

Article

# Social Forestry: Farmers' Perspective on Practice and Implications for Socio-Economic Conditions of the Farmers in Peshawar Velley, Pakistan

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Copyright © 2024 by author(s). Intercontinental Social Science Journal, published by Pierre Online Publications Ltd. This work is licensed under the <u>Creative</u> <u>Commons Attribution (CC BY)</u> license. Abstract: The concept of social forestry, which combines sustainable rural development with the management of forest resources, has had a substantial impact on the socioeconomic conditions and means of subsistence of farmers in Pakistan's Peshawar Valley. The current status of social forestry practices and their effects on income, job possibilities, resource access, and community development are examined in this study from the viewpoint of farmers. Semistructured in-depth interviews and focus group discussions (FGDs) were used to collect data using a qualitative research methodology. According to the research, social forestry has improved farmers' financial security by supplying forest goods like lumber, fruit, and fodder while simultaneously raising awareness of the need to preserve the environment. Additionally, farmers' rights to access and use natural resources have been reinforced and collective action has improved as a result of participatory community management. Progress is still hampered by a number of issues, though, such as insufficient finance, a lack of technical expertise, poor policy execution, and restricted market access. As a result, although some farmers are aware of social forestry's potential, others are still wary and would rather stick to conventional farming, taking a wait-and-see stance about its possible longterm advantages. According to the study's findings, the government should create effective market mechanisms, offer financial incentives and technical help, and fortify policy support in order to guarantee the sustainability and fair growth of social forestry.

**Keywords:** social forestry; farmers' livelihoods; socio-economic impact; sustainable development; Peshawar Valley; Pakistan

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#### 1. Introduction

Natural resources are essential to human survival on Earth. Living things require air and water, and forests are a key supply of both. They also help to provide the necessities, such as food, shelter, and fibre. As a result, people have always lived close to water supplies and fertile areas, eventually adjusting to modern agriculture. In actuality, forests and people always go hand in hand (Hassan et al, 2019).

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As a crucial ecological unit, forests have a direct or indirect impact on people's socioeconomic well-being in addition to their intimate relationship with the physical environment. Additionally, it has an impact on demographics and plays a significant role in shaping social conduct (Ullah et al, 2021).

The historical perspective offers several instances of how forests are used for a variety of social functions, from the most basic—as animal feed—to the more intricate—as herbs with therapeutic qualities, etc. It even illustrates how human conduct, living habits, fashion, food consumption, farming systems, migratory patterns, and societal structures have changed over time. The abundance of natural resources gives the local population and the neighbouring areas more options for making a living (Ansari & Iftikhar, 1985).

The relationship between humans and forests has existed since the dawn of civilization and has influenced the social, cultural, and economic advancement of societies. Forests play a significant and multifaceted role in human life, including in relation to human civilizations, population shifts, the environment, disaster management, socioeconomic ramifications, climate change, agricultural adaptation, water availability (i.e., rainfall patterns), and more (Bukhari & Bajwa, 2011).

Future agriculture policy will heavily consider sustainable forest utilisation. The implementation of sustainable production practices and long-term support for forests are crucial for striking a balance between social, economic, and environmental issues. Consequently, it has a major effect on the environment and farmers' socioeconomic growth (Iacob, 2017). According to Iacoba (2015),

the European Commission believes that sustainable and effective forest exploitation methods can produce more benefits for the environment, economy, and society than any other land use.

# 1.1.Significance of the study

In Pakistan, intentional and organised efforts are conducted to improve the dwindling natural resources under the aegis of social forestry. One of the best tactics used by the planners to involve the local people in the restoration effort is social forestry. While widespread plantations aid in the provision of fire wood and other wooden items, social forestry is a broad-ranging operation that provides the local inhabitants with food and wood. Additionally, it encourages environmental sustainability, which eventually leads to the creation of jobs and revenue in the rural area.

Plantations grown under social forestry, such as woodlots, agroforestry plantings, and strip plantations, were all financially successful. The improved socioeconomic circumstances of the impoverished were greatly aided by the additional revenue generated by the forest. However, participatory social forestry is a considerably better option than traditional forest management, which has failed. The social and financial well-being of the affected households is positively impacted by the social forestry approach.

It goes without saying that attempts to investigate different facets of social forestry have been documented. However, there is still plenty to learn. At the local and national levels, it is imperative to evaluate farmers' attitudes, involvement in social forestry initiatives, and obstacles to implementing such interventions. Therefore, the current study will learn more about the socioeconomic benefits to farmers as well as their perspective on the practice of social forestry. The primary goal of this study was to ascertain the socioeconomic elements that influence the decision to engage in social forestry, as well as to ascertain the farmers' understanding of the advantages of forest plantations, especially social forestry, and their attitudes towards it.

#### 1.2.Problem

In the Peshawar Valley of Pakistan, social forestry is being advocated as a two-pronged approach to improve farmers' livelihoods and maintain environmental sustainability. Nevertheless, despite its potential, little empirical data exists that captures farmers' perceptions of its true socioeconomic effects. Current research frequently ignores the lived experiences of farmers, who are the primary stakeholders in its implementation, in favour of concentrating on ecological advantages or policy frameworks. As a result, there is a research gap in our knowledge of farmers' perceptions of social forestry techniques, their advantages, and their difficulties.

Furthermore, the full potential of social forestry is constrained by structural obstacles such ambiguous land ownership, a lack of professional expertise, limited market accessibility, and inadequate legislative support. It is challenging to create meaningful, farmer-centred policies and initiatives without a thorough understanding of these local realities. Thus, investigating how Peshawar Valley farmers perceive and understand social forestry and how these interpretations affect socioeconomic results, opportunities, and limits for sustainable rural development constitutes the research problem. This study aims to address the main research question: What effects do social forestry methods have on the socioeconomic conditions and means of subsistence of farmers in the Peshawar Valley of Pakistan?

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# 1.3.Sub-Questions

- 2. What do farmers think about the advantages and difficulties of social forestry?
- 3. How has access to forest resources, employment prospects, and farmers' income been impacted by social forestry?
- 4. What obstacles (financial, technological, policy, and market-related, for example) stand in the way of social forestry's successful regional implementation?

## 2. Literature review

Numerous socioeconomic issues that impact the lives of the majority of households worldwide have had a significant impact on the growing usage of fuelwood and timber for energy production (Amalu et al, 2020). Significant business prospects and a stable source of income are created by the growth of timber and fuelwood extraction, processing, and use for energy generation, which lessens the difficulties associated with unemployment (Amalu et al, 2016). 51% of Pakistan's timber is used to produce wood fuels, compared to 49% that is extracted for export, furniture, and construction. It is impossible to dispute the significance of wood fuels as an energy source worldwide, and they are regarded as the primary driver of social growth (Ullah et al, 2021).

Another strategy for addressing ecological crises while maintaining crop productivity is agroforestry (Mukhlis et al, 2022). Based on geographical layout or temporal sequence, this approach combines the production of trees, crops, and/or animals on the same land management

(Méndez et al, 2013). Through optimal resource utilisation and sustainable land management, including reforestation, agroforestry may maintain natural ecosystems with this kind of tree integration. Furthermore, agroforestry may help slow down global warming because several of its methods have been shown to enhance carbon sequestration and lower greenhouse gas emissions (Santoro et al, 2020).

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According to Lacob, (2015), a session on the competitiveness of the forestry sector looked at the real economic and employment contributions of wood and other forest products in Europe, using examples from the UK, France, and Romania. The conclusion demonstrated that consolidation of capabilities is a critical component of success and that competitiveness fosters managerial innovation, partnerships, and the development of shared efforts to make the forest economically and ecologically viable. The participants went on to discuss the necessity of effective supply chains as well as regional governance approaches pertaining to forests. This session made it abundantly evident that rural businesses responsible for wood collecting must have price strategies that adjust to the local market's conditions in order to support the socioeconomic growth of rural areas Lacob, (2017).

The adoption of sustainable production practices that balance economic, social, and environmental concerns should be the primary focus of future long-term support for EU forests. The topic of sustainable forest exploitation plays a significant role in the discussion of the Common Agricultural Policy's future (Sotirov et al, 2015). More environmental, economic, and social benefits can be produced by sustainable and effective forest exploitation methods than by any other land use, according to the European Commission. All three types of plantations—woodlots, agroforestry plantings, and strip plantations—raised under social forestry were profitable, according to a study by Noor et al. (2022) on the role of participatory social forestry in improving the socioeconomic conditions of the poor under the Dhaka Forest Division, Bangladesh.

According to GOP (2005), social forestry is currently the finest option for enhancing the socioeconomic standing of rural residents, aside from agriculture and cattle. Only 3.5% of Pakistan's land was covered by forests, and by 2005, that number had dropped to 2.5% (FAO, 2000). Due to its lack of forests, Pakistan must store over 29 million cubic meters of firewood and lumber.

Luqman et al, 2018) came to the conclusion that farmers regard social forestry as an environmentally and financially advantageous strategy. It supplies wood for fuel and furnishings, controls the negative effects of rising pollution, and offers shade to people and livestock. Agroforestry adoption is influenced by a variety of factors, including the views of family members and other farmers.

Khurshid, 2005, In the province's central plains (Peshawar valley), where there is irrigation water, fertile soil, and a sizable landholding, agroforestry is conducted commercially. The preferred species in these regions are shisham (Dalbergia sissoo) and poplar (Populus euramericana and P.deltoides), which are primarily planted along water courses and the edges of agricultural fields. Isk (2008), Forests provide countless benefits to all living things on Earth and aid in preserving the natural equilibrium. The environment is essential to all living things and to preventing their deterioration. A minimum of 25% of the total area of each nation must be covered by forests.

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#### 3. Theoretical Framework

#### 3.1. Forests in the world

Trees and forests are essential to a nation's ability to adapt to climate change and support economic growth, jobs, food security, and energy production. In many nations, forests sustain rural economies and give people jobs when they have few other possibilities for employment outside of farming (Palo & Uusivuori, 2012). In addition to producing more than 5,000 different kinds of wood-based products, forests contribute slightly more than US\$600 billion in gross value added annually, or around 1% of the world's GDP. For rural communities, forest products offer a significant "hidden harvest" that keeps many people out of abject poverty. Dense woods provide both income and subsistence for almost 350 million people who live in or near them. Approximately 60 million of them—particularly indigenous communities—are entirely reliant on trees. The world's surviving natural forests are under their care (Jenkins & Schaap, 2018). The percentage of land area covered by forests worldwide decreased from 31.6 in 1990 to 30.8 in 2010 to 30.6 in 2015.

Three out of five people rely on wood for heating and electricity generation, and almost one-third of the world's population cooks their food using fuelwood, highlighting the vital connection between trees and accessible, clean energy (SDG 7). Additionally, forests provide economic growth and decent labour (SDG 8). Forests support the livelihoods of 1.3 billion people, and the wood energy industry employs over 883 million people in underdeveloped nations. Three out of four people on the planet get their drinking water from forests, which also offer thousands of towns with vital water treatment services. For the more than a billion people who rely on forests, they provide essential food supplies in addition to water. Furthermore, agroforestry offers subsistence farmers numerous advantages, such as enhanced soil quality, product diversification, and increased yields, all of which help to lessen hunger (Arnold & Jongma, 1977).

#### 3.2. Forests in Pakistan

Pakistan's forestry and forest conditions are crucial to the nation's long-term, sustainable growth. Pakistan's total land area is 87.98 million hectares, of which 4.57 million hectares are covered by forests, making up 5.2% of the country's total land area. Public forests, which fall under the legal classifications of state reserves and state protected forests, make up 85% of this. This has consequences for user engagement and community rights. On the hills and mountains in the north, coniferous and scrub forests make up more than 40% of these woods. Mangrove forests on the Indus Delta, trees grown on cropland, and riverine forests and irrigated plantations along the Indus.

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River and its tributaries on the plains make up the balance. In Pakistan, 10.06 million hectares are under the jurisdiction of provincial forest departments, with 6.1 million of those hectares being rangeland. According to Nizamani & Shah (2004), the majority of these woods — 40 percent in the North West Frontier Province, 15.7 percent in the Northern Areas, and 6.5 percent in the AJK- are located in the country's northern region (Baig et al, 2008).

Compared to the world's 30% forest cover and developing nations' 26% forest cover, Pakistan's forest cover is very small. The country's forest scarcity is significantly worse than that of most South Asian nations (Ritchie, 2021). With forest area and national land utilisation rates ranging from 3.1% to 3.6% of total land area, its natural forest assets are modest. Pakistan's forest cover is barely 0.03 hectares per person, compared to 1.07 and 0.50 hectares for developed and developing nations, respectively (Nazir & Olabisi, 2015).

The country's need for wood and wood-based goods cannot be met by Pakistan's forests, and there is a significant discrepancy between production and consumption (Zahid, 2018). Large- scale deforestation and degradation of natural forests have taken place, according to historical patterns and the situation of forestry now. Numerous direct and underlying factors contribute to its unabated continuation. For Pakistan, one of the most important environmental problems is the loss of forests. An estimated 39 thousand hectares of woods are lost per year (Nazir & Ahmad, 2018). Based on its forest resources, Pakistan ranks 110th in the world and is experiencing a lack of firewood and timber (Baig & Al-Subaiee, 2009).

Forestry loss is a worldwide problem, but in Pakistan, the situation is direr and is happening more quickly. Specifically, affecting climate change, biodiversity, clean water scarcity, fuel wood, lumber, food, livestock, fodder, social and economic losses, and most importantly, pollution. In addition to aiding the growing population, expanding the area covered by trees is necessary to enhance the

biological and natural services that forests offer. Farmers' opinions, mostly regarding the benefits and drawbacks of tree cultivation, determine their desire to plant trees on their property (Sheikh, n.d).

# 3.3. The Social Forestry

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The management, preservation, and reforestation of deforested and barren areas with the aim of 234 promoting rural, social, and environmental development is known as social forestry. Westoby, (1987) used the phrase "social forestry" in his opening remarks at the Ninth Commonwealth Forestry Conference in New Delhi in 1968. The phrase "social forestry" often refers to the planting of trees or natural forest management that is intended to satisfy the basic needs of rural residents in relation to forestry. Growing trees and/or other vegetation on land that is available for use both inside and outside of traditional forest areas, and managing the existing forest with close community involvement and more or less integrated with other operations to create balanced and complementary land use with the goal of providing a wide range of goods and services to both individuals and society as a whole, is the concept of social forestry (Voelkar, 2011).

# 3.4. Components of Social Forestry

Social forestry programs are implemented through various plantation operations, such as:

- ❖ Farm forestry, which involves encouraging farmers to adopt these practices by planting trees on their fields' boundaries and lands (Hyde et al, 2000).
- Community forestry, which cultivates mixed forest plantations on village common areas, waste lands, pasture lands, etc.
- Strip plantations, which involve planting trees along the edges of roadways, canals, railway tracks, tank foreshores, etc.
- \* Restoring degraded woods by involving locals in order to start replanting in certain regions.
- \* The construction of recreational woods to satisfy urban residents' recreational requirements.

# 3.5. Major characteristics of social forestry

The following are some of the main features of social forestry:

The provision of consumer goods, active beneficiary participation beginning with the planning phase, and the use of community lands are the hallmarks of social forestry. With no government oversight, it uses a mixed production system that includes grass, fodder, fruits, fibre, and other resources. The

panchayat, which receives both private donations and government subsidies, facilitates funding (Tiwari, 1998).

# 3.6. Rationale for social forestry in Pakistan

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Pakistan is mostly a forest-poor nation, and as its population grows, so does the demand for wood 235 and other forest products. The only option is to increase the amount of land covered by trees, both in the state and in local forests. It goes without saying that a key tactic to combat the threat is social forestry with community involvement. Investigating different facets of social forestry is therefore vital as a means of moving forward. There is essentially a wood famine in

Pakistan. The cost of fuel and construction wood has gone up in recent years due to the country's fast population growth. A higher level of living will cause the existing yearly demand for wood to rise at the same rate, if not more quickly. Increasing the amount of land covered by public, private, and community forests is one way to close this supply-demand mismatch.

Due to the primary claim of agriculture on both land and water, as well as the resulting financial limitations, it appears to be somewhat challenging at the moment. Intensifying forest management techniques to improve yields per unit area is an additional option, although it would also necessitate significant inputs. Social forestry is therefore a feasible and promising remedy.

#### 3.7.Scope of social forestry in Pakistan

Mountains, watersheds, land, and deserts make up over 75% of the nation's total land area, which is uncultivated. This space is either unoccupied or underutilised. Because too steep slopes, soggy soils, salinity, or a lack of suitable irrigation systems, the majority of it cannot be grown. This vast amount of land has never been used properly. To compensate for the lack of forests and trees, it is nearly hard to take any land, water, or other resources away from crop husbandry. The optimal use of these wastelands under the circumstances is for the production of timber. In addition, the country's watersheds will be better equipped to generate a steady supply of water for agricultural and hydropower generation as a result of the wood production activities. Mountains, deserts, irrigated and unirrigated plains, ravine tracts, uncontrolled regions in irrigated plains, saline, sodic, and waterlogged lands are all examples of wastelands that have a lot of potential for producing trees of suitable species for fuel, fodder, fibre, food, etc. (Khan & Khan, 2009).

For a variety of reasons, Pakistan's degraded areas and large wastelands—such as 1) subsistence forests, 2) communal forests, 3) common lands, 4) village pastures, 5) public waste lands, 6) linear plantations, 7) farm forest areas, 8) canal side land strips, 9) roadside land strips, 10) Railside land strips, etc.—are not being used effectively for agriculture. These areas can, however, be used profitably to produce wood. The soil conditions and productivity eventually start to improve once the area is recovered. (Qamer et al, 2016).

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# 4. Methodology

# 4.1.Research Design

In order to investigate farmers' opinions about social forestry techniques in Pakistan's Peshawar Valley and their impact on socioeconomic conditions, this study used a qualitative research design. Because it reveals the intricacies of promoting and implementing social forestry in rural environments, as well as the subjective experiences, motivations, and challenges of farmers, a qualitative approach was selected. In order to gather comprehensive and representative data, a case study approach was employed, concentrating on typical valley communities.

# 4.2.Participations

Purposive selection was used to guarantee a range of socioeconomic backgrounds and viewpoints among the participants. Various types of farmers were represented, including female participation, landowners, landless farmers, and local community leaders. To support and authenticate the opinions of farmers, expert informants from the local forestry department and non-governmental organizations (NGOs) were also questioned.

#### 4.3. Data Collection Tools and Procedure

The main techniques for gathering data were focus group discussions (FGDs) and semistructured in-depth interviews. A pre-made interview guide was created that included important topics such farmers' experiences with social forestry, perceived advantages, difficulties, and future development aspirations. To guarantee a diverse spectrum of viewpoints, interviews and focus group discussions were held in each chosen community. Additional insights were obtained through expert interviews with forestry officials and members of non-governmental organizations.

#### 4.4.Measures

To find recurrent themes and patterns in the data, thematic analysis was used. Line by line, interview transcripts were coded using NVivo, a program for qualitative data analysis. To increase the consistency and dependability of the analysis, the data were rigorously categorised. Iterative coding and researcher cross-checking helped to improve the themes.

#### 4.5. Ethical Considerations

Strict ethical rules were adhered to during the investigation. Prior to data collection, each subject gave their informed consent. The confidentiality and anonymity of the participants were maintained at all times. The information was safely kept and utilised only for scholarly research. These actions improved the research findings' validity, legitimacy, and transparency.

## 5. Results and Discussion

The notion of social forestry has grown increasingly ambiguous, as the idea has gained broader acceptance. It encompasses local private and community activities, frequently carried out by subsistence households. For our purposes, it includes the production and consumption of gum, latex, fruits and nuts, fuelwood, fodder and forage, and other non-timber forest products. It covers domestic construction timber usage and local market exchanges, but it excludes industrial wood production and domestic woodlot production for export to markets outside of the local area (Hyde et al, 2000).

Since it is the primary source of income for most people, especially those who reside in rural regions, agriculture is vital in emerging nations (Bresciani et al, 2004). Rural populations have long used traditional agroforestry to raise their standard of living. For example, communities who reside close to forest areas frequently use forest goods, such as selling timber or eating fruits or edible plants that grow there naturally [15]. Furthermore, in order to earn a livelihood, subsistence farmers in rural areas frequently maintain animals or grow crops in addition to some perennial plants (Viswanath et al, 2018).

A variety of viewpoints regarding social forestry techniques in the Peshawar Valley were uncovered through the examination of focus group discussions (FGDs) and interviews. Economic benefits, collective action and rights, implementation issues, farmers' preference for traditional agriculture, and suggestions for improvement were the five main themes that surfaced. Direct quotes from respondents in a variety of areas bolster the findings, showing how social forestry is encountered in daily life.

## **5.1. Economic Benefits of Social Forestry**

Most farmers stressed how social forestry had improved incomes and decreased household expenses. Particularly, landowners reported observable advantages in terms of fruit and fodder production.

"The trees we planted along our fields provide us with fodder throughout the year," said a Charsadda farmer. We used to purchase it from the market in the past, which was really expensive. We are now saving that money.

A more Mardan participant added:

Selling more fruit has helped us make a little more money. Although it is not a significant sum, it aids in covering minor household bills.

The contribution of forestry products to household income and food was particularly emphasised by female respondents:

"I can sell the extra fruit or firewood locally when the men go to market." It allows me to be selfsufficient and earn some money.

These results show that social forestry offers non-monetary advantages including food security and Page less reliance on outside markets in addition to financial gains. Prior research has shown similar outcomes, with community forestry programs directly supporting livelihoods.

# 5.2. Collective Action and Resource Rights

Discussions at the community level revealed that social forestry projects managed through participation had improved solidarity and shared responsibility. Village chiefs frequently served as intermediaries in the creation of agreements and regulations pertaining to the use of the forest. An elder from the village clarified: "We have established a committee. Anybody who wishes to take down a tree must first get permission. The entire village will stop him if he doesn't. In this manner, we all work together to protect our forest.

The shift in community behaviour was highlighted by another farmer:

In the past, individuals would stealthily cut down trees. No one dares to do it now that we have established standard guidelines. The system is respected by all.

Conflicts have decreased and farmers' feeling of resource ownership has grown as a result of such participatory governance. These results are consistent with research on community forestry in South Asia, which highlights the role that local government plays in ensuring sustainability and compliance.

# 5.3. Challenges in Implementation

Even though there were clear benefits, all respondents agreed that there were important obstacles limiting social forestry's potential. Frequently cited were inadequate market mechanisms, a lack of institutional backing, a lack of technical skills, and financial constraints.

"We are willing to plant more trees, but we do not have the money to buy good seedlings," lamented a Nowshera landless farmer. It is impossible without assistance.

"Officials from the forestry department come once or twice, but then we are left on our own," said another respondent, highlighting the dearth of extension services. There is no training or follow-up about proper tree management.

Another crucial issue was market access. "Where will we sell it even if we grow more fruit or timber?" said one attendee. The majority of the profit is taken by intermediaries, and the market is remote.

These obstacles are in line with past studies that highlight institutional deficiencies as a key impediment to social forestry's success in Pakistan.

# 5.4. Preference for Traditional Agriculture

Even after realising the advantages, many farmers were still reluctant to make social forestry their major source of income. The primary cause was that, in contrast to seasonal crops, forestry products had a longer gestation period.

According to a Mardan farmer, "My family is fed by agriculture every few months." It takes many years for trees to produce any revenue. How are we going to wait that long?

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In a similar vein, a farmer without land added: "Growing crops provides us with food throughout the year, so we cannot risk our land for trees." Agriculture is safer for us.

This cautious approach exemplifies a short-term livelihood strategy in which the benefits to the economy and environment are outweighed by the immediate food security. In other rural situations, when farmers prioritise subsistence farming over the delayed returns from forestry, similar "wait-and-see" strategies have been noted.

# 5.5. Recommendations from Respondents

Farmers, NGO employees, and forestry officials provided a number of useful recommendations when asked how to improve social forestry.

"If the government gives subsidies or free seedlings, it will encourage poor farmers to join," one NGO official said, emphasising the necessity for financial support. Many people are currently hesitant since they are unable to cover the upfront expenses.

Training and technical support were emphasised by a forestry department official: "Farmers require consistent direction on nursery management, pruning, and marketing." They cannot take full use of social forestry without technical expertise.

Market connections are crucial, according to community leaders: "We want to be sure that our products will be bought at a reasonable price. Everyone will be encouraged to plant trees via a robust market system.

According to these suggestions, an integrated strategy involving financial incentives, technical training, and market growth is required for social forestry to be successful.

## **5.6.**Types of Social Forestry Adopted by Farmers

To address the issues of environmental degradation, wood scarcity, and sustainable agricultural development, Pakistani farmers have embraced a range of social forestry practices. The most prevalent kind is agricultural forestry, which entails encircling farms with trees like birch, eucalyptus, or the indigenous Hisham tree (Ouerghi, 1998). This method not only produces building materials and fuel wood, but it also enhances soil quality, lessens wind erosion, and gives farmers another revenue stream.

Community forestry, in which villages or communities jointly manage and utilise forest resources, is another popular type. Through government initiatives or the assistance of non- governmental

organizations, certain communities in Pakistan, including Khyber Pakhtunkhwa and Balochistan, have created tiny woods. Through sustainable harvesting practices like selling timber, resin, or medicinal compounds, this model incentivises farmers to work together to preserve forest resources (Mustafa et al, 2007).

Additionally, there is canal bank forestry and roadside forestry, which are more prevalent in the provinces of Sindh and Punjab. To improve the landscape and stop soil erosion, farmers or local governments plant trees alongside roads, canals, or drainage channels. Additionally, it can reduce ecological concerns brought on by climate change and create jobs for small farmers and roadside inhabitants (Junaid Iftikhar et al, 2016). Social forestry is becoming more and more important in the lives of Pakistani farmers as climate issues get worse.

# 5.7.Impact of social forestry on farmers' income and livelihoods

Social forestry is a key rural development technique in Pakistan's Peshawar Valley that seeks to enhance farmers' socioeconomic circumstances while promoting environmental sustainability. Social forestry gives farmers access to forest resources like firewood, fodder, and lumber by enlisting them in afforestation and agroforestry. In addition to lowering family expenses, this gives small farmers—particularly those who depend solely on agriculture for their livelihood—a source of revenue (Zada et al, 2019).

Social forestry contributes to income diversification for farmers. By selling forest products, enhancing soil fertility and raising agricultural yields, and even leasing or selling the planted forest land, many of the project's farmers reported financial gains (Khan, 2001). Additionally, logging, forestry maintenance, and planting offer seasonal jobs, particularly for women and landless workers, which helps to reduce poverty and unemployment in rural areas.

However, factors including stable land tenure, market links, and training accessibility are critical to social forestry's efficacy. Farmers are more inclined to view social forestry as a primary economic activity rather than a supplementary sector in regions where these circumstances are better developed (Baig et al, 2008). As a result, social forestry in the Peshawar Valley fosters food security, educational opportunities for kids, and general rural development in addition to increasing farmers' household income.

#### 5.8. Perceived benefits and challenges of social forestry

Many farmers in Pakistan's Peshawar Valley view social forestry as a positive sustainable development strategy that offers numerous social and economic advantages in addition to enhancing the natural environment. Many farmers think that by taking part in social forestry, they can lower the cost of life for their families by providing valuable resources like fuel, lumber and fodder (Khan et al, 2019). Additionally, farmers can sell forest products to diversify their revenue

streams and boost family income by growing economic trees including fruit trees, eucalyptus, and Chinese toon. Apart from its economic advantages, social forestry has also had positive social effects. According to farmers, the project has increased their knowledge of environmental preservation and land usage, improved soil erosion, and decreased land degradation. In certain places, forestry operations have also boosted women's involvement and community cooperation, given vulnerable groups in rural areas work and decision-making chances, and improved community cohesion and self-development skills (Siddiqui, 1990).

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But in reality, social forestry also faces numerous obstacles. Some farmers stated that their capacity to benefit more from it is restricted by ambiguous land use rights, a lack of technical knowledge, and constrained market routes (Winkel, 2015). Additionally, some farmers who are in dire need of money are deterred from continuing to invest due to the lengthy growth cycle of trees and the absence of clear short-term economic rewards. The government and non-governmental organizations must thus improve policy support, training and promotion, and market advice to enable the sustainable development of social forestry if its long-term objectives are to be met.

# 5.9. Challenges and limitations in the implementation of social forestry

Farmers in Pakistan's Peshawar Valley encounter a number of real-world obstacles in their efforts to promote social forestry. The main issue is ambiguous land ownership. Many farmers are unconfident about making long-term investments in social forestry since they do not have valid land use certificates (Shahbaz et al, 2011). Furthermore, the project's smooth progress is hampered by disagreements inside the community or between the village and the government, as well as issues that exist in some forest lands.

Second, another significant obstacle impeding the growth of social forestry is a lack of knowledge and technology. The economic benefits of forestry are impacted since many farmers lack professional training support and have little understanding of tree planting and management procedures, which results in delayed tree growth and low yields. Simultaneously, there aren't many successful agroforestry cases in some places, and farmers are hesitant to take experimental risks because they don't trust the industry's potential (Ullah, 2024).

Lastly, there are also issues with market and policy support for social forestry. Farmers are unsure of their profits, prices for forest products are highly volatile, and there are no reliable sales channels. Long-term support policies are lacking, and the government's financial subsidies and incentive programs for social forestry are ineffective. Due to these constraints, social forestry's promotion and sustainable growth encounter significant opposition; multi-party cooperation, system and resource allocation optimization, and the resolution of real-world blockages are all necessary (Nizamani, 2004).

## 6. Conclusion

Pakistan has one of the lowest percentages of forest acreage in the world and a poor forestry resource. The increasing demand for wood and wood-derived products cannot be met by the forests that already exist. Commercial overexploitation is causing the nation's forest resources to diminish, while careless tree-cutting and falling exceeds rates of replanting and regeneration. The state forests' low and stagnant output is insufficient to meet the demands for fuel wood, lumber, and raw materials for industries, as well as the energy needs of the agricultural sector and livestock fodder and forage (Nazir & Olabisi, 2015). Planting trees on agricultural fields has enormous potential to restore damaged forest lands, guarantee the sustainable use of marginal lands, preserve high-quality land, and meet the needs of the country. Social forestry appears to be the most practical and effective approach to enhancing Pakistan's woods and forestry situation out of all the possibilities available (Ali, 2018).

Local farmers in Pakistan's Peshawar Valley have benefited greatly from the growth of social forestry, particularly in terms of bettering livelihoods, raising incomes, and encouraging ecologically sustainable development. Farmers can diversify their revenue streams and acquire live resources like firewood and timber by planting economic trees and taking part in forestry programs (Zubair & Garforth, 2006). This community-participation-based forestry strategy has improved the quality of rural ecology and raised farmers' understanding of resource management and environmental preservation.

However, a number of obstacles, such as ambiguous land ownership, a lack of expert assistance, and an unsatisfactory market system, significantly limit the real impact of social forestry. Particularly for small-scale and resource-poor farmers, these challenges have an impact on farmers' enthusiasm and the project's viability (Province, 2022). Therefore, it is challenging for farmers to solve these systemic issues on their own; significant external policy and organisation engagement is required.

The government, non-governmental organizations, and farmers must work together more closely in order to realise the long-term development of social forestry. In particular, it is necessary to expand market channels, create financial incentives, reform land use policies, and offer systematic technical training and advancement (Wright & Andersson, 2013). The promotion of

Sustainable development in the Peshawar Valley's rural areas and the win-win objectives of ecological preservation and farmers' well-being can only be accomplished by putting in place a more just, open, and encouraging social forestry mechanism.

Rural poverty can be decreased by raising national awareness of the benefits of agroforestry for

livelihoods (Ali, 2018).

- ❖ The current extension services should be enhanced, and farmer-extension worker interactions should be reinforced. Farmers should receive training on the various agroforestry systems.
- ❖ It is necessary to investigate and implement livelihood strategy diversification.
- ❖ In the scenario of rapid deforestation, agroforestry system needs to strengthen.

Forests play an important and multifaceted role in human life, including in relation to human civilizations, the environment, catastrophe management, socioeconomic ramifications, climate change, agricultural adaptability, and water availability. In order to reconcile economic, social, and environmental concerns, sustainable forest exploitation will play a significant role in future agriculture policy. Consequently, it has a major effect on the environment and farmers' socioeconomic growth. At the local and national levels, it is imperative to evaluate farmers' attitudes, involvement in social forestry, and obstacles to such initiatives.

This study used focus groups and semi-structured in-depth interviews to investigate how farmers in the Peshawar Valley view social forestry. The results demonstrate how social forestry helps farmers make a living by supplying fruit, timber, and fodder, which lowers household costs and provides additional revenue. Additionally, it increases knowledge of ecological preservation, encourages group action, and fortifies community ownership of natural resources.

Notwithstanding these benefits, a number of obstacles stand in the way of social forestry's full potential. Farmers cited poor policy execution, restricted market prospects, insufficient technical training, lack of access to high-quality seedlings, and inadequate funding. Furthermore, compared to traditional crops that offer instant food security, forestry products have a longer gestation period, which makes many farmers reluctant to fully embrace social forestry.

The report suggests increased government policy support, targeted financial subsidies, consistent technical help, and the creation of trustworthy market connections for forestry goods in order to guarantee sustainability and equitable benefits. These actions will promote broader farmer involvement and improve the region's social forestry initiatives' long-term viability.

## **6.1.Recommendations for Future Research**

Future studies should investigate:

- 1. Social forestry's long-term socioeconomic effects on households and communities.
- 2. Experiences and roles in social forestry that are specific to gender, especially the

contributions made by female farmers.

- 3. Comparative studies amongst Pakistani regions to pinpoint obstacles and drivers unique to each situation.
- 4. Value chains and market integration's contribution to social forestry's increased economic sustainability.

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Future studies can better understand how to maximise social forestry as a model for sustainable rural development in Pakistan and elsewhere by tackling these issues.

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