the Fiscal Stimulus on Priority SDGs

The Sustainable Development Goals (SDGs) were unveiled by the United Nations in 2015, in an attempt to set the stage for what future progress should embody. Today the 17 goals (to be achieved by 2030) have become an integral part of modern-age development, shaping both policy and discourse. Unfortunately, post-COVID-19, the momentum on achieving these targets has stalled. Pakistan was among the first countries to endorse the SDGs, integrating them into its national development agenda in 2016 and kick-starting their localisation through specialised support units. Since then, work has commenced on a number of priority SDGs (SDGPakistan, 2021):

- **Priority I**: goals 2 (zero hunger), 3 (good health & wellbeing), 4 (quality education), 7 (affordable and clean energy) etc.
- **Priority II**: goals 1 (no poverty), 5 (gender equality), 10 (reduced inequalities) etc.
- **Priority III**: goals 12 (responsible consumption and production), 13 (climate action) etc (SDGPakistan, 2021).

In 2020, Pakistan ranked 134th on the SDG index, down four places from the year before, while its score dropped by 0.01. The country has accomplished only 1 out of its 17 SDGs, i.e., goal 13 on climate action, though arguably this remains a hollow achievement as the goal itself is a measure of the country's commitment to climate action - gauged by the implementation of relevant environmental policies and legislation - rather than their actual ground impact (Nabeel, 2020). As for the rest of the goals, Pakistan remains severely off-track for the majority, lacking the resource and institutional capacity needed to achieve them (figure 3). In order for Pakistan to truly build back better, these goals must be prioritized and effectively addressed in its post-pandemic recovery plans.

Figure 3: Pakistan's SDG assessment 2020

Source: SDG Index Dashboard (2020).

In this section, the fiscal policy impacts detailed in the previous section will be evaluated against a number of Pakistan's priority SDGs (specified above). These include SDGs pertaining to poverty, hunger, inclusion, gender quality, quality education and the environment.

4.1. IMPACT OF MEASURES PROMOTING AN INCLUSIVE RECOVERY ON PRIORITY SDGS

Of the five measures highlighted in the previous section, four successfully raised household purchasing power to a great extent, with a greater share of the consumption expenditure now used on food and other essential commodities, potentially saving many households from acute hunger and poverty. This proved fortunate at a time when food inflation had resulted in greater food insecurity, especially for the poor, who typically spend a larger portion of their incomes on purchasing food.

Please note that, as some measures are very recent, it is still fairly early to be certain of their impact on the economy. Therefore, their expected outcomes have been reasonably deduced theoretically through a review of the literature. These measures have been indicated below.

1) Ehsaas Emergency Cash Programme (EECP)

EECP has played a great role in relieving many of the negative impacts experienced by the poor and the vulnerable during the pandemic. The direct cash transfers have been instrumental in facilitating significant progress on a number of national SDGs (Table 2 below). However, the programme suffered setbacks and did not reach beneficiaries promptly, many of whom remained vulnerable to acute hunger and poverty for three to four weeks following the lockdown (Javed, 2021a). Cash transfers also largely overlooked the vulnerable non-poor (Ibid). Moreover, disbursement centres failed to adequately enforce SOPs and social distancing guidelines, with large crowds gathering to collect their cash transfers.

EECP proved highly effective in reducing poverty during the pandemic, bringing 23.95 million people out of poverty (Moeen, et al., 2021). In fact, the national poverty rate fell by 11.2 percent, as a result of these direct cash transfers (Figure 4), greater so for rural areas than urban.

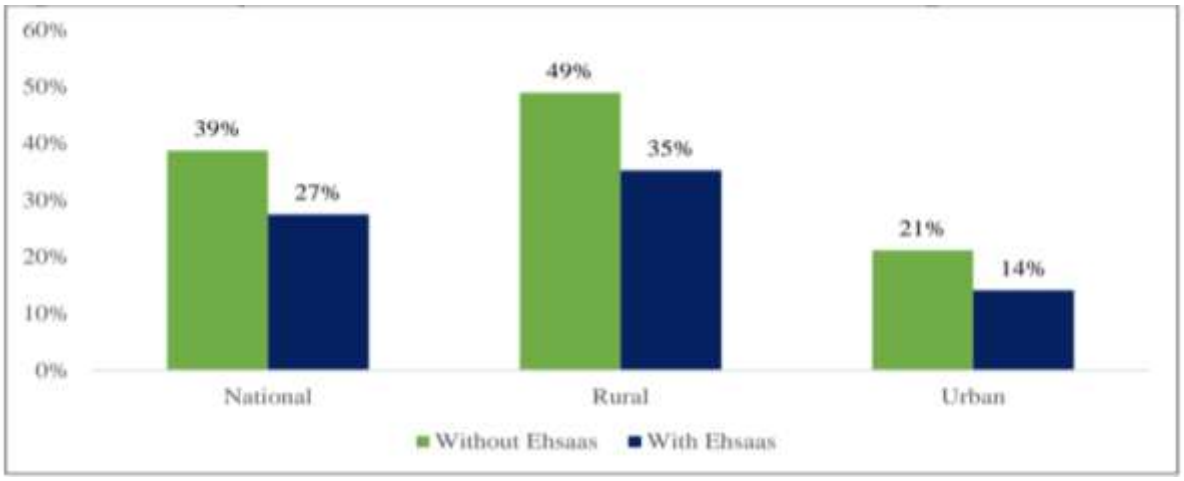
Table 2: Impact of Ehsaas Emergency Cash Programme

Target Group	Affected SDG Target	Affected SDG Indicator	Impact of Measure	Major Transmission Channel	Perceived Impact Strength	Source
Vulnerable low-income households Women	1.1, 1.3, 1.5, 1.b, 2.1	1.1.1, 1.2.1, 1.3.1, 1.a.2, 1.b.1, 2.1.1, 2.1.2	Reduction in poverty & vulnerability Less hunger	Cash handouts ↓ Higher household purchasing power ↓ Greater household food consumption ↓ Reduced hunger and poverty	Poverty = strong & temporary[a] Hunger = Strong	(Moeen, et al., 2021)[b] (Democracy Reporting International , 2020)

Notes: [a] While the study indicates a strong impact, it is anticipated to remain temporary in nature, as cash transfers under the fiscal stimulus were a one-time injection, aimed at raising consumption during the pandemic by providing 'temporary relief' and do not address structural issues nor the general lack of social safety nets in the country (Democracy Reporting International , 2020).

[b] The study assumes fixed prices, therefore changes in consumption witnessed during the pandemic, are not accompanied by price changes, rather only by altered production quantities, assuming demand changes are matched by supply.

Figure 4: Poverty Rates, with & without EECP



Source: Pakistan SAM Multiplier Results (Moeen, et al., 2021).

However, EECP's use of mobile phones and CNICs for registration will likely place women at a disadvantage in accessing payments compared to men - only 25 percent of women in poverty have access to both, as opposed to 68 percent of men (Bourgault & O'Donnell, 2020). While steps have been taken to ensure a percentage of transfers are received exclusively by women (the Kafalat category), challenges are faced in the remaining three categories. Overall, EECP's distribution strategy has the potential to widen the gender gap in financial inclusion, negatively impacting both SDG 5 and related targets and indicators e.g., 5.1, 5.a, 5.c and 5.1.1, 5.c.1 etc.

Other groups have also been unintendedly excluded from the programme, e.g., the transgendered community (with their historically low CNIC ownership) and the elderly, who encounter difficulty in the application process given technological illiteracy and limited access to phones (Help Age , 2020). Benefits were also found to be disproportionately skewed towards the rural poor, while exceedingly excluding the urban poor: informal workers, sanitation workers, street vendors etc. (Democracy Reporting International , 2020).

2) Strengthening Healthcare Capacity

Pakistan's health objectives surrounding the COVID-19 outbreak can be broadly categorized as 1) minimizing mortalities, infection spread and burden of disease on the economy, 2) raising the capacity of health systems in dealing with the pandemic (NIH, 2020).

After its initial inaction on controlling an influx of travellers, Pakistan eventually shut down its borders with China and strictly monitored its borders with Iran; however, this was only after infections had already spread. This delayed response, coupled with its limited testing capacity (as the country remained heavily reliant on imports of testing kits from other countries to test, trace and treat patients), failed to prevent an import of the virus from other countries, as well as to contain its spread within its borders. As for its second objective, the government managed to provide many critical medical supplies needed e.g. masks, PPEs, ventilators etc.

It also set up a COVID-19 helpline and ringtone messages to help spread awareness about the virus and social distancing measures. It also set up a number of quarantine centres, in an attempt to isolate the sick from the healthy. Yet despite this, there were major lapses in implementation; from inadequate provision of PPEs to frontline workers, failure to effectively isolate infected individuals, hoarding and selling of masks and oxygen tanks on the black market etc. As a result of these shortcomings, the country's health sector was not

fully prepared to tackle the pandemic (Table 3) (Bilal, et al., 2020).

Though a great deal has been done to raise the resilience of the healthcare sector (Table 3), policy measures fail to address inequalities in accessing healthcare services. While the government and other public entities (e.g., the military, WAPDA) provide healthcare to their employees (and family members) through independent systems, nearly 90 percent of the general population remains uncovered by such schemes; e.g., most of the country's informal sector faces limited access to healthcare despite having one of highest labour force absorption rates outside of agriculture (Shaikh, 2020).

Additionally, maternal and child health was badly impacted due to a disruption in healthcare facilities amidst the pandemic, with many women unable to avail reproductive healthcare and contraceptives. Furthermore, rural communities remain exceedingly exposed to COVID-19, due to pervasive non-compliance to health guidelines, lack of awareness, and inadequate healthcare facilities that lack the training and capacity needed to effectively curtail the disease (Atif & Malik, 2020).

Table 3: Impact of healthcare support measures

Target Group	Affected SDG Target	Affected SDG Indicator	Impact of Measure	Major Transmission Channel	Perceived Impact Strength	Source
Vulnerable individuals: elderly, people with pre-existing conditions, pregnant women etc	1.5, 3.b, 3.d	1.5.1, 1.5.2, 1.a.2, 1.b.1, 3.b.3, 3.d.1	Raising capacity of health systems against the pandemic	Injecting money into the health sector ↓ More medical supplies, medicines and equipment ↓ Augmented sector capacity to combat COVID-19 ↓ Fewer mortalities and better health	Weak	(Moeen, et al., 2021)
			Containing the spread of infections	----- Large scale testing, tracing and quarantine measures ↓ Separating the sick from the health ↓ minimizing mortalities and spread of infections	Weak	(Bilal, et al., 2020).

3) Employment Retention: Construction Sector Tax Package

The Construction Sector Tax Package will undoubtedly be effective in tackling the country's rising unemployment problem, which resulted due to the pandemic (Table 4). Theoretically, stimulating construction and infrastructure development has demonstrated a positive and statistically significant correlation to improvements in employment and economic growth in developing countries, with potential for the industry to create sustained employment opportunities (Pheng & Hou, 2019). As the Construction sector remains a major employer of daily wage and low-skilled workers in Pakistan, the policy measure successfully enabled millions of labourers to return to work and resume making a living, which is anticipated to have a favourable impact on the country's poverty and hunger indicators.

However, it fails to be green and inclusive. Firstly, the global construction industry is one of the largest drivers of carbon emissions, responsible for nearly 40 percent of all energy-related emissions worldwide (Hageneder, 2020). Therefore, as construction activity is accelerated, so will its impact on the environment. Encouragingly, many initiatives have been undertaken over the years to green the construction sector. For example, Punjab's Environmental Protection Department (EPD) worked closely alongside the country's Bricks Kiln Owners Association to introduce environmentally friendly brick kiln technology in 2018 (CCAC, 2018). Practices such as zig-zag firing and Vertical Shift Brick Kiln were promoted, in order to reduce emissions and improve energy efficiency, as were sustainable mining practices for raw material etc. (Ibid). However, there remains a long way to go before such practices are substantially adopted throughout the industry, enough to make a discernible difference.

Secondly, the industry remains overwhelmingly male-dominated and any employment women may acquire in its value-chain tends to pay poorly, with terrible working conditions. Therefore, any plans solely targeted at improving employment opportunities within this sector, threaten to leave women behind.

Table 4: Impact of construction sector tax package

Target Group	Affected SDG Target	Affected SDG Indicator	Impact of Measure	Major Transmission Channel	Perceived Impact Strength	Source
Daily-wage and low-skilled workers Builders and developers	1.1, 1.5, 2.1, 8.2, 8.3, 8.6, 9.1,	1.1.1, 1.5.2, 1.5.4, 1.b.1, 2.1.2, 8.3.1, 8.5.2, 9.a.1	Job generation Poverty reduction Boost in economic activity	Greater reemployment ↓ Restored household incomes ↓ Greater household food consumption ↓ Reducing hunger and poverty --- Tax reduction ↓ Greater investment in construction and linked industries ↓ Economic growth	Employment = strong Poverty = moderate to strong Economic activity =moderate	(Pheng & Hou, 2019)

*Expected results.

4) Firm Liquidity Supports and Electricity & Gas Relief Packages.

Liquidity support measures are anticipated to protect businesses and households against pandemic-induced shocks, by supporting them during periods of reduced cash inflow and large losses. Without them, many businesses would have struggled to stay afloat, with little choice but to terminate employees and eventually close up shop. This in turn would have been disastrous for the income security of households and their ability to protect themselves against adversity (ESRB, 2021).

Pakistan's timely use of liquidity support and relief packages is therefore expected to support the real economy and minimize economic hardships that would have otherwise resulted. Measures are anticipated to stem income and job losses, raise household resilience, and in turn bear positively on poverty and hunger indicators (table 5). How gender and socially inclusive these measures are, however, still remains to be seen.

Table 5: Impact of firm liquidity supports, electricity & gas relief packages

Target Group	Affected SDG Target	Affected SDG Indicator	Impact of Measure	Major Transmission Channel	Perceived Impact Strength	Source
SMEs export-oriented sectors Low-income households	1.1, 1.5, 2.1, 8.3	1.1.1, 1.5.2, 1.a.2, 1.b.1, 2.1.2	Less redundancy Reduction in poverty & vulnerability Less hunger	Increased liquidity and cash-inflows for businesses ↓ Fewer layoffs and unemployment ↓ Raising household incomes ↓ Greater household food consumption ↓ Reducing hunger and poverty	Employment = weak Poverty = weak Hunger = moderate	(ESRB, 2021).
consumers, low-income households	1.1, 1.5, 2.1	1.1.1, 1.5.2, 1.a.2, 1.b.1, 2.1.2	Reduction in poverty & vulnerability Less hunger Boost in economic activity	Electricity & gas payment relief to consumers ↓ More income available for essential items ↓ Increased household spending on food and essential items ↓ Reducing hunger and poverty --- Electricity & gas payment relief to industries ↓ Low input costs ↓ Increased production ↓ Better economic growth	Poverty = moderate Hunger = strong Economic activity =weak	(ESRB, 2021).

*Expected results.

4.2. IMPACT OF MEASURES PROMOTING A GREEN RECOVERY ON PRIORITY SDGS:

Fiscal policy responses aimed at ensuring a green recovery are anticipated to impact a wide variety of SDGs. Together, such innovative measures have the ability to boost economic growth while protecting the environment, rather than at its expense.

1) Green Stimulus Package

The Green Stimulus Package is anticipated to improve SDGs on poverty and hunger, as more jobs and incomes are slowly recovered (table 6).

Attempts to keep the measure inclusive have been made, with job creation increasingly targeted at women and idle daily-wage workers returning to rural areas as big cities faced lockdowns (Table 6) (Khan, 2020). Moreover, there are ongoing proposals to guarantee sustainability moving forward, e.g., expanding the initiative's scope to generate hundreds of thousands of jobs in various cities, covering a number of climate-related activities such as green transport, clean energy, etc (Ibid).

Table 6: Impact of green stimulus package

Target Group	Affected SDG Target	Affected SDG Indicator	Impact of Measure	Major Transmission Channel	Perceived Impact Strength	Source
Out-of-work low wage skilled and daily wage labourers Youth Women	1.1, 1.5, 2.1, 8.3, 8.5, 13.1, 13.2,15.1, 15.2,15.4, 15.5, 15.a, 15.b,	1.1.1, 1.5.1, 1.5.2, 2.1.1,8.3.1, 8.5.2, 13.1.1,13.2.2, 15.1.1, 15.2.1, 15.4.2,15.5.1, 15.a.1, 15.b.1,	Job creation Reduction in poverty & vulnerability Less hunger Climate Change Mitigation Environmental Conservation	Reemployment of workers ↓ Raised household incomes ↓ Increased household spending ↓ Reduced food insecurity ↓ Reduced hunger and poverty --- Mass afforestation drives ↓ More trees ↓ More CO_2 Absorption Less biodiversity loss Reduced water runoff and erosion ↓ Environmental Protection	Employment = strong Poverty = moderate to weak Hunger = strong Climate Action = Though the impact of afforestation itself is strong, the overall impact may emerge as weak to moderate (see below)	(ILO, 2021), (Harris & Gibbs, 2021)

*Expected results

On the climate front, planting trees is a welcomed initiative in Pakistan - a forest poor nation, with one the highest deforestation rates in Asia (WWF, 2020). Previously, under '10 Billion Tree Tsunami', nearly 30 million saplings were planted. With the Green Stimulus Package, this number is expected to be brought up to 50 million by the end of 2021 (Khan, 2020). As forests remain effective carbon sinks, capable of absorbing an average of 16 billion metric tons of CO_2 every year (Harris & Gibbs, 2021), an accelerated afforestation drive would be valuable in raising resilience against extreme weather events and global warming. Additionally, afforestation is reported to reduce soil erosion and biodiversity loss, as seen in China, through the Shandong Ecological Afforestation Project. As a result of this project, trees and shrubs planted on 36,897 hectares of highlight degraded hillsides, helped reduce soil erosion by 68 percent and enriched biodiversity by 40 percent (World Bank, 2017).

Nonetheless, though in isolation afforestation through the Green Stimulus Package has the potential to produce a strong impact on climate change, in light of policy inconsistency by the GOP found in this regard, the overall impact is left weak to moderate (Table 6). This is because, while millions of trees are being planted through this fiscal response, they are also simultaneously being

cut down elsewhere in the country, for the construction of large infrastructural projects, thereby minimizing the overall actual benefit of such an initiative. Likewise, while trees are being planted for their ability to sequester carbon and increase resilience to extreme climate events, the country continues to invest heavily in coal – an energy source responsible for a large amount of CO_2 emissions.

2) 'Debt for Nature' Swap Scheme & the Ecosystem Restoration Fund

Debt remains a pressing issue for Pakistan, made worse by the recent pandemic-induced recession. As the country struggles to reduce its debt burden, less and less money is available each year for sustainable development. As the climate emergency intensifies, more ambitious debt relief plans will be needed to help Pakistan combat climate change. The 'Debt for Nature' swap scheme provides this (Javed, et al., 2021). By lowering a country's debt stock, swap schemes have proven effective in stimulating economic growth and maintaining macroeconomic stability (Steele & Patel, 2020). In Pakistan's case, it is anticipated to reduce poverty and hunger (through job creation, as more people are employed in domestic conservation and environmental projects), improve public health indicators (cleaner air, better sanitation and access to water) and raise the country's climate resilience, all the while making headway on a number of crucial SDGs (table 7).

Similarly, the ERF provides Pakistan with the opportunity to recover previously destroyed and degraded ecosystems. It is anticipated to improve both biodiversity and public health, as well as advance climate change mitigations efforts by keeping global temperatures down. Investments can also stimulate business activity and generate jobs, especially in rural and local communities, pushing down poverty and hunger (Table 7) (Thomas, et al., 2016). Both Debt Swaps and ERF can potentially improve gender equality and social inclusion, so long as greater FLFP in conservation projects is ensured and more women are included in decision-making and leadership positions.

While initiatives like debt swaps and ERFs have been used across the globe to reduce carbon emissions across a number of key economic sectors, in the case of Pakistan however, these remain limited to domestic conservation and environmental projects. Nonetheless, with such instruments beginning to spark interest in the country, there is potential for these to expand into other crucial sectors, such as the energy sector, transport, agriculture or industry, etc. Of course, swaps will likely face a number of challenges, such as the alignment of incentives between Pakistan and any potential creditor, weak monitoring and governance, uneven ownership of swaps across different governmental levels that can impact implementation, etc., all of which will need to be addressed if the country hopes to maximise on benefits from such agreements (Javed , et al., 2021).

Table 7: Impact of Debt for Nature' swap scheme & Ecosystem Restoration Fund

Target Group	Affected SDG Target	Affected SDG Indicator	Impact of Measure	Major Transmission Channel	Perceived Impact Strength	Source
Out-of-work low wage skilled and daily wage labourers Youth Local surrounding communities Forestry Sector Wetland Ecosystems	1.1, 1.5, 2.1, 3.9, 6.3, 8.3,8.5, 8.6, 13.1, 13.2, 13.b, 14.1, 14.2, 14.c,	1.1.1, 1.5.1, 1.5.2, 2.1.1,3.9.1, 3.9.2, 6.3.1, 6.3.2, 8.3.1, 8.5.2, 13.2.1, 13.2.2, 13.b.1, 14.5.1,	Job creation Reduction in poverty & vulnerability	More conservation and environmental projects ↓ More jobs ↓ raises household incomes ↓ Increases household spending ↓ Reduces food insecurity ↓ Reduces hunger and poverty	Employment = strong Poverty = strong to moderate Hunger = strong	(Javed, et al., 2021)
	15.1, 15.2, 15.3, 15.5, 15.a, 15.b,	15.1.1, 15.1.2, 15.2.1, 15.3.1, 15.4.1, 15.5.1, 15.a.1 (a)(b), 15.b.1 (a)(b),	Economic growth Climate Change Resilience and mitigation	--- Reduced debt burden ↓ stimulating economic growth and maintaining macroeconomic stability ----- Greater number of domestic conservation and environmental projects ↓ Improved biodiversity Recovered Ecosystems ↓ Keeping global temperatures down	Economic growth = strong Climate action = strong	
			Gender Equality Better health outcomes	--- Inclusion of women in projects ↓ More jobs for women Income generation for women ↓ Greater economic, social and political empowerment for women --- Environmental Conservation ↓ cleaner air, better sanitation, access to water ↓ Longer life expectancy, fewer mortalities, less disease	Gender Equality = weak Health = weak	(Thomas, et al., 2016)

*Expected results.

3) Green Euro Bond

Green bonds are a great means of securing funding for environmental projects, with its market witnessing exponential growth over the years. In Pakistan, green bonds will be employed to fund hydropower.

Lowering the country's fossil fuel dependency by switching over to renewables is not only a win for the environment (Table 8), but could also improve the efficiency of the power sector, thereby saving enormous costs – which can in turn be used to fund social and health programmes (Zhang, 2019).

Table 8: Impact of Green Euro Bonds

Target Group	Affected SDG Target	Affected SDG Indicator	Impact of Measure	Major Transmission Channel	Perceived Impact Strength	Source
Local surrounding communities Poor and vulnerable communities	7.2, 7.3, 7.a, 7.b, 13.1, 13.2, 13.b, 15.a,	7.2.1, 7.a.1, 7.b.1, 13.2.1, 13.2.2, 13.b.1	Climate Change Resilience and mitigation	Greater hydropower projects ↓ Greater Renewable Energy ↓ Less dependency on fossil fuels for electricity generation ↓ Less CO_2 emissions Improved biodiversity Recovered Ecosystems ↓ Keeping global temperatures down	Climate action = strong	(Zhang, 2019)
			Greater fiscal space for sustainable development Betterment in Development Indicators	---- Greater power sector efficiency ↓ Less distortion costs More national savings ↓ Greater resources available for investment in development	Sustainable Development = strong	
	1.1, 1.5, 2.1, 3.9	1.1.1, 1.5.1, 1.5.2, 2.1.1,3.9.1, 3.9.2	Better health outcomes	↓ Improvement in development --- Decreased emissions and pollution ↓ cleaner air, better sanitation and access to water ↓ Longer life expectancy, less mortalities, less disease	Health = weak to moderate	

*Expected results.

4.3. IMPACT OF MEASURES PROMOTING A FORWARD-LOOKING RECOVERY ON PRIORITY SDGS

Fiscal policy responses aimed at ensuring a forward-looking recovery are anticipated to generate a digital transformation, resulting in improvements across a range of SDGs. Once again, as most of the work under the three stated measures is still underway, it is still too early to assess their actual developmental impact. Therefore, expected outcomes based on literature review and peer benchmarking have been provided in the tables below.

Table 9: Impact of digital Pakistan vision & Universal Service Fund

Target Group	Affected SDG Target	Affected SDG Indicator	Impact of Measure	Major Transmission Channel	Perceived Impact Strength	Source
Rural and remote localities Previously unconnected regions. Women	1.1, 1.5, 2.1, 3.1, 3.2, 3.4, 3.7, 3.c, 5.b, 8.2, 8.3, 8.6, 9.c	1.1.1, 1.5.2,1.5.4, 1.b.1, 2.1.2, 3.1.1, 3.1.2, 3.2.1, 3.2.2, 3.c.1, 5.b.1, 8.3.1, 8.6.1, 9.c.1	Reduction in poverty & vulnerability Increased employment and educational opportunities Good health and Well-being Gender Equality	E-commerce ↓ expanded access to larger markets ↓ income growth in poor households ↓ Increases household purchasing power ↓ poverty and hunger reduction ---- Tele-medicine ↓ Greater access to health services in rural remote areas --- Equal access to employment and educational opportunities for women ↓ Better and more jobs ↓ greater economic power for women ↓ greater political and social power for women	Poverty =Permanent, strong Employment = strong Economic activity = strong Health = strong Gender equality = strong	(Xiheng & Changyu, 2020) (Zaballos , et al., 2019).

*Expected results

1) Digital Pakistan Vision & Universal Service Fund

Digital infrastructure improvements are known to have a significantly positive impact on several key SDGs. [10] Pakistan's commitment to expanding internet access in rural and remote regions (USF initiative) can potentially bring numerous communities out of poverty by generating employment and education opportunities, as seen

10 As seen from the experience of several Latin American and Caribbean countries (Zaballos , et al., 2019).

by China's experience (table 9) (Xiheng & Changyu, 2020). Additionally, digital infrastructure investments can enhance productivity and resilience in key economic sectors, such as agriculture, where advancements can improve food security[11] (Zaballos , et al., 2019).

While a gender and residence lens has been mainstreamed into Digital Pakistan and USF, both fail to address existing inequalities, in turn potentially further limiting access to numerous social and economic opportunities. For instance, the free telehealth service portal via WhatsApp fails to account for inequitable technology access in Pakistan. WhatsApp's use among older people (as a share of total visitors) is low and progressively declines after age 34, with people 65 and older constituting only 6 percent of users (Hootsuite & We Are Social, 2021). Additionally, women's share of total users is far behind that of men (31.2 and 68.8 percent respectively) (Ibid). Therefore, measures facilitating medical consultations through applications like WhatsApp will likely have a limited audience.

2) E-taleem

Sudden school closures provided the government wit a small window of opportunity to implement measures minimizing collateral damage to education, e.g., e-taleem.

Virtual learning undoubtedly has its benefits; e.g., it can widen educational opportunities for countries like Pakistan, whose existing educational infrastructure cannot effectively cater to its ever-growing population. Addressing physical capacity shortages in educational facilities (e.g., schools and universities) is both costly and time-consuming. Instead, virtual learning can efficiently expand access to education for millions, raise literacy rates [12] and increase employment opportunities whilst reducing costs (over traditional brick-and-mortar education) (Trines, 2018). Additionally, e-learning measures can advance gender equality by schooling more young girls and women. Raising the number of schooling years provided to girls reduces the likelihood of child marriage (table 10): each year of secondary education reduces the chance of a girl marrying before the age of 19 by 5 percent (World Bank, 2017).

Once again, however, e-taleem failed to account for regional and gender disparities in television ownerships. According to the DHS (2019), 86 percent of urban households owned a television set, while the same was true for only 48 percent of rural households. An even greater difference existed in television ownership between the wealthiest and poorest quintiles. These inequalities resulted in e-learning initiatives excluding many poor and rural children. Additionally, as girls in rural areas also face restricted access to technology, such oversights threaten to widen the gender divide further (Aslam, 2021).

11 Ibid.

12 (2019) 'Technology to be used to raise literacy rates: Minister" -Dawn, April 16, https://www.dawn.com/news/1476418.

Table 10: Impact of E-taleem

Target Group	Affected SDG Target	Affected SDG Indicator	Impact of Measures	Major Transmission Channel	**Perceived Impact Strength**	Source
Students	1.1 1.5, 2.1, 3.1, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 5.3,	1.1.1, 1.5.2,1.5.4, 1.b.1, 2.1.2,	Quality Education	Undisrupted schooling ↓ Lower dropout Rates Higher Enrolment Rates ↓ Higher Literacy Levels -----	Literacy = strong Broadening access to education = strong Reduced learning losses during crises =strong	(Trines, 2018)
		3.1.1, 1.1.1, 1.5.2,1.5.4, 1.b.1, 2.1.2,	Increased employment opportunities Reduction in poverty & vulnerability	Widening educational opportunities ↓ Better and more jobs ↓ Raises household incomes ↓ Increases household spending ↓ Reduces food insecurity ↓ Reduces hunger and poverty	Employment = moderate Poverty reduction = moderate to strong	(World Bank, 2017).
		4.1.1, 4.2.2, 4.3.1, 4.4.1, 4.5.1, 4.6.1, 5.3.1,	Gender Equality	------ More years of undisrupted education for young girls ↓ Reduced chance of child marriages ↓ Better health and reproductive outcomes for women	Gender Equality = moderate to strong Greater access to education for girls= strong Greater access to economic opportunities for women= strong	

*Expected results.

5. Policy Actions Needed to Secure a Resilient, Inclusive and Green Recovery in Pakistan

This section proposes 5 key actionable recommendations that can be implemented to better reconcile Pakistan's recovery with its long-term sustainable development priorities. Please note that all figures pertaining to the potential costs associated with the recommended policy actions have been provided in the following section.

5.1. PAKISTAN MUST INCREASE SOCIAL SPENDING AND EXPAND SOCIAL PROTECTION

On average, South Asian countries have lower social spending (comprising of health, education and social assistance) than any other region[13]. In 2019, the region spent an average of 3.37, 0.95 and 0.90 percent of its GDP on education, health and social assistance respectively (Bloch, 2020). In comparison, the global social spending average on education, health and social assistance in the same year stood at 4.81, 5.84 and 1.54 percent, respectively. Pakistan's own social spending falls even below the regional average, spending a mere 2.8, 0.7 and 0.6 percent of its GDP on education, health and social assistance in 2019 (WHO, 2019, UNESCO, 2019, World Bank, 2019).

Moreover, the Population Situation Analysis (PSA) shows social spending in Pakistan to have declined over time. Health expenditures fell from 1 percent of the GDP in 1980 to 0.7 percent of the GDP in 2019. Educational expenditures observed a similar pattern. Even social assistance spending continues to remain low, despite the country being in dire need of an expanded social assistance programme (Bloch, 2020). In 2019, Pakistan's total provincial expenditure on social protection amounted to approximately 1 percent of its GDP (ILO, 2019), despite the country's draft National Social Protection Framework recommending it spend 3.9 percent of its GDP.[14]

Pakistan's existing fiscal policies remain inadequate in improving social indicators. While a limited fiscal space is often cited as a key reason for low social spending, the argument, albeit valid, no longer suffices. Pakistan must increase social spending if it wishes to sustain poverty reduction, create jobs and improve the lives of its ever-growing population.[15] The gains from doing so greatly overweigh the costs, especially against the backdrop of the current pandemic which has left many vulnerable to hunger and destitution.

To begin with, Pakistan must guarantee social protection, that is affordable, universally accessible and ample enough to make a difference, to all citizens. Concrete steps must be taken to remove systematic barriers faced by vulnerable segments in accessing social welfare (UN DESA, 2018). For Ehsaas, this entails simplifying the registration process to cater to digitally illiterate individuals, accounting for existing inequalities that resultantly exclude women and transgender people etc.

Additionally, as part of its post-COVID recovery plans, Pakistan must provide affordable and high-quality healthcare to all citizens (ESCAP, 2021). Although healthcare's capacity to deal with COVID-19 has improved, unless services remain fully accessible to all in need such measures remain

13 Regions: Europe & Central Asia, Sub-Saharan Africa, Latin America and Caribbean, East Asia and Pacific, Middle East and North Africa.

14 ILO's calculations indicate that spending at least 2.74% of GDP on social protection is necessary to provide basic income security to children under the age of five, persons with disabilities and person over the age of 65".

15 Refer to Javed (2021) for detailed assessment of socioeconomic impact of increased social spending/social protection. The paper simulates the impact of increased social spending on GDP growth, inflation, poverty, employment and inequality.

unconstructive. Moreover, creating a universal healthcare system need not break the bank. Pakistan can cover its population against health risks while saving costs by 1) using a hybrid of contributory and non-contributory approaches to lower the burden on public resources, while also using co-payment mechanisms to prevent overuse; 2) raising efficiency, which can save more than 30 percent in healthcare expenditures across Asian-Pacific developing countries; 3) initially providing basic and primary health services, prescriptions and vaccines (that generate high impacts at lower costs) and then gradually expanding facilities (ESCAP, 2019).

Furthermore, as the likelihood of future occurrences of infectious diseases and pandemics increases, Pakistan gains from substantially increasing its domestic health infrastructure spending. Raising public healthcare capacity against pandemics is crucial if the system is to withstand both current and future health emergencies. For this, the government must direct the fiscal stimulus towards augmenting national testing capacity against infectious diseases, by:

1. Developing the scope for domestic manufacturing of diagnostic equipment to guarantee a smooth and low-cost future supply stream, with mechanisms in place to ensure quality standards of locally produced kits – a problem the country regularly encounters.

2. Encouraging private and bilateral partnerships for the transfer and exchange of R&D technology to enable local development. This is necessary as Pakistan does not possess its own strong local capacity for R&D (WHO, 2011).

5.2. PAKISTAN MUST ROLE OUT A MASS VACCINATION POLICY

While COVID-19 vaccine development has been unprecedentedly fast, obstacles are being faced worldwide in its distribution; 1 out of 4 people in rich countries are already vaccinated, while the same is true only for 1 out of 500 people in poor countries as rich countries buy up more than half of the future supply of vaccines (Oxfam, 2020). The speed and scale with which vaccines can be mass-produced and rolled out to the general public is critical to how well a pandemic is handled. As vaccines become permanent fixtures in global healthcare strategies against future pandemics, Pakistan must ensure its own local production and distribution of vaccines. Ramping up domestic production of vaccines will increase the pace and cost-effectiveness with which the country is able towh manage all future epidemics and pandemics independently (Rey-Jurado, et al., 2018).

Vaccination policy must remain an economic policy (Javed, 2021b). As pandemic-induced stress on the country's economic and health systems continues to mount, Pakistan must map out a clear national strategy for vaccinating its population against COVID-19 quickly and fairly (Ibid). Vaccination must be a priority spending area, with the government laying out a clear national road map for inoculating all citizens. The COVID-19 vaccine is more than just a vaccine - it is the key to resuming economic activity within the country and alleviating the overwhelming stress currently being faced by the healthcare system.

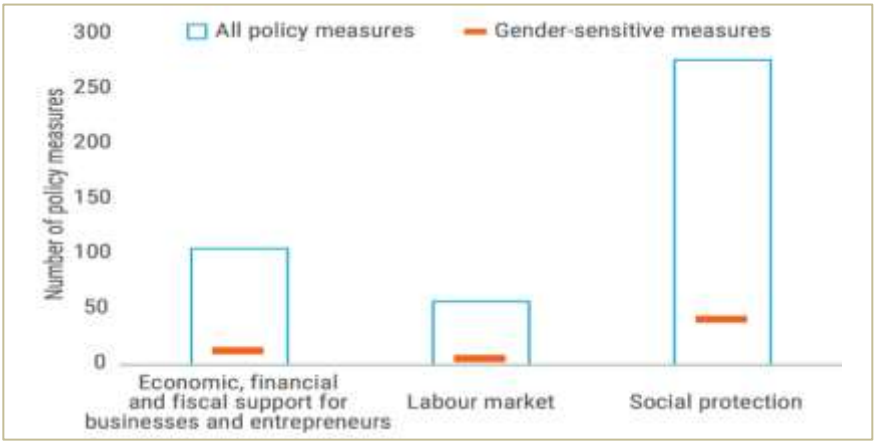
Successful immunisation is key to post-pandemic employment, as reopening will inevitably encourage re-employment and create new job opportunities. The vaccine's long-term gains are far greater than its one-time cost. While Pakistan's relatively lower spread and mortality rate have mistakenly encouraged the government's sluggish action on vaccinating its citizens, there is no doubt that further delays will make eventually re-opening even costlier, due to the economy continuing to operate below potential. Until and unless Pakistan implements a well-designed vaccination policy, future waves of the virus will continue to come.

5.3. GREATER GENDER SENSITIVITY IN FISCAL STIMULUS MEASURES IS REQUIRED

Despite global calls to make women equal beneficiaries in all post-pandemic recovery plans, efforts have largely missed the benchmark. Most economic and social measures across the world

continue to remain gender insensitive (Figure 5) while failing to adjust for pre-existing inequalities, thereby inadvertently exacerbating gender exclusion even further.

Figure 5: Gender equality in COVID-19 policy measures



Source: ESCAP, based on UNDP-UNW COVID-19 Global Gender Response Tracker.

Pakistan has been no different in this regard. As the crisis warranted an urgency in the rollout of support measures, due consideration was not given to ensuring that measures remained gender-sensitive, resulting in many oversights and gaps. This was evident from the review in the previous section where, in the case of Ehsaas, the distribution strategy remained inherently flawed in ensuring women equal access to hand-outs. The high gender inequity in ownership of mobile phones and identification cards in the country meant fewer women would be able to register to such programmes (excluding the Kafalat category, which is exclusively for women). Mechanisms must therefore be devised to guarantee programme accessibility, so that women are not excluded from social welfare. In the case of Ehsaas, short-run efforts can include allotting greater slots to women in all categories and prioritizing female applicants. Long-run efforts involve reducing the gender gap in citizen registration by removing barriers faced by women in obtaining CNICS etc.

The importance of mainstreaming gender into fiscal stimulus measures cannot be understated. In 2005, the GOP introduced mandatory gender-responsive budgeting in an attempt to reduce gender disparities, which has been associated with an almost 485 percent rise in gender-sensitive expenditures between 2007-08 to 2008-09 (Oxfam, 2020). By 2008, gender-responsive budgeting had been introduced at all governmental labels and ministries (Ibid). However, most work remains surface level, and for most public offices the commitment towards gender equality is not reflected in the implementation of policies and projects. In most cases, women remain subsidiaries rather than primary beneficiaries.

Economic opportunities are extremely restricted for women in Pakistan, with only one-fourth participating in the labour force as opposed to 85 percent of men. Pakistan ranked 151 out of 153 countries on the Gender Inequality Index last year and placed 150 out of 153 countries in the Economic Participation and Opportunity sub index, having closed only 32.7 percent of its existing gender gap (Figure 6) (World Economic Forum, 2020).

As discussed, the government attempted to counteract the pandemic-induced rise in unemployment by boosting activities within the construction and forestry sectors – both of which remain largely male-dominated. As women continue to fare poorly across all indicators, it is incumbent upon the state to double down on efforts to instil gender parity across all recovery measures. For this, the government must first accurately identify where women are employed. Female labour force participation (FLFP) is

generally higher in rural areas than urban, with the majority of women working in agriculture, manufacturing and domestic services (Pakistan Bureau of Statistics, 2018).

Figure 6: Country score card

	2006 score		2020 score	
Global Gender Gap Index	**112**	**0.543**	**151**	**0.564**
Economic participation and opportunity	112	0.369	150	0.327
Educational attainment	110	0.706	143	0.823
Health and survival	112	0.951	149	0.946
Political empowerment	37	0.148	93	0.159

Source: (World Economic Forum, 2020).

Much of this employment remains informal, unregulated and highly vulnerable to pandemic-induced shocks, leaving many women without income, healthcare or any form of social protection. The government must, therefore, target recovery and stimulus packages at such sectors. In the short run, this may be achieved through income-support measures, grants and credits, financing for women entrepreneurs and small business owners. In the long run, reforms can be introduced to cement better pays and benefits (paid sick leave, maternity leave, health insurance and pensions) in female-dominant sectors etc. (UN, 2020).

Bringing girls back to school is another critical task in mainstreaming gender into post-pandemic recovery. Once schools reopen, ensuring female re-enrolment should be of the utmost importance. The government can ensure young girls and women continue their education by 1) removing the financial barriers faced by girls in accessing education (e.g., subsiding or waiving tuition fees for girls and providing financial incentives such as cash transfers to encourage parents to send their girls back to school), 2) creating social awareness on the importance of education for girls and women, with community outreach campaigns targeted at bringing girls back into classrooms, and 3) by addressing the gender parity in distance learning, e.g., accessing e-learning technology (Jenkins & Winthrop, 2020, Botea & Friedson-Ridenour, 2020).

5.4. PAKISTAN NEEDS TO ENSURE BALANCED GREEN FUNDING IN ORDER TO ENSURE TRANSITION TOWARDS GREEN RECOVERY ENERGY

Recovery efforts appear to be producing a net negative environmental impact, with trillions being injected into carbon-intensive activities in the hopes of minimizing the fallout from the crisis. Even as countries invest in a green recovery, green spending is often greatly overshadowed by non-green spending (Vivid Economics, 2020). In Pakistan for instance, on one hand, measures such as the Green Stimulus Package are praised for generating employment and being eco-friendly, while on the other hand, other measures continue to harm the environment (e.g., injecting money into the construction sector, which has a notoriously high carbon footprint). Similarly, while trees are planted through '10 Billion Tree Tsunami', thousands are logged to make way for large-scale infrastructural projects. Such contradictory

measures signal policy incoherence in recovery plans, resulting in an overall loss for the environment as costs outweigh benefits.

To counter this, at least 30 percent of the fiscal stimulus moving forward must be geared towards green recovery in conformity with international commitments (e.g., the EU) (IISD, 2020). Moreover, spending earmarked for non-green purposes must not harm the environment nor dwarf green spending. Additionally, non-green projects should be priced differentially, to discourage investments in them.

While the cost of a green recovery is high, the gains are higher. Evidence suggests that $1 million spent on fossil fuels has the potential to generate 2.7 jobs, whilst the same amount can potentially produce 7.5 jobs in renewables and 7.7 in energy efficiency (Hughes & Roy, 2020). Pakistan must appreciate the social gains of climate action i.e., saving millions of lives and preventing avoidable large-scale destruction – a vision that must drive its support for a green recovery no matter the cost. To this end, Pakistan's green recovery will require prioritising the following three dimensions:

1) Eliminating Fuel Price Subsidies

As recovery reinforces support for climate action, eliminating fuel subsidies is an important step in working towards a carbon-free future (ESCAP, 2021). Fossil fuel emissions wreak havoc on both the environment and human life. Lowering their consumption is key to tackling climate change and must be done with immediate effect. Yet their active subsidisation continues to encourage overconsumption - making this harder to achieve. Moreover, energy subsidies prompt under-investment in renewables, disproportionately benefit the wealthy and channel public money away from productive and sustainable causes (World Bank, 2020a). While entirely removing subsidies is politically unviable, it is crucial for a greener future.

For Pakistan, fuel subsidies remain a permanent fixture in the national budget. In 2019, the country paid $1.7 billion and $0.2 billion in coal and oil subsidies respectively (IEA, 2020). Subsidies have historically been provided in Pakistan as a cheaper alternative to social benefits, with violent riots erupting whenever attempts to slash or withdraw these incentives are made. Eliminating subsidies can be done peacefully, however, as shown by Indonesia, which introduced successful subsidy reforms from 2014 to 2017 after decades of heavily subsidising fossil fuels. This was accomplished by President Joko Widodo's ability to sway public support for these reforms by promising the poor free access to healthcare and education (Chelminski, 2018). Eliminating subsidies saved Indonesia $15.6 billion – 10 percent of its total expenditure - which in turn was routed towards social welfare, resulting in a win for both the environment and sustainable development (IISD, 2016).

This, however, may be easier said than done in the case of Pakistan. The success of fuel subsidy reforms within a country is dependent upon a number of factors: sound governance, corruption, political stability, rule of law and transparency, etc. (Foo, et al., 2020). Key differences in this regard between the two countries may make it difficult for Pakistan to replicate Indonesia's success. For instance, Pakistan ranked 120th out of 128 countries in terms of rule of law in 2020, while Indonesia ranked 59th (WJP, 2020). The absence of corruption is perceived to be far lower in Pakistan (ranking 116th) than Indonesia (ranking 92nd), with the former facing greater problems with misappropriated public funds which have in turn weakened the public's confidence in any assurance from the government to channel money saved from subsidy cuts towards increased social spending.

Likewise, Pakistan also fares worse than Indonesia in regard to regulatory enforcement and justice (Ibid). It also faces far more political instability than Indonesia (World Bank, 2019). All in all, in the case of Indonesia, the public had far more confidence in both the government and its political leaders to use public funds for social welfare, transparently, equitably and effectively, which is not the case in Pakistan. Given the general public's complete lack of trust in governance structures and political figures, as well as little to no public accountability in Pakistan, managing a transition from fossil fuel

subsidization to universal social protection, healthcare and education will require the GOP to rebuild trust with its citizens, garnering social acceptance for such reforms through strong political leadership, good public relations, and by compensating the poor for their increased financial burden.

2) Shifting to Green Transport

Green transportation is vital to green growth. Pakistan can make a breakthrough on SDGs 9 and 11 by constructing a low-carbon public transport system. For this, Brazil's Bus Rapid Transit (BRT) system in the city of Curitiba provides a model example of sustainable urban planning in a city where the population tripled in the span of 20 years. Curitiba's BRT is used today by nearly 75 percent of its population, carrying over 1.3 million passengers daily across 359 stations and through integrated bus lanes which have dramatically reduced commute times and costs. It also successfully cut emissions and improved the air quality and well-being of residents, while supporting employment generation as new businesses and industries developed along its route (Development Asia , 2016).

While Pakistan already has a BRT Metro Line in a number of cities, it operates at limited capacity and fails to provide an adequate solution to public transport. It remains underutilized and ineffective in reducing emissions, as most people still require the use of cars and private transport (vans, taxis and rickshaws) to complete their journey. In fixing this, Pakistan can learn a number of lessons from Curitiba. Firstly, it can complement the existing system with connecting bus services to expand route coverage, using low emission buses, a dedicated bus lane (on the same road, without separation) with roadside bus stops, stalls and benches (ensuring safety for women and girls), and real-time route and wait information.

Additionally, bicycle or e-scooter posts can be provided at main Metro Stations as alternative green modes of transport, with docking stations provided throughout the city for their easy return (Ul Haque & Rizwan, 2020). Efforts must not stop here, however: a push and pull approach must be utilised to sway people towards public transport by 1) ensuring it is affordable, convenient to use, safe (especially for women travelling alone) and socially inclusive, 2) marketing the economic, social and health benefits of greener modes of transport (e.g., more walking and cycling), 3) creating pedestrian and cycling spaces (e.g., broader footpaths and cycle lanes), and 4) discouraging car use within city limits by removing fuel subsidies, adding gas guzzler taxes, congestion charges and creating low-emission zones, etc. (Bongardt, et al., 2010).

3) Transitioning to Renewable Energy

Energy is central to Pakistan's ability to reduce its vulnerability to climate change. The current system remains financially unsustainable and causes billions in losses annually. In 2015, distortions cost the country approximately $17.69 billion (Zhang, 2019). In the same year, frequent and lengthy power shortages cost households and businesses almost $12.87 billion.[16] For context, these losses are two to three times larger than Pakistan's recent $6 billion IMF bailout package.

Transitioning to renewable energy can help cut these costs whilst simultaneously fulfilling a number of SDGs in energy, poverty, water, sustainable cities, etc. Pakistan has great potential in renewables, with wind being a particularly abundant resource. However, despite this, solar and wind continue to operate at only 4 percent capacity and account for merely 2 percent of total power generation (World Bank, 2020b).

With recovery efforts underway, incentives for Pakistan to fall back into conventional policy measures are high. Fossil fuel dependency could potentially worsen as CPEC progresses, as construction of the corridor demands more coal-fired power plants to meet energy needs, and emission-belching road transportation is anticipated to release up to 36.5 million tons of CO_2 emissions daily along with mass-scale deforestation

16 Actual figure is anticipated to be higher as social loss to education and health (especially for women) cannot be quantified (Zhang, 2019).

drives, etc. As Pakistan continues to commit investments in a myriad of carbon-intensive infrastructures, it risks a carbon lock-in, making shifting to cleaner energy even trickier (Kouser, et al., 2020, Khwaja, et al., 2018). Furthermore, as oil prices drop, generating renewable energy becomes economically less attractive for net importing countries such as Pakistan, where recent price changes have had a weakening effect on renewable energy growth (Aslam, et al., 2021).

While Pakistan has stated its intention to shift away from conventional energy pathways and towards more renewable sources, its reliance on fossil fuel continues to rise. Pakistan must accelerate its efforts to transition to cleaner energy, scaling up its solar and wind generation in order to achieve a 30 percent share of Variable Renewable Energy (VRE) by 2030. Doing so would be momentously beneficial in 1) lowering vulnerability to global warming, 2) reducing its crippling circular debt, 3) improving energy security as sources are diversified and dependency on fuel imports is reduced, and 4) saving nearly $5 billion in costs over the coming 20 years (Aslam, et al., 2021, World Bank, 2020).

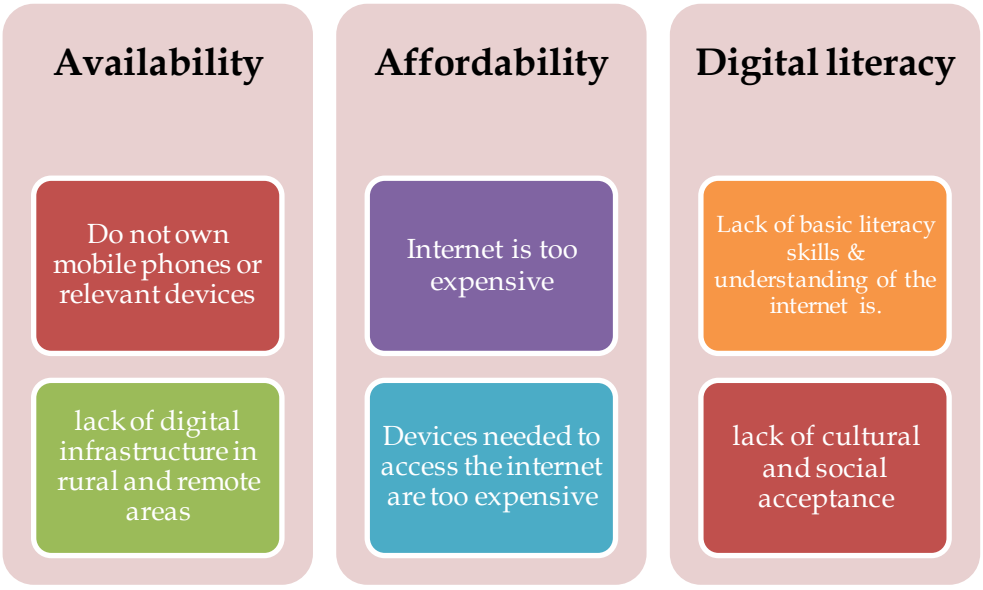
5.5. AN INCLUSIVE DIGITAL TRANSFORMATION IS NEEDED TO ACHIEVE A RESILIENT AND FUTURE LOOKING RECOVERY

Despite efforts to expand digital infrastructure and broadband access, Pakistan's digital transformation is yet to materialize. The digital divide is not merely about access, but also affordability, coverage and capacity (ESCAP, 2019). For Pakistan to get a considerable portion of its population online by 2030, it must look beyond expanding physical infrastructure and address the barriers faced by people in using digital services (Figure 7).

Pakistan can address these barriers by 1) making the internet affordable for all, 2) improving availability and affordability of technologies needed to access the internet, 3) creating awareness on benefits of internet use and teaching skills needed to go online through ICT and digital literacy programmes (whether for education, e-commerce, communication or leisure), 4) increasing cultural acceptability of the internet by making it safer for both women and children through strong data privacy, anti-cyberbullying and online harassment laws and regulations.

Supply chain resilience is another crucial component of digital transformation. Adapting supply chains against future potential disruptions is crucial to a resilient recovery, particularly for sectors that cannot afford to shut down even amidst an emergency, e.g., the electricity sector, agriculture and the health sector, etc. Fiscal stimulus can raise supply chain resilience by 1) introducing contactless and electronic systems across the chain and at border-checking points in the case of international supply chains (enabling operations to be undertaken with minimum physical interaction, thereby ensuring the health and safety of personnel), and 2) developing automation technology and other digital solutions to ensure production and transport lines remain functional during emergencies (ESCAP, 2020). An inclusive digital transformation must also focus on:

Figure 7: Barriers to digital transformation



1) Minimizing the digital gender divide

As the digital gender gap is in itself an extension of broader inequalities, improvements in digital infrastructure and access are unlikely to reduce gender inequity if they continue to remain gender-neutral. Rather, a digital transformation must explicitly promote gender equality at every step of the way. Unfortunately, in Pakistan, most initiatives to bridge the digital gap include a mere rhetorical commitment to gender equality and fail to reflect it in their implementation. In most cases, women remain subsidiaries rather than primary beneficiaries. Therefore, instead of merely focusing on 'connecting everyone', programmes should target women and girls by:

- Promoting digital skills and ICT education for women and girls
- Supporting greater female participation in technology development, local content creation and ICT innovation, where women constitute an insignificant portion of the taskforce
- Making the internet safer for women and girls, who hesitate to come online due to online harassment, violence and personal data breaches (World Wide Web Foundation, 2020).

2) Minimizing pre-existing inequalities in e-learning and telehealth

While minimizing damage from the pandemic, numerous fiscal stimulus measures were undertaken hurriedly, failing to adjust for pre-existing inequalities (e.g., E-taleem, Digital Pakistan, etc.). Though well-intentioned, these measures failed to account for large regional and gender disparities in television and technology ownership. Going forward, fiscal stimulus measures facilitating distanced learning and telemedicine across the country must adopt clear mechanisms to avoid further marginalization of the country's poorest and vulnerable segments by 1) utilising disaggregated data in designing e-learning policies, e.g., mapping students into groups based on gender, location and household incomes, especially at-risk students, 2) ensuring high re-enrolment rates once schools reopen (Malik, 2020), and 3) enhancing rural accessibility to e-learning technologies, along with ICT and digital literacy training.

6. Financing Needs to Support Inclusive, Green and Resilient Recovery

In this section, the cost of Pakistan's post-COVID-19 recovery plans has been estimated, with a central focus on the five recommended policy actions provided in the previous section. These policy actions are guided by the concept of *building back better,* delineated throughout the study, and pertain to three key areas: 1) an inclusive recovery, 2) a green recovery and 3) recovery which is resilient and forward-looking.

Costing estimates have been broken down into both the current level of spending, as well as the additional spending needed to adequately fulfil each respective policy action. Additionally, the corresponding public and private allocations of these spending needs have been provided, where available. Moreover, as certain recommendations cover a broad range of objectives, proxies have been used to represent more feasible and tangible end goals.

For example, in ensuring recovery from COVID-19 remains resilient and forward-looking, the study recommends Pakistan concentrate its efforts on achieving an inclusive digital transformation aimed at minimising any pre-existing inequalities found. However, as Pakistan still remains in the early phase of its digital maturity, in need of sizable digital infrastructure and networks, the digital access rate would provide a better assessment at this stage of the country's ability to accomplish this recommendation.

Before proceeding, it is important to clarify a few further points:

- Certain goals overlap: for instance, goal 5 (gender equality) requires prioritizing women across all SDGs; similarly, goals 2 (zero hunger) and 6 (clean water and sanitation) will be easier to achieve if significant progress is already attained in goal 13 (climate action). Therefore, specifying a clear solitary cost for each goal may not be feasible; instead, aggregating investments in such cases is far more effective.

- Costs remain subject to future changes in prices, GDP growth, population growth, etc. For example, as renewable technology becomes cheaper in the future, the cost of shifting to green energy will be lower.

- Where Pakistan-specific outlays are unavailable, peer benchmarking and adjustments will be useful in estimating costs.

- To avoid a spill-over of COVID-19 impacts, Pakistan's 2018 GDP ($314.6 billion) is used throughout the section, unless stated otherwise.

- For certain parameters, data in the context of Pakistan is not always readily available and, where it is, may not necessarily be the most up to date. For example, the composition of additional spending needs (i.e., public and private allocations) for components such as social protection and green energy was not present and therefore has not been included in the cost analysis. Likewise, where the investment path for each financing need is not available, the study assumes investments to remain steady each year, till 2030.

- Finally, Figures and estimates used throughout the section have been derived from data collected through various national, regional and international studies, reports and published literature. It is important to note that although compounding together a wide variety of reports, studies and existing literature has been helpful in creating a comprehensive picture for the cost estimation of Pakistan's recovery from COVID-19, there are certain limitations to doing this. For more details of the different methodologies used by studies included in this section, please refer to Appendix I.

6.1. FINANCING NEEDS FOR AN INCLUSIVE RECOVERY

For most countries, financing COVID-19 recovery plans will be a mammoth task. For Asian-Pacific countries, an estimated annual investment of $1.5 trillion will be required to achieve SDGs, equivalent to 5 percent of their combined GDP in 2018 – tallying to almost $1 per day, per person. For South Asian and least developed countries, this figure rises to $2 to $3 per day, per person (ESCAP, 2019). For Pakistan, this may entail spending anywhere from $164.4 billion to $246.6 billion per annum till 2030 – an inconceivable amount for the resource-constrained country. Between its fast-rising population, and extremely low tax collection – under 2.2 million are active taxpayers (Rana, 2021) – Pakistan's fiscal space is extremely restricted. As a result, the country is left to borrow more and more, with the concentration of debt in the economy at 87.2 percent in 2020 (MOF, 2020).

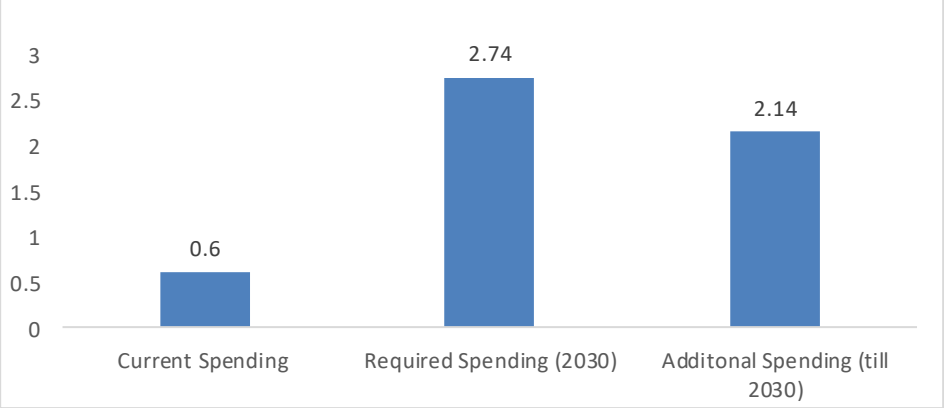
6.1.1. Increasing Social Spending and Expand Social Protection

Pakistan's expenditure on its social sectors is considerably less than most developing countries, both globally and within the context of South Asia. Higher investments across social protection, health and education, can help Pakistan not only tackle poverty but also improve economic growth and tackle inequality. In fact, increasing social spending in all three sectors to match global standards could help the country improve GDP growth rates by 50 percent (ESCAP, 2018) – which will be instrumental in helping both its economy and population recover from the COVID-19 pandemic. With these benefits in mind, Pakistan must significantly boost expenditures in the following three areas:

Social Protection

For a country like Pakistan, raising spending on social protection has a high potential for impact on its GDP growth rate (Ibid). It may also be one of the most effective ways to lift a large proportion of its population out of poverty. Despite this, the country has consistently spent a minuscule amount on social safety nets over the years – approximately 0.6 percent of its GDP, which is 1.7 times below the South Asian average of 1 percent of the GDP and 2.5 times below that of most other developing countries, which on average are seen to spend 1.5 percent of their GDP (ADB, 2019).

Figure 8: Total social protection spending (% of GDP)



Source: Author's elaborations based on data from (ADB, 2019) and (ILO, 2019).

Spending on social protection programmes was seen to rise during the pandemic, with around PKR 203 billion spent through EECP so far (GOP, 2020a) and a PKR 260 billion proposed for the continuation of the Ehsaas programme in fiscal year 2022. However, for substantial and long-lasting reductions across poverty and inequality indicators to be achieved, Pakistan's social protection spending must sustainably rise to at least 2.74 percent of the GDP (ILO, 2019). This additional spending of 2.14 percent of the GDP (figure 8)[17], will be vital in ensuring a basic level of income security to children under 5 years of age, individuals with disabilities and those aged 65 and over. This recommended spending level would represent the beginning of a social protection floor for Pakistan, whereby its citizens are provided basic welfare, pulled out of poverty and allowed to participate in inclusive and sustainable development (Ibid).

Health

Pakistan's health system remains severely underfunded and inefficient, falling short of providing good quality and universal healthcare to its ever-growing population. From 2010 to 2018, the country spent an average of 2.7 percent on health expenditures (as a percentage of GDP) (WDI, 2018). However, this level of investment has been inadequate in building the sector's capacity against the pandemic, which became evident when an uncontrolled boom in COVID-19 infections soon overwhelmed the sector, bringing to light many of its inherent vulnerabilities and shortfalls. In fulfilling the first policy action and achieving SDG 3 (good health and wellbeing) and all related targets, Pakistan will need to significant raise healthcare spending as a percentage of its GDP, from 2018 levels of 2.8 percent to 8.2 percent by the year 2030 (Figure 9) (Brollo, et al., 2021).[18]

Of this additional 5.4 percent of the GDP [19] spending requirement, public investment will cover a slightly larger share. Presently, public spending is reported at 0.9 percent of the GDP, and will need to increase nearly five-fold to 4.3 percent of the GDP by 2030. Private spending currently overshadows public spending levels quite significantly, standing at 1.9 percent of the GDP and will also need to be brought up to 4 percent by 2030 in order to sufficiently meet SDG 3 (figure 10) (Ibid). On the whole, per capita spending will need to almost quadruple from $41 to $151[20].

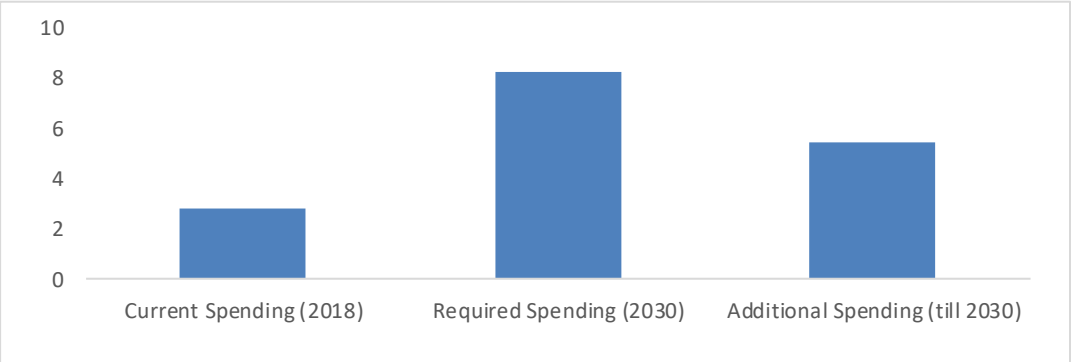
17 Assuming additional spending to commence from 2020 till 2030, arise entirely from the public sector (as per the existing trend) and remain steady every year.

18 This study estimates additional spending needs based on input-outcome approach, one that determines development outcomes to be a function of mixed inputs. In the case of health and education in particular, the study sets key inputs and their associated unit costs at the values for countries with similar GDP per capita that perform well in their SDG index scores. For more details, refer to: Brollo, F., Hanedar, E., & Walker, S. (2021). Pakistan: Spending Needs for Reaching the Sustainable Development Goals (SDGs).

19 Once again, the study assumes this additional spending to be steady each year till 2030.

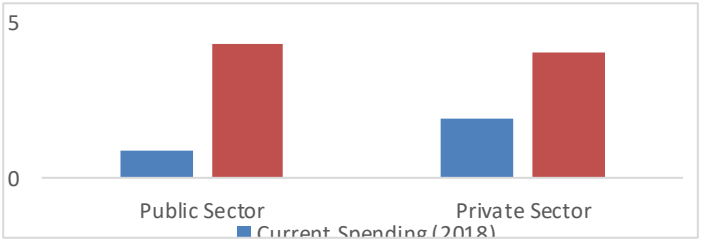
20 USD 2018.

Figure 9: Total healthcare spending (% of GDP)



Source: (Brollo, et al., 2021)

Figure 10: Composition of health spending (% of GDP)



Source: (Brollo, et al., 2021).

Education

Out of its total social spending, Pakistan has consistently allocated a relatively bigger portion to education over the years. Nonetheless, the sector's spending continues to remain far below the level that is needed to help the country achieve significant improvements in learning outcomes: the literacy rate has risen by merely 2 percent between 2013 to 2018, with the latest figures reported at 60 percent (PBS, 2018). The country's weak performance across a number of educational outcomes can be attributed to this low level of spending, coupled with a high population growth – one of the highest in South Asia (WDI, 2020) - among other factors. As a result, large investments are required to improve both the quality of education provided, as well as its accessibility. In 2018, the country spent approximately 3.9 percent of the GDP on education, which will need to increase to 9.6 percent by 2030 if the country is to achieve its targets for Education SDG 4 (figure 11) (Brollo, et al., 2021).

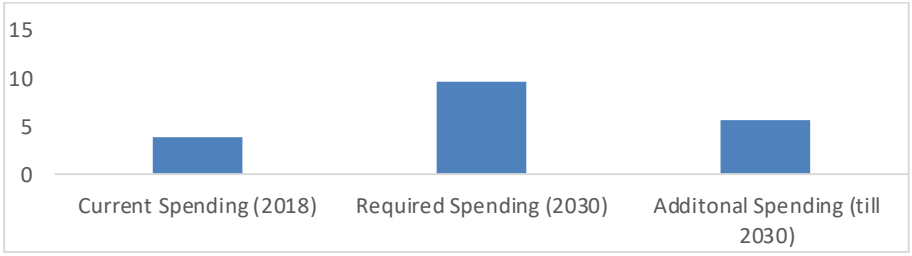
The bulk of this additional investment[21] will need to come from public sources, with government spending rising from current levels of 2.4 percent of the GDP to 7.7 percent. The private sector, on the other hand, will be required to raise spending to a relatively lesser extent, from 1.5 percent presently to 1.9 percent of the GDP by 2030 (Figure 12). Overall, spending per student will more than double, from $244 in 2018 to $570 by 2030 (Brollo, et al., 2021).

This higher spending will be essential in improving enrolment rates, hiring more teachers by providing attractive compensation packages and resultantly reducing classroom sizes. Greater educational spending can also be used to enhance infrastructure, such as building more schools and/or renovating existing ones to include basic facilities etc, especially in rural and remote areas. As mentioned, Pakistan's existing educational infrastructure is not capable of effectively catering to its growing population. A lack of access to good quality public schools in the country over the years has given rise to a highly profitable private schooling sector, resulting in a dual educational

21 Assumed to be steady each year till 2030.

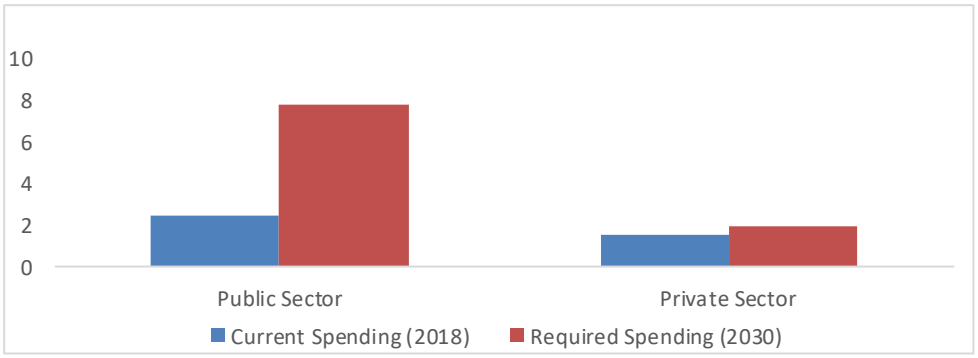
system in the country that continues to exacerbate economic and social inequality. A higher level of educational spending (spearheaded by the public sector) will be fundamental in addressing such capacity shortages and the roots of educational inequities in the country.

Figure 11: Total educational spending (% of GDP)



Source: (Brollo, et al., 2021).

Figure 12: Composition of educational spending (% of GDP)



Source: (Brollo, et al., 2021).

6.1.2. Rolling Out a Mass Vaccination Policy

Economies worldwide now face an additional financial burden - the cost of the COVID-19 vaccine. While Pakistan has till now mainly relied upon vaccinations received as gifts and grants, these remain insufficient in covering its domestic requirement. Currently, the country is spending approximately PKR 24 billion ($150 million) for COVID-19 vaccinations; for the upcoming fiscal year 2021-22, the GOP has proposed to set aside $1.1 billion for vaccines. While this is a substantial amount, it is still not nearly enough.

In order to purchase enough vaccines to cover its population, it is recommended that Pakistan spends roughly 1 percent of its total GDP (Nayab, 2021) – approximately $2.64 billion[22]. However, such an estimate fails to incorporate the additional costs associated with vaccines, such as costs of cold supply chain, transportation, human resources, etc. Once these are considered, the total amount needed to fully vaccinate Pakistan's remaining eligible population[23] rises (Table 11).

Currently, two different types of vaccines are available to Pakistan: the AstraZeneca vaccine, which costs $6 per dose, and the Sputnik V vaccine, which costs $10 per dose. Assuming a mix of vaccines is utilised by the GOP (a more realistic scenario) to vaccinate its population, these costs could amount to $12.76 per dose (including the cost of the vaccine itself) (Pearson, et al., 2021)[24].

22 GDP 2020: $263.687 (USD) (WDI, 2020).

23 Total eligible population has been estimated as all those individuals remaining to be vaccinated, aged 15 and over.

24 Refer to Appendix II for details on cost estimation.

Therefore, a total of $3.6 billion or 1.37 percent of the GDP will be required to vaccinate Pakistan's remaining eligible population.

To prevent vaccine inequality, vaccinations are expected to predominantly arise from the public sector. Additionally, though the government plans to vaccinate 70 million individuals by the end of 2021 (Haider, 2021), this provided timeframe is improbable given past experiences with vaccines in the country. At present, Pakistan's vaccination drive is moving rather slowly; in fact, as of July 2021 only 1.96 percent of the population has been vaccinated (Ritchie, et al., 2021b). Given this slow rate, it may be more realistic to assume Pakistan will achieve 70 percent of its immunization target by the end of 2024. Likewise, for costs, the first year alone may require almost 40 percent of total spending, given many up-front costs that will be required to kick-start the drive (e.g., training and cold chain costs), after which the remaining amount can be spread evenly across the remaining years.

Table 11: Financing COVID-19 vaccine for total population

	Scenario 1 (If AstraZeneca is used)	**Scenario 2** (If Sputnik V is used)	**Scenario 3** (Mix of I & II)
Cost of Vaccine Procurement (USD) (Per Dose)	6	10	8
Additional Costs (USD) (Per Dose)	3.68	5.84	4.76
Total Cost of Vaccine (USD) (Per Dose)	9.68	15.84	12.76
Total Cost of Vaccination (Billion USD) (Total cost * Total eligible Population)	2.74	4.48	3.60
Percentage of GDP (per annum spending/GDP x 100)	1.03	1.69	1.37

6.1.3. Greater Gender Sensitivity in Fiscal Stimulus Measures Is Required

As mentioned, certain goals cannot be individually priced, given their excessive intersection across other areas. Achieving SDG 5 requires mainstreaming gender across all investment areas and recalibrating all existing initiates to remain inclusive to women. Therefore, no explicit cost for gender equality is provided; instead, fiscal stimulus should as a whole remain gender-sensitive to ensure that women continue to be uplifted and empowered across all development areas (ESCAP, 2019).

6.2. FINANCING NEEDS FOR A GREEN RECOVERY

6.2.1. Financing Needs for Renewable Energy

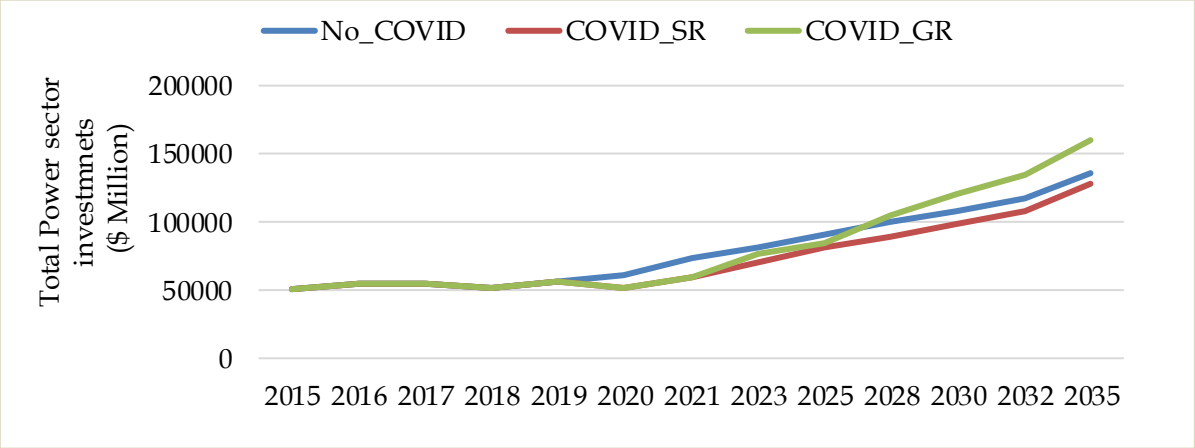
Pakistan's plan for transitioning towards clean energy involves attaining a 30 percent share of Variable Renewable Energy (VRE) by 2030 (excluding hydropower) (World Bank, 2020b). Pre-COVID, Pakistan would have needed a total of $108 billion by 2030 to get its energy sector back on track towards a green recovery (Figure 11). As a result of the pandemic, investment needs have fallen by $10 billion; consequently, the country would now require a total of $98 billion by 2030 (Aslam, et al., 2021) [25]. However, investment

25 The study estimates green recovery cost through a scenario-based approach, analysing energy consumption patterns in a number of post COVID-19 scenarios through an optimized LEAP modelling framework. For more details, refer to: Aslam, H., &

requirements will likely increase after 2028, when business-as-usual is no longer a viable option for the country's energy sector. In this case, an additional $12 billion will be required in 2030, 'with an increasing trend afterwards' (Ibid) (figure 13).

Additionally, a World Bank (2020) study analysed 18 different energy scenarios in an attempt to calculate Pakistan's optimal energy mix and the capital investment needed to achieve it. It found that if government policy targets for renewable energy are followed, Pakistan could attain a 30 percent VRE by 2030, through a 9 percent wind and 21 percent solar mix, which would cost a total of $110.02 billion (World Bank, 2020b). However, an optimized energy mix will require a greater utilization of renewables, with VRE constituting 30 to 33 percent of total capacity, through a 7.7 percent wind and 25.3 percent solar mix by 2030. This would cost a total of $106. 5 billion (total costs including emissions costs) - 3.3 percent cheaper than the government policy target scenario (Ibid). The optimum VRE scenario will not only save costs in the future but would generate lower emission levels, less negative externalities and remain economically and environmentally more beneficial.

Figure 13: Power sector investments required under different scenarios



Source: (Aslam, et al., 2021).

6.2.2. Financing Needs for Sustainable and Reliable Transport Infrastructure

A low-carbon transport system is crucial to ensuring cities remain sustainable moving forward, which in turn, is dependent upon the presence of sustainable and reliable transport infrastructure. For Pakistan, investments in transport infrastructure have the potential to significantly improve household incomes, in turn helping improve tax revenue and GDP growth (Mehar, 2020). In fact, spending PKR 1 billion (approximately $6.27 million) on improvements in road quality can permanently boost per capita income by PKR 371 ($2.4), providing a sustainable fix to poverty (Ibid).

Unfortunately, despite the benefits, the development of infrastructure in the country has not been prioritised, with total investments in transport (including private contributions) amounting to $240 million in 2019 (WDI, 2019) – negligible compared to non-development expenditures. This will inevitably hamper the country's recovery from COVID-19. To achieve sustainable and reliable transport infrastructure, Pakistan will require a total investment of $38.5

billion by 2030 (Standard Chartered, 2020)[26], amounting to an annual investment of $3.85 billion (which constitutes almost 1.2 percent of the GDP). This total investment is 2.9 times higher than that recommended for Sri Lanka (Figure 14), while 1.6 and 13 times below that of Bangladesh and India, respectively.[27]

Of this total investment, the potential investment opportunity will be far greater for the public sector, with a total of $25 billion anticipated till 2030. Likewise, the private sector investment potential for green transport in Pakistan will be a total of approximately $13.5 billion till 2030 (figure 15) (Standard Chartered, 2020).

This investment is expected to make a considerable difference for transport infrastructure in Pakistan, which before the onset of the pandemic reported a rather low Logistics Performance Index Infrastructure score of 2.2 - far less than neighbours such as India, Sri Lanka and Bangladesh (World Bank, 2018).

Figure 14: Total investment required for green transport till 2030 (billon USD)

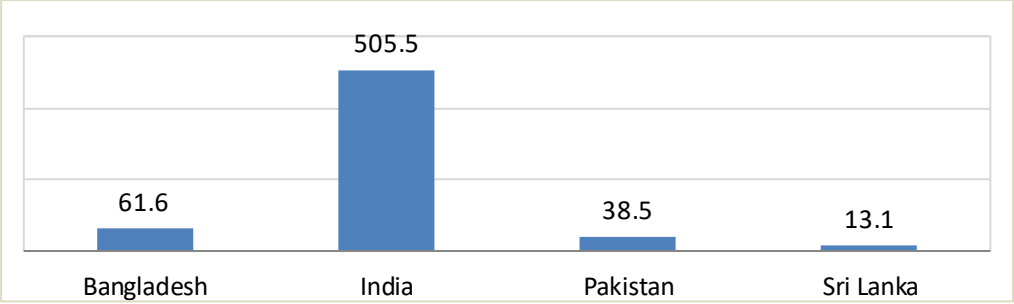
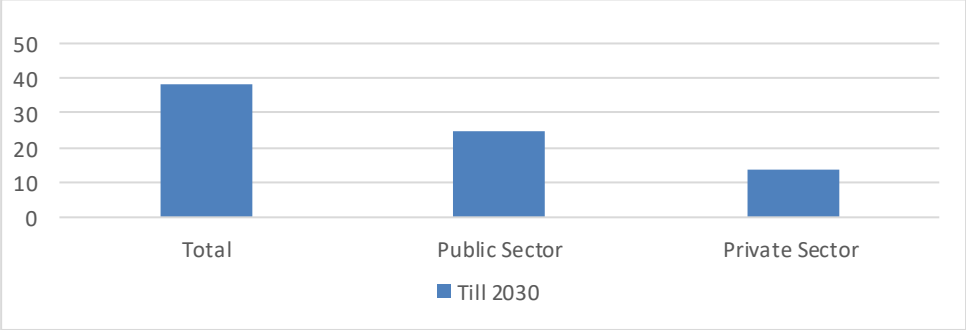


Figure 15: Composition of green transport investment till 2030 (USD billion)



Source: (Standard Chartered, 2020).

6.3. FINANCING NEEDS FOR A RESILIENT & FUTURE-LOOKING RECOVERY

6.3.1. An Inclusive Digital Transformation Is Needed to Achieve a Resilient and Future Looking Recovery

26 This study calculates investment opportunities for three infrastructure-centred SDGs (SDGs 6, 9 and 9), by using UNCTAD estimates for private-sector participation rates in infrastructural project related to each SDG across 15 countries. Resultant figures have been evaluated against a literature review, expert advisory panels and reviewed by market experts, specialists and academics. For more details, refer to

Standard Chartered. (2020). Opportunity 2030: The Standard Chartered SDG Investment Map. Standard Chartered. Available at: https://av.sc.com/corp-en/content/docs/Standard-Chartered-Opportunity-2030.pdf.

27 In contrast, the IFC estimates total transport infrastructure investment opportunity for Sri Lanka and Bangladesh at $326 million and $23.7 billion respectively, from 2018 to 2030 - used to catalyse a shift to mass public transport (IFC, 2017).

As mentioned, Pakistan is still in the early stages of its digital maturity, with only 27.5 percent of its population using the internet (Figure 18) (Kemp, 2021). With the country's digital transformation yet to materialize, it is in need of large-scale digital infrastructural investments in order to boost broadband access. To this end, this study employs the universal digital access rate as a proxy to reflect the country's progress on its fifth and final recommended policy action.

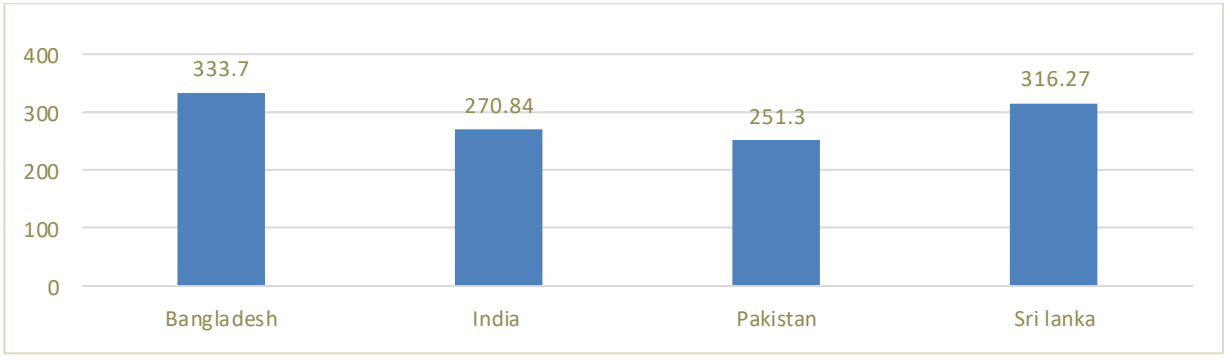
Public spending allocated to enhancing country-wide broadband access through the Universal Service Fund, for the incoming fiscal year 2022, is PKR 5.95 billion ($37.3 million)[28]. This is almost 34 percent higher than that for 2021, which was PKR 4.45 billion ($27.8 million) (GOP, 2021). The private current spending in this regard has been greater than public spending, with the sector being provided over PKR 8 billion (approximately $50 million) worth of contracts to expand broadband services to approximately 6 million individuals in remote areas (MoITT, 2021b).

To achieve universal digital access, Pakistan will require a total investment of $56.6 billion till 2030 (Standard Chartered, 2020), amounting to an annual investment of $5.66 billion. Similar investments per capita are needed by other South Asian countries such as India, Sri Lanka and Bangladesh (Figure 16 below).

The private sector has a larger role to play in Pakistan's pursuit of attaining this universal digital access rate. In fact, out of this total required investment, the private sector's investment opportunity is anticipated at $34 billion, while the remaining public sector investment makes up $22.6 billion (figure 17) (Ibid).

Such an investment entails making significant progress towards SDG 9, which in turn will require substantial work in increasing digital infrastructure in order to boost mobile phone subscriptions and internet connectivity levels, bringing more and more of Pakistan's online.

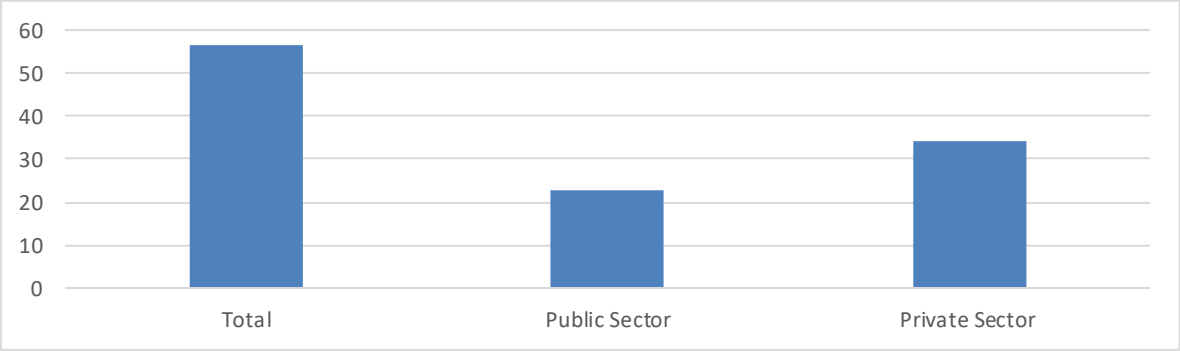
Figure 16: Potential investment per capita needed for universal digital access in South Asia, total amount till 2030 (billion USD)



Source: Author's elaboration, based on (Standard Chartered, 2020)

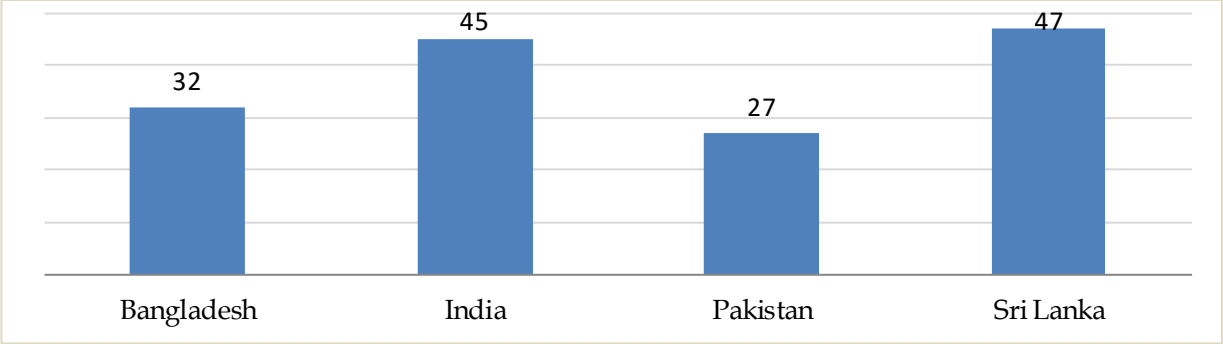
28 Currency rates for 16th July 2021 used to convert local currency into United States Dollar (USD), in this sub-section.

Figure 17: Composition of digital infrastructure investment till 2030 (USD billion)



Source: (Standard Chartered, 2020).

Figure 18: Digital access rate in South Asia in 2020



Source: (Standard Chartered, 2020).

In contrast, instead of a total investment, ESCAP's estimates require Asian-Pacific developing countries to make an additional *annual* investment of $56 billion in ICT infrastructure from 2016 to 2030 (ESCAP, 2019). Correspondingly, this investment also entails the '*provision, maintenance and climate-proofing*' of digital infrastructure in the country in order to boost broadband and mobile phone subscriptions, with a greater proportion of the investment dedicated to the former category[29]. In light of the similarities between the two suggested investments, the study recommends the first scenario (total investment of $56.6 billion till 2030) which remains far more feasible for a resource-constrained Pakistan.

29 ESCAP (2019) recommends spending 82 percent of the total investment on infrastructure to boost broadband subscriptions and the remaining 18 percent on mobile phone subscriptions.

7. Modelling the Macroeconomic, Social and Environmental Impacts of the Proposed Policy Actions to Secure an Inclusive, Green and Resilient Recovery in Pakistan

In this section, we apply the United Nations Economic and Social Commission for Asia and the Pacific's (ESCAP) Macroeconomic Model [30] to assess some of the macroeconomic, social and environmental impacts of the policy actions proposed in Section 5 of this study. First, a brief overview of the model is provided. After which, the study considers a series of scenarios to illustrate the potential impacts on key indicators from (1) increased social spending and expanded social protection, (2) rising female participation in the labour force, (3) eliminating fossil fuel price subsidies, (4) investing in renewable energy, (5) investment in sustainable transport infrastructure, and finally, (6) investment in digital infrastructure. We consider the various financing options and how these may interact with the proposed policy measures.

7.1. THE ESCAP MACROECONOMIC MODEL

The ESCAP Macroeconomic Model is a global model, comprising of 46 individual full-country models for the Asia-Pacific region (including a model for Pakistan), as well as smaller models for 9 key trading partners outside of the region, plus aggregate models for the world's remaining economies (which have been grouped into 4 regions). The individual country models are linked together via trade, remittances, financial markets, and global energy markets.

The country models are characterized by a short-run Keynesian demand side and a long-run neo-classical supply side. In the model, households consume, save and supply labour, while firms produce output, hire labour and invest. Governments pursue fiscal policy by spending and taxing, while monetary authorities conduct monetary policy by setting the short-term interest rate and exchange rate policy. The balance of demand and supply, together with tax policy, global commodity prices and other imported prices, determine inflation. Higher prices constrain consumption and dampen the net trade balance. Most of the key behavioural relationships are specified in an error-correction framework, which allows us to distinguish short- and long-term relationships between variables.

In the short run, GDP is driven by aggregate demand, which comprises private and public consumption, private and public investment and net foreign trade. Household consumption depends on real personal disposable income, financial inclusion (proxied by the share of population with a bank account) and the gap between actual and expected inflation rates. Private investment is determined by potential output, user cost of capital,

30 The ESCAP Macroeconomic Model was developed to support the design of economic recovery packages for countries in the Asia and Pacific region and offer insights into how countries can build resilience in the post-COVID-19, while enhancing sustainability along economic, social and environmental dimensions. The model runs within the EViews software and is fully global in scope. For more details, visit: www.unescap.org/sites/default/files/Introduction%20to%20ESCAP%20Macroeconomic%20model_19%20Nov%20.pdf.

financial inclusion and gross domestic income (which captures terms-of-trade shocks). Public consumption and investment and policy variables are disaggregated into spending on health, environmental protection and other areas. Exports depend on external demand and relative non-commodity export prices, both of which are derived from a global bilateral trade matrix. Finally, imports depend on domestic demand, the output gap, the relative price of imported goods and oil imports.

In the long term, each country's potential output level is driven by its aggregate supply, which is determined by the labour force, capital stock, energy use, energy efficiency, trend productivity growth and damage from climate shocks. The labour force depends on demographic factors and the labour force participation rate. The capital stock is driven by the accumulation of investment, after allowing for depreciation. The capital depreciation rate depends on global carbon emissions to capture the impact of climate change on the erosion of capital. Total energy demand depends on output, energy prices and energy efficiency. The energy mix depends on relative prices of oil, gas, coal and renewables. Trend productivity growth is modelled as a function of the global productivity frontier (which is related to global trade), inequality, air pollution and government expenditure on health. Finally, damage from climate shocks is exogenous, although in this study it is linked to spending on climate-resilient infrastructure.

Deviations of actual output from potential output will activate adjustment processes that bring the economy back to potential in the long run. Among other channels, the gap between demand and supply, or output gap, feeds through prices. For example, a positive output gap will put upward pressure on prices, resulting in slower consumption growth and a deterioration of the trade balance, so that demand falls towards available supply.

In the fiscal module, government spending is disaggregated into spending on social protection, spending on health, spending on environmental protection, fossil fuel subsidies, other government consumption, other government investment and interest payments. Government revenue is disaggregated into income tax revenue, corporate tax revenue, indirect tax revenue, taxes on international transactions, carbon tax revenue, commodity revenue and other net revenue. The fiscal deficit is financed by an increase in government debt, and debt service payments flow back onto the fiscal balance. In the model, an increase in the government debt-to-GDP ratio leads to a higher risk premium for that country. In this way, running a large fiscal deficit for an extended period of time can cause government debt to spiral and become unsustainable. Countries with a higher initial level of risk premium are more sensitive to any rise in public debt. A rise in the risk premium pushes up inflation and increases borrowing costs, which results in lower investment.

In addition to economic relationships, the model has additional channels to capture interactions with key social and environmental variables, such as poverty, income inequality, carbon emissions and air quality. Relationships between variables are econometrically estimated where appropriate or guided by the academic literature. For example, losses associated with climate shocks are underpinned by benchmarks contained in World Bank (2019), in which an investment in resilience, valued at 1 percent of the GDP, reduces annual damage by 5 percent. Other major studies that are used for developing relationships among the variables include Botev, Egert and Jawadi (2019), Briceño-Garmendia, Estache and Shafik (2004), ECB (2017), Griscom and others (2017), IEA (2019, 2020), OECD (2019) and Wang (2015).

The poverty model is based on the assumption that income follows approximately a log-normal distribution. The cumulative density function of log income is calculated based on estimates of mean income and income inequality and evaluated at the poverty benchmarks of $1.90/day and $5.50/day. Income inequality is measured according to the after-tax Gini coefficient. It declines in response to a rise in government spending on social protection, or a rise in financial inclusion.

Carbon emissions depend on the composition of energy consumption, which in turn depends on the relative (after carbon tax) price of coal, gas, oil and

renewables. Air pollution (PM2.5) also depends on the composition of energy consumption, especially the consumption of coal and oil. Air pollution feeds into trend productivity growth to reflect the relationship between pollution, health and productivity.

7.2. INCREASED SOCIAL SPENDING AND EXPANDED SOCIAL PROTECTION

Social Protection

Achieving a basic social protection floor in Pakistan is estimated to require a permanent increase in government spending on social protection equivalent to 2.14 percent of the GDP. This increase in social protection spending will raise real personal disposable incomes of households, which in turn will increase personal consumption spending and the GDP. It will also reduce inequality and poverty, as there will be a redistribution of income towards the poorest of households. However, it will worsen government finances, although the rise in GDP will partially offset some of the costs of the programme.

Health

To provide good quality universal healthcare to all citizens, health expenditures in Pakistan will need to rise by approximately 5.4 percent of the GDP. Of this, approximately two-thirds would be expected to be financed by the public sector, with the remainder financed by the private sector.

The social returns of investments in healthcare are well-documented. A healthy workforce is more productive, which translates into higher levels of GDP, higher levels of government revenue, lower unemployment and higher real personal disposable incomes. Based on estimates from Wang (2015), a rise in health spending by 1 percent of the GDP would be expected to increase labour productivity by about 1.7 percent by 2030. This rise in long-run potential and government revenue will partially offset some of the costs associated with expanding access to high-quality healthcare.

Additional spending on health acts as a short-term stimulus to economic activity, as well as delivering longer-term benefits. The longer-term impacts will depend partly on how the spending is split between consumption (for example, salaries of health personnel) and investment (for example, building hospitals). Both raise GDP in the short-term, but investment also accumulates as capital stock, raising potential output over the longer term. For the purpose of these scenarios, we treat roughly half of the investment in health as investment and the other half as consumption.

Education

To achieve significant improvements in learning outcomes, and to improve the quality and accessibility of education, education expenditure in Pakistan needs to rise by an estimated 5.7 percent of the GDP, with about 93 percent of this spending being financed by the government. We treat roughly half of the spending as investment (for example, building schools) and the other half as consumption (for example, the salaries of teachers).

The returns to education have been widely studied in academic literature. We can assume a benchmark estimate that: a rise in education spending by 1 percent of the GDP, adds about 0.1 percentage points to trend productivity growth per year, calibrated with reference to the social returns to education reported by Botev, Égert, Smidova and Turner (2019). Broader access to education is also expected to reduce income inequality. The modelling assumption applied is that, a rise in education spending by 1 percent of the GDP delivers a 0.1 percentage point decline in the Gini coefficient, which in turn raises trend productivity by roughly 0.13 percent.

Model-based Scenarios

The social protection, health and education programmes outlined above will cumulatively cost the government roughly 10.9 percent of the GDP per annum. This is clearly an enormous jump in spending for a resource-constrained economy like Pakistan. We first illustrate the potential impact of these policies on key macroeconomic variables under a hypothetical assumption that there are no

resource constraints, and funds are readily available. The measures are introduced gradually over a 3-year period, starting in 2022. We then consider more realistic financing options to meet these needs.

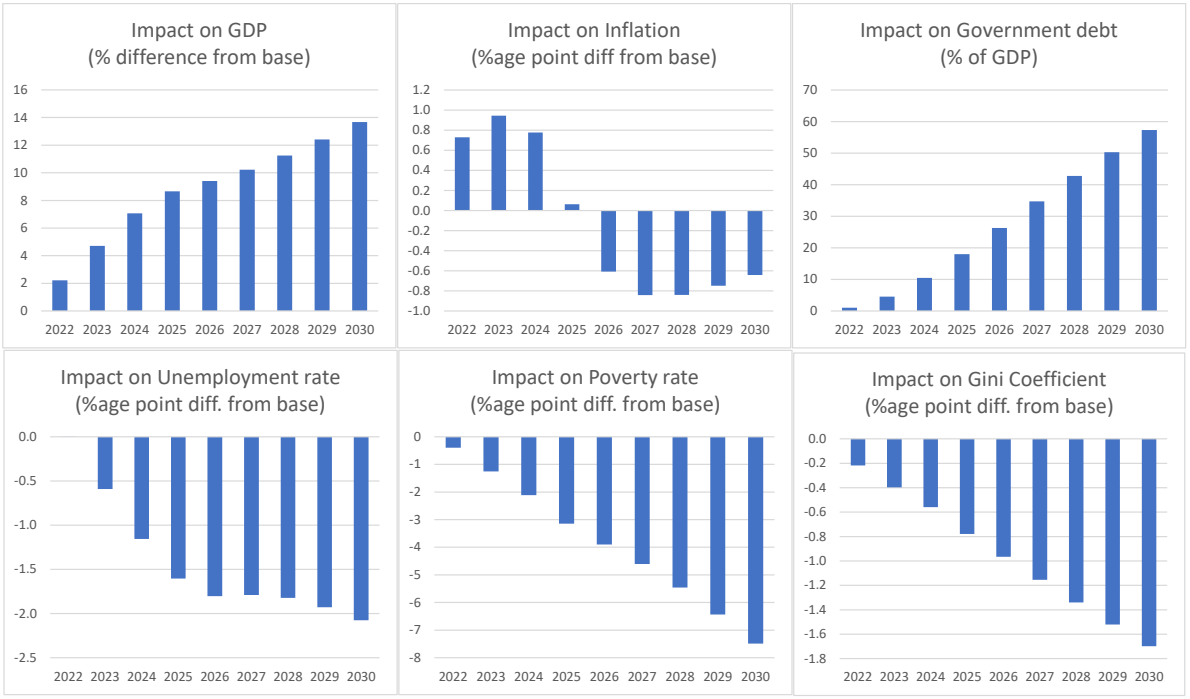
If financing were not an issue, the proposed spending on social protection, health and education could raise the level of GDP by 14 percent, reduce the unemployment rate by 2 percentage points, reduce inequality and lower the share of the population living on less than $5.50/day by 7.5 percentage points by 2030 (Figure 19). However, if this programme were financed entirely by government borrowing, government debt would rise by 60 percent of the GDP by 2030 and would continue on an upward trajectory. This is clearly not a sustainable path for Pakistan. If this were to trigger a rise in the risk premium on Pakistan's assets, it would curtail investment and put upward pressure on inflation, potentially fully offsetting the positive returns illustrated below.

We next consider an alternative financing arrangement. We assume that 30 percent of additional healthcare costs are met through efficiency gains in the health sector. The remainder of the social spending is financed via tax revenue that is raised through an expansion of the tax base. Figure 20 compares the expected impact on key variables in this financed scenario, compared to the hypothetical unfinanced scenario in figure 19.

The unfinanced scenario replicates figure 19. The financed scenario reduces health expenditure costs by 30 percent, to reflect efficiency gains and raises tax revenue to finance the programme.

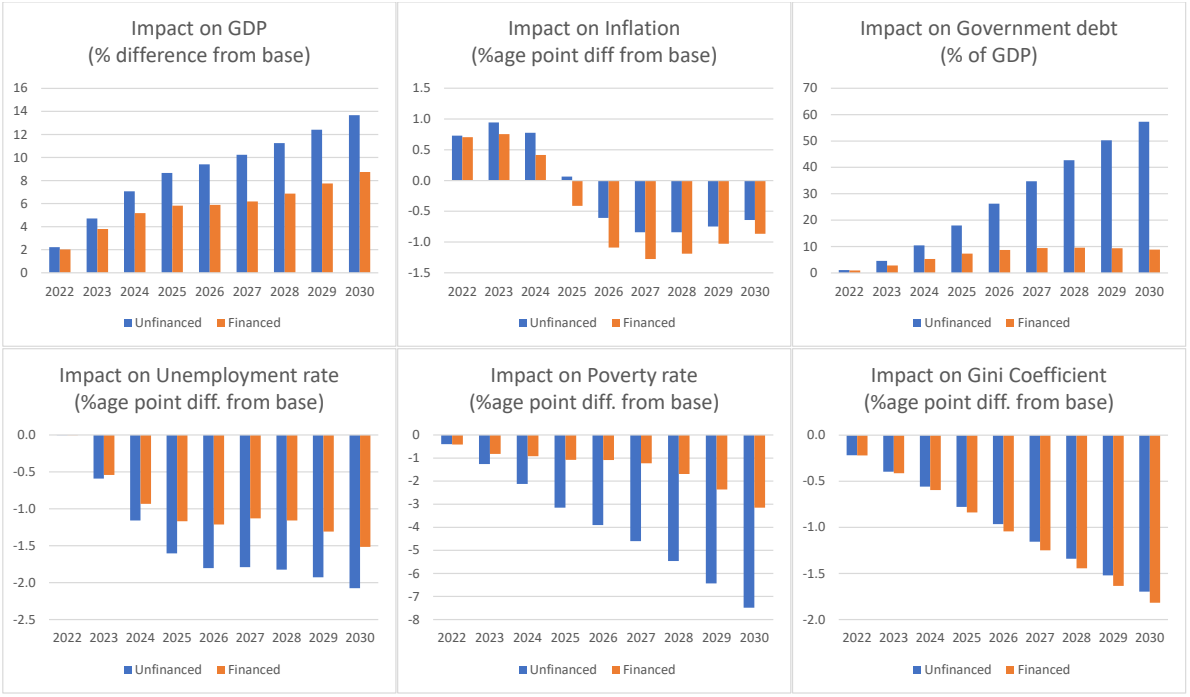
As figure 20 illustrates, the programme will still deliver significant positive returns, even if taxes have to be increased to finance the additional spending. In this scenario, taxes rise by about 9 percent of the GDP, creating a stable funding base to finance the recommended social programmes. While government debt would be expected to rise slightly in the near term (as it takes time to roll out the expansion of the tax base), by 2040 the programme will have paid for itself. GDP growth is expected to rise permanently by about ¾th to 1 percentage point, as a result of productivity returns to the investment in education and healthcare. Over the longer term, the poverty headcount ratio (based on the $5.50/day benchmark) would be expected to fall by about 12 percentage points, vastly reducing the number of people living in poverty.

Figure 19: Impact of spending of social protection, health and education, in the absence of financing constraints, on key indicators (%)



Source: UN ESCAP Macroeconomic Model Scenarios.

Figure 20: Impact of spending of social protection, health and education, financed and unfinanced scenarios, on key indicators (%)



Source: UN ESCAP Macroeconomic Model Scenarios.

7.3. INCREASED FEMALE LABOUR FORCE PARTICIPATION

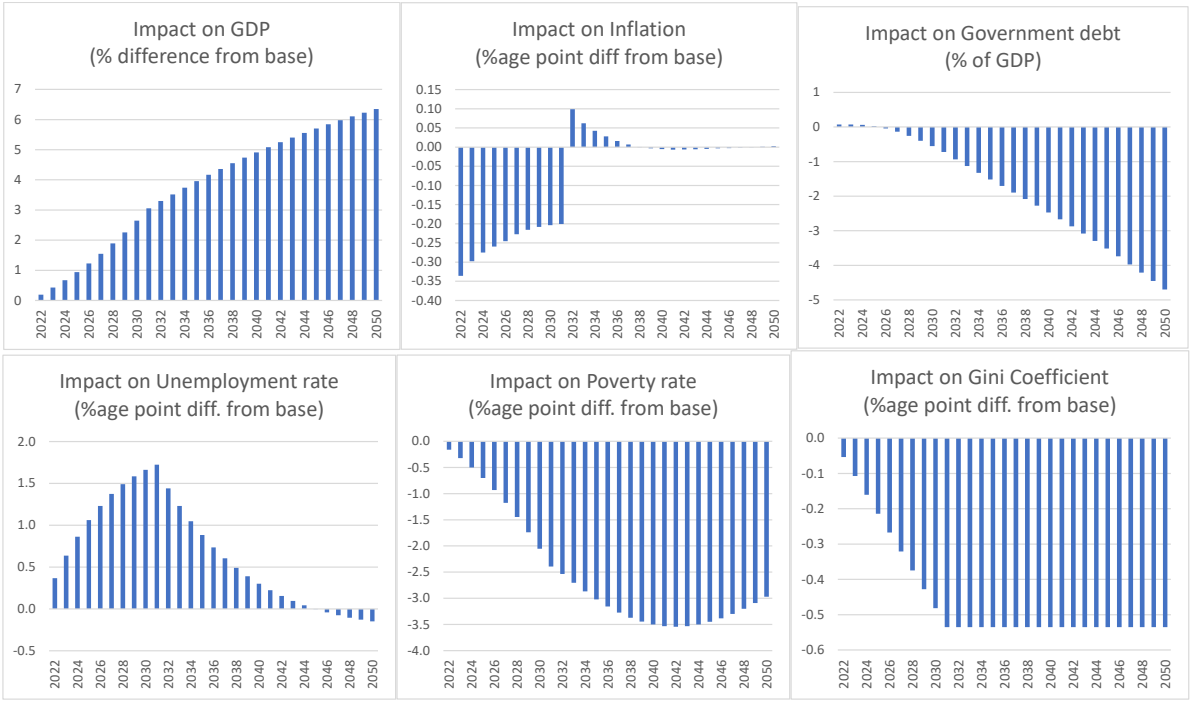
Achieving SDG 5 will require mainstreaming gender across all investment areas and recalibrating all existing initiates to remain inclusive to women. Mainstreaming gender issues will not only redress deep social inequities but will also bring strong economic returns to Pakistan.

Economic opportunities are extremely restricted for women in Pakistan, with only 25 percent participating in the labour force as opposed to 85 percent of men. Raising female participation in the labour force would reduce inequality, reduce poverty and increase the productive capacity of the economy, generating fiscal revenue and creating jobs.

Policies to promote gender equality in the labour market and workplace could increase female labour force participation. In order to assess the potential impact of a rise in female labour force participation, we model a gradual 10 percentage point rise in female participation, phased in over 10 years. This would raise the size of the available workforce by 9.7 percent by 2031. An expansion of productive capacity would put downward pressure on inflation, encourage investment in new capital, and raise household consumption as new labour market entrants secure employment.

Figure 21 below illustrate the expected impact of a rise in female labour force participation on key indicators. The GDP could rise by about 2.5 percent by 2030, and 6 percent by 2050. Inflation would be expected to fall slightly in the near term, by about 0.25 percentage points. Higher GDP reflects a rise in both household consumption and investment. A rise in economic activity would also improve the fiscal balance, allowing government debt to decline by nearly 5 percent of the GDP. The unemployment rate would be expected to rise slightly in the near term, as it takes time to fully integrate new labour market entrants into their jobs, however about 5 million new jobs by 2030 can be expected, and over 10 million by 2050. Rising employment would pull many out of poverty, allowing the poverty headcount rate to decline. A rise in female participation in the labour market can significantly raise the productive capacity, economic growth and development potential of Pakistan.

Figure 21: Impact of rise in female labour force participation on key indicators (%)



Source: UN ESCAP Macroeconomic Model Scenarios.

7.4. INVEST IN A GREEN RECOVERY

Eliminating Fossil Fuel Subsidies

Fossil Fuel subsidies in Pakistan amounted to roughly $1.9 billion in 2019, which is equivalent to roughly $7.6 per tonne of CO_2 emitted. Reducing fossil fuel subsidies would improve the government budget balance, creating space to finance new government programmes. It would align incentives with the need to transition towards cleaner energy sources where feasible and increase energy efficiency. A $1 carbon tax adds about 9.6 cents to the price of coal, about 5.7 cents to the price of gas and about 6.7 cents to the price of oil. The shift in relative prices will gradually encourage a shift in the energy mix away from fossil fuels and towards renewable energy. Using cleaner energy will reduce carbon emissions and reduce air pollution, with important health benefits. But it will also come at a cost. Removing subsidies would push up inflation and the user cost of capital (for example, the cost of operating machinery). Higher inflation and a higher cost of capital will reduce household consumption and private sector investment.

In the scenario, fossil fuel subsidies are phased out gradually, so that 75 per cent of the subsidies are lifted by 2030.

Investing in Green Energy

Attaining the target of a 30 percent share of renewables in the power sector by 2030 is estimated to require annual power sector investment to rise from $60 billion in 2021 to about $98 billion in 2030, or a rise of about $4 billion per annum. Such a rise in the share of renewables could reduce CO_2 emissions by about 8 percent. Efficiency gains in the energy sector could fully offset the additional investment costs. These would bring further reductions in emissions.

Investment in renewable power, rather than fossil fuels, can also be expected to create jobs. Diverting each $1 million away from investment in fossil fuels, and towards renewables, has the potential to generate 4.8 additional jobs. If we treat ¼th of the additional investment in renewables as a diversion, this could create over 4000 additional jobs per year.

Invest in Green Transport Infrastructure

To achieve sustainable and reliable transport infrastructure, Pakistan will require an annual investment of approximately $3.85 billion, or 1.2 percent of its GDP. Efficiency gains in the transport sector could save at least $5.5 billion a year, which would fully cover the costs of the additional investment needs.

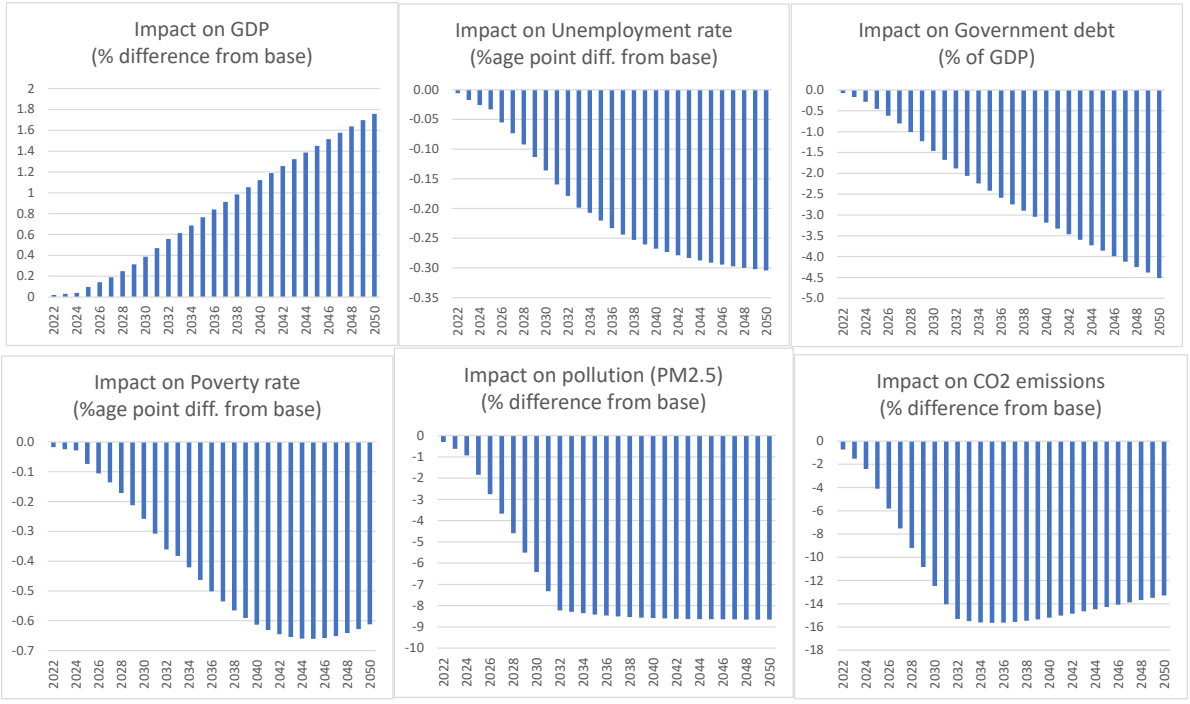
Investing in green transport infrastructure can reduce CO_2 emissions, reduce pollution, and raise productivity. Based on benchmark estimates from Sánchez-Triana et al (2014), improving transport infrastructure has the potential to reduce emissions from the transport sector by 30 percent, or total emissions by about 8 percent. Meanwhile, productivity impacts benchmarked from Fedderke and Bogetic (2009), estimate the elasticity of Total Factor Productivity (TFP) to infrastructure investment to be 0.04, with the estimate robust across different specifications. The specification of their empirical work indicates that a 1 percentage point increase in the ratio of infrastructure investment to GDP increases TFP growth by 0.04 percentage points.

Model-based Scenarios

The green recovery programmes outlined in this study are assumed to be fully financed via efficiency gains, while the removal of carbon subsidies also creates some additional fiscal space. Figure 22 illustrates the estimated impacts of the combined scenario on key indicators in Pakistan. The GDP is expected to rise slightly in response to energy efficiency gains and the impact of lower pollution on health. The unemployment rate would fall, reflecting the labour intensity of renewable energy services relative to fossil fuels. Government debt would decline relative to the GDP, as a result of both stronger growth and a reduction in fossil fuel subsidies. This would free up resources that could be used, for example, to finance the social

spending programmes. Poverty would also decline slightly as a result of the stronger growth. The most significant impact of this scenario is on CO_2 emissions, which would be expected to fall by about 15 percent, relative to the baseline. This reflects the shift in energy mix towards renewables, as well as energy efficiency gains. Pollution is expected to decline by about 9 percent, which in turn would raise labour productivity by about 1.3 percent.

Figure 22: Impact of green recovery programme on key indicators (%)



Source: UN ESCAP Macroeconomic Model Scenarios.

7.5. DIGITAL TRANSFORMATION

Only 27.5 percent of the population in Pakistan uses the internet. To achieve universal digital access, Pakistan will require an annual investment of $5.66 billion (2.2 percent of its GDP). Of this, we assume 60 percent is financed by the private sector, with the remainder financed by the public sector. The programme is introduced gradually over a 3-year period.

Providing universal access to mobile and broadband services across Pakistan has the potential to deliver high economic returns. Investment in Information and Communications Technology (ICT) can raise economy-wide productivity by improving access to information, facilitating business-to-business interactions and reducing transaction costs. This, in turn, may push up potential output and personal income. Improvements in the ease of doing business may also attract higher levels of inward Foreign Direct Investment (FDI). Wider broadband access may also improve access to finance through greater use of online financial services. Improved broadband access would speed up financial transactions, while better access to finance would reduce liquidity constraints of both households and firms and reduce inequality.

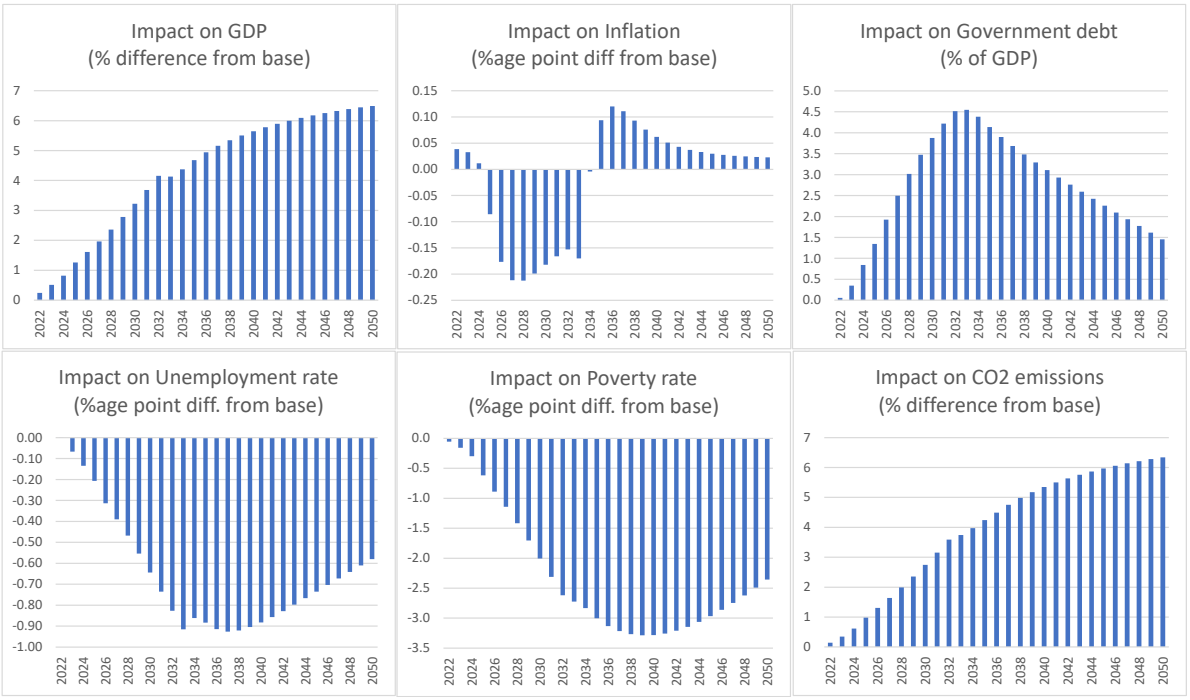
Private sector financing can be undertaken in a variety of ways, for example by diverting other planned investment to ICT (this has very limited short-term implications for the GDP) or by borrowing to undertake additional investment. While the latter would involve a significant short-term stimulus to the GDP, access to finance may be costly or difficult. For the purpose of this scenario, we assume that the private sector investment is diverted towards ICT investments, whereas government investment is treated as additional

government expenditure, financed via government debt. We assume that the rise in debt does not put undue pressure on borrowing costs in Pakistan - noting the fiscal space that would be potentially created through green recovery and rising female labour force participation scenarios - and that financing for ICT investments may be available through multilateral lending at preferential rates.

The impact of ICT investments on trend productivity in Pakistan is calibrated with reference to the social rates of return to telecommunication and information projects in Briceno-Garmendia et al (2004), which estimates a 20 percent return to investment in ICT. An additional shock is also applied to the index of financial inclusion. This is calibrated so that a 1 percent of the GDP rise in ICT investment raises financial inclusion by 0.4 percentage points.

Figure 23 illustrates the expected impacts on key variables in Pakistan, in response to the digital transformation programme. The GDP would be expected to rise by about 3 percent relative to baseline by 2030, and by over 6 percent in the long run. Inflation would decline temporarily in response to the additional capacity, and unemployment would also be expected to decline. Stronger growth and more jobs will reduce poverty. If the rise in ICT investment is not accompanied by policies shifting the energy mix towards cleaner energy, carbon emissions would rise in response to the increase in economic activity. Government debt would rise slightly, but the financing needs will remain relatively small when compared to the potential fiscal space that can be created in the previous scenarios.

Figure 23: Impact of digital transformation programme on key indicators (%)



Source: UN ESCAP Macroeconomic model scenario.

8. Proposals to Mobilize Resources to Meet Financing Needs

While trillions are being pumped across the developed world in anticipation of a strong post-pandemic recovery, most of the Global South does not have an equal shot at building back better. For Pakistan, a robust recovery will require substantial investments. This chapter highlights a number of ways in which Pakistan may create the fiscal space it requires to meet these financing needs (table 12).

Table 12: Possible major sources of additional investments

Policy Action	Required Investment	Major Suitable Source
Social Spending	-Social Protection: Additional Investment of 2.14 percent of the GDP - Health: Additional Investment of 5.4 percent of the GDP - Education: Additional Investment of 5.7 percent of GDP	- Tax Revenue
Mass Vaccination Drive	- 1.37 percent of the GDP (total required investment)	- External Funding: COVAX Facility, grants and highly concessional loans etc - Private sector philanthropy: traditional and corporate foundations e.g. the Bill & Melinda Gates Foundation, Rockefeller Philanthropy, Novo Nordisk Foundation etc. (Javed, 2021a).
Gender	- N/A	-Reprioritizing Expenditures -Mainstreaming Gender across all spending
Green Energy	-$98 billion (total investment by 2030)	- Resources saved from elimination of fossil-fuel subsidies - Resources saved from the elimination of power sector inefficiencies - Debt Swap Agreements - Private Sector Investments - Increasing Export Competitiveness /FDI
Sustainable and Reliable Transport Infrastructure	-Total investment of $38.5 billion till 2030	- Resources saved from elimination of transport sector inefficiencies - Private-Public Partnerships - Bilateral cooperation, e.g. CPEC - Tax revenues
Inclusive Digital Transformation (digital infrastructure)	-Total investment of $56.6 billion till 2030	- Private Sector Investments, e.g. telecommunication industry - Multilateral lending, e.g. *Asian Infrastructure Investment Bank* (*AIIB*)

As discussed in the previous section, the recommended policy actions will require large amounts of investments. In financing these, the country will have the opportunity to explore a number of possible investment sources to meet its needs. Some of these key sources provided in table 12 have been explained in detail below:

1. REPRIORITIZING EXPENDITURES CAN MOBILIZE RESOURCES IN THE SHORT RUN

Given structural issues, Pakistan will likely maintain its poor export performance and low growth trajectory in the short to medium term. Therefore, to meet immediate financing needs, it can expand fiscal space through reprioritizing available resources by increasing productivity of expenditures, ultimately freeing up resources (Javed, 2021a). This involves focusing on sectors that enhance the system's capacity against crises, and those with higher distributional impacts, such as social protection, which reduces both poverty and unemployment. (Ibid). Reprioritizing expenditures will require:

- redirecting resources from low priority and unproductive areas to areas to high priority areas that are productive; from the military to development.
- spending on sectors that enhance people's capacity to withstand the pandemic's fallout; health and social security.
- focusing on expenditures with higher distributional impacts; reducing inequalities and the gender divide.

2. IMPROVING THE TAX SYSTEM CAN PROVIDE FISCAL SPACE OF UP TO 10 PERCENT OF THE GDP

Taxes are a major source of income globally and have immense potential to raise the resources needed for a post-pandemic recovery. In Pakistan however, where the tax base remains very low, only 1 percent paid taxes in 2019 – lower than most South Asian peers (Haider, 2019). In 2016, the country reported a 'tax revenue gap' of $28 billion (10 percent of its GDP) which, if reduced, can help double the tax revenue-to-GDP ratio (Javed, 2021a). To achieve this, the tax base must be expanded in a number of ways which may include:

- digitalising tax processes
- simplifying tax processes by introducing user-friendly ICT systems
- minimizing tax evasion by strengthening anti-corruption measures and incentivizing tax collectors to raise more revenue.

3. PHASING OUT COAL AND OIL SUBSIDIES CAN SAVE A TOTAL OF $9.14 BILLION, AN AVERAGE OF $914 MILLION ANNUALLY, IN THE SHORT TO MEDIUM TERM

Frequently provided as an alternative to social protection, subsidies remain a major expenditure policy in Pakistan. Most subsidies only generate short-run gains and are counterproductive in the medium to long run. Eliminating fossil fuel subsidies, for instance, can provide a number of benefits, such as creating fiscal space, transitioning towards a carbon-free future etc. However, as entirely eliminating subsidies overnight is not politically viable, Pakistan may adopt a more gradual approach[31]: phasing out 35 percent of coal and oil subsidies from 2022 to 2024 can save Pakistan nearly $665 million annually - and $1.99 billion in total across the period[32] (figure 24).

Cutting subsidies down to 50 percent from 2025 to 2027 can raise annual savings to $950 million – a total of $2.85 billion across the period. Finally, removing 75 percent of subsidies from 2028 to 2030

31 Calculations based on Pakistan's 2019 subsidy expenditure data, where $1.7 billion and $0.2 billion in coal and oil subsidies were provided. Chosen timeframe for subsidy phase-out is in line with Pakistan's existing commitments on green energy.

32 Another method for calculating subsidy savings may involve subtracting the relevant percentage from each individual year in order to reflect the remaining inefficiencies.

will save $1.43 billion annually – a total of $4.29 across the 3 years. Overall, complete savings across the entire 10 years tally in at $9.14 billion. These savings can be redirected towards sustainable development.

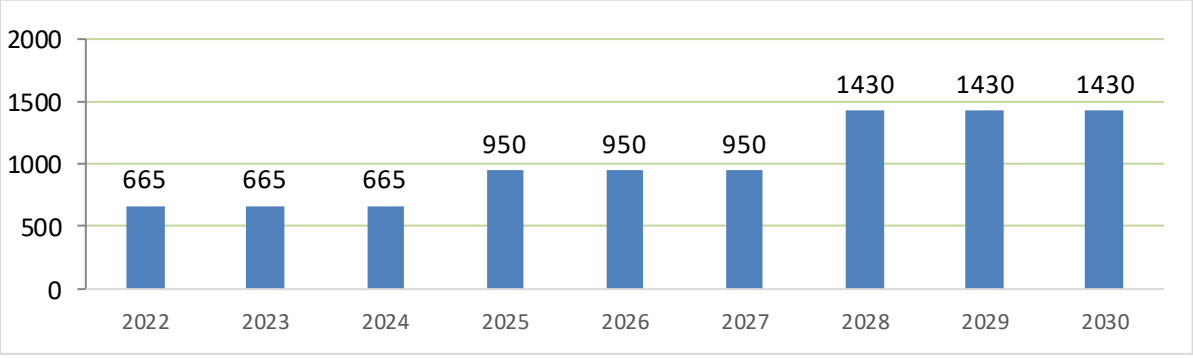
4. MINIMIZING POWER & TRANSPORT SECTOR INEFFICIENCIES CAN CREATE FISCAL SPACE EQUAL TO 4-6% OF THE GDP, IN SHORT TO MEDIUM TERM

Pakistan suffers from inefficiencies in many key sectors, reducing performance and generating huge losses for the economy every year. For instance, Pakistan's current power sector is financially unsustainable, causing billions in losses annually. In 2015, distortion costs equalled approximately $17.69 billion (Zhang, 2019). Likewise, transport sector inefficiencies cost the economy 4 to 6 percent of its GDP every year, i.e., between $12.58 billion to $18.88 billion annually ($15.73 billion on average) (Sohail, et al., 2021).

Transitioning towards a greener economy, alongside strong reforms, can help Pakistan minimise such distortions, in turn cutting costs and saving billions (Figure 25). For example, if Pakistan cuts inefficiency costs by 35 percent between 2022 to 2024, it can potentially save around $6.19 billion and $5.51 billion every year in the power and transport sector respectively (figure 25) – a total of $18.57 billion and $16.53 billion in each sector across the 3 years.

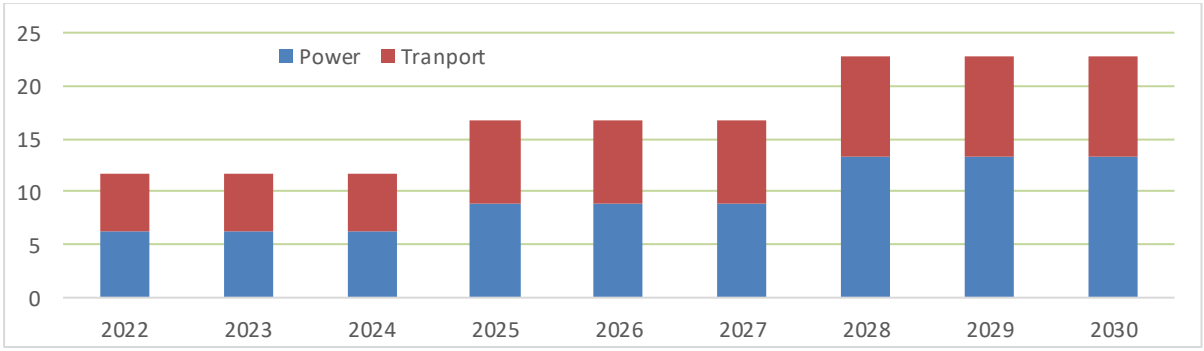
Gradually continuing to cut costs down to 50 percent from 2025 to 2027 will help save $8.85 billion and $7.87 billion in the power and transport sector every year, respectively (Figure 25) – a total of $26.55 and $23.61 in each sector across the period. Finally, if from 2028 to 2030 the country is able to reduce costs by 75 percent, it can annually save $13.27 billion and $9.44 billion respectively (Figure 25) – a total of $39.81 billion and $28.32 billion across the 3 years. Overall, complete savings across the entire 10 years tallies in at $84.93 billion and $68.46 in the power and transport sector, respectively. Overcoming inefficiencies can, therefore, generate a great deal of fiscal space.

Figure 24: Annual savings from eliminating fossil fuel subsidies (USD millions)



Source: Based on Author's own calculations, using the above-stated timeframe for subsidy phase-out and 2019 subsidy expenditure data for Pakistan.

Figure25: Annual savings from minimising inefficiency costs in power and transport sector (USD billions)



5. PRIVATE SECTOR CAN BRING IN ADDITIONAL $96 BILLION BY 2030

While there is a volume of private-sector investment available for Pakistan, it must however be incentivized. From global banks looking to make sustainable investments, to bilateral and multilateral private sources specializing in developmental investments, Pakistan has many opportunities. In fact, SDG goals 6, 7 and 9 alone can potentially bring in a total of $96.2 billion in private investment in the country till 2030 [33] (Standard Chartered, 2020).

Pakistan's total private sector investment opportunity till 2030 is: SDG 6 ($4 billion), SDG 7 ($44.7 billion), SDG 9 ($47.5 billion). Tapping into this requires creating an encouraging environment for investors by 1) maintaining macroeconomic and political stability, 2) redesigning tax and other regulatory policies to encourage a business environment, and 3) undertaking key reforms in problematic sectors such as power (Waheed & Ghumman , 2019).

6. INNOVATIVE FINANCIAL TOOLS LIKE DEBT SWAPS CAN BRING IN ADDITIONAL RESOURCES

While the country has already been working to acquire and implement debt-for-nature swaps and green bonds, there is potential to expand beyond this. Debt-for-development swaps can free up resources for investment in many crucial areas e.g., health, education, tackling infectious diseases (HIV AIDS) etc. Additionally, Debt Conversion Development Bonds allow budgetary room through debt cancellation and by issuing bonds for development in local capital markets (Rana, 2021).

Pakistan can learn from countries such as Colombia, which deployed Social Impact Bonds to provide support and training to unemployed individuals, and India, which undertook Development Impact Bonds to invest in girls' education in Rajasthan (Ortiz, et al., 2017). Overall, such innovative financial tools ensure more resources are directed towards development while still helping Pakistan manage its debt problem.

7. RAISING EXPORTS TO 14.80 PERCENT OF THE GDP CAN BRING IN AN ADDITIONAL $19.19 BILLION ANNUALLY, IN THE MEDIUM TO LONG RUN

Exports are a major source of national income. An emerging economy, Pakistan has considerable potential in improving foreign trade (Varela, 2020). Exports as a total share of the economy were reported at 8.97 percent in 2018 - lower than other South Asian countries such as Bangladesh, India and Sri Lanka, for whom exports constituted 14.80 percent, 19.85 percent and 22.91 percent of their GDPs, respectively (table 13) (WDI, 2018b). Based on this, regional scenarios have been constructed to assess how much Pakistan (baseline scenario) can potentially raise by increasing its exports (table 13).

Increasing Pakistan's share of exports to 14.8

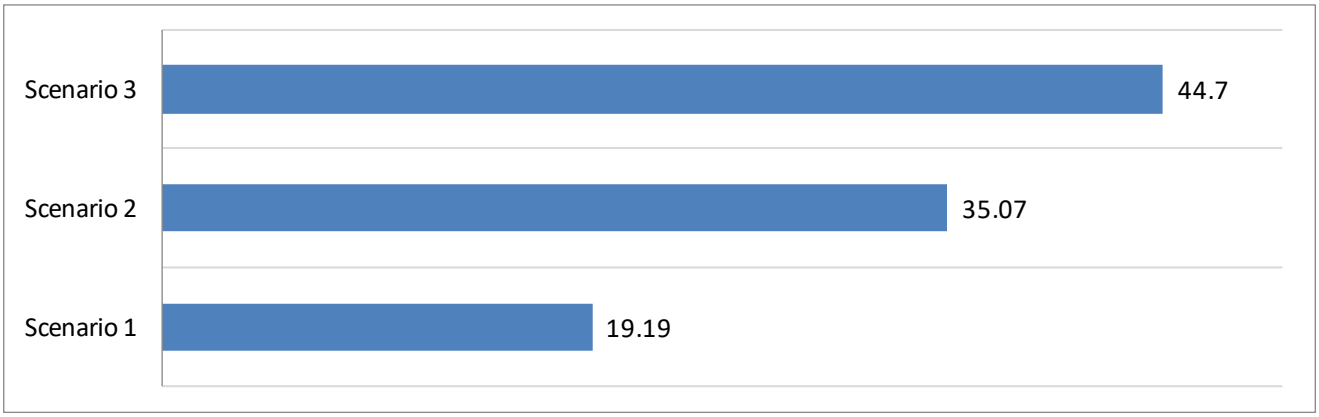
33 Pakistan's total private sector investment opportunity til 2030: SDG 6 ($4 billion), SDG 7 ($44.7 billion), SDG 9 ($47.5 billion).

percent of its GDP can generate an additional $19.19 billion annually. Similarly, raising export share to 19.85 percent and 22.91 percent can generate additional resources of $35.07 billion and $44.7 billion respectively, every year (figure 26).

Table 13: Export scenarios for Pakistan

	(Baseline) (Exports at 8.7 percent of GDP)	**Scenario 1** (Exports at 14.80 percent of GDP)	**Scenario 2** (Exports at 19.85 percent of GDP)	**Scenario 3** (Exports at 22.91 percent of GDP)
Total Exports per annum (Billion USD) (Share of Exports in GDP x Pakistan's GDP in 2018)	27.37	46.56	62.44	72.07

Figure 26: Annual additional resources available through exports



8. REGIONAL AND SUB-REGIONAL COOPERATION CAN ENSURE SHARED RECOVERY

Regional cooperation through SAARC can provide a big source of support to Pakistan in post-recovery plans - e.g., SAARC food bank, sharing of technologies and knowledge between countries, SAARCFINANCE, as well as development funds, swap agreements, etc. However, a lot of work still remains in developing SAARC into the regional economic, political and development powerhouse that it has the potential to be (Ibid).

Pakistan has much to gain from deeper regional economic integration and trade. In 2018, Pakistan's trade with South Asia constituted only 8 percent of its total trade, which is very low (Kathuria, 2018). The country's trade within the region has the potential to rise by eight-fold, if it liberalizes trade, addresses unnecessary tariff and non-tariff barriers, enhances connectivity between countries and overcomes the trust deficit (Ibid). Similarly, as of 2018, the country has a great export potential with a number of neighbouring countries, for example, $1.6 billion with India and $1.9 billion with Iran, for the top 20 high potential items alone (PBC, 2019). Most of this trade potential remains largely untapped and can prove useful in expanding fiscal space.

9. Conclusion

Overall, we argue that as the pandemic brought the global economy to a screeching halt, the world was provided with a unique opportunity to hit the reset button. How we choose to act in this moment will have momentous repercussions for decades to come. There is a need for countries worldwide to realign themselves once again to the SDG agenda, shifting from emergency relief mode to long term sustainable recovery. For this, the BBB framework provides countries with an effective toolbox to design their fiscal stimulus for a post-COVID world - building a more inclusive, green, resilient and forward-looking economy.

While the phrase 'building back better' has become a popular addition to the lexicon of international development, its practical application may prove a daunting task. A wholly inclusive, green and resilient post-pandemic recovery will undoubtedly require concerted action at all levels. To finance such an ambitious endeavour, will require enormous levels of international support and investment.

While the three general themes delineated throughout this study provided a rough checklist for what recovery can and should embody, ultimately, what is achieved will rely heavily on the political and economic priorities of individual governments. While Pakistan has demonstrated great tenacity in responding to the pandemic up till now, much work lies ahead. As post-pandemic recovery efforts are kick-started, how well the country manages to build back better, is to be seen.

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APPENDIX I

The table below encompasses all information on the financing needs delineated throughout section 6 of this study. In particular, it highlights the key policy actions recommended in this study that need to be implemented to better reconcile Pakistan's recovery from the COVID-19 pandemic, with its long-term sustainable development priorities. Studies used to provide cost estimates for each policy action have also been provided below, as well as their methodologies. Please note that policy action 3 (greater gender sensitivity in fiscal stimulus measures) has not been included, as it requires mainstreaming across all investments.

Recommended Policy Action	Current Investment	Investment Required	Private Public Share	Source	Methodology
Social Protection	0.6 percent of the GDP (average over the years) Source: (ADB, 2019).	Additional Investment of 2.14 percent of the GDP by 2030 *Path of Investment: Steady each year* *Time path: till 2030*	Assuming additional spending to commence from 2020 till 2030, arise entirely from the public sector	(ILO, 2019)	This study utilises extensive secondary data and key informant interviews with individuals from the federal and all provincial governments. Based on the information of the different types of social protection schemes in the country, total number of beneficiaries and the approximate expenditures of such schemes, the study was able to provide as estimate for basic social protection floor in Pakistan. This recommended spending level represents the beginning of a social protection floor for Pakistan, whereby its citizens are provided basic welfare, pulled out of poverty and allowed to participate in inclusive and sustainable development.
Health	2.8 percent of the GDP (2018)	Additional Investment of 5.4 percent of the GDP by 2030 *Path of Investment: Steady each year*	Public share = 4.3 percent of the GDP by 2030 Private share = 4 percent of the GDP by 2030	(Brollo, et al., 2021)	This study estimates additional spending needs based on input-outcome approach, one that determines development outcomes to be a function of mixed inputs. In the case of health, the study sets key inputs and their associated unit costs at the values for countries with similar GDP per capita that perform well in their SDG index scores. Inputs for health include:

Recommended Policy Action	Current Investment	Investment Required	Private Public Share	Source	Methodology
		Time path: till 2030			Total Health Spending Doctors per 1,000 population Other medical personnel per 1,000 population For more details, refer to: Brollo, F., Hanedar, E., & Walker, S. (2021). Pakistan: Spending Needs for Reaching the Sustainable Development Goals (SDGs).
Education	3.9 percent of the GDP (2018)	Additional Investment of 5.7 percent of GDP by 2030 *Path of Investment: Steady each year* *Time path: till 2030*	Public share = 7.7 percent of the GDP by 2030 Private share = 1.9 percent of the GDP by 2030	(Brollo, et al., 2021)	This study estimates additional spending needs based on input-outcome approach, one that determines development outcomes to be a function of mixed inputs. In the case of education, the study sets key inputs and their associated unit costs at the values for countries with similar GDP per capita that perform well in their SDG index scores. Inputs for education include: Total spending (in % of GDP) Average Teacher Wage (as % of GDP per capita) Student-teacher ratio For more details, refer to: Brollo, F., Hanedar, E., & Walker, S. (2021). Pakistan: Spending Needs for Reaching the Sustainable Development Goals (SDGs).
Mass Vaccination Drive	PKR 24 billion ($150 million) Source: (GOP, 2021)	1.37 percent of the GDP (total required investment) *Path of Investment: 40 percent of total investment till 2024, then*	vaccinations are expected to predominantly arise from the public sector.	(Pearson, et al., 2021)	This study uses a detailed economic model to analyse the cost-effectiveness and health impact of COVID-19 vaccinations in Sindh, Pakistan. It estimates the annual economic costs of vaccine introduction, diagnosis and treatment in 2020 values. Costing has been calculated using a bottom-up ingredient based approach and includes various costs associated with vaccine drives, such as delivery costs,

Recommended Policy Action	Current Investment	Investment Required	Private Public Share	Source	Methodology
		steady each year after *Time path: 70 percent of immunisation till 2024.*			social mobilisation using data from polio campaign budgetary allocations, transport cost using the UNICEF model and micro-costing of human resource costs using data from Disease Control Priorities project etc.
Green Energy	N/A	$98 billion (total investment by 2030)	N/A	(Aslam, et al., 2021)	The study estimates green recovery cost through a scenario-based approach, analysing energy consumption patterns in a number of post COVID-19 scenarios through an optimized LEAP modelling framework. For more details, refer to: Aslam, H., & Javed, S.A. (2021) *Green recovery from COVID 19: Outlook for Pakistan's Energy sector.* Sustainable Development Policy Institute.
Sustainable and Reliable Transport Infrastructure	$240 million (2019) Source: (WDI, 2019)	Total investment of $38.5 billion till 2030 *Path of Investment: Steady each year* *Time path: till 2030*	Public share = total of $25 billion anticipated till 2030 Private share = total of $13.5 billion anticipated till 2030	(Standard Chartered, 2020)	This study calculates investment opportunities for three infrastructure-centred SDGs (SDGs 6, 9 and 9), by using UNCTAD estimates for private-sector participation rates in infrastructural project related to each SDG across 15 countries. Resultant figures have been evaluated against a literature review, expert advisory panels and reviewed by market experts, specialists and academics. The case of Green Transport, the study analyses the availability of *"quality, reliable, sustainable and resilient transport infrastructure"*. This is, in turn, measured by the Logistics Performance Index Infrastructure score For more details, refer to: Standard Chartered. (2020). Opportunity 2030: The Standard

Recommended Policy Action	Current Investment	Investment Required	Private Public Share	Source	Methodology
					Chartered SDG Investment Map. Standard Chartered. Available at https://av.sc.com/corp-en/content/docs/Standard-Chartered-Opportunity-2030.pdf.
Inclusive Digital Transformation	PKR 12.45 billion ($77.8 million) Source: (GOP, 2021). (MoITT, 2021b).	Total investment of $56.6 billion till 2030 *Path of Investment: Steady each year* *Time path: till 2030*	Public share = total of $22.6 billion anticipated till 2030 private share = total of $34 billion till 2030	(Standard Chartered, 2020)	This study calculates investment opportunities for three infrastructure-centred SDGs (SDGs 6, 9 and 9), by using UNCTAD estimates for private-sector participation rates in infrastructural project related to each SDG across 15 countries. Resultant figures have been evaluated against a literature review, expert advisory panels and reviewed by market experts, specialists and academics. In the case of Inclusive Digital Transformation, the study analyses the digital access rate. This is, in turn, measured by ''a weighted blend of: 1) Percentage of population using the internet (80 per cent weighting 2)Number of mobile-cellular subscriptions per 100 inhabitants (20 per cent weighting)''. For more details, refer to: Standard Chartered. (2020). Opportunity 2030: The Standard Chartered SDG Investment Map. Standard Chartered. Available at https://av.sc.com/corp-en/content/docs/Standard-Chartered-Opportunity-2030.pdf.

APPENDIX II

The below provided cost estimates have been utilised in calculating the additional vaccinations costs for Pakistan.

Economic Parameters	Cost Per Dose
Vaccine Procurement	x
Wastage	10%
Freight	10% of Procurement Cost
Cold chain costs, per dose (national level)	USD 0.013
Cold chain costs per dose (service level)	USD 0.031
Human resource (per dose)	Campaign-based: USD 0.38
Transport (per dose)	Campaign-based: USD 0.001

Source: (Pearson, et al., 2021)

Costs have been calculated based on these estimates and using two different types of vaccines are available to Pakistan: the AstraZeneca vaccine, which costs $6 per dose, and the Sputnik V vaccine, which costs $10 per dose. Assuming a mix of vaccines is utilised by the GOP (a more realistic scenario) to vaccinate its population, these costs could amount to $12.76 per dose (including cost of the vaccine itself).