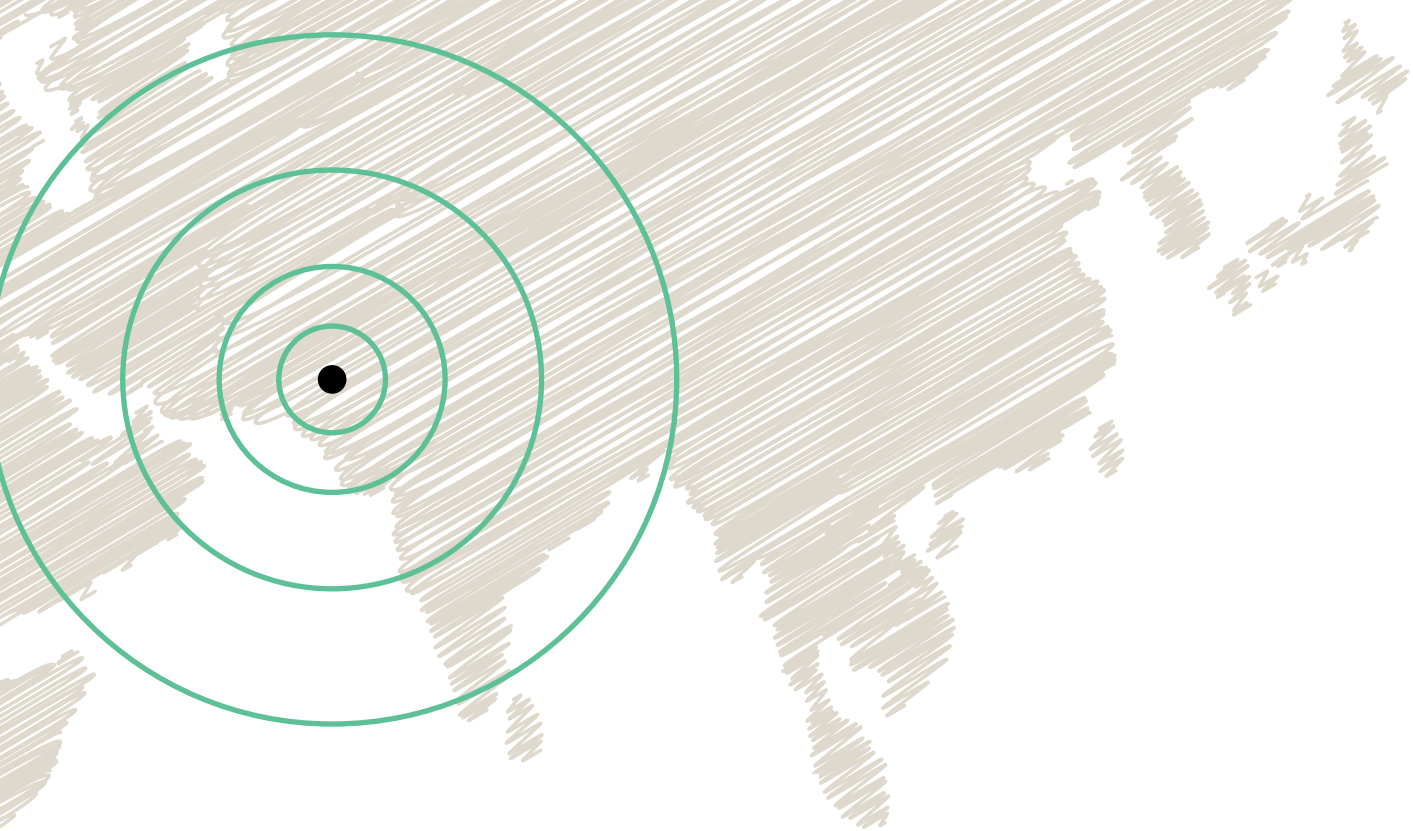

Participation and exclusion in mega tree-planting projects

A case study of the Ten Billion Tree Tsunami Programme, Pakistan

Usman Ashraf

Country Report
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Forests

Keywords:
Forestry policy, tree planting, Coronavirus, deforestation, climate resilience

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Large-scale tree planting programmes have become politically attractive. They are claimed to be vital in tackling climate change and to provide big social and environmental benefits. This is a study of one such high-profile tree-planting project in Pakistan – the Ten Billion Tree Tsunami Programme. With a reported budget of US$700 million, this project claims so far to have planted over a billion trees and created 165,000 jobs. But evidence suggests a clear pattern of winners and losers. The wealthier few enjoy most of the benefits, while herders and others without land have been excluded. The programme needs to go beyond rhetorical claims of participation to install genuine inclusion and fair distribution of benefits.

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ADP	Annual Development Programme
ANR	Assisted Natural regeneration
BTTAP	Billion Tree Tsunami Afforestation Project
CDE&GAD	Community Development, Extension & Gender & Development Directorate
DFO	District Forest officer
ESRF	Ecosystem Restoration Fund
FP&MC	Forestry Planning and Monitoring Circle
GOP	Government of Pakistan
I&HRD&M	Institutional and Human Resource Development & Management Directorate
ISU	Integrated Special Unit of the TBTTP
KP	Khyber Pakhtunkhwa
M&E	Monitoring and Evaluation Directorate
MOCC	Ministry of Climate Change, Pakistan
PFI	Peshawar Forest Institute
PSC	Project steering committee
PSDP	Public Sector Development Programme
R&D	Research and Development Directorate
TBTTP	Ten Billion Tree Tsunami Programme
VDC	Village Development Committee
ZSP	Zoological Survey of Pakistan

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The author would like to sincerely thank residents of *Battal* and *Agror Tnawal* for hosting him during the field visits and providing invaluable discussions. He would also like to thank Asim Jamal (International Union for Conservation of Nature), Hassan Sukhera (Project Director, Ten Billion Tree Tsunami Programme), Tehmasip Khan (Chief Conservator of Forests, Khyber Pakhtunkhwa) and other officials of the forestry department for their valuable ideas, experience and guidance in this work. Prof. Daanish Mustafa, Duncan Macqueen and Steve Bass reviewed this report and provided useful comments. Sincere thanks are also due to James Mayers for contributing to and helping shape this report, and to Ali Logan-Pang for coordinating its production. The author accepts responsibility for errors or omissions in this report, which does not necessarily reflect the views of the IDS or the FCDO.

Summary

Large-scale tree planting and afforestation programmes have emerged over the last decade as a popular way of soaking up and storing atmospheric carbon dioxide. Alongside the urgent need to reduce carbon emissions in the first place, afforestation offers one of the only large-scale ways for humanity to take carbon out of the atmosphere. The logic looks simple to voters, and has proved compelling to many politicians who have made eye-catching, large-scale tree-planting pledges. In addition, tree-planting campaigns can attract funds globally available for environmental causes.

But it is not quite so simple because forests are not just about carbon storage. Large-scale afforestation uses land on which other plants and animals grow or are produced, and on which people live or have access to the land. The question of land and access to resources is central to afforestation programmes. Thus, who gets what, and the political ecology of the schemes, are all important.

This study focuses on Pakistan's Ten Billion Tree Tsunami Programme (TBTTP), which was inaugurated by Prime Minister Imran Khan on 2 September 2018. The TBTTP upscales the Billion Trees Tsunami Afforestation Project (BTTAP) of Khyber Pakhtunkhwa (KP) province, implemented from 2015–2018. It has three main components: enhancement of forest cover, biodiversity conservation and institutional strengthening. The first component aims to plant 10 billion trees in phases. The first phase (2019–2023) targets 3.29 billion trees over 1 million hectares at a cost of 125 billion rupees (US$700 million).

After two years of implementation (2019–2021), the project has claimed to have planted about 1 billion trees, restored 488,514 hectares of forest and generated 165,000 jobs. TBTTP activities were intensified to create employment as a contribution to 'green recovery' in the post-COVID-19 response. The green recovery programme ('green economic stimulus') was introduced to divert and re-configure funds to create employment. In the first phase of the green stimulus, the government diverted 10 billion rupees (US$56 million) to increase the number of jobs created. In addition, a 'Debt for Nature' swap scheme is also under consideration.

Many of the jobs created under the TBTTP appear to have been short-term and day labour, which will end after the project ends. Some of the labourers – such as the *nigahbans* (guards or caretakers) – claimed they did not receive all their salaries, apparently due to budget cuts amounting to some 78%. In terms of local-level management of the programme, Village Development Councils (VDCs) are delegated certain responsibilities such as assignment of *nigahbans* or identifying enclosures for assisted natural regeneration. In non-homogeneous communities, landed elites dominate these VDCs. They tend to favour landed associates, and are unaffected by the impacts of enclosures on landless herders. In practice, this means afforestation may be exacerbating social inequalities and harming particular social groups whose voices are ignored. This would appear to explain the setting of fires in new planting areas and uprooting of tree saplings: landless herders fear that afforestation will put more land into the hands of government or local landed elites. Vandalism is the only form of protest available to them.

Overall, the programme's top-down approach has failed to consider the nature of a heterogeneous community composed of groups of disproportional power. Ignoring the complex ethnic, class and social dynamics of local communities has resulted in the exclusion of marginalised groups of landless and herder classes. Consequently, socioeconomic costs and benefits of the programme are unequally distributed among society along ethnic and community lines. The result is a capture of most of the benefits by elites.

Afforestation initiatives, implemented in the name of the environment, have tended to turn a blind eye to sociopolitical contexts. Their approach exacerbates inequality in society and is insensitive to the poor who often suffer directly from afforestation interventions. To succeed in terms of its own objectives, the TBTTP needs to go beyond rhetorical claims of participation to install genuine inclusion and ensure fair distribution of benefits. To achieve this it needs to base all of its programming on a sound understanding of land tenure, resources use and access, ethnic and class dynamics. The challenge facing the TBTTP is clear, but with its leadership personalized in Imran Khan and his political party, ousted from power in 2022, its future is uncertain.

Introduction

1

In the last decade, large-scale tree planting and afforestation programmes have emerged as a popular climate change mitigation measure to store carbon emitted by industrial processes. Tree leaves absorb carbon dioxide (CO_2) out of the air; use the sun's energy to bind the carbon into sugars through photosynthesis; and release oxygen. The carbon is stored in the trunk, branches, leaves and roots until the tree eventually dies and decays, or is burnt. Some carbon from falling branches or leaves enters the soil where it too is stored, making the entire forest a dynamic carbon store. Policymakers view expansion of that store through tree planting or afforestation as key to limiting atmospheric CO_2 concentrations.

Calls for action against climate change have made large-scale afforestation projects popular among politicians and environmental groups. The logic is understandable and appealing to voters. A few examples include Pakistan's Billion Trees Tsunami Afforestation Project (BTTAP), Ethiopia's pledge to plant 4 billion trees and Western China's commitment to plant 66 billion trees. The popularity of afforestation projects can be gauged from the fact that 61 countries made pledges to plant trees under the Bonn Challenge, launched by the German government and the International Union for Conservation of Nature (IUCN), the Bonn Challenge aims to restore 350 million hectares of degraded and deforested landscape by 2030 (Fagan et al., 2020).

Beyond the popular appeal of tree-planting programmes, the reality is more complicated. Some researchers are critical of the broader socioeconomic and ecological impacts of large-scale afforestation projects. Such projects often aim to store carbon and mitigate climate change, but a forest's carbon balance is only one measure of its worth. What can be produced from a landscape before or after afforestation? Who do those products generate income for? Who can or cannot live on or access the land before and after the project? How does the choice of tree species affect the ecological needs of other plants and animals?

The nature of afforestation and the socioeconomic and political outcomes clearly play a critical role in the short- and longer-term success of afforestation projects. These multiple aspects are intertwined and mutually dependent. This study is one exploration of the conditions under which high-profile tree-planting pledges and programmes might work – resulting in the right trees in the right places, with the right incentives for the right people to take care of them.

This study focuses on Pakistan's Ten Billion Tree Tsunami Programme (TBTTP), a high-profile large-scale afforestation project initiated by the government of Pakistan. The project involves ecosystem restoration of degraded forests through three main components: enhancement of forest cover, biodiversity conservation and institutional strengthening.

Under the "enhancement of forest cover" component, multiple sub-components include tree planting, assisted natural regeneration (ANR), nursery projects, a billion-tree honey project and green economic stimulus employment measures for post-COVID-19 recovery. Under the "biodiversity conservation" component, an initiative will increase protected area from 12% to 15% of total land area. The "institutional strengthening" component will carry out capacity building and restructuring of the Zoological Survey of Pakistan.

The "enhancement of forest cover" component, which aims to plant 10 billion trees across the country, will be completed in phases. The first phase 2019–23 plans to add 3.29 billion trees over 1 million hectares through afforestation, reforestation, and natural regeneration at an estimated cost of 125 billion rupees (US$701 million). The objectives are "to revive forest and wildlife resources in Pakistan, to improve the overall conservation of the existing protected areas; encourage eco-tourism, community engagement and job creation through conservation" (GOP, 2019).

The TBTTP was inaugurated by the Prime Minister Imran Khan on 2 September 2018. The project, headed by the Ministry of Climate Change (MOCC), involves the provincial forest and wildlife departments. The TBTTP is upscaling the acclaimed BTTAP, which took place in the Khyber Pakhtunkhwa (KP) province during 2015–18[1] (GOP, 2020). Both the BTTAP in KP and the current TBTTP are strongly associated with Imran Khan and his political party, and the ouster of Khan from the prime minister's office in April 2022 raises questions about the future of the project (Saeed, 2022).

The new Minister of Climate Change, Ms. Sherry Rehman, in a parliamentary session indicated that the new government was not planning to stop the TBTTP but that her ministry would widen its focus to include other areas of environment. She also referred to financial audit of the TBTTP. This is not the first time that the project has come under financial scrutiny. In 2020, questions about transparency were raised when the national accountability bureau of Pakistan started

[1] These two projects should not be confused. BTTAP was a provincial project in which 1 billion trees were claimed to have been planted during 2015–18. The current project, TBTTP, is aimed at planting 10 billion trees in two phases over ten years. In phase 1, the target is to plant 3.29 billion trees. The aim is to plant the remaining 7 billion trees in upcoming phases.

an investigation after allegations of corruption and mismanagement.

TBTTP clearly presents a dilemma to the new government. On one hand, the project is based on the perceived noble cause of tree-planting, thus a complete shutdown would attract huge criticism from environmental and civil society groups. On the other hand, project successes will likely be credited to Imran Khan's party, which will be keen to sustain its strong association with the project. When the International Monetary Fund's twitter handle posted a video in May 2022 supporting the aims of the TBTTP, Imran Khan responded on twitter that "PTI's government was the first in history to reverse deforestation trend and increase forest cover", and that "since 2014 our government has planted/conserved 2.5 billion trees. Under the 10 Billion Tree Tsunami our target was to restore 1 million hectares of degraded forest land". It remains to be seen whether the current government's response to the dilemma will be to distance itself from the project without shutting it down. Concrete indications of intent will become clearer in resource allocations to the TBTTP in future budgets.

Conceptual framework

2

2.1 The political ecology of afforestation projects

We used a political ecology framework for analysis of the TBTTP. This assumes that all environmental interventions have a sociopolitical context and generate different socioeconomic and ecological outcomes for different actors (Benjamensin and Svarstad, 2021). In recent years, afforestation has surfaced as a means of mitigating the effects of climate change through carbon sequestration (Kröger, 2014; Ingram et al., 2016). Examples include Plant-for-the-Planet and the Trillion Tree Campaign. The available data show that planted forests have expanded between 1990 and 2010 at a rate of 5 million hectares per year globally (Kröger, 2014:257). Recent estimates number planted forests at 278 million hectares globally in 2015 (Payn et al., 2015; Malkamäki et al., 2018:90).

Afforestation efforts are embedded in a narrative of long-term ecological sustainability. But a sustainable ecology implies biodiversity rarely seen in tree planting efforts. Political ecology perspectives ignore the social and political contexts for projects; whether environmental interventions are intended for long-term ecological sustainability is irrelevant (Adams and Hutton, 2007). Environmental and socioeconomic outcomes are inextricably interconnected (Watts and Peet, 2004; Robbins, 2011). Therefore, political ecology perspectives attempt to reconnect the environmental with socioeconomic and political contexts. They help focus on actors, institutions and power dynamics in mega afforestation projects and their governance.

2.2 The benefits and costs of afforestation projects

The proponents of afforestation projects argue that afforestation has huge potential to mitigate climate change. Bastin et al. (2019) estimate that 900 million ha of additional canopy cover could store 205 gigatonnes of carbon. The estimated increase could store an equivalent of 25% of the current atmospheric carbon pool. In addition, afforestation can help reduce demand on primary forests for subsistence fuel and construction products. At the regional level, it can help increase timber supply. At a local level, it can provide employment and livelihood (Binkley, 2005). These projects also help prevent floods, reduce flood-related damages, and protect human lives and properties (Bhattacharjee and Behera, 2018).

Others contend that afforestation can have negative consequences. Doelman et al. (2020) argue the global mitigation policy underpinning afforestation does not consider the negative impacts of these projects. Estimates of their potential vary widely. Malkamäki et al. (2018) reviewed more than 250 studies on tree plantations. They suggest that most impacts studied in their dataset (e.g. on employment, livelihoods, access to land, etc.) can be categorised as negative and front-loaded (i.e. short term). This is especially the case when plantations have displaced customary land uses and before tree-based incomes can be established as alternative income streams.

Political ecology research goes beyond the narrative of climate change mitigation to question access to land, resources and livelihoods. It looks at social justice in afforestation projects (Brockerhoff et al., 2008; Liao et al., 2012). Research shows that displacing customary land use is among the leading negative impacts of afforestation projects (Cotula et al., 2014; Hall et al., 2015; Malkamäki et al., 2018; Doelman et al., 2020). Afforestation projects often target ecosystems and farmland in rural areas where people are highly dependent on land and forest resources for their livelihoods. Particularly in the global South, rural areas rely on customary land rights with insecure formal land tenure. Official narratives of nation states frequently refuse to recognise those customary rights to land, making the land 'available for tree planting' (Lewis et al., 2019). Large tracts of land are often required for tree plantation, which makes agricultural land less available. The increased demand for land in rural areas can result in higher food prices, putting a huge population at risk of hunger (Doelman et al., 2020; Duguma et al., 2020; Fleischman et al., 2014). The conversion of these croplands into tree plantations makes agricultural workers lose their jobs. This contrasts with the narratives of job creation and employment surrounding afforestation projects. In a study of afforestation projects in Ghana, Nketia et al. (2022) found that job creation and employment were used as rhetoric rather than as a tool of socioeconomic transformation.

The political ecology perspective highlights social and environmental justice questions. It seeks to understand what drives prior patterns of land use and forest loss or degradation. It investigates whether the costs and benefits of environmental change are unequally distributed in society. It explores whether any unequal distribution reinforces or reduces social inequalities (Bryant and Bailey, 1997; Robbins, 2011; Benjamensin and Svarstad, 2021) in ways that have wider political implications (EJATLAS).

Fleischman et al. (2021) note that most carbon emissions come from the global North whilst the focus of tree planting and afforestation efforts is in the global South (Bond et al., 2019). Tree planting programmes often ignore the "opportunity cost of using land for trees instead of other economically beneficial activities" and ignore questions of social justice (Fleischman et al, 2020:3). Social justice includes questions of rights and responsibilities. Fleischman et al. (2020) note the costs (i.e. responsibilities) have mainly fallen on communities in the global South, which are expected to bear the cost in the name of the global good. In addition, the deforestation discourse tends to blame the poor as the agents of deforestation (Munro, 2009). In fact, the drivers of deforestation are known primarily to be associated with expansions in industrial-scale agriculture. Elite actors at the level of the state and non-governmental organisations (NGOs) can then conspire to render the activities of the poor illegal; this results in criminalising activities necessary to sustain livelihood (McElwee, 2004; Meyfroidt and Lambin, 2008; Maryudi et al., 2020). Local communities need environmental resources to sustain their livelihood. Consequently, they see social justice and environmental justice as an integrated whole. They often see mega tree plantation projects as a threat to their livelihoods (Ahmed and Low, 2020). They resist such projects due to perceptions of unfairness rooted in disparities in access to resources, utilities or opportunities (Gerber, 2011; Hall et al., 2015).

2.3 Questions used to unpack the political ecology of the Ten Billion Tree Tsunami Programme

This study approaches the TBTTP from a political ecology perspective to unpack the sociopolitical governance of the project. It uses the following questions as a general guideline:

1. How is the project being implemented?
    a. What is the institutional structure of the project and who are the stakeholders involved – the state, NGOs, financial institutions?
    b. What are the logistics and finances and how are these being met?
    c. What are the targets and what has been achieved so far – number of planted trees, forested area, jobs?
    d. Is there a monitoring and evaluation system to ensure achievements?
2. What are the socioeconomic implications of the project?
    a. How are the costs and benefits of the projects distributed? Is the project creating winners and losers?
    b. How is the project playing a role in creating employment opportunities, particularly in post-COVID-19 recovery?
    c. Are communities active participants in the project? How is community participation ensured? Is there any resistance to the project?
    d. Does the project address social justice questions?

Methodology

3

3.1 Data collection

The TBTTP consists of three major components: forest cover enhancement, Biodiversity conservation and institutional strengthening. This study is focused only on the enhancement of forest cover component which is being implemented by the forestry section of the forest, environment and wildlife Department, KP.

This research uses different qualitative methods for primary and secondary data collection. We collected primary data through semi-structured interviews, focus group discussions and field visits. We collected secondary data from published reports, fortnightly progress reports, monitoring and evaluation (M&E) reports, and newspaper and published academic articles.

We interviewed 15 people, including from relevant federal and provincial authorities managing the TBTTP, participating international NGOs and local affected communities. At the federal level, we interviewed the TBTTP project director and officials of the MOCC. At the provincial level, we interviewed the TBTTP project director in KP. Further down the bureaucracy, we interviewed a sub-divisional forest officer (SDFO); a community development officer (CDO); and M&E officers. In the lower echelons of the bureaucracy, we interviewed some range officers and forest guards. The international level, which was mainly involved in M&E monitoring and evaluation, comprises the consortium of the IUCN, World Wildlife Foundation (WWF) and the Food and Agriculture Organization of the United Nations (FAO). We held two interviews with IUCN and WWF for NGO perspectives. In addition, the author participated in a three day "National Workshop on TBTTP database/ MIS and Log-frame" hosted by the IUCN. At the community level, we did two interviews with forest *nigahbans* and two interviews at community level and held one focus group discussion with the community.

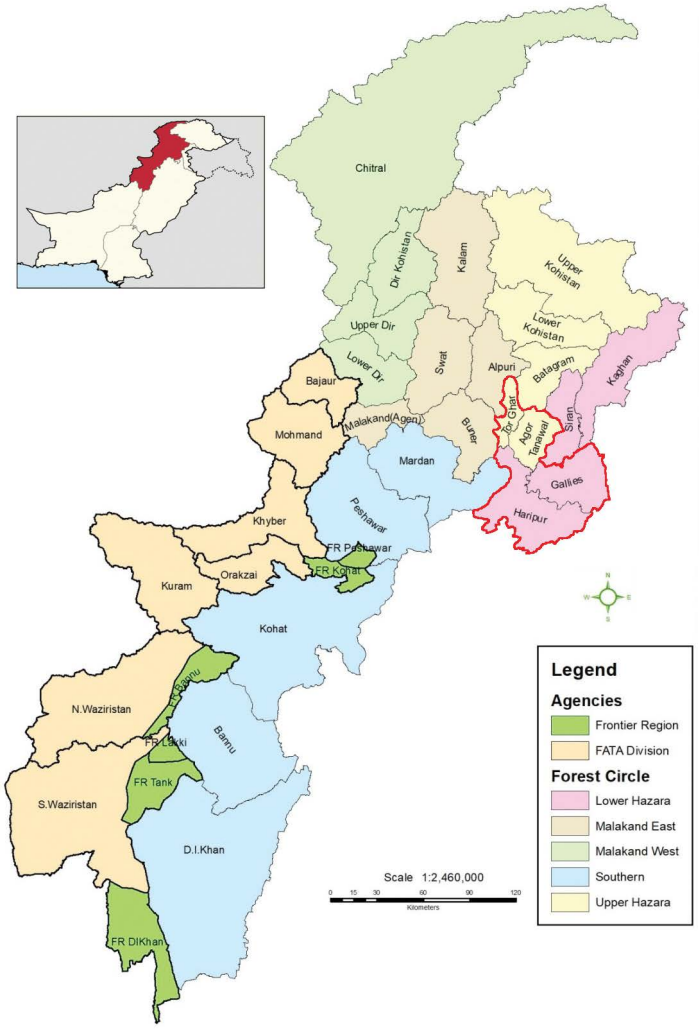
We collected secondary data from different published and unpublished sources. This includes the consolidated fortnightly progress report, figures and statistics shared by the Forest Department, the TBTTP official website and logical framework of the TBTTP (prepared by the IUCN).

3.2 Study area

The TBTTP is implemented across Pakistan, a country of six federating units. The four provinces (Punjab, KP, Baluchistan and Sindh) and the two autonomous regions (Azad Kashmir and Gilgit-Baltistan) are all participating.

This study is focused on KP for two main reasons. First, due to limited time and resources, covering the whole project would have been nearly impossible. Second, KP is the location of the original BTTAP, which the TBTTP is upscaling. As a result, focusing on this province provides a deeper historical understanding of the project and its execution. The working, execution and implementation are much the same across the whole province. But undoubtedly, experiences, lessons learnt and challenges are not the same. For as broad a picture as possible, we collected empirical data and visit sites in both the lower and upper Hazara forest areas (see Figure 1). These forest circles are part of the Northern Forest regions–II.

Figure 3.1 Map of the KP forest division, study area highlighted in red polygon



Source: Government of KP, 2022

The Ten Billion Tree Tsunami Programme (TBTTP)

4

4.1 Climate change and forest degradation narratives

The TBTTP and its predecessor the BTTAP were introduced in the context of debate on impacts of climate change on Pakistan. Two driving narratives of this debate related to the forestry sector are 1. Pakistan's high ranking on the climate change vulnerability index 2. Depletion and degradation of forest resources.

According to Germanwatch's Global Climate Risk Index (CRI) report published in 2013, Pakistan was then ranked 8th most vulnerable country to climate change (Harmeling and Eckstein 2013). In more recent years, the country's vulnerability ranking has gone up or down by a few positions and this seems to grip the attention of those in environmental policy circles. The CRI is based only on extreme weather and associated losses which is a narrow approach to vulnerability, as its original report itself mentions (Harmeling and Eckstein 2013; p3-4). However, the decontextualised ranking number is widely used in academia, print and electronic media, and is evident in environmental policy decision making. For example, the former prime minister Imran Khan referred to Pakistan's CRI ranking on multiple occasions including at the UN general assembly and World Economic Forum (WEF, 2020; Khan et al. 2020).

The high climate vulnerability ranking of Pakistan easily fits into existing narratives of degradation and depletion of forests in the country. Much policy discourse around forests in Pakistan revolves around depletion and degradation. For example, the MOCC yearbook argues that unfavourable climatic conditions; rural poverty and dependence on natural resources; meagre forest cover; and a high deforestation rate have rendered the country one of the most vulnerable to climate change impacts (MOCC, 2019). According to the latest national forest cover assessment of 2012, the forest cover in Pakistan varies from 5.45 to 5.67 percent with an uncertainty of ±0.8 % (MOCC 2021b). Fuel and construction wood from natural forests is one of the main reasons cited for forest degradation and depletion. It is estimated that just in KP, local forests provide nearly one-third (32%) of the 15.53 million m^3 of fuelwood (Forest Department KP, 2015). Studies by the Pakistan Forest Institute (PFI)[2] argue the immense pressure of wood acquisition has resulted in the depletion of more than 70% of provincial forest resources. In addition, the status of natural regeneration in more than 70% of provincial forests is unsatisfactory because of grazing and regular outbreaks of fire (Government of KP, 2000). However, KP is the province that has the highest forest density in the country. Its Forest Department reports that 20% of the province (2.043 million hectares) is under forest cover (i.e. just less than half of all the forests in Pakistan). An additional 25% of the provincial area might be brought under forest cover. Recently, the province completed the BTTAP. This brought 6% of additional land under forests in addition to helping natural regeneration in 20% of existing forests (Government of KP, 2020).

4.2 Administrative structure

An outline of the responsibilities of different authorities in Phase 1 of the TBTTP is given in Table 4.1.

Figure 4.1 presents an organigram of the project that outlines the different departments, directorates and other administrative units. Arrows indicate the relationship between these units.

4.3 Finances and cost estimates

The cost of the project – 125 billion rupees (US$700 million) – is financed mainly through local resources. The Ecosystem Restoration Fund (ESRF) was created to receive financing from different donors and multilateral sources. A total of 109.12 billion rupees (US$610 million) is earmarked for forestry and 15.853 billion rupees (US$90 million) for biodiversity and wildlife.

These funds are to be split evenly between the federal government (Public Sector Development Project [PSDP]) and provincial governments (Annual Development Plan [ADP]). The territorial distribution of the estimated cost of TBTTP is shown in Figure 4.2. The estimated cost of the project for KP, for example, is 27.34 billion rupees (US$153 million).

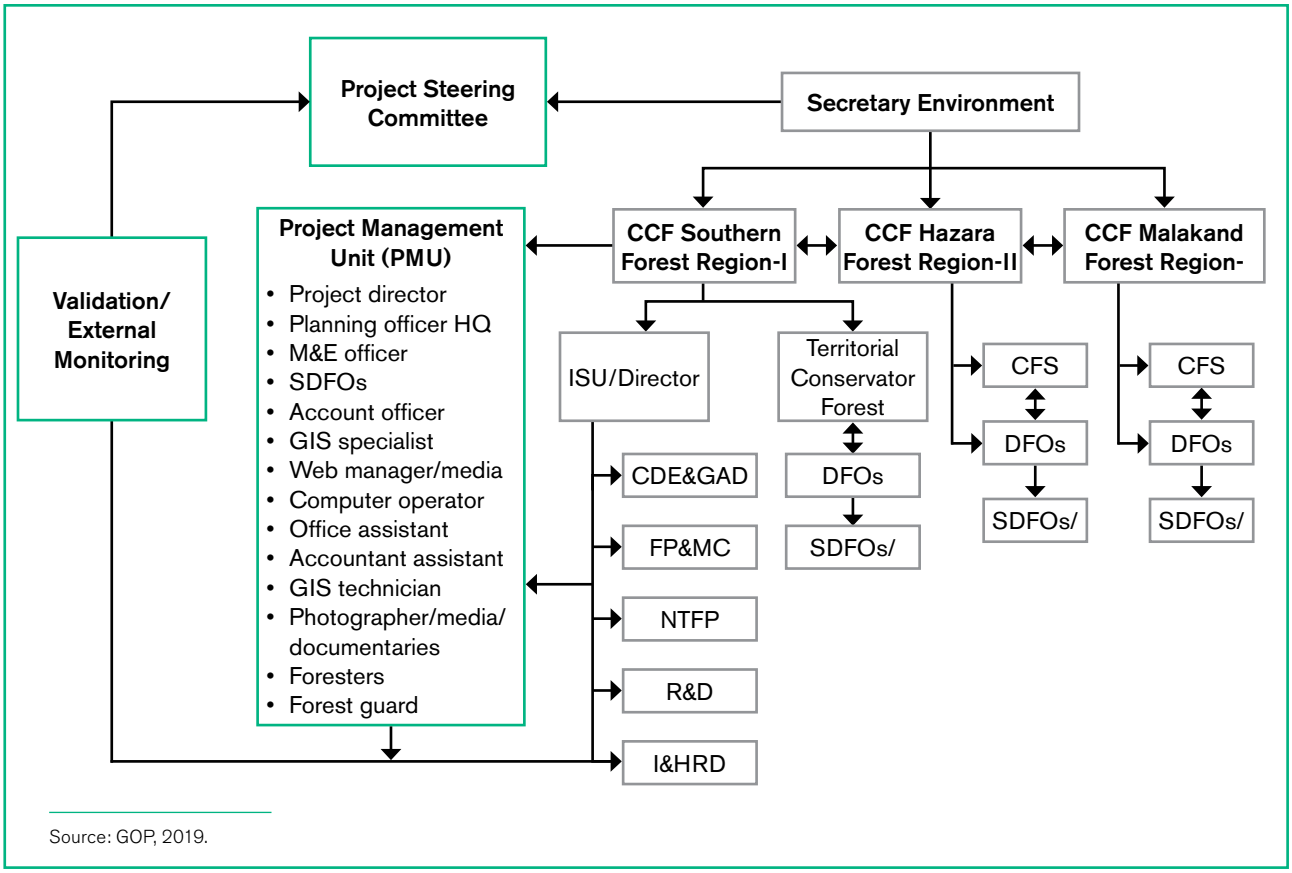
Despite all the hype around the TBTTP, the project budget was cut throughout 2019–21. According to MOCC (2022), the PSDP amount for 2019–20 was 7.5 billion rupees (US$42 million) against the requested 15.6 billion rupees (US$87 million). This was about a 52% cut for the first financial year of the project. Similarly, the total PSDP amount authorised for 2020–21 was 4.90 billion rupees (US$27 million) against the requested 23 billion rupees (US$128 million), a cut of about 78%. It was reported that officials insist that budgetary allocation to MOCC was only for the ongoing projects due to pandemic triggered economic crisis (The News International 2020). The PSDP documents

[2] PFI is the main research and training institution of the Forest Department.

Table 4.1 Responsibilities of different authorities in the TBTTP

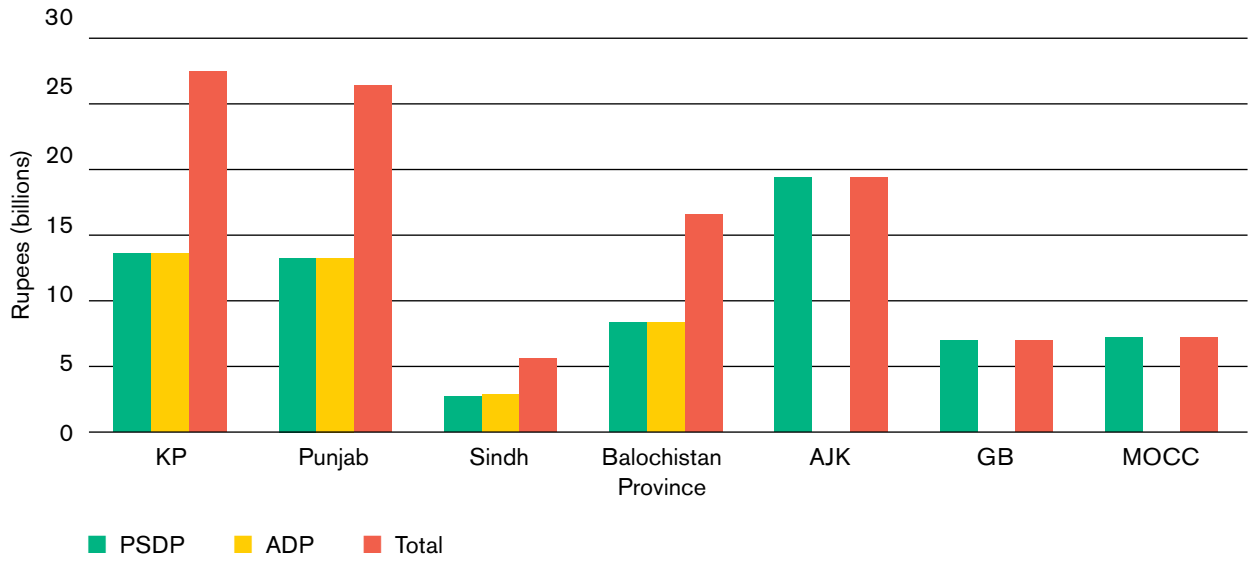
AUTHORITIES	RESPONSIBILITIES
Federal level	The Ministry of Climate Change (MOCC) –arrangement of funds and supporting the project through the project coordinator
Provincial level	The secretary of the Forestry, Environment and Wildlife Department of respective provinces
Project Steering Committee (PSC)	(i) Provide policy and strategic directions (ii) Approve of the annual work plans (iii) Review progress (iv) Approve minor changes in the PC1
Project Management Unit	(i) Planning, coordination, budgeting, reporting and monitoring (ii) Logistical and administrative support to the PSC
Forest Department	(i) On-ground implementation of the project
Integrated Specialised Units (ISUs)	ISUs provide expertise on specific issues through the following directorates: (i) Planning & Monitoring (FP&M) (ii) Community Development, Extension & Gender & Development (CDE&GAD) (iii) Non-timber Forest Products (iv) Research and Development (R&D) (v) Institutional and Human Resource Development & Management (I&HRD&M) (vi) Pakistan Forest Institute (PFI).

Figure 4.1 Organigram of the administrative units



Source: GOP, 2019.

Figure 4.2 Territorial distribution of estimated cost of TBTTP



Source; MOCC 2021a

show that no allocations have been made for any new initiative beyond the TBTTP and, in 2021, the lion's share (98%) of total budget was allocated only for the TBTTP. These budget details suggest that the MOCC's work had been reduced to a single project. Some suggested in 2021 that this represented a downgrading of MOCC and suggested that TBTTP, as the brainchild of the prime minister's PTI party, and touted as a huge success locally and globally, could not be allowed to fail (Shahzar, 2021).

According to recently reported figures, the financial cuts in the past years have severely impeded the progress of the TBTTP. It is reported that after three years (2019-2022) the project has only achieved 43% of its plantation and regeneration target. This amounts to 1423.46 million plants against the targeted 3296.25 million by 2023. MOCC officials have reportedly noted that Sindh and KP provinces have made good progress but Gilgit-Baltistan and Baluchistan are lagging behind their targets (Business Recorder 2022).

The TBTTP implementation arena

5

This section introduces the plans and workings of the TBTTP and briefly analyses different components.

The TBTTP aims to plant 10 billion trees, beginning with 3.29 billion in Phase 1 (2019–23). This will bring an additional 1 million hectares of the area under forest cover. The targeted number of trees is to be achieved through ANR and new tree plantations. Contrary to popular belief, not all trees are to be planted. About 40% of the total target (1.3 billion) will be planted, but most will be regenerated in forests through ANR. Initially, the planned ratio of new plantations and ANR was evenly split. Later, the ANR component was increased to 60% because of reduced funds allocated to MOCC.

The implementation model of the TBTTP can broadly be categorised into five main components: (i) ANR; (ii) plantation of new trees; (iii) establishment of nurseries; (iv) community mobilisation and capacity building; and (v) monitoring and evaluation. These components are introduced and analysed in the following sections.

5.1 Assisted natural regeneration through enclosures

Enclosures are demarcated as protected areas that prohibit any kind of human activity. For example, the rights to passage, firewood and fodder collection, and grazing are not allowed. According to the PC 1 report of the TBTTP programme, the increased number of livestock and the associated unrestricted grazing, as well as frequent forest fires, are amongst the major factors that hamper natural regeneration. According to the BTTAP project director, enclosing forests to protect from grazing is the most economical and effective approach to ANR. Climatic conditions are favourable and sufficient seed source is available in KP forests. The previous experiences of closures during the BTTAP have shown them to be an effective method of regeneration.

ANR is achieved by establishing enclosures over a large forest area; these have an average size of 40ha. This method of regeneration, introduced during the BTTAP, is reportedly a huge success (MOCC, 2021a). According to forestry officials, the results of monitoring through different agencies revealed that on average 2,000 seedlings per hectare germinate in these enclosures (MOCC, 2021a). During the TBTTP, 6,250 enclosures are expected to be established. These enclosures will cover an area of around 250,000ha. Forestry officials expect these enclosures will contribute to the germination of 500 million seedlings.

The official claim mainly focuses on the success narrative of ANR. It doesn't consider the impacts of these enclosures on local communities whose access to forest and rights are revoked. The revocation of rights as simple as the right to pass through the forest has a huge impact on people. According to one interviewee, routes to pastures or cities have taken longer since the project started, requiring more use of roads, for example, where traffic police harass herders for obstructing traffic.

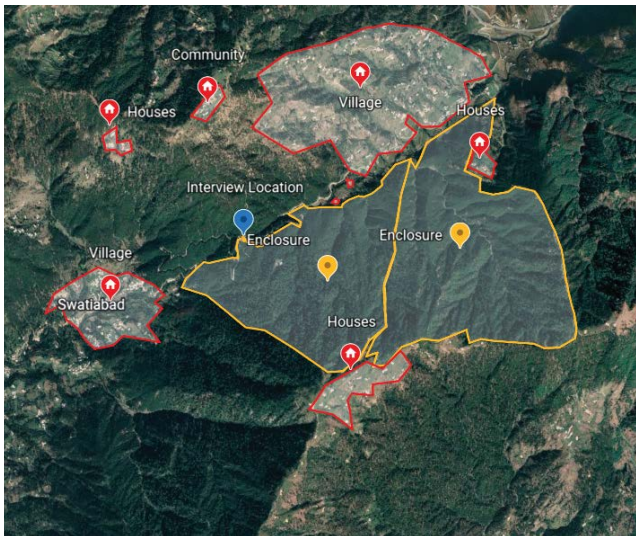
Figure 5.1 A herder headed to Kaghan valley (KP) pastures for the summer season

On the right side, newly planted pine trees can also be seen. Because of the plantation in the area, herders must take a longer route on roads to reach pastures.
Source: Author.

The enclosures are maintained for four consecutive years. According to official claims, a technical and social profile of the area is prepared before enclosing an area. The technical profile is a baseline assessment of the area. It includes existing regeneration and species, photographs and description of the area, technical feasibility, need of enclosure, causes of degradation and scope of the enclosure. These areas are mapped and GPS coordinates are recorded. The map reflects assessed regeneration, while the figures of regeneration are recorded in history files. These maps and figures are uploaded in an online database managed by the MOCC. The CDE&GAD directorate carries out the social profiling of the area. This records information about use of forests, ethnic groups and communities in the surrounding areas. In addition, it records ownership rights/dependence and *de-facto* or *de-jure* use rights and assessment of the extent of use over the forest resources.

On-ground experience indicates that technical profiling has more weight than social profiling. The social profiling doesn't seem to affect how and where an enclosure is established. For example, in an interview, CDE&GAD officials commented that, "If an area is disputed, we do not interfere in the disputes. We ask communities to resolve their issues by themselves and then come to us" (Khan, Z., 2021). The non-interference results in elite capture of decision making. Officially, decisions appear to come from the community, but they are heavily influenced by local power structures. Regeneration activities, then, are making it possible to distribute costs and benefits unequally. Section 8 discusses how local power dynamics result in elite capture and exclusion of the poor.

Figure 5.2 Satellite imagery of two enclosures and houses in the Battal, KP



An enclosure in a community's surroundings cuts off their commuting routes and access to forest.
Source: Google Maps (Overlay by author).

5.2 Plantation of new trees

5.2.1 Planting on government- and community-owned lands

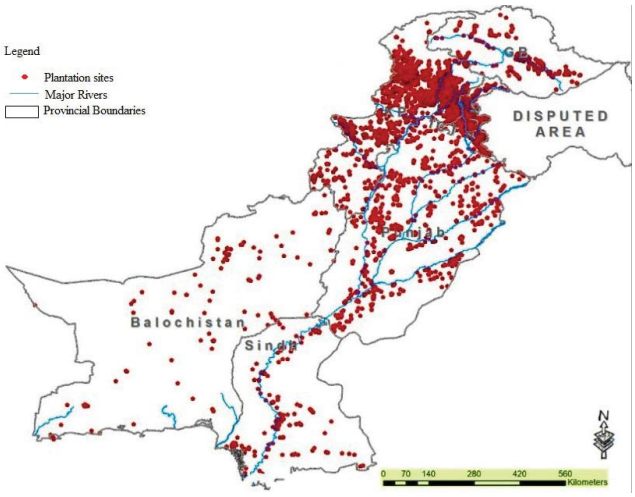
The second component is afforestation or plantation of new trees, which takes place in reserve forests, and on government- and community-owned lands. This includes government-owned land outside designated forest areas and commons/community-owned lands called *Shamilat*. Forest officials identify the area deemed fit for plantation. Similar to enclosures, a social profiling of the area identifies concerned communities. The areas where trees are planted are designated as enclosures. But these enclosures are not in the forest like ANR. Instead, they are spread across roads, hillsides and canal banks, etc. As discussed earlier, grazing and all other activities are banned in the enclosures. These afforestation sites are close to villages and residential areas. Thus, the local community plays an important role. According to official claims, through social profiling of the area, the Forest Department identifies and approaches concerned communities. The CAD&GAD directorate organises the community into VDCs; the department drafts a partnership contract with concerned VDCs. In the second phase, after consultations with VDCs, areas are demarcated for plantation and loose stone boundary pillars are erected.

Figure 5.3 Afforestation on a communal site (Shamilat) in Hazara region, KP

This area is enclosed for any activity for four years. During this time, no grazing, fodder collection or even a herd can pass through. Any damage to the trees can result in penalties and litigation with the Forest Department.
Source: Author.

Consultations with VDCs/communities assume stakeholders are a homogenous group. The literature on human-forest relations in Pakistan points out this assumption tends to overlook communal politics. The communities are heterogeneous groups based on ethnic, familial, caste and other ties, and have different agendas and interests. How these interests are represented in VDCs is a result of complex demographic dynamics. In areas where one caste or ethnic group (Syed, Swati, Pashtun, etc.) has a majority, it usually dominates discussions and in practice has the final say in decisions. Other different minority groups have little to no participation in decisions.

Figure 5.4 The GPS coordinates of the plantation sites are saved in history files



The image shows aggregated plantation sites spread across Pakistan.
Source: MOCC.

5.2.2 Owner plantations

Afforestation also attempts to create earning opportunities for farmers through owner plantations or woodlots. These woodlots are mainly targeted to individual landowners who can contract with the Forest Department to plant trees on their land. The department aims to plant around 10,000ha under this scheme with woodlots ranging from 1–20ha. It provides plants free and the landowner can choose species for planting. After project completion (i.e. four years), the landowner owns the plants and can keep or cut them. After plantation, the owner is responsible for the safety and any other requirement required e.g. watering. In addition, the landowner is responsible for protecting these trees. However, the department tries to ensure that landowners protect the trees by paying in instalments according to the criteria below.

In addition to free saplings, the landowner also gets paid based on the number of plants planted. In areas that need plants watered, it pays 44 rupees (US$0.25) per plant. Otherwise, it pays 17 rupees (US$0.10) per plant. These payments are made in three instalments. For instance, for plantations where watering is required, the first instalment is 24 rupees (US$0.13) per plant paid at the time of pit excavation. The department makes the second payment of 20 rupees (US$0.12) per plant in the following year (in June) based on the survival rate of the plants. In the case of non-watered areas, the first instalment of 5 rupees (US$0.03) per plant is paid after completion of a plantation. The same amount is paid in the second instalment a few months later. The third and final instalment of 7 rupees (US$0.04) per plant is paid in June of the following year. The second and third instalments are based on the number of trees that survived.

The owner plantation/woodlots are meant to engage farmers in planting trees, but the scheme presents some challenges. For example, one forestry official said that most landowners choose fast-growing species like eucalyptus. From an ecological viewpoint, such species can have detrimental impacts on the water table. Indeed, as the KP is mostly a mountainous region, water availability is already limited in many areas. In addition, by choosing fast-growing species, farmers are showing that trees are not being raised for the long term. Many of these tree plantations will be cut down soon after the contract is over.

5.2.3 Afforestation for ecological services

In some parts of KP, afforestation is focused on ecological benefits other than increasing tree cover. For example, in southern and northern regions, afforestation along rivers and canals aims to stabilise banks and reduce soil erosion. Attempts to reduce salinity and waterlogged areas through tree plantations are mainly focused on the southern regions of KP and ex. FATA.[3] Plants – usually *Eucalyptus camaldulensis* and *Tamaraix* – are densely planted in saline and waterlogged areas. In Hazara and Malakand regions, several sites are abandoned due to shifting cultivation, migration and inheritance. According to officials, these lands can be used for afforestation. Similarly, in the sloping lands of Hazara and Malakand sheet erosion has not completely washed away the topsoil. These lands are being stabilised by close planting of soil- binding plant species. Slope stabilisation with gabion structures is also being done along roads, especially those built under the China Pakistan Economic Corridor. The DFO *Gillyat* maintains these activities were also done under the BTTAP with encouraging results. As a result, these activities were included in the current project as well.

[3] Federally Administered Tribal Areas (FATA) are now merged into KP thus referred as ex.FATA.

Figure 5.5 Gabion structure and plantation on a road (CPEC route) in Mansehra, KP

Source: Author.

5.3 Provision of tree saplings

The target for tree plantation for the current phase is 1.3 billion trees. Tree saplings for these plants come from three sources: departmental nurseries; private nurseries (established by individuals with the help of the department); and the open market. The department aims to provide 568.66 million[4] tree saplings from its nurseries to help achieve the 40% plantation target. To that end, it has established nurseries with different specific targets for several types of saplings (Table 5.1).

In addition to the department's nurseries, private nurseries established with community participation to create jobs will reportedly provide about 284.7 million tree saplings. These nurseries are expected to be mainly run by women. Officially, 1,139 private nurseries throughout the province are each expected to produce 25,000 saplings. According to the TBTTP directors, the Forest Department is focusing more on its nurseries for the project. In the last plantation project, it planned to outsource sapling production to private nurseries. But these nurseries could not produce the required number and standard-sized plants within the timeline. Thus, the department could not count on private nurseries to meet expectations of plant production. In addition, private nurseries could not be proven to be a sustainable economic enterprise. Almost all the nursery growers depended on project reimbursements for initial and running capital.

Table 5.1 Breakdown of plants to be raised in different nurseries provided by the Forest Department

NURSERY TYPE	AREA (HA)	NUMBER OF PLANTS (MILLIONS)
Bare-rooted[5]	1,814	224
Coniferous	5	6.630
Eucalyptus (Potted)	23	27.950
Fruit plants	56	2.80
Ornamental (Potted)	5	3.00
Other species (Potted)	207	255.75
Total	2,110	520.13

Source: GOP, 2019.

[4] The official figures should be used with care as there are huge inconsistencies in the numbers. In this example, the Forest Department nurseries have a target of 568.66 million. But the breakdown provided in the project documents is about 50 million lower. In addition, the numbers assume optimum yield from the nurseries. Actual numbers are/can be much different than reported numbers. In the above-mentioned observation, forest officials indicate the department is relying more on its nurseries than on private nurseries. This points to a mismatch between reported and actual numbers.

[5] Bare-root nurseries are the nurseries in which saplings are grown in land compared to potted/tube nurseries in which saplings are grown in polythene/plastic tubes. Bare-root nurseries are cost efficient and rapid growing but can only be planted in winter season. In comparison, potted/tube nurseries can be planted all year around but are expensive. It is estimated that raising one hectare of bare-root nursery costs PKR 2.35 million (US $11,800) compared to potted/tube nursery that costs PKR 7.6 million (US $38,600). Some of the species included in the other category are Chinar (Pinus roxburghii), Willow, Ailanthus, and Robinia.

Figure 5.6 Pine sapling raised in a private nursery in Noor Nar Surgan and Sharda Neelum Valley, AJK

Source: PMU TBTTP.

5.4 Community mobilisation and capacity development

The project aims to involve local communities in multiple activities. These range from planning and implementation to final monitoring and post-project maintenance of assets. According to the community mobilisation plan, workshops build capacity of communities in planning, designing and implementing forestry interventions. The Institutional and Human Resource Development & Management (I&HRD&M) along with the CDE&GAD directorate help organise local communities and conduct training on issues like enclosure management, tree plantations and nursery establishment. The I&HRD&M directorate also conducts training on seed collection, soil conservation techniques, bioengineering structures, disaster risk reduction, watershed management, farm forestry and range management plans.

5.5 Monitoring and evaluation

Monitoring and evaluation takes place on several levels. Supervisory staff and the Forestry Planning and Monitoring Circle (FP&MC) are responsible at the department level. Third parties are engaged for the external level.

5.5.1 Monitoring by supervisory staff

Forest Department supervisors do the first tier of M&E. These staff include sub-divisional forest officers (SDFOs), along with range forest officers, foresters and forest guards. The field staff carries out on-field activities and assures quality and quantity. The DFOs are expected to verify different activities to ensure they are correctly reimbursed. In addition to verification and reimbursements, the DFOs also monitor compartment history files. These files contain information about the area of land involving an intervention, including maps, pre/post-work photos of the area and GPS coordinates. The chief conservator of the forest is expected to physically check at least 30% of any activity claimed by the DFOs, and ensure activities align with policy. To that end, chief conservators are expected to do random checks of at least 10% of work by field staff.

The FP&MC do the second tier of departmental monitoring. The FP&MC directorate monitors and establishes a baseline of forest and non-forest areas for the project using satellite imageries. A database encompasses details of plantation and nursery journals (history files) of all areas to be monitored. The database tracks natural regeneration, pit size, density and area covered through plantation, wastelands and farmlands, among other areas. In case of any complaints related to these areas, the FP&MC staff can physically verify field activities. In addition, the FP&MC directorate monitors enclosures and provides guidelines on raising and protection of enclosures, appropriate composition/ratio, suitability and assessments. In addition, the directorate monitors the seasonal change in regeneration and species status in enclosures.

The ex-project director of the TBTTP, Temasip Khan, explained the Forest Department has its own M&E system. Unfortunately, claims by the department are not trusted. Therefore, an external auditor was hired for M&E. In Khan's opinion, M&E by a reputable organisation can help build confidence in government claims on the global stage (Khan, T., 2021).

Figure 5.7 Secretary Environment and Chief Conservator of Forest monitoring plantations in Malakand, KP

These monitoring visits are part of the department's internal monitoring system.
Source: Forest, Environment and Wildlife Dept, KP.

5.5.2 External monitoring and evaluation

An independent organisation carries out external M&E of around 30% of total area covered under project activities. This will include randomly selected enclosure, plantations of canal/roadside, saline reclamation and nurseries, etc. The teams will also validate records e.g. plantation journal, nursery journal, history files, case studies, photos and maps. After verification/validation of the areas, they will submit a report to the PMU.

At the time of writing, a consortium of FAO, WWF and IUCN had been awarded a contract for M&E. In preparation for the work, the consortium convened a national workshop in December 2021 for stakeholders to develop a logical framework for M&E of the TBTTP.

The consortium has already completed a pilot monitoring project of 23 different sites. The final report was expected to be published in 2022 (The News, 2022). However, in personal communication, the national project manager of IUCN Pakistan shared initial results of the report. He said the 23 sites were randomly selected from across the country and identified these preliminary findings:

i. Around 70% of species planted at different plantation sites are native species with the remainder non-native (mainly eucalyptus).

ii. Regeneration through ANR in enclosures has not been good in some areas. Many enclosures are not properly fenced, which allows grazing and other activities.

iii. Gender participation in most project activities has been limited to a few activities, e.g. nursery raising.

Claims of success

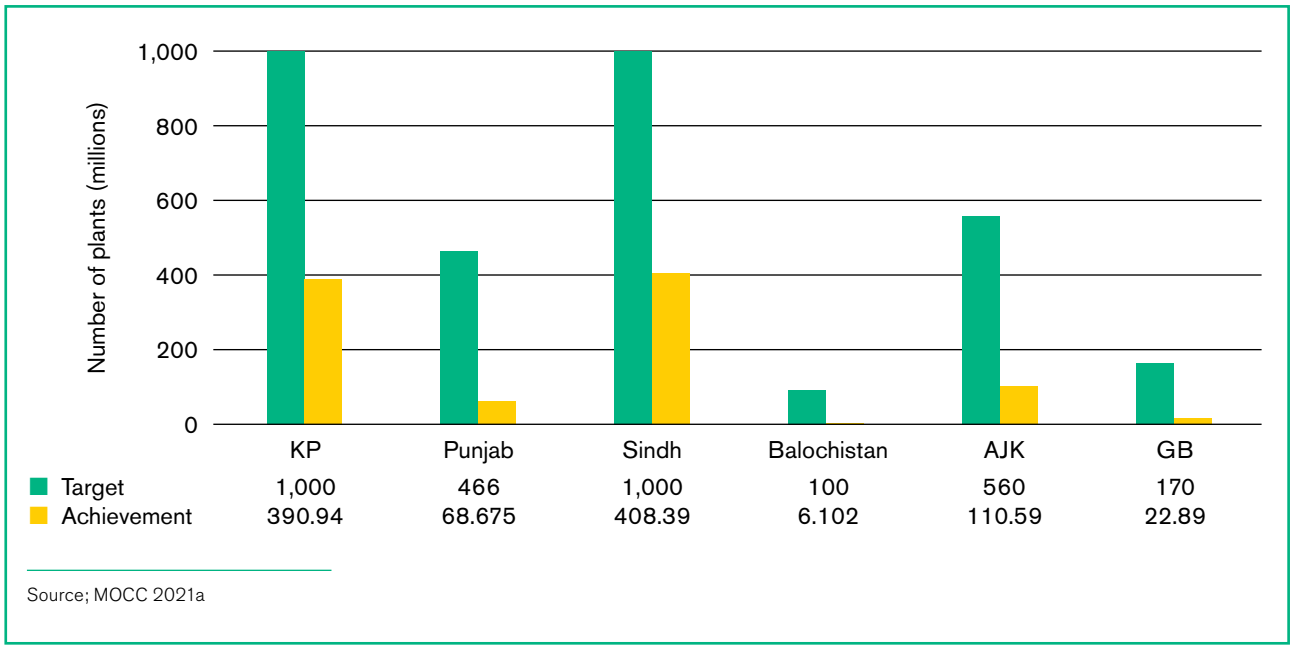
6

The claims of success in the TBTTP mainly hinge on quantitative assessments and visual presentations. According to qualitative assessment by the MOCC, the TBTTP is considered a success – achieving substantial progress towards its target numbers on tree plantation, enclosure establishment and job creation. The most recent available figures in MOCC's yearbook 2020-21 report 1,007.58 million plants, 488,000ha of land reforested and 164,490 labourers (daily wagers) employed[6] between 2019 and 2021 (see Figures 6.1, 6.2 and 6.3). The MOCC claims that the preliminary assessment report prepared by the consortium of IUCN; WWF and FAO reported a very high plant survival rate of 70–90% (MOCC, 2021a). It is difficult to make any assessment of this claim as the preliminary report is not publicly available.[7]

Advocacy of the success of the TBTTP is pursued more by visual representation of the project than by wielding the quantitative numbers. Pictures, drone shots, videos of newly planted trees are widely disseminated on different social media platforms. The designated Facebook and twitter accounts of the TBTTP often post visualised versions of 'the progress' achieved. The posted content is widely reshared by higher ups on the state and government pages. For example, the prime minister, chief ministers and other federal and provincial ministers and the official accounts of different ministries all post such success imagery. These graphics are also used by international organisations and media houses in their videos clips. One such example is the World Economic Forum that has produced multiple videos on the TBTTP that have also been shared on the prime minister's twitter handle. Similarly, media houses like the Voice of America, the Telegraph and many other media outlets have produced such graphics. The production and wider circulation of pictures and videos by such organisations and state officials lay the ground for claims to be made and legitimise the official narrative of success (see Figure 6.4). Yet many complexities are being hidden.

The decontextualised quantitative data and reduction of success to simple visuals avoids the complexity of society-nature relations. These simplifications, mask and hide inequalities, marginalisation and exclusion of communities that do not have access or resources to contest the claims of success. In addition, the way data is being analysed and managed raises questions that more transparency might answer. For example, Sindh has apparently planted/regenerated the most number of plants with 408 million, followed by KP's 390 million. But the reforested area of KP is 350,090 ha in comparison with Sindh's mere 28,519 ha. How was KP was able to restore this much greater area with a smaller number of planted trees?

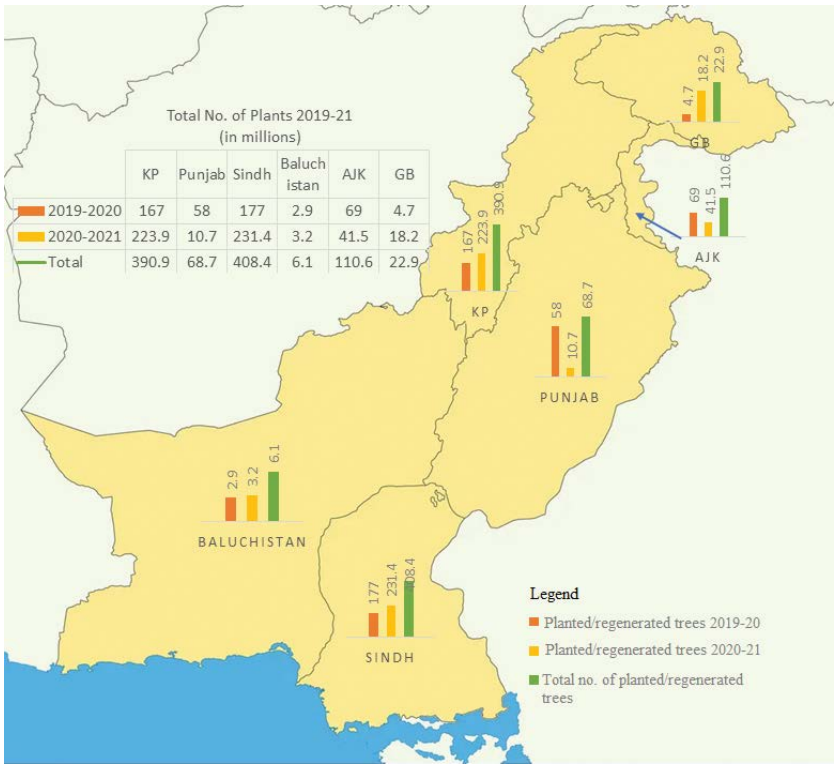
Figure 6.1 Territorial Targets and achievement of total number of plants (planted and regenerated)



Source; MOCC 2021a

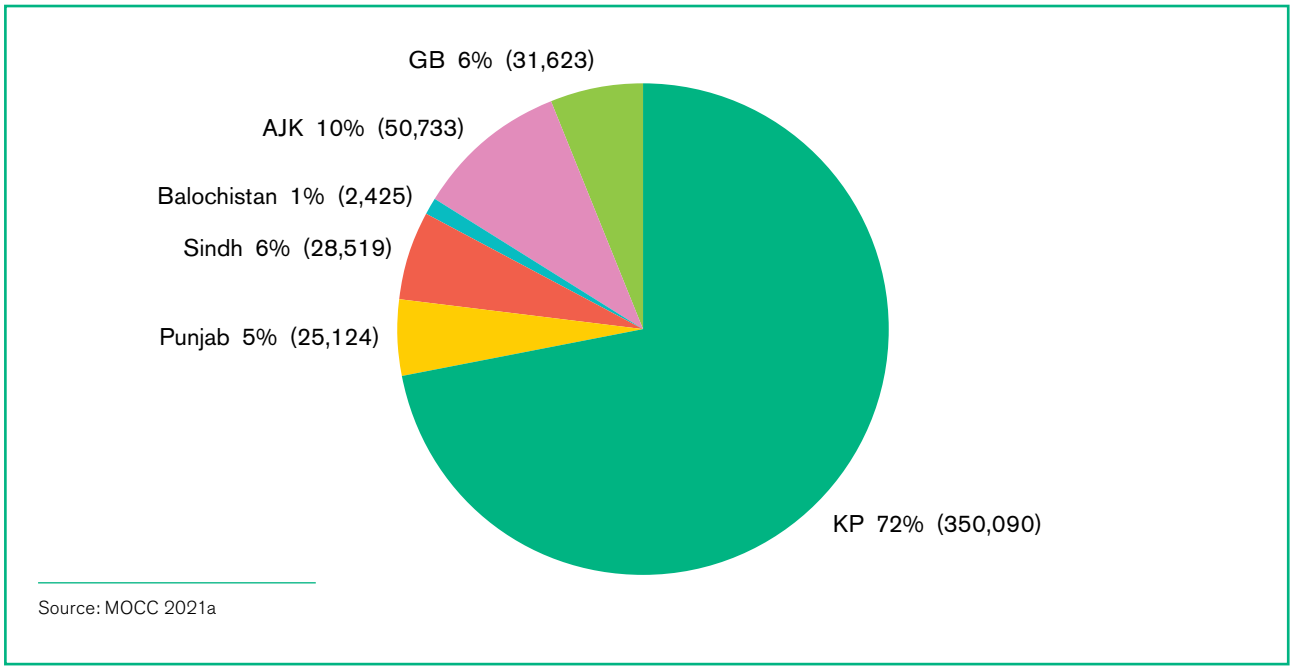
[6] These jobs are based on "number of days worked" (hence "daily wagers"). The daily wagers are hired for 2–3 days to help forestry officials for plantation activity e.g. transportation of saplings, planting trees, watering, etc. They should not be confused with *nigahbans*, who are hired for the complete duration of the project (four years).
[7] A request by author to get a copy of the preliminary report was not answered by IUCN, Pakistan.

Figure 6.2 Total number of plants planted/regenerated during 2019–2021



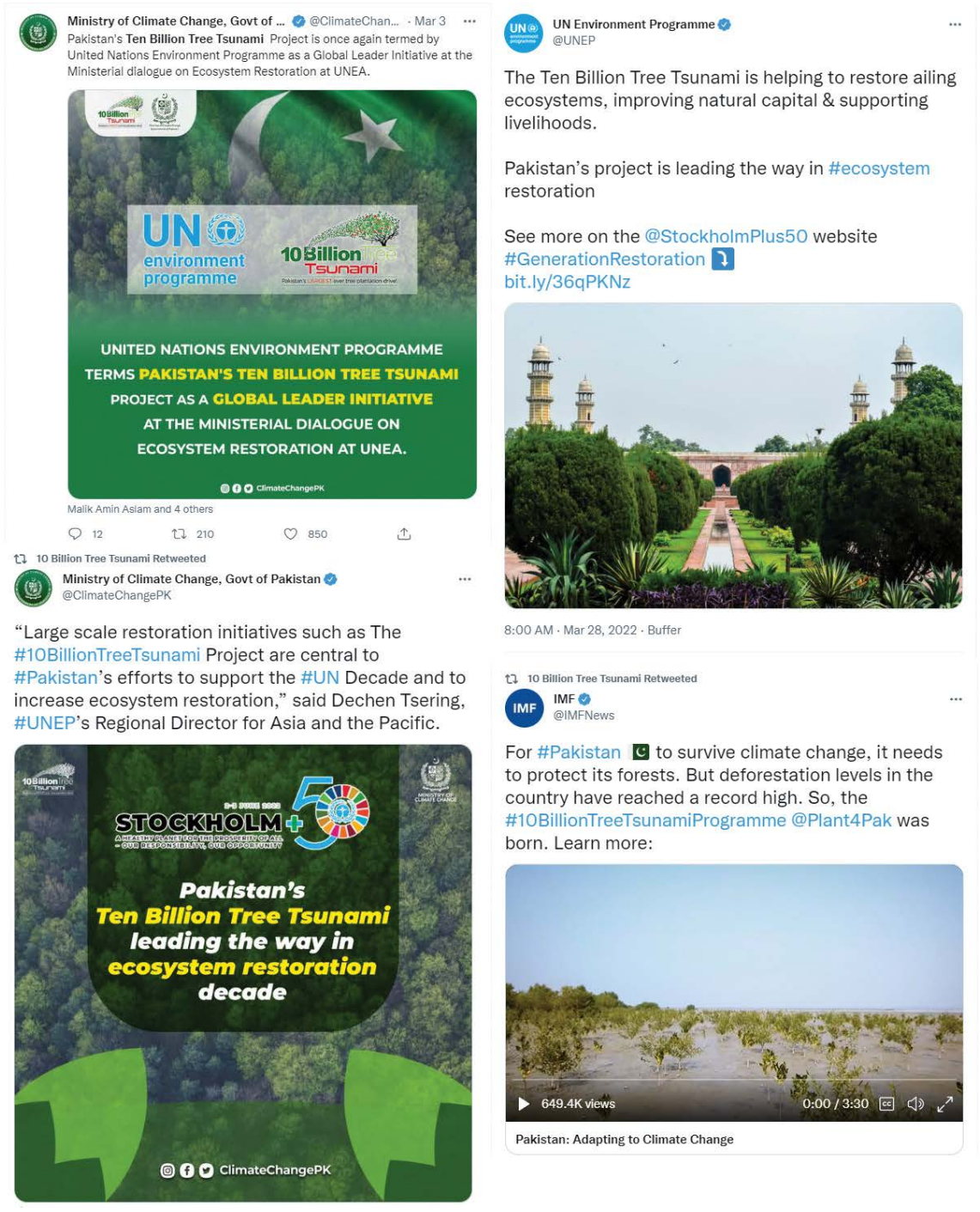
Source: MOCC 2021a

Figure 6.3 Total area (in hectares) planted by Province



Source: MOCC 2021a

Figure 6.4 Snapshot of 'visuals of success' from different organisation's official twitter handle promoting TBTTP



Socioeconomic outcomes

7

According to the KP government, the current afforestation campaign differs from previous ones. The current campaign aims to enhance the livelihood of local communities (Gul, 2017; Kamal, Yingjie and Ali, 2018). Recent research on the socioeconomic benefits of the TBTTP shows the project has had a positive impact by creating jobs and increasing household income (Rauf et al., 2019; Zeb et al., 2019a). Khan et al. (2019) note the previous afforestation project (BTTAP) generated a total net income of US$6.9 million in three districts of the KP.

Many other studies have also reported positive impacts from the projects. For example, Saghir et al. (2022) found most people had a positive perception of the project. Ullah et al. (2021) reported that participating farmers increased income and household assets. On the perception of benefits, they reported that community leaders and social scientists agreed the project has achieved its objectives to a limited extent (Ullah et al., 2021). But forestry officials believe the project has fully achieved its objectives. Ullah et al. (2021) found that age, income from forest resources, friendly ties with Forest Department officials and a risk-taking attitude had positive and significant impacts on improving livelihoods.

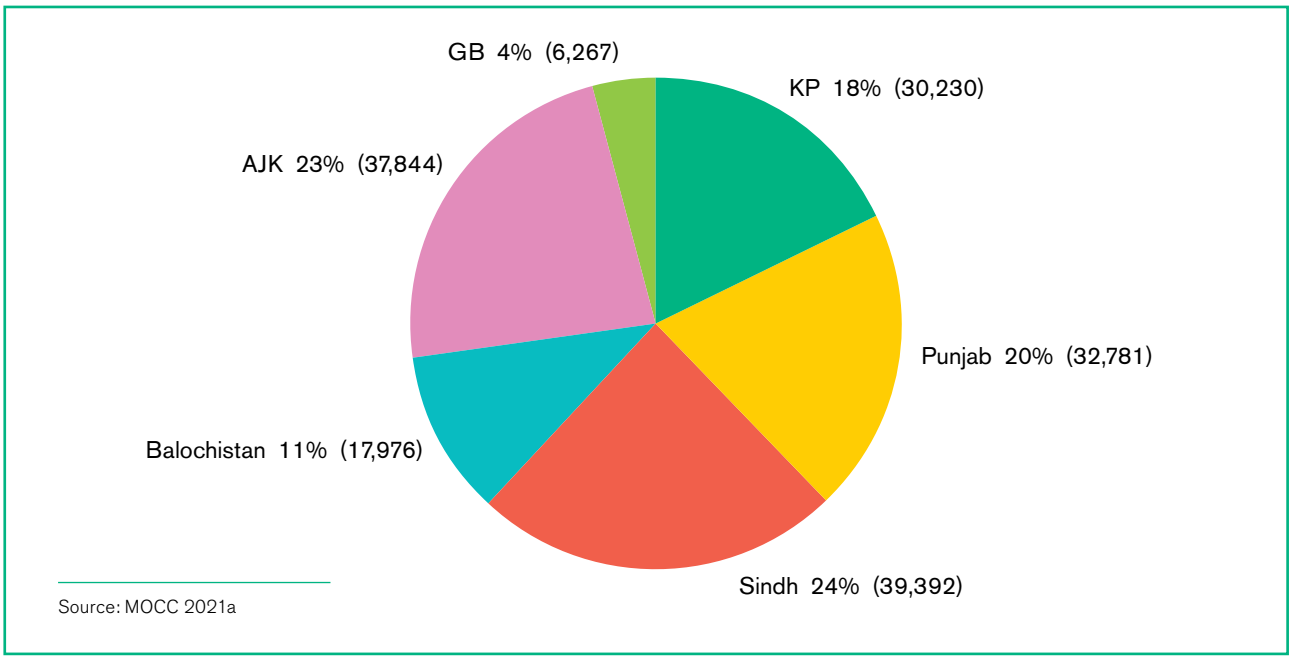
Many studies take a depoliticised perspective on the socioeconomic impacts of the project, often approaching from a depoliticised cost-benefit analysis for the implementing agency. Our study takes a political ecology perspective to dissect the claims of employment, participation, and inclusion of local communities. In the following sections, it discusses these aspects in detail, focusing on the politics that shape the distribution of costs and benefits in society.

7.1 Job creation and post-COVID-19 recovery

According to the Ministry of Climate Change, the TBTTP aims to enhance climate resilience of the region, as well as to ensure sustainable growth, employment opportunities and improve livelihoods (Kamal et al., 2018; MOCC, 2019; Zeb et al., 2019a; Tribune, 2021; Ullah et al., 2021). In March 2021, COVID-19 cases started increasing in Pakistan, resulting in a countrywide lockdown. Against this backdrop, the MOCC proposed the 'green economic stimulus' to increase TBTTP activities that require more labour. In this way, it aimed to increase the number of jobs from 65,000 to 200,000 by diverting and re-configuring funds for implementing the TBTTP (MOCC, 2021a). The World Economic Forum called this a "win-win for the environment and people" (Khan, MAA. 2021).

The government of Pakistan adopted a three-phased approach to achieve the objectives. In the first phase, it financed the stimulus through its budget. The government diverted 10 billion rupees (US$56 million) to increase the number of jobs created. According to official statistics, the stimulus created around 65,000 jobs during 2019–20 and another 85,000 jobs in 2021–22 (GOP, 2021; UNEP, 2021). In total from 2019-2021 more than 164,000 jobs were reportedly created (MOCC, 2021a) – see figure 7.1. These jobs were in agroforestry; raising of potted seedlings in nurseries; seed collection and sale to government and private nurseries; *nigahbans* (caretakers) and fire coolies in afforestation areas; and labourers for civil

Figure 7.1 Total number of daily wagers engaged in different activities 2019–2021



Source: MOCC 2021a

and soil conservation works, rangeland and grassland improvement, and tree plantations. For most of these jobs, workers were hired only for a few days (daily wagers). The labourers, for example, helped with plantation, digging trenches and other physical work that lasted only a few days. The *nigahbans* are relatively longer-term positions, but they also last only for the duration of the project.

7.1.1 Ecosystem restoration fund (ESRF)

For the second phase of post-COVID recovery, the United Nations Framework Convention on Climate Change (UNFCCC) 25th Conference of Parties (COP25) announced an ESRF. The ESRF is a financial mechanism to facilitate Pakistan's transition towards climate-compatible development. It will be used to restore 350 million hectares of land (Khan, 2021a), 15 national parks (aimed to increase protected area coverage by 50%) (The News, 2021) and 14 wetland ecosystems by 2030 (Khan, 2021a). The ESRF will also finance the TBTTP. To date, the ESRF has received US$188 million from the World Bank (NDRMF,[8] 2020). Recently, the German Development Bank (KfW) signed a grant agreement of €13.5 million under the Billion Tree Afforestation Support Project (BTASP) (KfW 2019). The BTASP will be used to support the local economy, green stimulus and poverty alleviation across 100 villages in KP.

7.1.2 Debt for nature swap

The third phase of the green stimulus for post-COVID recovery is designing a 'Debt for Nature' swap. According to the MOCC, the initiative aims to raise US$1 billion (Khan, 2021a). The final details are not yet available, but the initiative is expected to link the retirement of Pakistan's sovereign debt to performance on biodiversity protection. Similarly, the government of Pakistan announced a green euro bond targeting $500 million.

7.2 *Nigahbans*/forest guards

ANR is one of the main components of plantations under the TBTTP. In ANR, trees are regenerated through enclosures – the closing of different areas of forest. These enclosures directly affect adjacent communities as people are no longer allowed to collect firewood or graze livestock in these areas. Communities see these enclosures as a resource grab. Historically, these types of activities have resulted in conflicts, such as fires, vandalism, litigation and fights. To counter these problems, the idea of community participation became popular in forest management.

In the current project, the Forest Department came up with the idea of *nigahban*, or caretaker. These *nigahbans* are essentially forest guards contracted to look after the areas around their dwellings. They are preferably hired from the community living near an enclosure. Once an enclosure has been identified, the CDE&GAD staff then identify the stakeholder communities and organise them into VDCs. The enclosures identified are demarcated in collaboration with the concerned VDCs. The VDCs then nominate a *nighaban* to protect the area against any human activities and fire prevention. The *nighaban* is paid 15,000 rupees per month (US$85). An additional 25,000 rupees per enclosure is paid to fence vulnerable points and seed empty areas for better results.

Previous experiences during the BTTAP showed that frequent change of *nigehbaans* resulted in community conflict that adversely affected enclosures. Therefore, the appointment of *nigahbans* is more stringent under the current project. CDE&GAD officials evaluate the social status of the *nigahbans.* But such appointments are not completely left to the concerned community; forest staff also play an important role in selecting *nigahbans*. In contrast, an interview with a *nigahban* in Torghar district (Kala Dhaka) tells a story of compromises that the forestry officials had to made in an attempt to save forest. The story of Idrees (name changed) is a telling who told us "I was hired because one of my cousins is very influential in this area (*ilaqay ka bara*). If they (forest department) hired somebody else, they could not stop cutting down and smuggling of trees. Thus they had to come to somebody who is so influential that the people of the area are careful to not countdown trees" (Idrees., M., 2021).

[8] National Disaster and Risk Management Fund, Pakistan.

Figure 7.2 A *nigahban* inside an enclosure in Battal, KP explaining working of enclosures and showing newly germinated plants

Source: Author.

Nigahbans are hired on contracts that last as long as an enclosure is in place (four years). Indeed, many *nigahbans* hired during the BTTAP became unemployed after about three years. Apart from their limited contracts, *nigahbans* are often not paid on time. A *nigahban* from Battal, Manshera told "I have not been paid for the last six months. My survival is on borrowed money from relatives" (Khan, I., 2021). Similarly, non-payment of salaries for the nursery workers was reported as early as 2019 (Ebrahim 2019). In light of the budgetary squeeze of 78% for the current year, these claims seem to have substance. In response to a question on challenges, the former project director replied, "one of the biggest challenges for the project is funds. We plan some activities and sometimes funds are not available, or the requested funds are issued very late. The problem is that plantation season in these areas is limited. If we do not plant during the season, you have wasted the opportunity. The survival rate outside plantation season is very small" (Khan, T, 2021).

7.3 Establishment of private forests nurseries through youth/women

Another leading activity envisioned to create jobs is the establishment of private nurseries. These nursery contracts are awarded mainly to women both to create jobs and to achieve the gender goals of the project. Individuals and households interested in establishing a nursery can contact the Forest Department. They must be nominated by the community to ensure they belong to the poor strata of society. According to officials, this is to ensure that nursery contracts do not end up with people who are doing it as a business. Upon nomination, youth/women are assigned nursery units. Under this activity, gender participation is given higher importance. As the PC-1 report states, "given the cultural barriers in our society, the women have always been given less importance in development activities. In order to give them an opportunity and active participation in the project to improve their livelihood in economic terms, their involvement in plants production is essential." However, gender participation in nursery raising becomes limited because women are awarded contracts for potted nurseries. One official explained that the bare-rooted nurseries need more area and maintenance and are considered hard work. In contrast, potted nurseries can be raised in the backyard. The target under this activity is to contribute up to 10% of the total growing stock. In each nursery unit, 25,000 seedlings are expected to be produced. A total of 1,139 potted nursery units will be established throughout the project period. One nursery grower can establish up to four units of nurseries.

The costs for raising plants are paid to the nursery grower depending on the type of sapling. Growers of deodar, kail, fir and spruce seedling receive 8 rupees/sapling, while 6 rupees/sapling is paid for *chir*, *shisham* and *phulai*, and 4 rupees per eucalyptus. The nursery growers are expected to raise the plant to least 22 cm in height, which is considered appropriate for field plantation. The payments are made in three instalments. In the first instalment, growers receive 25% of total expected cost in advance for mobilisation and initial capital to buy polythene bags, seed and other inputs. In the second instalment, they receive 25% after three months based on physical verification/monitoring. The last half is paid on receipt of the number of plants of the desired size from the nurseries.

In interviews, nursery growers reported this activity had a positive impact on household income. Many households can make substantial earnings depending on the size of the nursery. This finding is in line with Rehman, Khan and Hanan (2018), who found average annual income in the *Mardan* district grew from 243,455 rupees (US$1,363) to 474,864 rupees (US$2,659). The households were able to earn an additional 231,409 rupees (US$1,296) per year. However, social capital played an important role in this regard. Interviews revealed that households with connections with forestry officials were the main beneficiaries. Ullah et al. (2021) noted similar patterns among participating and non-participating households. The forestry officials and participating households believed that everybody was given an equal opportunity. In contrast, non-participating households observed they were not allowed to participate in the project. One important aspect of participation is access to information. One respondent

said, "I would have liked to (have grown) a nursery, too. But I didn't get the information in time" (Tanoli, 2021). The participation of people, particularly of youth, was affected by what Mahmood (2020) called "politicisation of the campaign." This refers to a case taken up by the national accountability bureau on the alleged corruption of 17 billion rupees (US$95.2 million) in the project (Manzoor, 2021). Mahmood (2020) notes this had a negative impact on youth participation in the project. He also notes there was little effort by the Forest Department to ensure cross-sectional participation. An inquiry into alleged corruption charges was ordered by the supreme court of Pakistan, however at the time of writing the inquiry is still on going and not many details are available except the alleged corruption of US$95.2 million.

Figure 7.3 Women labourers tending to saplings in Haripur, KP

Source: Zofeen T. Ebrahim.

Community participation or exclusion

8

Community participation is an important aspect of the TBTTP in the official narrative. The project is based on community-based natural resources management (CBNRM), which arguably yields better results than traditional conservation and management (Johnson and Forsyth, 2002; Blaikie and Muldavin, 2004). In Pakistan's context, Khan et al. (2021) found similar trends. They observed community-based conservation systems were better suited for management than traditional approaches by ensuring community participation in Pakistan.

Figure 8.1 Focus group discussion with nigahban community members

Source: Author

According to the planning documents of the project (PC-1 report), "the community participation in different project activities will help in realisation of the objectives" (GOP, 2019). As outlined in the project objectives, different activities under community participation will generate employment for local communities, youth and women. Project activities are expected to create direct jobs, but also indirect jobs expansion of raw material and logistic requirements. The direct jobs include hiring of forestry officials, and daily wage workers for tree plantations, establishing nurseries and private plantations. Indirect employment is generated from the boost to private businesses dealing in various materials, seeds, supplies, machinery, equipment and tools.

Top-down projects often consider the community as a homogenous group that needs to be mobilised to participate. This view is prevalent in Pakistan's Forestry Department as well (Geiser and Steimann, 2004; Hassan, 2007; Ali and Nyborg, 2010). In contrast, research sensitive to community dynamics shows that communities in the KP regions are composed of multiple groups representing different interests and agendas. Studies have shown a wide range of actors/stakeholders in KP forests (Knudsen and Madsen, 1996; Ali and Benjaminsen, 2004; Simorankir, 2006; Shahbaz, Ali and Suleri, 2011). But experience from the previous CBNRM projects shows that the attention to communities is limited to rhetoric. Forestry officials did not make any substantial changes in their top-down approach (Geiser and Steimann, 2004; Shahbaz, Ali and Suleri, 2007). Ahmed and Mahmood (1998) made similar observations that forestry projects based on participatory ideas were plagued with a "cadre of experts" approach based on "hierarchical order-giving" attitudes (Ahmed and Mahmood, 1998 p.75-76). It is thus notable that researchers and high-profile observers have made similar observations about the deficiencies in the practice of forest policy for at least 25 years. The next sections present observations on the complex dynamics of community participation in the TBTTP.

8.1 Inclusionary exclusion

The project emphasises co-management and community participation in forest conservation. The communities have been incorporated through VDCs and joint forest management committees. These committees are made up of local people who help identify enclosures, distribute payment and appoint forest *nigahbans,* among many other tasks. The committee members deliberate with local people and present recommendations to state authorities who, after due process, make these recommendations official. These committees are the interface between the state and local communities. Their role and power extend and influence both spheres. On the one hand, these committees represent community interests. On the other, they enable localised forms of state control. In return, these committees have legitimisation as governing institutions within a specific territorial unit. Thus, these committees can be called quasi-state institutions with semi-state powers as their actions only need legitimisation from the state. The legitimisation is more procedural than a deliberate act by the state.

For example, a VDC can choose a member of the community as *nigahban* and recommend him to the Forest Department. The recommendation is almost an appointment as state authorities rarely object. Officially, these recommendations ensure community participation. But this assumes a VDC represents community interests. As discussed previously, communities are heterogenous groups with differentiated interests and agendas. When the composition of these VDCs is dissected, they reveal the unequal social and political power relations in the community.

For example, the VDCs are often composed of powerful landowners in the area. There is little to no representation of landless or tenant classes in these committees. This leads to a disproportional distribution of benefits. For instance, VDCs recommend *nigahbans*. In many parts of the KP, *nigahbans* belong to the same family or ethnic group with representation in VDCs. These VDCs, in turn, represent the landed elite/ powerful of the area. There are other social groups in the area, but they have no representation on the committees, and hence in the appointments. On the face of it, VDCs and the appointment of local people as *nigahbans* appear to ensure community participation. However, elite capture creates disproportional effects on the community. The empirical evidence shows that participatory and co-management techniques have mixed impacts on the communities. In other words, the costs and benefits are disproportionately distributed among social groups. Ultimately, the landless herder and poor classes are marginalised and excluded by the very institutions promoted in the name of inclusion and participation of the community.

8.2 Governance structure and marginalisation of the landless

As discussed in the previous section, the communities in the KP are differentiated groups with different agendas. These groups are key stakeholders in forest governance in the KP. The tenurial and use right arrangements restrict access to forest resources, thus impacting the inclusion or exclusion of certain groups.

These stakeholders can broadly be defined into forest owners/right holders, landless forest users/non-right holders and herders (Ahmed and Mahmood, 1998; Steimann, 2003; Rome, 2005; Shahbaz, Ali and Suleri, 2011). Forest owners are the landed class who own (*Guzara*) forests or have use rights in protected forests. In the study area (Hazara region), landowners can use forest resources for domestic/subsistence only after formal permission from the Forest Department. The landless/non-right holders need permission from the owners/right holders to access forest resources e.g. firewood and construction wood. The herders (*Gujjars*) are a specific non-right holding group. As nomads, their access to forest resources is regulated through traditional/customary norms.

The inequality of use rights between landed and landless classes plays a pivotal role in the marginalisation of landless classes. The access of landless classes to forest resources is regulated through social institutions i.e *jirga*. A *jirga* is a traditional assembly of local leaders who decide on important issues pertaining to the local community. These *jirgas* are powerful institutions both socially and politically. Socially, the *jirgas'* decisions are binding for locals; non-compliance can result in social repercussions. Politically, the *jirga* leaders are often the local landed elite who are local political leaders. Therefore, the *jirga* leaders (landed classes) have ownership of *Guzara* forest, as well as use rights in the protected forests.[9] An enclosure near a community doesn't directly impact the landed class as they have ownership and use rights of forests. However, the establishment of an enclosure marginalises the landless classes as it restricts informal access to state-owned forests. In addition, since landless classes are not represented in *jigras,* they have little say in decisions e.g. enclosure establishment. Although membership of *jirgas* is skewed in favour of landed classes, the multiplicity of actors prevents complete domination. Southwold-Llewellyn (2006) has made similar observations. She argues these *jirgas* "prevent local elites from domination and they [jirga] protect the equitable distribution of subsistence needs from the forests." However, the representation of landless classes gives rise to patron-client relations. For landless herders, the establishment of the enclosure means their access to forest resources depends on establishing client relations with a patron. Thus, establishing enclosures without addressing unequal land tenure and use rights consolidates power in the hands of the local elite.

In addition, the establishment of enclosures in rangelands and pastures is devastating for the herders who have no other place to graze their herds. Ullah et al. (2021) found that households dependent on livestock farming (mainly *Gujjars*) did not participate in the project. While citing the reasons of non-participation, they note that "they neither participate nor allow others to participate in farm forestry, the planting of different plant species or the enclosure of areas for regeneration. This is because the area is mountainous, and livestock farmers know that by participating in the BTTAP or supporting project activities in the area, they may be involved in an activity that results in fodder scarcity for their livestock." (Ullah et al., 2021). Ullah's finding strengthens the claim that the project negatively affects landless herders. First, the establishment of enclosures restricts their access to grazing lands. Second, they cannot participate in the project to benefit from tree plantations as they are landless. Both factors exacerbate the marginalisation of landless herders who are at a disadvantage because of local power structures

[9] Guzara forests are under community ownership, but the Forestry Department has administrative control over them.

(Geiser, 2012; Shahbaz, Geiser and Suleri, 2013). These realities contradict official claims of the project's social benefits described below:

> "Most of the project interventions will be accomplished through collective management by stakeholders. This will not only ensure prospects of sustainability of project interventions but also inculcate experience and concept of dealing with other common social and political issues pertaining to the development of the area. The village organisation programme of the project will further strengthen the bargaining powers of the communities while addressing other off-farm developmental issues." (GOP, 2019)

The complex governance structure of land tenure and use rights excludes landless groups from benefiting from financial incentives introduced under the TBTTP. For example, landless groups cannot benefit from farm forestry and owner plantations, which provide both financial and environmental resources. Thus, the landed elite benefits from these tree plantation schemes. In the implementation of the TBTTP, the state has turned a blind eye to this complex land tenure and use right arrangements. Consequently, the project has reinforced social and political inequality in society by reinforcing and strengthening existing power structures.

8.3 Resistance against the TBTTP

Locals put up different types of resistance against the TBTTP. There is no formal campaign in the areas. Rather, the resistance is covert, using the "weapons of the weak" (Scott, 2008).

As one form of resistance, people set adjacent forest areas on fire. Such cases have been reported in different areas. For example, in *kund Bangla* area, some residents kindled a fire that burnt down more than 40 hectares. The department fined the culprit 200,000 rupees (US$1,120). However, the *jirga* of the area took up the issue. After consideration, the fine was reduced to 75,000 rupees (US$420). The culprit paid the fine to the Forest Department by selling his goats and borrowing money from his relatives.

Another form of resistance, which is more widespread, is the uprooting of tree saplings from newly planted areas. Such incidents have been reported, for example, in areas of *Bari Baig, Madha Gucha and Sherwan*. This form of resistance is rooted in mistrust between people and the state (Knudsen, 1999; Shahbaz, Mbeyale and Haller, 2008; Zeb et al., 2019b). In areas where uprooting took place, people claim the Forest Department will take over their land through these plantations. They believe once the plantation is completed in an area the department can lay claim to it.

Responding to a question, one of the forestry officials said, "People are illiterate. They don't read the document of partnership. It's an official document if they read they will get to know that the Forest Department is not laying any claim over their land" (Ilyas, 2021). This points to a lack of trust between the state and its subjects that has historical roots (Azhar, 1993). Cernea (1988) observed similar trends in a project in Azad Kashmir financed by the World Bank. Cernea writes, "the small farmers hesitated to accept project planting on their lands. They were fearful of losing possession or control over their land to the government once it was planted by the Forest department or being deprived of their rights to collect fodder and graze their cattle" (Cernea, 1988). "In contrast, large landowners, being confident of their political power, did not regard tree planting by the Forest Department as a threat to their ownership of land and trees" (Cernea, 1988:170). Khattak (1994) found the same trends in the district of Malakand. Khattak notes, "local people generally do not allow the Forest Department to plant the felled tree areas in the fear that such planting would reinforce the claims of the government to the ownership of the forests" (Khattak, 1994).

Conclusions

9

This study is an exploration of the discourses and the practices on the ground of the TBTTP - a high-profile mega tree-planting project - and its social impacts. The study explored different aspects of communities participating, and the distribution of costs and benefits. The total cost of the TBTTP is estimated by its authorities to be around 125 billion rupees (US$700 million) and this funding is to be split evenly between the federal and provincial governments. An ESRF generates funding from multinational institutions, and it has received US$188 million from the World Bank and €13.5 million from the German Development Bank.

While not able to assess the environmental impact of the TBTTP, the study recognizes that large-scale tree-planting and assisted regeneration has been implemented and notes the project authorities' claims that 488,000 ha of lands across the country have been reforested or restored and that the current phase of the project (2019–23) has crossed the one billion trees planted mark (against the targeted 3.29 billion).

In the socioeconomic sector, the project claims to have created 165,000 jobs, including daily wagers and short-term contracts. It has also created employment opportunities for female nursery growers by giving them training and finance to establish nurseries. In addition, members of local communities adjacent to forest areas are hired as *nigahbans.*

However, the costs and benefits of the project are unequally distributed. Project actions in the complex ethnic, class and social dynamics of local communities have resulted in the exclusion of marginalised groups of landless and herder classes. Local elites capture benefits through informal governance institutions like the *jirga*. This elite capture has strengthened patron-client relations, exacerbating the exclusion of marginalised groups. In some areas, people have put up resistance by removing newly planted trees and setting fire to trees and forests. The resistance is a result of contested claims of ownership between people and the state.

In the context of recovery from COVID and severe local socioeconomic stress, TBTTP could play an important role, but urgently needs to incorporate socioeconomic analysis and objectives. A narrow focus on number of jobs created misses the number of jobs and livelihoods destroyed. The quantification of success in terms of tree planted and hectares covered turns a blind eye to inequality, exclusion and any prospect of democratization of decision-making processes. There is a need to go beyond rhetorical claims of participation to install programmatic awareness of social issues, support genuine inclusion and local decision making, and ensure fair distribution of benefits.

As a way forward, TBTTP should support and respond to the findings of sensitive approaches to land tenure, community, and ethnic dynamics. For example, assisted natural regeneration is considered more environmentally beneficial than planted monocultures, but the way it is done by large area enclosure can have high social-political costs for the landless herder. A more inclusive approach would consider herders' concerns in decision-making processes. Similarly, 'inclusion of the community' should not simply mean providing a few jobs. Rather, consideration is needed of the status quo of power and resource concentration in few hands and the targeting of actions to promote their more equitable distribution. The limited experience of providing livelihood support through job creation and targeting of finance during the COVID pandemic offers useful lessons for creating livelihood opportunities in a sustainable way through post-COVID recovery. The need is to combine this experience with democratization of decision making on the principles of inclusion and participation. Whether TBTTP fares well in the longer term after recent budget cuts and the 2022 change of government, or whether it does not, the future of mega tree-planting projects depends on their inclusivity in benefitting both nature and society.

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Appendix 1: Consolidated progress report on the TBTTP in the KP up to October 2021

SERIAL NO.	PROJECT INTERVENTION	UNIT	REGION I			REGION II			REGION III			TOTAL		
			TARGET	ACHIEVEMENT	NO. OF PLANTS (MILLION)	TARGET	ACHIEVEMENT	NO. OF PLANTS (MILLION)	TARGET	ACHIEVEMENT	NO. OF PLANTS (MILLION)	TARGET	ACHIEVEMENT	NO. OF PLANTS (MILLION)
1	Establishment of enclosure	No.	1,270	2,095	47.77	2,010	1,923	43.84	950	1,906	43.46	5,130	5,924	118.4
2	Raising of new plantations													
2.1	Planting of multipurpose fast-growing species (Region I)	Ha	12,300	4,039	4.34	0	0	0	333	0	0	12,633	4,039	4.34
2.2	Planting of multipurpose fast-growing species (Region II & III)	Ha	0	0	0	4,900	694	0.75	2,743	361	0.39	7643	1,055	1.13
2.3	Reclamation of saline & waterlogged areas	Ha	2,634	567	2.44	0	0	0	0	0	0	2,634	567	2.44
2.4	Plantations on marginal/abandoned fields	Ha	1,000	0	0	655	34	0.04	950	0	0	2,605	34	0.04
2.5	Block plantation	Ha	0	0	0	550	225	0.38	394	105	0.18	944	33	0.56
2.6	Avenue plantation	Km	560	330	0.11	320	0	0	415	123	0.04	1,295	453.5	0.15
2.7	Dry afforestation through contour trenches	Ha	1,350	0	0	0	0	0	0	0	0	1,350	0	0
2.8	Dry afforestation through road catchment	Ha	1,350	0	0	0	0	0	0	0	0	1,350	0	0
2.9	Dry afforestation through hillside ditches	Ha	1,185	20	0.02	0	0	0	0	0	0	1,185	20	0.02
2.1	Bioengineering by close plantation	Ha	0	0	0	2,425	210	0.9	1,714	20	0.09	4,139	230	0.99
2.11	Land stabilisation through bio-technical measures	Ha	0	0	0	3,150	12	0.05	1,320	5	0.02	4,470	17	0.09
2.12	River/stream ban stabilisation	Ha	475	0	0	1,035	0	0	1,289	0	0	2,799	0	0
2.13	Woodland/owner plantations	Ha	4,000	3	0	0	0	0	100	0	0	4,100	3	0
3	Range management	Ha	600	23		660	0	0	537	0	0	1,797	23	0.02
4	Rehabilitation of degraded watershed	No.	4	0		23	0	0	20	0	0	47	0	0

SERIAL NO.	PROJECT INTERVENTION	UNIT	REGION I			REGION II			REGION III			TOTAL		
			TARGET	ACHIEVEMENT	NO. OF PLANTS (MILLION)	TARGET	ACHIEVEMENT	NO. OF PLANTS (MILLION)	TARGET	ACHIEVEMENT	NO. OF PLANTS (MILLION)	TARGET	ACHIEVEMENT	NO. OF PLANTS (MILLION)
5	Sowing and dibbling	Ha	604	470		1,300	170	0.22	1,278	0	0	3,182	640	0.83
6	Farm forestry													
6.1	Free distribution of forest trees	No.	16.67	2.86		16.66	2.96	0	16.67	0.84	0	50	6.66	0
6.2	Free distribution of fruit trees	No.	0.34	0.13		0.34	0	0	0.33	0	0	1.01	0.13	0
6.3	Free distribution of ornamental plants	No.	0.34	0.15		0.34	0.01	0	0.34	0.03	0	1.01	0.18	0
6.4	Plants distribution to local govt, civil society and public sector organisations	No.	3.34	0.08		3.33	0.27	0	3.33	0.1	0	10	0.46	0
7	Water harvesting schemes													
7.1	Rain water harvesting schemes	No.	60	0		31	0		72	0		163	0	
7.2	Water source development schemes	No.	60	0		31	1		72	4		163	5	
8	Gabion structures	m^3	0	0	0	600	0		1,006	0		1,606	0	
9	Establishment of nurseries													
9.1	Departmental potted nurseries	Ha	7.67	26.2	23.15	19.87	10.64	13.14	15	8.68	10.72	61.07	42.47	52.45
9.2	Departmental bare-root nursery	Ha	2.35	102	67.85	217	204.5	25.27	170	98.15	12.13	489	370.5	45.78
9.3	Departmental fruit nurseries	Ha	2.72	5.34	3.67	4.99	4.13	0.21	5.33	4.65	0.23	15.66	12.45	0.62
9.4	Departmental ornamental nurseries	Ha	7.75	0.34	0.22	0.34	0.29	0.17	0.33	0.26	0.16	1.01	0.77	0.46
9.5	Private nurseries	No.	0.15	92	68	118	56	1.4	109	78	1.95	319	202	5.05

Large-scale tree planting programmes have become politically attractive. They are claimed to be vital in tackling climate change and to provide big social and environmental benefits. This is a study of one such high-profile tree-planting project in Pakistan – the Ten Billion Tree Tsunami Programme. With a reported budget of US$700 million, this project claims so far to have planted over a billion trees and created 165,000 jobs. But evidence suggests a clear pattern of winners and losers. The wealthier few enjoy most of the benefits, while herders and others without land have been excluded. The programme needs to go beyond rhetorical claims of participation to install genuine inclusion and fair distribution of benefits.

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