



The Importance of Investing in Non-Timber Forest Products in Achieving the Social Dimension of Sustainable Development

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Abstract:

Non-timber forest products (NTFPs) play a significant role in sustainable development. Their importance extends beyond the economic and environmental dimensions, but also extends to enhancing the social aspects of sustainable development. Our current study aims to examine the role of investment in non-timber forest products in improving living standards, achieving food and health security, empowering women and vulnerable groups, and preserving traditional and community cultural knowledge. It also highlights the importance of community participation and local governance in ensuring the equitable and sustainable exploitation of these products. The study concludes that investment in non-timber forest products plays a significant role in achieving social justice and bridging the gap between rich and poor by empowering local communities and enhancing their traditional knowledge. It also supports the Sustainable Development Goals, particularly those related to eradicating poverty and hunger and gender equality.

Keywords: Investment, Non-Timber Forest Products, Social Dimension, Sustainable Development.

L'importance d'investir dans les produits forestiers non ligneux pour atteindre la dimension sociale du développement durable

Résumé :

Les produits forestiers non ligneux (PFNL) jouent un rôle essentiel dans le développement durable. Leur importance dépasse les dimensions économiques et environnementales pour s'étendre au renforcement des aspects sociaux de ce développement. La présente étude vise à examiner le rôle des investissements dans les PFNL dans l'amélioration des conditions de vie, la sécurité alimentaire et sanitaire, l'autonomisation des femmes et des groupes vulnérables, ainsi que la préservation des savoirs culturels traditionnels et communautaires. Elle souligne également l'importance de la participation communautaire et de la gouvernance locale pour garantir une exploitation équitable et durable de ces produits. L'étude conclut que les investissements dans les PFNL contribuent significativement à la justice sociale et à la réduction des inégalités entre riches et pauvres en autonomisant les communautés locales et en valorisant leurs savoirs traditionnels. Ils soutiennent également les Objectifs de développement durable, notamment ceux relatifs à l'éradication de la pauvreté et de la faim et à l'égalité des sexes.

Mots-clés : *Investissement, Produits forestiers non ligneux, Dimension sociale, Développement durable.*



Introduction:

Non-timber forest products (NTFPs) are a fundamental pillar of sustainable development. Their importance extends beyond their environmental and economic dimensions, but also extends to constituting a fundamental element in enhancing the social dimension of development. Investment in these resources directly contributes to improving the livelihoods of rural and vulnerable communities by providing sources of cash income, securing food, and enhancing healthcare through medicinal and aromatic plants. These resources also provide alternative and sustainable employment opportunities, especially for women and marginalized groups, enhancing their social integration and strengthening their position within society.

In addition, investment in non-timber forests contributes to preserving the traditional knowledge and cultural identity of local communities, as these products represent a collective memory passed down through generations. Community-based management of these resources enhances popular participation and local governance, and instills values of cooperation and trust among individuals, achieving social justice and reducing disparities within society.

Therefore, sustainable investment in non-timber forest products is not merely an economic option; it is a comprehensive development strategy that enables communities to address poverty and fragility, and achieve a balance between environmental protection and improving human life.

Research Problem:

Despite the significant importance of non-timber forest products to the lives of millions of people around the world, investment in them is often viewed from an economic or environmental perspective, while the social dimension remains the least addressed in scientific studies and research, despite its significant role in improving livelihoods and bridging social gaps between the rich and poor, on the one hand, and preserving traditional knowledge and cultural identity, on the other. Therefore, our current study seeks to answer the following question:

To what extent does investment in non-timber forests contribute to achieving the social dimension of sustainable development?

Significance of the Study:

The importance of the study is evident in the following points:

- The study highlights the role of non-timber forest products in empowering vulnerable groups and promoting social equality, thus supporting the Sustainable Development Goals.
- The study provides a cognitive framework that can be used by decision-makers and development institutions in formulating policies that enhance the exploitation of non-timber forest products to achieve social justice and reduce poverty.
- The study contributes to enriching future research on the relationship between investment in non-timber forest products and the social dimension of sustainable development.



Study Objectives:

Our current study seeks to achieve a set of objectives, as outlined in the following activity:

- Identify the nature of non-timber forest products by examining their concept and types.
- Explain the nature of sustainable development, its goals, principles, and dimensions.
- Highlight the role of investment in non-timber forest products in achieving the social dimension of sustainable development.

Study Methodology:

Our current study relies on a descriptive and analytical approach to understand the nature of non-timber forest products and their role in achieving the social dimension of sustainable development. To demonstrate this role, we analyze and present international experiences to illustrate the social impact of investing in non-timber forest products.

1. What are Non-Timber Forest Products?

1.1. Concept of Non-Timber Forest Products:

The terms “non-timber forest products” and “minor forest products” are used to refer to what are known as non-timber forest products (NTFPs) (Ahenkan&Boon, 2011). These products refer to biological resources collected by humans from wild biodiversity, whether in natural environments or in environments subject to human intervention, excluding timber, which has high economic value (Sardeshpande&Shackleton, 2019, p. 12).

There are multiple definitions of non-timber forest products, the most prominent of which are the following:

- They include all products extracted from plants of forest origin, host plants that produce products in association with insects, animals, or their parts, as well as elements of mineral origin, excluding timber. They can be defined as “minor forest products (MFPs) or non-timber forest products (NTFPs)”. These products are of great importance to many individuals who rely on them to meet their basic needs, as they include all animal, plant, and other forest resources except timber (Nadkarni&Kuehl, 2013).
- Non-timber forest products (NTFPs) are defined as “goods of biological origin other than timber, extracted from forests, other wooded lands, or trees outside forests” (Delang, 2006, p. 65).

The term NTFPs refers to forest products other than timber, including fuelwood and small timber, while the term NWFPs refers to forest products that do not include fuelwood or small timber.

1.2. Types of Non-Wood Forest Products:

Non-wood forest products (NWFPs) can be classified into three main categories, as follows: (Derebe, Alemu,&Asfaw, 2023)

- **Medicinal uses:** Plants are used in traditional medicine and as raw materials for pharmaceuticals and drugs.
- **Diverse plant sources:** These include a wide range of products, such as foods “nuts, fruits, mushrooms, gums, and sugar syrups”, food



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additives “spices, herbs, flavorings, and sweeteners”, fibers “such as bamboo and rattan”, barks “such as cork”, perfumes, decorative pods and seeds, resins, and oils.

- **Animal sources:** These include various products such as game and wild game, hides, furs, and collectibles, as well as wild honey, beeswax, and edible insects. As previously mentioned, NWFPs encompass a wide range of plant, animal, and microbial resources, but all of them lack any woody component from the forest.

2. What is Sustainable Development?

2.1. The Concept of Sustainable Development:

The concept of sustainable development was officially adopted during the Earth Summit held in Rio de Janeiro in 1992, where political leaders became convinced of the importance of this approach, especially given the large segment of the world's population living in poverty, along with the clear gap in resource consumption between rich and poor countries (Abu Al-Leif, 2014, p. 3).

The United Nations Environment and Development Program defines the concept of sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Saida, 2022, p. 122)

Another definition of sustainable development is “a path that combines resource exploitation, investment orientation, technological development trends, and institutional change to enhance present and future capabilities to meet human

needs and aspirations". It has been agreed that sustainable development encompasses the following points (Iman&Wahiba, 2025, p. 654)

- Meeting the needs of the present without compromising the ability of future generations to meet their needs.
- Rational management of available resources and environmental capabilities, and the rehabilitation of the environment damaged by improper exploitation.
- Adopting preventive and proactive policies to address emerging environmental issues based on the principle that prevention is better than cure, as it has been proven that early intervention is more effective and less costly than confronting problems after they have worsened.
- Formulating environmental and development policies based on the actual need for sustainability, with a focus on stimulating growth and improving its quality, combating poverty, meeting human needs, and addressing the challenges of population growth. Furthermore, it includes protecting the natural resource base, directing technology to serve development, managing risks, and integrating the environment and the economy into the decision-making process.



2.2. Sustainable Development Goals:

Sustainable development, through its mechanisms and components, aims to achieve a set of goals and principles that it seeks to consolidate, the most prominent of which are:

- **Improving the living conditions of the poor:** Development can only be achieved through integrated, environmentally and socially sustainable strategies. This requires policies and incentives that support environmentally friendly behaviors consistent with social values and ensure the effective participation of target groups, particularly the poor.
- **Equitable satisfaction of basic human needs:** This is a fundamental right of survival, which requires strengthening solidarity between current and future generations and supporting development with an environmental dimension.
- **Decision-making autonomy:** By adopting an internal development model that responds to people's needs and grants them the freedom to choose their lifestyles in accordance with their historical, institutional, cultural, and ecological dimensions. The desired development, then, is rooted in the specificities of society and is based on social justice and the preservation of human dignity (Domanoromano, 2003, p. 88).
- **Promoting environmental wisdom (ecological):** This is achieved by seeking environmentally compatible development based on a moral compass based on

sustainable principles that meet human needs, ensuring empowerment, participation, and social cohesion, protecting cultural identity, strengthening institutions, and uniting citizens' efforts with governments to address economic, social, and cultural challenges (Saber, 1987, pp. 116- 118). The 1998 United Nations Report on the Progress of Peoples emphasized that the measure of people's progress in the future will not be measured by military or economic power, nor by the prosperity of capitals, but rather by the health and education of the population, the provision of employment opportunities, ensuring their participation in vital decisions, respecting their rights, and their ability to care for vulnerable groups (Al Talib, 1999, p. 15).

- **Ensuring participatory planning:** By redistributing roles between the state, the market, and civil society, with a focus on risk management and the protection of environmental and social assets (World Bank, 2003, p. 15).
- **Protecting the natural environment:** Recognizing that ecosystems represent the foundation of human life, sustainable development aims to enhance natural capital, conserve resources, and rationally exploit them.
- **Spreading environmental awareness:** By instilling shared responsibility for the environment and community participation in



the design, implementation, and evaluation of development programs, by changing individual and collective behaviors to address challenges such as poverty, environmental injustice, health risks, and climate change.

- **Employing modern technology in the service of society:** By spreading the culture of using new technologies in a way that improves quality of life without causing serious harm, while working to find solutions to mitigate their negative impacts.
- **Rational exploitation of natural resources:** By using them rationally and without depleting or destroying them, especially since unsustainable production and consumption patterns in industrialized countries are the most prominent cause of global resource depletion (Ghanem&Abu Zant, 2010, pp. 28-33)

2.3. Principles of Sustainable Development:

Sustainable development is based on a set of fundamental principles that form its foundations:

- **Efficient use of resources:** This is achieved through financial mechanisms such as prices and taxes to ensure the optimal use of natural resources and achieve better standards of living (Domanoromano, 2003, p. 62).
- **Resilience:** This refers to the ability of systems to adapt and maintain their structure and functions despite external changes. Losing this

characteristic makes them more vulnerable to threats.

- **Equity:** This principle is linked to the weakness of the environmental resource base and the resulting difficulty in meeting the needs of the poorest groups. Therefore, supporting them is considered a condition for achieving sustainability (Cohen-Bacrie, 2009, pp. 43- 44).
- **Precaution:** This principle is included in Article 15 of the Rio Declaration, which stipulates the need to take precautionary measures to protect the environment even in the absence of complete scientific certainty (Marie, 1998, p. 101).
- **Polluter Pays:** This principle first appeared in 1972 in the OECD recommendations, stipulating that the polluter bears the costs of preventing and treating pollution, rather than passing them on to society.
- **Participation:** This is a fundamental pillar, involving all relevant parties in planning and implementation decisions, starting at the local level, ensuring the involvement of official and popular bodies in the preparation and monitoring of development plans (Ghanem&Abu Zant, 2010, p. 31).
- **The principle of integration:** emphasized in Agenda 21, which requires integrating the environmental dimension into policies and plans at all levels through appropriate legal and regulatory frameworks and economic



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tools, and including environmental considerations within accounting systems, which gives a new economic dimension to the value of resources (Ghanem&Abu Zant, 2010, p. 26).

In short, prevention remains less expensive and more effective than treatment, which is why countries seek to integrate environmental considerations into their economic and energy strategies, making the environment a fundamental focus within economic, social, and commercial policies (Kamal, 2018, pp. 287- 289).

2.4. Dimensions of Sustainable Development:

Sustainable development is based on three main dimensions known as the Triple Bottom Line (Khadir, 2021, p. 46):

- **The economic dimension:** Focuses on sustainability by generating high income, allowing a portion of it to be reinvested in renewing and maintaining resources, ensuring the continuous production of goods and services while maintaining economic balance, including sustained growth, capital availability, economic justice, and meeting basic needs.
- **The social dimension:** Places people at the center of development and its ultimate goal by focusing on achieving social justice, combating poverty, and providing social services to all individuals (Ghanem&Abu Zant, 2010, p. 39).

- **Environmental dimension:** It takes into account the environmental limits of each natural system, which requires a commitment not to exceed these limits, to protect biodiversity, to avoid excessive use of non-renewable resources, and to rely on clean technology (Murad, 2010, p. 135).

In addition to a fourth dimension:

- **The technological dimension:** This involves moving society toward industrial and technological advancement and investing the resulting benefits in clean, resource-efficient, and less polluting progress, effectively balancing environmental costs with economic advancement (Iman B. , 2013, p. 370).

3. The Role of Investment in Non-Timber Forest Products in Achieving the Social Dimension of Sustainable Development:

These products cover an area estimated at about 2.4 billion hectares of timber and non-timber forest resources worldwide, equivalent to approximately 60% of the total global forest cover (Brack, 2018, p. 73), They also contribute to securing the livelihoods of nearly two billion people in poor rural and urban areas alike. These products are arguably among the most valuable plant resources for supporting food security, both now and in the future (Yusuff, 2014, pp. 474- 476).



3.1. The Role of Investment in Non-Timber Forest Products in Improving Livelihoods and Individual Incomes:

Non-wood forest products (NWFPs) play an important role in improving the livelihoods of rural communities, providing essential resources that are used directly for household consumption or sold in local markets to secure cash income. It is noteworthy that one in six people around the world depend on wild foods, which are a branch of NWFPs and include game meat, insects, honey, mushrooms, wild vegetables, and edible wild fruits (Vira, Wildburger,& Mansourian,, 2015, pp. 10- 14), These wild foods are an open source of food and income, especially for vulnerable groups such as the poor and malnourished children (McGarry&Shackleton, 2009, pp. 20- 22), Evidence suggests that the poor are disproportionately dependent on these products in some contexts (Abukari&Mumuni, 2020, pp. 10- 14).

Analytical studies of the contributions of non-timber forest products to income show that rural populations are often poor and malnourished. These products are relatively freely available resources, especially in the wild, which makes the aforementioned groups benefit more from them than those who have alternative sources of income. In general, the poor have limited bargaining power due to their poor access to markets, their lack of human and productive capital, and the fragility of supporting institutions (Belcher, Ruíz-Pérez,& Achdiawan, 2005, pp. 1436- 1440). According to estimates by the Food and Agriculture Organization of the United Nations (FAO), global forest industries contribute approximately 1% of global GDP and employ about 0.4% of the total global workforce (Wahlén, 2017, pp. 12- 15).

In India, approximately 25% of the rural workforce depends on the collection of medicinal plants, seeds, fruits and honey, and these activities contribute up to half of the income of the poorest families, making them one of the most important social mechanisms for reducing poverty (Soundarapandian&Yamuna , 2012, pp. 53- 58).

These products also provide alternative or seasonal job opportunities, especially during periods when agricultural activity is low. In South Sulawesi, Indonesia, income from products such as mushrooms, wild honey, and medicinal herbs contributed 35% of the total income of some families, which led to a reduction in rural-urban migration and improved the standard of living (Makkarennu&Sarakan, 2024, p. 169).

Game meat from wild animals in the forests is an important source of protein for rural communities and forest dwellers (Hansen , Li, Joly, Mekaru,&Brownstein, 2012, pp. 2-6). The bushmeat trade in Ghana in urban markets represents an important source of income for thousands of families, and contributes to the creation of an economic network linked to hunting, transportation and distribution (Glover&Glover, 2014, pp. 307- 308).

In Sudan, reports from the Arab Organization for Agricultural Development show that collecting gum arabic, medicinal herbs, and wild fruits constitutes a fundamental part of the income of many rural families, especially in Darfur and Kordofan, where these resources are a pillar of the local economy (AOAD, 2018).

Globally, about one billion people depend on forests for their livelihoods and food (Cheng, et al., 2017). About 300 million of them are highly dependent on non-timber forest products (Bharucha&Pretty, 2010, pp. 2913- 2915). It is



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estimated that these products provide nearly a quarter of the income of rural families in developing countries (Angelsen, et al., 2014, pp. 513- 514).

Protecting forests contributes to enhancing their value by increasing the returns that local people receive from non-timber forest products. In addition, the exploitation of these products is more sustainable than logging. Unlike timber extraction or agricultural activities, the production of non-timber forest products is often seen as more consistent with biodiversity conservation efforts (Belcher, Ruíz-Pérez,&Achdiawan, 2005, pp. 1440- 1442). Therefore, achieving better livelihoods is often associated with a lower environmental impact, making these products eligible to form a link between development and the protection of natural forests (Kusters, Belcher, Achdiawan,&Pérez, 2006, pp. 5- 8). However, the results vary depending on the production system used; the extraction of non-timber forest products from natural forests can have limited impacts on the local environment and biodiversity, both at the landscape and species levels (Nadkarni&Kuehl, 2013), The Sustainable Development Goals also represent an opportunity to increase focus on the livelihood benefits of these products, and make their invisible contribution more visible (Hlaing, Kamiyama,&Saito, 2017, pp. 2- 6).

3.2. The Role of Investment in Non-Timber Forests in Achieving Food and Health Security:

Non-timber forest products are an essential component of achieving food and health security, especially for rural and fragile communities living on the edges of forests or directly dependent on them (Kalshingi, Yaroro, Daya,&Saddiq, 2007,

pp. 25- 27). The importance of these resources lies in the fact that they contribute to meeting daily nutritional needs, enhance food diversity, and provide natural sources of health care through medicinal and aromatic plants. These resources also represent a safety net in times of crises and disasters, through the direct and repeated consumption of cultivated products, or their use as alternative foods in times of famine, or as safety nets in times of crises, or through the income generated from their sale. Therefore, forest products contribute at the household level to enhancing global food security (Levang, Lescuyer, Noubbissi, Déhu,&Broussolle, 2015, pp. 129- 131).

Wild fruits, nuts, mushrooms, and honey are among the most important forest products that contribute to bridging food gaps, especially during periods of drought or low crop production. In Bangladesh, about 19% of net annual household income comes from non-timber forest products, a large portion of which was used to cover seasonal food shortages or environmental disasters for poor households (Khan, Rashid, Mukul,&Uddin, 2016, pp. 630- 632).

The importance of non-wood forest products is not limited to food only, but they are also widely used in the field of medicine (Ingram, Ndoye, Iponga, Tieguhong,&Nasi, 2012, pp. 140- 142); medicinal plants are used to treat a variety of ailments, including digestive disorders, fever, and respiratory problems. In northeastern India, 80% of the Karbi tribe relies on forest plants to treat common ailments. These practices not only promote health but also help reduce the cost of treatment for poor families (Mipun, Bhat, Borah,&Kumar , 2019, pp. 1- 3).

The FAO report also indicated that products such as honey, gum arabic, and medicinal herbs play an important



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role in promoting public health and contribute to both traditional and modern pharmaceutical industries (FAO, 2020). In Sudan, gum arabic is used as a nutritional supplement and natural medicine to treat kidney and digestive system diseases, which reflects its importance in the nutritional and medical fields (AOAD, 2018).

Therefore, non-timber forests are not only an economic supporter but also an essential element in achieving food and health security. They provide diverse natural sources of food, improve nutritional quality, and offer natural therapeutic alternatives that reduce healthcare costs. Therefore, investing in these resources and developing policies to protect and sustainably exploit them represents a fundamental step toward enhancing the social dimension of sustainable development.

3.3. Empowering Women and Vulnerable Groups:

The empowerment of women and vulnerable groups is one of the most prominent dimensions of social development, closely linked to non-timber forest products. These natural resources are not merely economic elements, but rather social tools that provide women and marginalized groups, such as tribes, the poor, and rural communities, with opportunities to integrate into the local economy. They contribute to strengthening their social roles and improving their standard of living, which contributes to strengthening gender equality, expanding the base of community participation, and enhancing the independence of poor families. Women play a pivotal role in collecting and processing non-timber forest products, especially those related to food, such as fruits, nuts, and medicinal herbs, or

handicrafts such as fibers, wickerwork, and traditional products. In Africa, women represent the largest proportion of the workforce involved in collecting and processing these products, and their income from these activities is often the primary source of coverage for family needs (Shackleton, Paumgarten, Habtemariam,&Husselman, 2011, pp. 137-138).

Non-timber forest products also contribute to improving the social status of vulnerable groups, as they give them the opportunity to integrate into economic activity without the need for large capital. In Nepal, it was found that women and poor groups participated actively in collecting and manufacturing incense and oils from forest plants, and that this participation increased their social status and opened up opportunities for them to learn and participate in cooperative societies (Agrawal&Ostrom, 2001, p. 498).

In Sudan, gum arabic collection is an important economic activity for thousands of rural families, with women in particular relying on it to secure the income needed to educate children and cover health expenses (AOAD, 2018). This economic role has had a direct impact on the status of women within the family and society, as they have become partners in family decision-making and local development responsibilities.

The role of women in exploiting forest products is not limited to the economic aspect only, but extends to transmitting traditional knowledge and the culture associated with the use of these resources. Women are often the guardians of knowledge related to how to collect medicinal herbs, dry them, and prepare therapeutic recipes. This knowledge is passed down through generations



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through women, which enhances their position as bearers of the local cultural heritage (Cunningham, 2001, pp. 55- 60). Hence, it can be said that non-timber forest products represent an effective tool for empowering women and vulnerable groups, providing them with direct economic opportunities and enhancing their social and cultural status. They also contribute to reducing gender disparities, supporting the independence of marginalized groups, and helping integrate them into the sustainable development process. Therefore, integrating these groups into forest policies and providing training and institutional support represents an essential step towards maximizing the social impact of these resources.

3.4. Preserving Traditional Knowledge and Community Culture:

In addition to providing food, fuel, fiber, fodder, building materials, medicine, and sources of income, non-timber forest products (NTFPs) also contribute to the preservation of traditional knowledge and community culture. Rural and tribal communities view these resources not merely as material products, but as part of an inherited cultural identity and collective memory that is passed down through generations through daily practice. Therefore, any sustainable development strategy must recognize that non-timber forests are not only natural resources, but also carriers of traditional knowledge and deeply-rooted social and cultural values (Masoodi&Sundriyal, 2020, pp. 2- 5), We find that the tribes of Southeast Asia know the ripening dates of wild fruits, safe methods for extracting honey without harming bees, and distinguish between medicinal

and aromatic plant species. These experiences represent a knowledge base that cannot be separated from the cultural identity of societies (Cunningham, 2001, pp. 55- 60).

Many social rituals also use these resources. In Africa, aromatic plants are used in religious rituals or wedding ceremonies, making them part of the cultural fabric and not just an economic commodity (Berkes, 2017, pp. 80- 90). The use of animal parts was also common among many cultures, both in ritual practices and as a source of protein for rural and forest dwellers (Nasi, Taber,&Van Viet, 2011, p. 355).

Traditional knowledge about non-timber forests can be used to support sustainable development strategies. Local communities often have a more sustainable stake in resource exploitation than intensive commercial methods. In Nepal, tribal communities that relied on traditional collection methods for medicinal plants were able to maintain biodiversity at higher levels than areas where commercial methods were used (Agrawal&Ostrom, 2001, pp. 490- 494).

Integrating this knowledge into official policies contributes to achieving knowledge justice and gives local communities an effective role in resource management. This integration between knowledge and scientific research enhances forest sustainability and strengthens social and cultural ties among community members (Shanley, Shackleton,&Shackleton, 2011, pp. 85- 115; 195- 220).

Despite the great importance of this traditional knowledge, it is threatened with extinction due to several factors, including urbanization and migration, which lead to a loss of direct contact with the forest; poor documentation, given that knowledge is transmitted orally; and weak policies that formally recognize local knowledge.



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Hence, it can be argued that preserving traditional knowledge and community culture associated with non-timber forests is not merely a cultural dimension; it is a fundamental pillar for achieving sustainable development. This knowledge contributes to balanced resource management, preserves cultural identity, and strengthens social ties. Therefore, protecting and documenting this knowledge and empowering its holders to participate in decision-making is essential to achieving the social dimension of sustainable development.

3.5. Community Participation and Local Governance:

Community participation and local governance play a pivotal role in the sustainability of non-timber forest products. Community participation in the management of these resources is an effective tool for achieving social justice, promoting balanced utilization, and ensuring the protection of biodiversity. Non-timber forest products are not just social resources managed collectively; their management pattern affects social relations, the distribution of benefits, and the status of vulnerable groups in society. The management of non-timber forest products is an entry point for enhancing popular participation, as it gives local communities direct opportunities to make decisions about the exploitation of their resources. In Nepal, the community forestry experience has shown that involving local people in the management of non-timber products, such as medicinal and aromatic plants, has led to improved household incomes and enhanced their sense of shared ownership of resources (Agrawal&Ostrom, 2001, pp. 500- 507).

In Indonesia, social forestry licenses granted to communities in South Sulawesi have helped activate cooperatives for the management of honey, mushrooms, and medicinal herbs, increasing transparency in the distribution of financial returns and fostering a spirit of participation among the population (Makkarennu&Sarakan, 2024, pp. 162- 167).

Community participation not only reflects economically, but also strengthens social bonds among community members. Collective action in collecting, processing, and marketing resources fosters values of cooperation and trust. The bushmeat trade in Ghana is not just a source of income, but also serves as a broad social network that includes hunters, traders, and women in the markets, enhancing social cohesion (Glover&Glover, 2014, pp. 307- 312). This participation also provides marginalized groups such as women and youth with greater opportunities for social integration, as it opens channels for them to participate in local decisions and enhances their position within society (Shackleton, Paumgarten, Habtemariam,&Husselman, 2011, pp. 138- 143).

Government policies and regulatory legislation are also a key factor in the success of community participation. In Europe, a joint report by the Food and Agriculture Organization (FAO) and the European Forest Institute (EFI) indicated that the existence of legal frameworks that recognize the rights of local communities to exploit non-wood products is a key condition for achieving sustainable governance. In the Arab world, the Arab Organization for Agricultural Development indicated that the absence of clear legal frameworks for the exploitation of forest products such as gum arabic and medicinal herbs leads to weak



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community participation in their management and makes them vulnerable to unfair commercial exploitation (AOAD, 2018).

Hence, it can be said that community participation in the management of non-timber forest products is not merely a technical or economic issue, but rather a fundamental pillar of social governance. It empowers local communities to control their resources, strengthens social ties, and prevents marginalization and exploitation. Supportive policies are also a crucial element in transforming this participation into effective and sustainable governance. Therefore, integrating non-timber forest products into local governance frameworks represents a fundamental step toward achieving the social dimension of sustainable development.

Conclusion:

Investing in non-timber forest products achieves multiple dimensions of the Sustainable Development Goals, particularly the eradication of poverty and hunger, gender equality, and the preservation of ecosystems. The study reached a set of findings and recommendations.

Results:

- Non-timber forest products contribute to improving the standard of living by providing important sources of income for rural families and represent a means of social safety net during times of crisis and disaster.
- Non-timber forest products contribute to bridging the food gap by providing numerous products, such as wild

fruits, mushrooms, honey, game meat, and others. Medicinal and aromatic plants also play a role in achieving health security through their inclusion in many medical prescriptions and reducing treatment costs for poor and vulnerable families.

- Non-timber forest products play an important role in empowering women and vulnerable groups, as women participate in collecting, processing, and marketing these products, enhancing their social and economic status and enabling their participation in community decision-making.
- Non-timber forest products carry cultural identity and traditional knowledge passed down through generations, especially in tribal and rural communities.
- International experience shows that involving local communities in the management of non-timber forests enhances transparency and strengthens social ties, contributing to the sustainable use of these products.

Recommendations:

- The need to adopt clear national policies that encourage the exploitation of non-timber forest products within a framework of social and environmental sustainability.
- Striving to provide local and international markets for non-timber forest products, which will increase the income of rural families.
- Establish training programs for communities on sustainable exploitation and processing techniques to increase the added value of non-timber forest products.
- Strengthening regional and international cooperation to exchange expertise and successful experiences in the



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management and exploitation of these products to serve sustainable development.

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