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Analyzing Social Service Provision Experience and Perceptions of Forest Welfare Professionals

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Abstract

Forest welfare services are public services derived from forests that contribute to physical, emotional, and social health, ultimately aiming to improve quality of life. This study aimed to empirically analyze the qualifications of forest welfare professionals and their perceptions of social services. An online survey was conducted with 752 certified forest welfare professionals in South Korea. Frequency, cross-tabulation, and multiple regression analyses were performed to identify key factors affecting their perceptions, including experience with social service provision, understanding of social services, and the perceived need for integration. Results showed that approximately 54% had experience providing social services, and statistically significant differences were found in perceived barriers and sustainability factors based on experience. Mental health improvement was identified as the most expected benefit of social service provision, with low-income individuals and people with disabilities recognized as key target groups. Regression analysis revealed that age, additional qualifications, and experience significantly affected understanding of social services, particularly experience. However, only social service experience significantly influenced the perception of the need for integration between forest welfare and social services. Qualification type and forestry employment status had no significant effect. This study clarifies how professional experience and certification backgrounds of forest welfare specialists influence their perceptions of social services. Based on these findings, the study provides an empirical foundation for exploring the potential expansion and integration of forest welfare services. These findings offer valuable guidance for practitioners and policymakers seeking to enhance forest service effectiveness and sustainability.

Keywords: forest welfare professionals; forest welfare services; linkage strategies; mental health; strengthening social integration

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1. Introduction

Forest welfare refers to the provision of financial, social, and emotional support through the provision of forest-based welfare services that enhance wellbeing. Forest welfare services encompass a range of services based on the use of forests, such as forestry culture and recreation, forest education, and forest healing [1]. Previous studies have demonstrated multiple health benefits of forest environments. As interest in preventive and health-promoting welfare strategies has increased, forests have gained attention as

multifunctional spaces capable of contributing to public welfare beyond their traditional ecological and recreational roles.

Previous studies have shown positive effects of forest environments, including enhanced psychological well-being [2], improved mindfulness and emotional stability through nature connectedness [3], reduced physiological stress [4], better mood and quality of life [5], and increased psychological restoration in forest settings [6]. Taken together, these findings indicate that forests positively influence physical, emotional, and social well-being, supporting their applicability as health-promoting welfare resources rather than isolated therapeutic interventions.

Forests positively influence physical, emotional, and social well-being, especially in reducing stress, facilitating psychological recovery, and promoting health. They also provide educational benefits and enhance social development, making them an effective tool for welfare across the entire life course [7–10]. Currently, the Korea Forest Service offers various forest welfare programs, such as forest interpretation, forest healing instructors, and forest guides for 0toddlers, and has institutionalized qualifications and professional training systems for service providers [11]. These institutional developments reflect policy efforts to expand access to forest welfare services while ensuring service quality through professionalization.

Social services are defined as systems that guarantee a decent life through providing welfare, health and medical, education, employment, housing, culture, environment, and related services. They can be offered by the State, local government, and private sector through consultations, rehabilitation, care, information, relevant social facilities, development of competence, and support for social participation [12]. In response to declining birth rates, rapid population aging, growing care needs, and increasing social isolation, national social service policies have expanded to strengthen support for older adults [13], address demographic and social risks [14,15], promote digital and community-based care services [16,17], and improve integrated care and quality of life [18]. While social services have traditionally focused on health and welfare, recently their scope has expanded to include the environment, culture, and caregiving [19,20].

Forest welfare services and social services share several key characteristics, including a focus on emotional well-being, social care, public sector-based delivery systems, and provision of services tailored to different stages of the life cycle. In particular, both services aim to enhance public health and overall quality of life, aligning with the policy goal of promoting integrated and preventive welfare [21,22]. This conceptual overlap has led to growing academic and policy interest in linking forest welfare services with social service systems as a strategy to reduce welfare blind spots and strengthen integrated care.

The Korea Forest Service's Second Forest Welfare Promotion Plan aims to provide a wide range of forest welfare services under the vision of "forest welfare for all" [1]. Forest welfare services primarily focus on promoting physical and psychological health through nature-based experiences, while social welfare services aim to provide care, protection, and social support for vulnerable populations. By integrating these two areas, it is possible to reduce welfare blind spots, strengthen integrated care, and promote preventive and community-based welfare. Furthermore, such integration can improve the efficiency of cross-sectoral resource utilization and contribute to enhancing the public value of forests and expanding their welfare functions.

In the field of forest welfare services, programs have been developed to support social integration among marginalized groups [23], improve emotional and physical well-being among adults with disabilities and health difficulties [24], enhance emotional well-being in elderly populations [25], and promote social and psychological development among children from low-income families [26]. However, such efforts remain fragmented, lacking

systematic integration. In addition, there is a lack of foundational data regarding forest welfare professionals' understanding of social services, their experience, and their awareness or willingness to participate. In addition, previous studies have mainly focused on the effectiveness of forest welfare programs, user satisfaction across different target groups, and the quality of service delivery [27–30]. Consequently, empirical evidence examining forest welfare professionals—the key actors responsible for service delivery—remains insufficient, particularly regarding their understanding of social services, possession of social service-related certifications, practical service provision experience, and perceptions of the necessity for service linkage. This lack of foundational evidence presents a significant barrier to the institutionalization and sustainable development of integrated forest welfare–social service models.

Therefore, this study aims to analyze the certification status and participation experience in social services among forest welfare professionals. In particular, it empirically examines differences between variables and influencing factors, focusing on the level of understanding of social services, certification status, provision experience, and recognition of the need for linkage. To achieve this purpose, an online survey was conducted, and quantitative analyses, including frequency analysis, cross-tabulation, and multiple regression analysis, were applied. The results show that practical experience is the most influential factor in enhancing understanding and awareness of social service linkage, while age and additional certifications play complementary roles. By clarifying these relationships, this study contributes to the literature on forest welfare and social service integration and provides practical implications for professional training, capacity building, and institutional development.

Accordingly, this study addresses the following research questions:

(1) The possession of social service-related certifications among forest welfare professionals has a significant effect on their understanding of social services.

(2) The possession of social service-related certifications among forest welfare professionals has a significant effect on their perceived need for linkage between forest welfare and social services.

(3) Experience in providing social services has a stronger effect on perceptions than certification status.

2. Materials and Methods

2.1. Survey Overview

This study conducted a survey targeting forest welfare professionals to examine their perceptions and current status regarding the possession of other national qualifications in addition to forest welfare certifications, their experience with social service provision, their level of understanding, and their perceived necessity for collaboration. The survey was distributed to 2000 individuals who had obtained a forest welfare professional qualification as defined under Article 2 of the Forest Welfare Promotion Act and had consented to the use of their personal information. A total of 848 responses were collected, corresponding to a response rate of 42.4%. After excluding incomplete and invalid questionnaires, such as those with substantial missing data or inconsistent responses, 752 valid responses were retained for the final analysis. Data collection was carried out online over a two-month period from November to December 2024. One of the main challenges in data collection was the relatively low response rate associated with online surveys. However, the online survey platform enabled broad nationwide coverage and facilitated efficient data collection from geographically dispersed forest welfare professionals.

2.2. Survey Instrument

A structured survey instrument was employed to gather data on the qualifications and perceptions of forest welfare professionals. There are a total of 28 questions in the survey, consisting of closed-ended questions and Likert scale items. The questionnaire consisted of four major sections: (1) demographic characteristics (gender, age, and highest educational attainment), (2) qualification status (type of forest welfare certification and possession of other national qualifications), (3) awareness and experience related to social services (level of understanding, prior service provision experience, perceived barriers, etc.), and (4) perceived need for linking forest welfare and social services. Respondents' understanding of social services and their recognition of the necessity for interlinking forest welfare and social services were measured using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree).

2.3. Statistical Analysis

Frequency analysis was conducted to examine the demographic characteristics of the respondents. Cross-tabulation analysis was used to identify the major obstacles to integrating forest welfare and social services based on the presence or absence of social service experience, as well as to assess the factors necessary for the sustainability of such linkages. Furthermore, frequency analysis was utilized to explore the perceived positive effects of linking forest welfare and social services and to determine the primary target groups considered in need. Multiple regression analysis was subsequently performed to assess the factors influencing forest welfare professionals' understanding of social services and their recognition of the necessity for linking forest welfare and social services. All statistical analyses were performed using IBM SPSS Statistics version 24.0 (IBM Corp., Armonk, NY, USA), and the significance level was set at $p < 0.05$. IBM SPSS Statistics (version 24.0) was selected for data analysis due to its reliability, user-friendly interface, and suitability for managing large-scale survey data and conducting multivariate statistical analyses. The software enabled efficient processing of frequency analysis, cross tabulation, and multiple regression analysis, ensuring consistency and accuracy of the statistical procedures.

3. Results

3.1. Demographic Characteristics

A total of 848 responses were collected, of which 752 were used for analysis after excluding incomplete responses. The demographic characteristics of the 752 respondents are presented in Table 1. Among them, 311 (41.4%) were male and 441 (58.6%) were female. The age distribution was as follows: 2 respondents (0.3%) were in their 20 s, 7 (0.9%) in their 30 s, 60 (8.0%) in their 40 s, 246 (32.7%) in their 50 s, 365 (48.5%) in their 60 s, and 72 (9.6%) aged 70 or older. Regarding educational background, 81 respondents (10.8%) had completed high school or less, 101 (13.4%) had graduated from a junior college, 353 (46.9%) were university graduates (four-year or more), and 217 (28.9%) held a graduate-level degree or higher. With respect to the forest welfare professionals certifications (multiple responses allowed), 532 (70.7%) held certification as forest interpreters, 279 (37.1%) as forest guides for toddlers, 120 (16.0%) as forest trail and mountaineering guides, 35 (4.7%) as Level 1 forest healing instructors, 90 (12.0%) as Level 2 forest healing instructors, and 9 (1.2%) as instructors of forest leisure sports.

3.2. Certifications and Service Experience of Forest Welfare Professionals

A survey was conducted among forest welfare professionals to assess their experience with social service provision and the current status of holding other national certifications (Table 2). Among the 752 respondents, 405 individuals (53.9%) reported having social

service provision experience, while 347 individuals (46.1%) indicated they had no such experience. Among those with social service experience (n = 405), 298 individuals (73.6%) stated that they had provided forest-based social services, while 107 (26.4%) had experience providing non-forest-based social services. In terms of holding other national certifications, 194 respondents (25.8%) held certifications as social workers or caregivers, 186 (24.7%) held certificates of qualification as teachers, and 143 (19.0%) were qualified nursery instructors. Additional certifications included environmental educators 51 (6.8%), certified youth guides 38 (5.1%), registered nurses or assistant nurses 33 (4.4%), sports instructors 25 (3.3%), child care providers 20 (2.7%), youth counselors 13 (1.7%), and healing agriculture specialists 10 (1.3%). Meanwhile, 174 respondents (23.1%) reported not holding any other national certifications.

Table 1. Demographic characteristics of the participants (N = 752).

Variable		*N*	%
Gender	Male	311	41.4
	Female	441	58.6
Age	20–29	2	0.3
	30–39	7	0.9
	40–49	60	8.0
	50–59	246	32.7
	60–69	365	48.5
	Over 70	72	9.6
Education	High school graduate or lower	81	10.8
	Associate degree	101	13.4
	Bachelor's degree	353	46.9
	Master's degree or higher	217	28.9
Forest welfare expert (Multiple responses)	Forest interpreter	532	70.7
	Forest guide for toddlers	279	37.1
	Forest trail mountaineering guide	120	16.0
	Forest healing instructor Level 1	35	4.7
	Forest healing instructor Level 2	90	12.0
	Instructor of forest leisure sports	9	1.2
	Total	752	100.0

N: number of people.

3.3. Awareness of Social Services by Forest Welfare Professional

3.3.1. Barriers and Enabling Factors for Linking Forest Welfare and Social Services by Experience

To verify differences in the proportions of major obstacles and essential elements for service integration based on social service provision experience, a cross-tabulation analysis was conducted (Table 3). Among respondents without social service experience, the most frequently cited barrier was the lack of relevant policies and institutional support (119; 46.1%), followed by the lack of cooperative systems (72; 50.0%) and funding shortages (59; 34.3%). In contrast, among those with social service experience, 139 (53.9%) cited policy and institutional deficiencies, 113 (65.7%) cited funding shortages, and 72 (50.0%) cited inadequate cooperation systems. Regarding the elements deemed necessary to sustain linkages between forest welfare and social services, 126 (41.6%) respondents without experience cited financial support, 64 (44.8%) cited the establishment of cooperative systems, and 60 (51.3%) cited training and continuing education for specialized personnel. Among respondents with experience, 177 (58.4%) cited financial support, 79 (55.2%) cited the establishment of cooperative systems, and 68 (54.8%) cited the expansion of target institutions for integration. A chi-square test was conducted to determine whether the observed

group differences in perceived barriers and sustainability requirements were statistically significant, and the results confirmed significant differences between the two groups.

Table 2. Experience providing social services and status of holding certificates in other countries (N = 752).

Variable		N	%
Experience providing social services	Yes	405	53.9
	No	347	46.1
Experience providing forest-based social services	Yes	298	73.6
	No	107	26.4
National certificate in another field (Multiple responses)	Social worker (Ministry of Health and Welfare)	194	25.8
	Nursery instructor (Ministry of Health and Welfare)	143	19.0
	Child care provider (Ministry of Gender Equality and Family)	20	2.7
	Environmental educators (Ministry of Environment)	51	6.8
	Nurse, assistant nurses (Ministry of Health and Welfare)	33	4.4
	Caregivers (Ministry of Health and Welfare)	194	25.8
	Occupational therapists (Ministry of Health and Welfare)	0	0.0
	Certificates of qualification as teachers (Ministry of Education)	186	24.7
	Sports instructor (Ministry of Culture, Sports and Tourism)	25	3.3
	Certified youth guides (Ministry of Gender Equality and Family)	38	5.1
	Certified youth counselors (Ministry of Gender Equality and Family)	13	1.7
	Healing agriculture specialist (Rural Development Administration)	10	1.3
	Not held	174	23.1
Total		752	100.0

N: number of people.

Table 3. Barriers and Needs for Linking Forest Welfare and Social Services by Provision Experience.

Variable		Providing Social Services		Total	x^2	p-Value
		No	Yes			
Major Obstacles	Funding shortages	59 (34.3)	113 (65.7)	172 (100.0)	16.818	0.005 **
	Lack of policies and institutions	119 (46.1)	139 (53.9)	258 (100.0)		
	Shortage of professionals	30 (51.7)	28 48.3)	58 (100.0)		
	Cooperation system	72 (50.0)	72 (50.0)	144 (100.0)		
	Publicity	39 (60.0)	26 (40.0)	65 (100.0)		
	System of information transmission	28 (50.9)	27 (49.1)	55 (100.0)		
Necessary Element for Connection	Financial support	126 (41.6)	177 (58.4)	303 (100.0)	11.437	0.022 *
	Training of professionals	60 (51.3)	57 (48.7)	117 (100.0)		
	Expansion of linked institutions	56 (45.2)	68 (54.8)	124 (100.0)		
	Promote and raise awareness	41 (63.1)	24 (36.9)	65 (100.0)		
	Cooperation system	64 (44.8)	79 (55.2)	143 (100.0)		
Total		347 (46.1)	405 (53.9)	752 (100.0)		

* $p < 0.05$, ** $p < 0.01$.

3.3.2. Positive Effects and Necessary Targets of Providing Social Services

We investigated the positive effects of linking forest welfare and social services as perceived by forest welfare professionals and conducted a frequency analysis of the most needed target groups (Table 4). Among the 752 respondents, the most frequently reported positive effect was mental health improvement (354; 47.1%), followed by physical health improvement (102; 13.6%), activation of forest welfare professionals (91; 12.1%), increased demand for forest welfare services (79; 10.5%), strengthened social relationships (75; 10.0%), expanded educational opportunities (32; 4.6%), support for vulnerable groups (17; 2.3%), and enhanced policy effectiveness (2; 0.3%). Regarding the most needed target groups for service integration, 241 respondents (32.0%) selected low-income individuals, 202 (27.0%) selected people with disabilities, 139 (18.5%) selected single-parent households, 68 (9.0%) selected pregnant women and new mothers, 61 (8.1%) selected families with multiple children, 39 (5.2%) selected multicultural families and North Korean defectors, and 1 (0.1%) selected veterans.

Table 4. Positive Effects and Key Target Groups of Linking Forest Welfare and Social Services.

	Variable	*N*	%
Positive Effects	Mental Health Improvement	354	47.1
	Physical Health Improvement	102	13.6
	Activation of Forest Welfare Professionals	91	12.1
	Increased Demand for Forest Welfare	79	10.5
	Strengthened Social Relationships	75	10.0
	Expanded Educational Opportunities	32	4.6
	Support for Vulnerable	17	2.3
	Enhanced Policy Effectiveness	2	0.3
Key Target Groups	Low-income	241	32.0
	Disabilities	202	27.0
	Single-parent Households	139	18.5
	Multiple Children	61	8.1
	Multicultural Families and North Korean Defectors	39	5.2
	Veterans	1	0.1
	Pregnancy and Childbirth	68	9.0
	Total	752	100.0

N: number of people.

3.4. Determinants of Social Service Understanding and Integration Perception

3.4.1. Factors Influencing the Understanding of Social Services

Regression analysis was conducted to identify the factors affecting forest welfare professionals' understanding of social services (Table 5). Independent variables included gender, age, highest level of education, employment in the forestry sector, possession of national qualifications in other fields, and prior experience providing social services. The overall regression model was statistically significant and explained 27.4% of the variance in understanding levels. The variance inflation factor (VIF) ranged from 1.070 to 1.362, indicating no multicollinearity problem, and the Durbin–Watson statistic was 2.021, confirming the model's appropriateness. The analysis revealed that age, possession of national qualifications in other fields, and social service experience had a statistically significant positive effect on understanding of social services. Specifically, understanding increased with higher age, the presence of relevant certification, and prior experience. In contrast, gender, educational attainment, and employment in the forestry sector were not found to be significant predictors. Among all variables, social service experience had the strongest impact on the level of understanding ($\beta = 0.486$).

Table 5. Regression Analysis of Understanding Social Services.

Variable	β	SE	*t*-Value	*p*-Value
Constant		0.358	5.968	0.000 **
Gender	−0.070	0.078	−1.931	0.054
Age	0.082	0.044	2.387	0.017 *
Education	0.014	0.037	0.431	0.666
Employment in forestry	0.010	0.070	−0.300	0.764
National certificate in another field	0.091	0.075	2.674	0.008 *
Providing social services	0.486	0.068	15.055	0.000 **
Statistic	R^2 = 0.274, adj R^2 = 0.268, Durbin–Watson = 2.021, F = 46.933, p = 0.000 **			

* $p < 0.05$, ** $p < 0.01$, SE: Standard Error.

3.4.2. Factors Influencing the Perceived Need for Integration Between Forest Welfare and Social Services

A regression analysis was conducted to examine the factors influencing forest welfare professionals' perception of the necessity of linking forest welfare with social services (Table 6). Independent variables included demographic characteristics such as gender, age, highest level of education, employment in the forestry sector, possession of national qualifications in other fields, and experience with social service provision. The regression model was statistically significant, with an explanatory power of 2.8%. The variance inflation factor (VIF) ranged from 1.070 to 1.362, indicating no multicollinearity problem, and the Durbin–Watson statistic was 1.904, confirming the model's appropriateness. The analysis showed that only the variable of social service experience had a statistically significant influence on the perceived necessity of integration. Specifically, respondents with prior experience with social service provision were more likely to recognize the necessity of linking forest welfare with social services. In contrast, gender, age, level of education, employment in forestry, and possession of other national qualifications were not significant predictors. Among all the variables, experience with social service provision had the strongest influence on perception of the necessity of integration (β = 0.154).

Table 6. Regression Analysis on the Recognition of the Need to Link Forest Welfare and Social Services.

Variable	β	SE	*t*-Value	*p*-Value
Constant		0.206	22.642	0.000 **
Gender	−0.018	0.045	−0.422	0.673
Age	−0.002	0.025	−0.052	0.958
Education	0.050	0.021	1.323	0.186
Employment in forestry	0.022	0.040	0.577	0.564
National certificate in another field	0.002	0.043	0.058	0.954
Providing social services	0.154	0.039	4.121	0.000 **
Statistic	R^2 = 0.028, adj R^2 = 0.020, Durbin–Watson = 1.904, F = 3.582, p = 0.002 **			

** $p < 0.01$, SE: Standard Error.

4. Discussion

According to the results of this study, approximately 54% of forest welfare professionals had experience providing social services, and 25.8% held certifications as social workers or caregivers. The results of the regression analysis indicated that experience with social service provision was a significant factor influencing both the level of understanding of social services and the perception of the need for integration. In particular, understanding of social services significantly varied depending on age, possession of other certifications, and service provision experience, while perception of the need for integration was influ-

enced only by experience with social service provision. In the regression analysis on the understanding of social services, experience with social service provision emerged as the most influential factor. However, age and the possession of professional certificates also showed statistically significant associations with the level of understanding. This indicates that, in addition to experience, demographic and credential-related factors may serve as auxiliary determinants in enhancing understanding [31]. Previous studies have suggested that practical experience plays a critical role in shaping professionals' perceptions and competencies [32], which supports the findings of this study that actual service experience is a more important determinant of forest welfare professionals' awareness than simply holding a certification. All models showed statistically significant correlations. While the regression model for the perceived need for integration exhibited relatively low explanatory power, according to Ozili [33], even models with low R^2 values can offer meaningful insights if they are statistically significant and supported by empirical evidence. Therefore, although the findings should be interpreted with caution, the statistically significant results can still contribute valuable knowledge to the field of forest welfare service research and practice.

Furthermore, the type of certification and whether the respondent was employed in the forestry industry did not significantly influence their perception of social services or the perceived need for coordination. This suggests that the form of qualification or employment status does not play a major role in shaping these perceptions and instead highlights the greater importance of practical experience and competency-based training [34–36]. Therefore, to facilitate the expansion and integration of forest welfare services, it is necessary to implement field-oriented pilot programs, provide hands-on refresher courses, and offer interdisciplinary vocational training [37,38].

The cross-analysis revealed significant differences in the perception of barriers and necessary elements depending on whether or not individuals had experience providing social services. In terms of barriers, both groups ranked institutional and financial constraints and lack of cooperation systems at the top of the list, while financial support and cooperation system establishment ranked first and second in terms of factors necessary. Mental health promotion was identified as the most anticipated effect, with low-income individuals and people with disabilities designated as the primary beneficiaries. This suggests that forest welfare services should shift from a supplier-centered expansion of programs to demand-centered, experiential, and customized services [39,40]. In particular, forest welfare services have been shown to support emotional recovery and well-being among adults with disabilities [41], enhance recreational inclusion and quality of life for older adults [42], and promote self-esteem and psychological stability in elderly populations through nature-based interventions [43], indicating their potential as an integrated welfare delivery mechanism.

With regard to the proposed hypotheses, the results partially supported H1, indicating that possession of social service-related certifications contributes to a higher level of understanding. However, H2 was not supported, as certification status did not significantly influence perceptions of the need for linkage. In contrast, H3 was strongly supported, confirming that practical experience plays a more influential role than formal qualifications in shaping professional perceptions.

Based on these results, several implications can be drawn. First, policy and financial support are needed to expand forest welfare services as a complementary means of social care [22,44], and customized services tailored to specific target groups are considered necessary. In fact, the program was found to be effective when designed according to the characteristics and conditions of the participants [45,46]. The results of the survey on the correlation between forest activities and life satisfaction showed that the effects varied depending on demographic characteristics, emphasizing the importance of customized

forest welfare [40]. By linking forest welfare services with other fields, it is possible to enhance the public and welfare aspects of forests and contribute to eliminating welfare blind spots [47,48]. Second, as practical experience is the key factor in determining experts' perceptions, rather than the possession of knowledge or qualifications, future programs and job training based on field experience are necessary [49]. Meanwhile, the social services sector has recently been promoting collaboration with various fields such as culture, environment, and mental health to provide integrated care, community-based preventive services, and improved efficiency of public resources [19]. Forest welfare services are also expected to expand their role in line with these policy trends.

The findings of this study are largely consistent with previous research on public perceptions of forests and ecosystem services. Previous studies published in Forests and other forest-related journals have reported that visitors and service users highly value forests for their contributions to mental well-being, stress reduction, and overall quality of life [40,47,48]. Similarly, the present study found that mental health improvement was perceived as the most important benefit of linking forest welfare and social services. However, this study differs from earlier research in that it focuses specifically on forest welfare professionals rather than general visitors or users. While previous studies mainly emphasized recreational experiences and environmental perceptions, the present study highlights the importance of professional experience and service provision background in shaping perceptions of forest-based welfare services. In particular, social service experience emerged as a key factor influencing both understanding and perceived necessity of linkage, which has been less emphasized in previous visitor-centered studies. These similarities and differences suggest that forest welfare services should be developed not only based on users' preferences but also by considering the professional competencies and experiences of service providers. This professional perspective may contribute to more sustainable and effective integration between forest welfare and social services.

This study has limitations. It was based on a cross-sectional survey of forest welfare professionals, thus capturing perceptions at only one point in time and not reflecting temporal changes or the influence of evolving policy environments. Furthermore, reliance on self-reported data may introduce bias caused by respondents' subjective assessments [50,51]. Additionally, the variables analyzed were limited to individual characteristics and experiences, without accounting for organizational or institutional factors.

Future research should comprehensively analyze the perceptions of various stakeholders, including users of forest welfare and social services, as well as social service providers. In addition, qualitative and longitudinal studies should be conducted based on actual cases of collaborative projects to explore in depth the factors that influence changes in perception. Furthermore, research on the effectiveness of institutional and organizational frameworks should be carried out in parallel to ensure the successful implementation of forest welfare expansion and related policies.

Despite these limitations, this study makes a meaningful contribution by empirically analyzing the perceptions and participation of field experts directly involved in providing forest welfare services. In particular, by investigating actual work experiences such as the status of qualification acquisition, experience with social service provision, perceived barriers, and necessary elements, the findings can be used as practical baseline data for the expansion of forest welfare services and development of integrated service models. Furthermore, the finding that experience with social service provision and possession of related qualifications influence understanding and awareness of the need for integration provides useful insights for establishing education and training systems to strengthen the practical capabilities of forest welfare professionals. The results are expected to inform related policies, human resource training programs, and pilot projects.

5. Conclusions

This study explored the potential for linking forest welfare services with social services by analyzing forest welfare professionals' qualifications in other fields, experience with social service provision, level of understanding, and awareness of the need for integration between forest welfare and social services. The analysis found that professionals with social service experience demonstrated higher levels of understanding and perceived necessity for integration. The expected outcomes of such integration included improvements in mental and physical health, with low-income individuals and persons with disabilities identified as key target groups. These results suggest that strengthening opportunities for field-based practice, experiential learning, and interdisciplinary training may contribute to enhancing professional capacity and promoting more effective collaboration across service sectors. At the same time, the findings provide empirical evidence that can support institutional systems that promote sustainable cooperation and customized service delivery for vulnerable populations. Despite these contributions, this study is limited by its cross-sectional design and reliance on self-reported data. Future research should incorporate longitudinal and mixed-methods approaches and include diverse stakeholders to better capture changes in perceptions and to further examine long-term collaboration models between forest welfare and social services.

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