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Article

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

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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. Semi-structured in-depth interviews and focus group discussions (FGDs) were used to collect data using a qualitative research methodology. Based on the perceptions and experience of the farmers, social forestry was perceived to help in enhancing financial security, primarily by providing access to forest resources in the form of timber, fruits, and fodder among other environmental protection awareness. The respondents also indicated that participatory community management intensified the perceived natural resource access rights and improved collective action. 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 long-term 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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Introduction

Natural resources are essential for human survival on Earth. Without air, water, and fertile soil, life cannot be sustained, and forests make an important ecological system that support these basic needs. Outside their environmental role, forests are deeply integrated into human life, especially within rural communities whose everyday survival, livelihood, and social life are intertwined with natural resources (Hassan et al., 2019).

Forests are not only international spaces; they are multifaceted social spaces which impact and are impacted by human activity, cultural behaviour and economic practices. Forests as a vital ecological unit determine socio-economic well-being by supporting employment and subsistence, and rural stability, as well as determining demographic trends and social structure (Ullah et al., 2021). Qualitatively speaking, forests can be understood as a domain where their material outputs are not the sole aspects that one has to consider, but also the meanings, values and experiences that are projected onto them by the local people.

Traditionally, forests have had various social purposes from simple subsistence supply (fuelwood, fodder, etc.) to more complicated purposes in traditional medicine, farming, and provision of livelihood. These historical encounters show how human lifestyles, systems of production and social organisation have changed in response to the supply and use of forest resources (Ansari and Iftikhar, 1985). These historical trends explain the necessity to study the ways in which modern societies perceive and practice forest-related activities.

Over recent decades, sustainable forest use has become one of the major issues of agricultural and rural development policies. The social forestry specifically has been advanced as a participatory strategy to balance environmental sustainability and socio-economic development and actively incorporates the local people in the management of forests (Iacob, 2017). Social forestry is particularly applicable to rural settings, as opposed to the traditional forestry management paradigm, which focuses on high community participation, local knowledge and collective good. Social forestry programmes have been established in Pakistan as a viable intervention measure in response to dwindling forest reserves and poverty in rural areas. These projects are meant to help the farmers improve their livelihoods by offering them more sources of income, job opportunities

and access to forest products and, at the same time, help them ensure the sustainability of the environment. Nonetheless, in spite of the growth of social forestry schemes, there is very little literature available that looks at how farmers perceive and experience them, particularly given that the literature has been dominated by examining the policy outcomes, the plantation success or the ecological indicators of such practice.

On a qualitative level, farmers are not inactive receivers of social forestry, but active participants whose perceptions, attitudes and experiences affect the failure or success of such programmes. However, there is still a paucity of empirical research that voices the farmers, especially on the perceived benefits, the challenges, and limitations at both local and national levels in Pakistan. This disjuncture is particularly pronounced in the Peshawar Valley which has been advocating social forestry as a two-fold approach in improving livelihoods and conservation of the environment.

Research Gap and Problem Statement

Consequently, this paper will follow the qualitative approach to research on the views of farmers regarding social forestry in Peshawar Valley of Pakistan. Through their experiences, perceptions and interpretation, the study aims at understanding the effects of social forestry practices including the socio-economic status and livelihood strategies of farmers, as well as the structural and institutional issues that define such implications. It is in that light that the study will seek to introduce context-specific findings that can be used to impact more inclusive and farmer-focused social forestry policies and interventions.

In the Peshawar Valley of Pakistan, social forestry has been advanced as a tool of enhancing livelihoods of farmers besides ensuring sustainability of the environment. Although it is increasingly gaining importance, there has been little empirical research to understand how social forestry practices have socio-economic implications to farmers themselves. The current research has mainly been concentrated on the ecological effects or assessing the policies, but farmers are not often considered as the stakeholders of the implementation process of social forestry programmes.

Besides, local structural and institutional constraints such as land ownership structure, low levels of technical expertise, limited access to markets, and inadequate support of policy determine the effectiveness of social forestry. It is still hard to implement inclusive and farmer-centred

interventions that fit local realities without a context-sensitive conceptualisation of how farmers perceive these challenges and benefits.

Based on this, the research problem that was used in this study is that there is no qualitative, farmer-based evidence that captures the understanding, experience and evaluation of social forestry practices among farmers in the Peshawar Valley and how these perceptions are associated with the socio-economic situation and livelihood strategies of farmers.

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 used 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).

In addition to the production of fuelwood and timber, agroforestry has been a frequent topic in the literature as a holistic land-use approach that can be used to solve ecological problems without impact on agricultural productivity. Agroforestry systems are land management systems or systems that have trees, crops, and in other instances, livestock either physically or temporally (Méndez et al., 2013; Mukhlis et al., 2022). In the sustainability sense, these systems have been known to maximise the utilisation of resources, contribute to reforestation, and conserve natural habitats. A number of studies also mention how agroforestry can be used to limit climate change by improving carbon sequestration and decreasing greenhouse gas emissions (Santoro et al., 2020). At the policy and institutional level, European studies highlight economic and employment potential of activities in the forestry sector. Other studies of forestry industries in the United Kingdom, France, and Romania indicate that the competitiveness and capacity consolidation are the key factors in the long-term sustainability of the forestry business (Iacob, 2015). These works emphasise the role of good supply chains, dynamic pricing policies and local governance structures in promoting economic growth in rural areas. These results suggest that the ecological conditions

are not the only factors influencing such livelihoods as the forestry ones, but also the market structure and institutional arrangements (Iacob, 2017).

The Southeast Asian experience further indicates that participatory social forestry has a socio-economic potential. According to the research conducted in Bangladesh, different types of social forestry plantations such as woodlots, agroforestry, and strip plantations were found to be economically feasible and helped to improve the livelihood of rural families (Noor et al., 2022). These results support the thesis idea that community engagement and participatory management have the potential to improve economic results and environmental sustainability.

Within the framework of Pakistan, social forestry has been popularly advanced as an alternative course of livelihood, along with agriculture and livestock capital raising. But the depletion of forest cover and the stress on forest resources is a serious challenge. Government records show that the forest cover in Pakistan has reduced significantly with time, further increasing the reliance on fuelwood and timber as a source of domestic and commercial demand (FAO, 2000; GOP, 2005). This background illustrates the increased value of social forestry as an environmental and a socio-economic intervention.

The other body of existing research that supports this is that farmers perceptions and social pressures are also involved in determining uptake of agroforestry and social forestry practices. The social forestry is seen by the farmers as beneficial to the environment and cost effective, especially in the provision of fuelwood, shade, and control of pollution. Nevertheless, family attitudes, peer networks, and local knowledge systems affect adoption decisions (Luqman et al., 2018). Agroforestry practices will be determined by the ecological conditions of the area, the availability of irrigation and the distribution of land among people and the desirable species of trees are adopted as part of the agricultural scenery (Khurshid, 2005).

Although the current literature is rather broad, much of it is dedicated to the production output, the policy frameworks, or the ecological benefits. Not much focus has been put on the interpretation, experience and evaluation of the social forestry practices by farmers in their daily lives. The failure of existing studies to address this issue highlights the necessity for qualitative, farmer-based research, which would reflect the local opinion and the situational reality, especially in areas like the Peshawar Valley where social forestry has become a more dominant part of rural life.

Questions

1. What do farmers think about the advantages and difficulties of social forestry?

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

Theoretical Framework

The research paper is based on a qualitative theoretical framework that aims to explain the way in which social forestry practices influence the socio-economic aspects of farmers due to human-environment interactions. Since the present study is concerned with the perceptions and participation of the farmers and their lived experiences, the research relies on the Sustainable Livelihoods Framework (SLF) which has been supplemented by the Participatory Development Theory and Perception and Attitude Theory. Collectively, these frameworks offer a combined lens through which the processes by which social forestry operates on the rural livelihoods are perceived.

Sustainable Livelihoods Framework (SLF).

The Sustainable Livelihoods Framework is a holistic framework used to examine how individuals and households use the available resources to gain and enhance their livelihoods in any of the dynamic social, economic, and environmental settings. This framework argues that livelihoods are the product of access to five important types of capital, namely; natural, human, social, financial, and physical capital. The forests in rural and forest-dependent settings are a valuable source of natural capital, providing a source of income and energy, food security, and ecological services, which directly influence the household resilience.

In the social forestry framework, the SLF is specifically applicable since it demonstrates how the participation of farmers in forest plantations leads to diversification of income, creation of employment and economic sustainability in the long term. The social forestry programmes can also be used to improve the human capital by increasing the knowledge and skills of the farmers in terms of forest management and social capital by fostering the community cooperation, collective actions and shared responsibility. By putting social forestry as a livelihood approach and not as an environmental intervention, the SLF facilitates a comprehensive evaluation of the socio-economic impacts of social forestry on farmers in the Peshawar Valley.

Participatory Development Theory.

Participatory Development Theory focuses on community participation in the process of development planning, implementation and decision making. The theory states that the interventions on development become more sustainable and efficient when the local populations are actively involved in the process of interventions because they know better contextual information about their social, economic, and environmental reality. The farmers do not appear as passive beneficiaries of the forestry projects but they are central participants whose involvement defines success or failure of forestry programmes, as outlined in social forestry.

In this research, the principles of the participatory development will be used to analyse the role of the participation of farmers in the social forestry programmes to determine the ways in which they will accept forest practices and the perceived benefits of the same. The framework emphasises the importance of participation as one of its key processes and allows explaining differences in the attitudes of farmers, the rates of their engagement, and the perceived socio-economic impacts of social forestry projects.

Perception and Attitude Theory

Another possible interpretive approach to how farmers respond to social forestry is Perception and Attitude Theory, which explains how beliefs, experiences, and values of farmers influence their responses to social forestry. Perceived costs, benefits and risks of tree planting and forest management of farmers determine their attitudes of adopting and maintaining social forestry practices. Favourable attitudes could promote commitment over time, and unfavourable experiences or perceived limitations could prevent involvement.

The attitudes of the farmers towards social forestry are considered in this research as socially constructed and contingent on past experience, cultural norms, and economic conditions. The knowledge of these perceptions is necessary to explain the difference in the outcomes of similar forestry interventions in various communities.

Conceptual Integration

The multidimensional view involved in this study is through the combination of Sustainable Livelihoods Framework and the theories of Participatory Development and Perception. The vision of social forestry practices is based on the interactions between the practices and livelihoods, level of participation and subjective interpretations of farmers which are all

affecting the socio-economic results. This combined framework will lead the qualitative research analysis and help to understand more about how social forestry will help rural development, environmental conservation, and the welfare of farmers in Pakistan.

Methodology

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. As 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.

Participants

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 organisations (NGOs) were also questioned.

Data Collection Tools and Procedure

The main techniques for gathering data were focus group discussions (FGDs) and semi-structured 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 organisations.

Measures

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

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.

Results and Discussion

he findings presented in this section reflect farmers' perceptions, experiences, and narratives, in line with the qualitative research design of the study.

The qualitative results obtained following focus group discussions and semi-structured interviews of farmers, community leaders and key informants in the Peshawar Valley are reported and discussed here. The thematic analysis showed that farmers experienced five key themes that indicate the lived lives with social forestry practices: (1) the economic and livelihood implications, (2) the community participation and governance, (3) the barriers of adoption and implementation, (4) livelihood strategies and risk perceptions, and (5) the recommendation of farmers to improve the social forestry sustainability.

Social Forestry Economic and Livelihood effects

Farmers perceived that social forestry had an optimistic impact on their life, especially through perceived increases in salary and decreases in family expenditures, as reported during interviews and focus group discussions.

The female participants stressed the significance of social forestry in creating small yet substantial income, likely through local sales of excess firewood and fruits. These results imply that social forestry can be evidenced as a source of income-generating activity and a source of livelihood safety net. The Sustainable Livelihoods Framework viewpoint is that, social forestry builds natural and financial capital, through diversifying sources of income and increasing resilience of households, especially the vulnerable rural communities.

Participation and Local governance of Communities

Another theme that was evident in most interviews is the importance of collective action and local governance in the forest resources management. Farmers talked of the creation of informal committees and the locallyagreed rules in the cutting of trees and their use in forests. The leaders of the community tended to be mediators that strengthened the adherence and a sense of community responsibility.

The participants said that conflicts and unlawful cutting of trees had reduced after the establishment of participatory mechanisms of governance. Such transformation shows the value of social capital and mutual expectations in maintaining the social forestry programmes. The findings are in line with the Participatory Development Theory which highlights that ownership and involvement of the community boost compliance, sustainability and long- term effectiveness of development interventions.

Obstacles to Implementation and Adoption

Although the participants saw the value of social forestry, they came up with a number of structural and institutional constraints that inhibited its growth. Some of the problems that were common were the unavailability of financial help, poor accessibility to quality seedlings, inadequate technical training, ineffective extension services, and inadequate access to the market. Farmers complained of poor response of forestry authorities and lack of follow up training.

Particularly important were market-related constraints where farmers reported that they relied on intermediaries and volatile prices of forest products. These impediments reflect the results of earlier research where institutional inefficiencies and market failures have been found to be the key impediments to the development of social forestry in Pakistan.

Strategies of livelihood and Perception of Risk

A good number of farmers said that they did not want to use social forestry as a main form of livelihood because trees took a long time to mature compared to seasonal crops. Agriculture was seen as a more stable and direct source of food and livelihood, particularly to the smallholder farmers and landless.

Such a conservative mode is indicative of a risk-averse livelihood approach which is influenced by the direct need of subsistence. Livelihood wise, farmers are more concerned with the short-term food security rather than the long-term economic benefits, even in full knowledge of the environmental and economic benefits of forestry. Other rural settings have also been following the same pattern because delayed returns are discouraging investments made on forestry.

Recommendations on the social forestry sustainability to be improved by farmers

Some of the strategies suggested by the participants to enhance social forestry were proposed. Monetary rewards were highly encouraged through subsidies or free seedlings to entice the involvement of the resource poor farmers. Training and technical assistance were also underlined especially on tree management, nursery development as well as marketing.

The representatives of NGOs and community leaders accentuated the necessity of creating better market connections with the aim at establishing appropriate prices and constant demand due to forest products. Such recommendations highlight the need to use an integrated strategy that incorporates the financial aid, capacity development, and institutional alignment. These actions are in line with participatory and livelihood-based development models which emphasise the need to ensure that policy frameworks are not inconsistent with local realities.

Pakistan experiences an acute shortage of forests, and one of the lowest ratios of forest cover in the world, which makes available forest resources not enough to sustain increasing fuelwood, timber and agricultural inputs. This problem has also been exacerbated by rapid deforestation, unsustainable extraction procedures and insufficient regeneration (Nazir & Olabisi, 2015). In this respect, social forestry becomes a viable and long-term measure to rehabilitate degraded land, increase forest cover, and reconcile the issue of environmental conservation with the people in the rural areas (Ali, 2018).

Conclusion

According to this study and perceptions of farmers and experiences they had regarding social forestry, it is seen as a relevant strategy that could improve socio-economic status of farmers in Peshawar Valley. The respondents explained that their participation in agroforestry and community-based forestry activities led to diversified sources of incomes, low household spending, and better access to diverse resources like fodder, firewood, and timber (Zubair and Garforth, 2006). In addition to the economic aspect, farmers viewed social forestry as a way of enhancing environmental consciousness, promoting collective action, and empowering community presence of ownership of natural resources.

Nonetheless, the research has also found that full potential of social forestry is still limited through structural and institutional constraints. The unclear land tenure, poor technical skills, poor extension facilities, poor market connection and poor financial assistance discourage its scaled-up usage, especially with the small-scale and resource-poor farmers (Province, 2022). Also, long gestation of forestry products are added factors that support the choice of traditional agriculture by farmers in comparison to annual crops that secure the food supply: the food security is immediate. On the whole, the research comes to the conclusion that under the condition of the coherent policy, institutional coordination, and the use of the strategies of the implementation based on the farmers, the social forestry may make a significant contribution to sustainable rural development in

Pakistan. These enabling conditions should be strengthened to both ensure the ecological sustainability and better livelihoods in the Peshawar Valley.

Implications in Practice and Policy

The results also highlight the necessity of a closer cooperation between the government agencies, non-governmental organisations, and local farming communities. The focus of the policy interventions should focus on clear land-use rules, the financial incentives that can be achieved, the availability of the good seedling and the permanent technical training. Improving market infrastructure and value chain integration of forestry products is also paramount in ensuring that there are fair returns and long-term farmer involvement (Wright and Andersson, 2013). These steps can promote participative inclusiveness and promote the two-fold goals of environmental protection and social-economic welfare.

Limitations of the Study

This research has some restrictions, even though it contributes to some issues. It is location-specific to the Peshawar Valley and this might restrict the extent to which the findings can be generalised in other parts of Pakistan. Moreover, the qualitative structure though informative of the perceptions of the farmers fails to provide long-term economic effects and to measure the effects on larger populations. These are limitations that have to be taken into account when interpreting the results.

Future Research Recommendations

Future research should:

Look at the socio-economic effects of social forestry in rural households and societies in the long-term.

Discover gender-related experiences and contribution especially the contributions women made towards social forestry activities.

Carry out comparative regional analyses throughout Pakistan to determine region specific drivers and constraints.

Explore the market integration and the value-chain development in the economic sustainability of the social forestry.

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