Sustainability constructs of mountain tourism development: the evaluation of stakeholders’ perception using SUS-TAS

Peer Jeelani1 · Shamim Ahmad Shah1 · Sajad Nabi Dar2 · Huma Rashid1

Received: 12 February 2022 / Accepted: 26 April 2022 / Published online: 28 July 2022 © The Author(s), under exclusive licence to Springer Nature B.V. 2022

Abstract
The success of sustainable tourism is inter-woven with the participation of different stakeholders in general and communities in particular. Participation becomes more important in the mountain ecosystems with a fragile resource base and limited capacities of the local people to accommodate rapid changes. The fundamental focus of this work is to measure the attitude of local communities concerning sustainable tourism development and assess the reliability and validity of the SUS-TAS. The research objective required both quantitative and qualitative research strategies. A survey of households was carried out to gather information from respondents. Yamane’s formula was employed to select the sample size of respondents. Structured questionnaires were used to collect the data and SUS-TAS was applied to serve as a foundation for the analysis of local communities’ attitudes to sustainable tourism development. Delineation of dimensions of SUS-TAS was done by principal component analysis with a varimax rotation. Community members exhibited their agreement to six constructs of sustainable tourism development among seven. This study validates the sustainable tourism attitude scale as one of the premier tools for monitoring sustainable tourism development.

Keywords Sustainable tourism · Local communities · Perception · Principal component analysis · Mountains · Yamane’s formula · SUS-TAS

Sajad Nabi Dar
sajadsch1@gmail.com
Peer Jeelani
Jeelani.scholar@kashmiruniversity.net
Shamim Ahmad Shah
shamimcrocus@gmail.com
Huma Rashid
humarashid93@gmail.com

1 Department of Geography and Regional Development, School of Earth and Environmental Sciences, University of Kashmir, Srinagar, India
2 School of Humanities, Lovely Professional University, Phagwara Jalandhar, Punjab, India
1 Introduction

When comparing different economic sectors of the world, tourism is among the largest and fastest expanding sectors (Zhuang et al., 2019). It generates jobs, boosts economic progress, enriches culture, and improves societies. The sector is the third-highest global contributor to export earnings, representing 10% of world GDP, 30% of services exports, and 1 out of every 10 jobs in the world (Sthapit, 2021; World Travel & Tourism Council, 2019). More than half of 87 studies on tourism and economic growth identified a direct correlation, with 55 studies showing an absolute relationship and 16 showing an inconclusive relationship (Comerio & Strozzi, 2019). The tourism industry has grown considerably in recent decades and is likely to continue (UNWTO, 2018; WTTC, 2018). However, the COVID-19 pandemic caused massive social, psychological, and economic disruptions globally. The repercussions have been disastrous, and no industry has been affected harder than tourism and hospitality (Dube et al., 2021; Nicola et al., 2020). Recovery alternatives for tourism include lowering costs, implementing automation technology and new business models, and seeking government assistance and loans (Habqin et al., 2022). Further rural tourism picked up steam, and those locations best positioned to provide rural lodging witnessed greater and longer-lasting domestic demand recovery (Marques et al., 2022). Tourism today is credited with enormous cultural, economic, and community advantages (Marzuki et al., 2012). The population involved in tourism enjoys a better socioeconomic status than those involved in non-tourism occupations like agriculture and related sectors (Sajad Nabi Dar, 2019).

Sustainable tourism development ascended as a root problem in many developing regions when considering a development outline for the tourism associated activities (Helmy, 2004; Page & Connell, 2020; Tosun, 2001). Sustainability is an intrinsically contentious concept in every discipline and lacks a mutually recognized definition (Rebollo & Baidal, 2003). Sustainable development prioritizes balanced resource usage and considers future generations’ ability to use resources. It has its roots in the report “our common future” (World Commission on Environment & Development, 1987). The works of (Vehbi, 2012) integrate all the concerns of development (environmental, social, and economic) and help in operative decision-making processes. Sustainability is often seen as an unattainable aim, and its use in the tourism industry is still developing (Ko, 2005; Viljoen, 2007). Examining various metrics for tourism sustainability; some conventional methods yielded inconsistent results (Huang, 2011). Bell and Morse (2008) and Tsaur and Wang (2007) assert that its origins were tied to environmental quality control. Sustainable tourism “meets the demands of tourists, the tourism industry, and host communities today without jeopardising future generations’ ability to fulfill their own needs” (Swarbrooke, 1999). Sustainable tourism development is essential in improving economic conditions and alleviating poverty in most developing countries (Richard W Butler, 1999; Sajad Nabi Dar, 2019; Sharpley, 2020). Sustainable tourism prioritizes local communities and strengthens planning and development frameworks (Choi & Sirakaya, 2005). It strengthens local communities by fostering partnerships and alliances. The expansion of tourism requires a multifaceted approach that addresses sustainability (Dar et al., 2016).

Community involvement is viewed as a form of grassroots democracy in which individuals have the right to engage in choices affecting their lives directly (Devine, 2020; Gohari et al., 2020). Sustainable tourism is centered on community development (Cheng et al., 2019; Choi & Sirakaya, 2005; Khalid et al., 2019). Communities are now central to the comprehensive concept of sustainability, encompassing environmental, economic,
political, cultural, and social aspects (Richards & Hall, 2003). The communities are the primary motive for tourists to travel, experience different conducts of life, and purchase tangible goods. Being directly affected by tourism, communities are the main thrust of tourism development (Ap, 1992; Var & Gunn, 2020). Sustainability of tourism as well as of other sectors can be accomplished through the engrossment of local communities (Bello et al., 2018). The development of sustainable tourism focuses on communities and validates the renewability of environmental, social, economic, cultural, and institutional gains (Hsu et al., 2020). Local community involvement validates sustainable tourism development efforts in emerging and underserved tourism attractions (Kala & Bagri, 2018). Subsistence living is common in rural areas of underdeveloped countries. The specific obstacles faced by the growth of tourism include agriculture, weak governance, poverty, bad economies, environmental fragility, and vulnerability to calamities (Sood et al., 2017).

Local communities’ attitudes to tourism are key to their participation in the sector and sustainable growth (Gidebo, 2019; Hsu et al., 2020; Var & Gunn, 2020). Attitude has been defined by different psychologists as a “psychological propensity manifested by a degree of favor or disfavor for a certain entity” (Eagly AH, 2000). (Baron & Byrne, 1991) describe attitude as persistent aggregates of emotions, beliefs, and behavioral tendencies directed toward specific individuals, ideas, objects, or groups. Attitudes have also been defined as “a state of mind of the individual towards a value” (Allport, 1966) and “an enduring predisposition towards a particular aspect of one’s environment” (McDougall et al., 1987). Furthermore, according to (Walley et al., 2009), attitudes might be positive, negative, or neutral. An individual’s attitude can be classed into the following three categories: cognitive (beliefs, perceptions, knowledge), emotional (likes and dislikes), and behavioral (action is taken or expressed) (Carmichael, 2000). Attitudes are strengthened by perceptions and assumptions about reality but inextricably linked to firmly held values and, in certain cases, personality (Getz, 2012). Among the various models on attitudes, one of the most influential is (Doxey, 1975) which suggests that the attitude of local communities may permit a sequence of phases from “euphoria,” through “apathy” and “irritation.” to “antagonism,” as the costs perceived surpass the expected outcomes/benefits. Another model “The Irridex model” indicates that residents’ attitudes to tourism would change over time within a predictable one-way sequence (Wang & Pfister, 2006). Sustainable community-based tourism functions in geopolitical, economic, and cultural contexts, posing implementation obstacles (Halvitigala Ihala Gamage, 2016). However, the paybacks of sustainable community-based tourism include increased “local knowledge, support for local skills, cultural exchange, and community participation” (Garau-Vadell et al., 2018; Stone & Stone, 2011; Zaidan, 2016). Unfortunately, numerous communities have been excluded from tourism development decisions. Tourism occurs in communities and monitoring its impact at the local level is more useful (Torres-Delgado & Saarinen, 2014).

The most promising source of earning and livelihood for the people residing in mountain areas is tourism. Mountain lands are more fragile and susceptible to change and degradation caused by tourism than other relief features (Shah & Wani, 2014). Steep slopes, a wide range of altitudes, and unstable weather conditions make these areas extremely prone to disruptions, which contribute to the current phase of human enterprise mismanagement. To integrate these characteristics into usefulness, mountain tourism is the ideal fit (Nepal & Chipeniuk, 2005). The tourist attractions in Kashmir and its environs allow the tourism industry to provide more products and services (K. Singh & Unjum, 2016). Tourism is one of the few viable options for creating new jobs in the Himalayan regions (Anand et al., 2012). However, unrestrained tourism has negative effects on Himalayan tourism sustainability (Shah et al., 2016). Accordingly, the purpose of this research is to assess residents’
attitudes to sustainable tourism development in the Western Himalayas. In developing countries, the attitudes of local residents are integral to the survival of tourism development efforts, especially in their initial stages of development. The impressions of tourism are avowed by residents and which factors affect the relationship, through explicit consideration of context in the mountain regions (Brida et al., 2011). To assess local populations’ attitudes to sustainable tourism development, there has been an attempt through this study to examine the SUS-TAS instrument’s reliability and validity.

2 Study area

The study was conducted in one of the famous and significant tourist destinations of Kashmir Himalayas “Pahalgam” (Fig. 1) located under the territorial jurisdiction of district Anantnag in the “union territory of Jammu and Kashmir.” Pahalgam is a prevalent tourist terminus and hill station (Bashir & Goswami, 2016) 95 km from the Srinagar city and situated on the banks of the Lidder River at an elevation of 2740 m above sea level (Singh et al., 2018). It lies between 34°0’51.05”N and 75°19’8.36”E latitudes and longitudes (Singh et al., 2018). It is connected with religious tourism since the annual Amarnathji Yatra (A. R. Shah, 2013; J. Singh et al., 2005; Wani et al., 2021), which takes place from July to August, begins at Chandanwari, which is located 16 km from Pahalgam’s central business district. Its pristine natural beauty is a visual and sensory delight. It is a requiescat for the deceased spirits, surrounded by lush flora and the Himalayan mountains. Year after year, lakhs of travellers from all over the world come to enjoy its beautiful green forests, meadows, and snow-capped mountains.

Table 1 transparently shows that Pahalgam is a world-famous tourist destination with more than two million tourists visited over the last six years. Tourism is the primary function, accounting for more than 70% of overall tourist arrivals in the valley (Bashir & Goswami, 2016). The table also depicts that there are fluctuations in the tourist numbers year to year, because of the many reasons like COVID-19. Domestic and local tourists are much more in number than foreign tourists. As for domestic and local tourists, the place is convenient and religious. And for foreign tourists, political unrest has disrupted the flow, pattern, and volume to the destination (Shah & Wani, 2014). However, this raises concerns about the destination’s carrying capacity and maintenance (Bashir & Goswami, 2016; Dar et al., 2016).

3 Materials and methods

3.1 Datasets

To accomplish the objectives of this study, a thorough data collection was followed based on both primary and secondary datasets. To collect the primary data from different respondents, a household survey was conducted. The information was acquired from local communities close to the destination and impacted by tourism activities. Household heads are the primary source of information for this research. The total number of households in Pahalgam was 18,006 (Census Handbook, 2011). Only to make it more elicit purposive, sampling was done on 3,000 households which are directly or indirectly impacted
by tourism activities. Among whom, a sample size of 352 households was chosen using Yamane’s formula (Yamane, 1967) for the best representation of the whole population.

\[
n = \left[ \frac{N}{1 + N(e^2)} \right]
\]

where \(N\)=Total population that will be studied \(n\)=Required sample size, \(e\)=Precision level 0.05 at the confidence level of 95%

The structured questionnaire was used to acquire the information, developed to measure local communities’ attitudes to sustainable tourism development. The questionnaire

---

**Table 1** The number of tourists who visited Pahalgam from 2015–2020

| Years | Domestic  | Foreign | Local      | Total     |
|-------|-----------|---------|------------|-----------|
| 2015  | 2,64,554  | 4,277   | 2,03,337   | 4,72,168  |
| 2016  | 5,20,858  | 7,090   | 3,42,412   | 8,70,360  |
| 2017  | 1,46,439  | 7,911   | 3,14,308   | 4,68,658  |
| 2018  | 2,48,434  | 5,776   | 2,28,887   | 4,83,097  |
| 2019  | 70,186    | 6,278   | 98,287     | 1,74,751  |
| 2020  | 19,215    | 1,302   | 25,620     | 46,137    |
| Total | 12,69,686 | 32,634  | 12,12,851  | 25,15,171 |

Source: Department of Tourism, Jammu and Kashmir

The bold values are just total values.

---

**Fig. 1** Location map of the study area draped over the Digital Elevation Model (DEM) with major tourist destinations
survey constituted a wide range of variables with 42 statements to which each participant stated their agreement or disagreement level on a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree). A blend of Microsoft Excel 2016 and SPSS (Statistical Package for the Social Sciences) v.16.0 software was used to conduct the data analysis.

3.2 Sustainable tourism attitude scale (SUS-TAS)

“SUS-TAS” has been employed as a basis for evaluating local communities’ attitudes to the development of sustainable tourism (Choi & Sirakaya, 2005). Scale development is a significant aspect of the fruition of knowledge ontology (Churchill Jr, 1979), and the scale-development process proposed is regarded as the threshold norm in tourism-associated research (Boley et al., 2011; Woosnam & Norman, 2010). The scale developed becomes an embellished tool used to study and evaluate the subjective indicators of residents. The local communities’ attitude to the sustainability of tourism is reliable and valid by using SUS-TAS (Gidebo, 2019). It has been further verified and validated by subsequent researchers (Hung et al., 2011; Kvasova, 2011; Prayag et al., 2010; Ribeiro et al., 2018). The SUS-TAS explicitly integrates seven sustainability constructs (criteria), namely environmental sustainability, economic benefits, the socio-cultural impact of tourism, community-based benefits, visitor satisfaction, long-term planning, and community participation.

In addition to this, the factorability of 42 “sustainable tourism attitude scale” statements was examined and it was analyzed that all the statements of scale correlated at least 0.3 with at least one other item, clearly signifying reasonable factorability. The principal component analysis (PCA) with a varimax rotation was done on all 42 items to demarcate the dimensions of the scale. (Green & Salkind, 2005) has defined factor analysis as “a technique used to identify the factors that statistically explain the variation and covariation among measures.” Also, the “Kaiser–Meyer–Olkin” (KMO) measure of sample adequacy test was used for further authentication and confirmation of sample size.

4 Results and discussion

4.1 Demographic characteristics of respondents

Table 2 presents a descriptive sum-up of respondents. Male household heads made up 94.03% of the research while female household heads made up only 5.97%. More than 90% of respondents were over 30 years of age. People aged 30 to 49 years are 42.34% and people aged 50 to 60+ are 51.13%. 9.94% of respondents are illiterate, whereas 90.06% can read and write with a good share of higher secondary and college pass-outs (46.87%). Respondents’ household sizes ranged from 2 to 9, and the average household size is 4. There are 84.66% of households with household size under 5 and 15.34% above 5. 44.89% of respondents had an average monthly income of Rs. 20,000($262) or less. 36.36% of respondents earn between Rs. 20,000($262) and 39,999($524), 18.75% earn Rs. 40,000($524) to 50,000($655)+ and 64.49% of the respondents have their income from tourism and associated activities; highlighting Pahalgam’s tourism relevance. Among the
respondents, 86.93% have permanent, 7.67% semi-permanent, and 5.40% temporary resident status.

### 4.2 Local communities’ attitude to SUS-TAS items

In order to establish long-term and sustainable tourism policies, experts are increasingly focused on tourism’s influence on local populations (Abdollahzadeh & Sharifza-deh, 2014; Almeida-Garcia et al., 2016; Diedrich & Garcia-Buades, 2009; Dutescu et al., 2014; Presenza et al., 2013). Involvement of the local community in the development of tourist initiatives boosts their success rate and ensures beneficial environmental, economic, cultural, and social impacts (Puig et al., 2008). Communities play a significant role in tourism development as they are directly impacted by tourism (Thetsane, 2019). Community participation attempts to enlighten and engage the public, respect and involve in decision-making, raise consciousness and apprehension of tourism and its influence on regional extents, encourage relationships among tourists and locals, and tourism-related community activities (Amerta, 2017; Saarinen, 2019) (Fig. 2).

Almost all of the respondents showed their agreement with environmentally sustainable tourism development in the region (Mean = 4.01, Mode = 4, and Standard Deviation = 1.03). The above graph shows that 80.20% of respondents agreed with statements that are in this construct (Fig. 3).
The majority of respondents showed disagreement with the perceived social cost of tourism development (Mean = 2.38, Mode = 1, and Standard Deviation = 1.28). The respondents disagreed with the items consisting of statements that describe tourists disrupting the social quality of life in the community. Only 47.60% of the respondents showed agreement (Fig. 4).

The Community members agreed to statements/indicators of perceived economic benefits of sustainable tourism development for their community (Mean = 3.68, Mode = 4 and Standard Deviation = 1.17). 73.60% of the respondents showed their agreement with statements that express the diversified economic contribution brought by tourism (Fig. 5).

The attitude of the respondents toward community participation in the development of tourism is appreciable with (Mean = 3.68, Mode = 4, and Standard Deviation = 1.24). 73.60% of the respondents agreed with the statement that community participation is necessary for the development and management of tourism (Fig. 6).

The responses of the Community members showed their agreement to the long-term planning statements with (Mean = 4.04, Mode and Standard Deviation = 0.95) for having
Fig. 4  Graph showing the perceived economic benefit construct and level of agreement

Fig. 5  Graph showing the community participation construct and level of agreement

Fig. 6  Graph showing the long-term planning construct and level of agreement
the comprehensive and robust management and development of tourism with a prioritized valuation for sustainability elements. 80.80% of the respondents agreed with the statement that long-term planning is necessary for the sustainable development of tourism (Fig. 7).

The attitude of the respondents toward visitor satisfaction is positive with (Mean = 3.97, Mode = 4, and Standard Deviation = 0.92). About 80% of the respondents showed their agreement with the statements ensuring the satisfaction of visitors for having the least compromise on the needs and services for visitors (Fig. 8).

The respondents showed a high agreement level to community-centered tourism development with (Mean = 4.18, Mode = 5, and Standard Deviation = 1.04). 83.60% of the respondents agreed with the statements which ensure the development of tourism considering the local community so that they should receive a fair share of benefits from tourism (Fig. 9).
4.2.1 The graphical representation of the overall level of agreement (%) of respondents to sustainable tourism development

4.3 The factor analysis of local communities’ attitude to sustainable tourism development

Initial factorability testing revealed that practically, all SUS-TAS items correlated at least 0.3 with at least one other item, indicating reasonable factorability. The SUS-TAS was delineated using principal component analysis (PCA) with a varimax rotation on all 42 elements. Tables 3 and 4 show “construct descriptors, item counts, alpha reliability coefficients, eigenvalues, percentage of variation explained by construct, and KMO and Bartlett results.” The sample adequacy (KMO) was 0.899 (0.6 is recommended) supporting good factor analysis (Tabachnik & Fidell, 1989) and Bartlett’s test of sphericity (= 18,432.431, p.001). With a commonality of over 0.3, every item in Table 3 had some commonality with other items. Finally, it was found that factor analysis was appropriate for virtually every item.

As shown in Tables 3 and 4, the seven constructs were initially labeled as follows: “environmental sustainability” (9 items; alpha = 0.98); “social costs” (8 items; alpha = 0.93); “economic benefits” (7 items; alpha = 0.96); “community participation” (4 items; alpha = 0.81); “long-term planning” (6 items; alpha = 0.92); “visitor satisfaction” (4 items; alpha = 0.80); and “community-centered economy” (4 items; alpha = 0.95). To the factor structure, every item was included and each component contributed. Among the most extensively used reliability test techniques, Cronbach’s internal consistency reliability (Ap, 1992; Lankford & Howard, 1994) is the best match “Cronbach’s alpha is represented as a correlation coefficient scale from 0 to 1” and was applied to examine each factor’s internal consistency and recommend a reliability coefficient of 0.7 or above is desired reliability.
Table 3  Factor analysis on the attitude of the local communities to sustainable tourism development

| Construct                           | Item description                                                                                                        | Factor loading | Communality |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------|----------------|-------------|
| Environmental sustainability        | “I think that tourism development should strengthen efforts for environmental conservation”                           | .894           | .928        |
|                                     | “Regulatory environmental standards are needed to reduce the negative impacts of tourism development”                  | .866           | .906        |
|                                     | “The community environment should be protected now and for the future”                                                 | .828           | .869        |
|                                     | “The diversity of nature must be valued and protected”                                                                | .802           | .814        |
|                                     | “Tourism needs to be developed in harmony with the natural and cultural environment”                                  | .794           | .798        |
|                                     | “Proper tourism development requires that wildlife and natural habitats be protected at all times”                    | .789           | .776        |
|                                     | “Tourism development must promote positive environmental ethics among all parties that have a stake in tourism”      | .780           | .825        |
|                                     | “Tourism must protect the community environment”                                                                       | .768           | .887        |
|                                     | “I believe that tourism must improve the environment for future generations”                                           | .761           | .798        |
| Perceived social cost               | “Tourists in my community disrupt my quality of life”                                                                  | .866           | .886        |
|                                     | “My quality of life has deteriorated because of tourism”                                                               | .858           | .868        |
|                                     | “I often feel irritated because of tourism in the community”                                                            | .840           | .839        |
|                                     | “Community recreational resources are overused by tourists”                                                             | .821           | .809        |
|                                     | “My community is overcrowded because of tourism Development”                                                             | .800           | .780        |
|                                     | “I do not feel comfortable or welcome in local tourism Businesses”                                                      | .792           | .738        |
|                                     | “I believe that the quality of social interaction in my community has deteriorated because of tourism”                 | .768           | .702        |
|                                     | “Tourism is growing too fast”                                                                                        | .740           | .812        |
| Perceived economic benefits         | “Tourism diversifies the local economy”                                                                               | .870           | .867        |
|                                     | “I believe tourism is good for our economy”                                                                             | .856           | .908        |
|                                     | “Tourism generates substantial tax revenues for the local government”                                                    | .832           | .865        |
|                                     | “Tourism benefits other industries in the community”                                                                    | .810           | .843        |
|                                     | “Tourism creates new markets for our local products”                                                                    | .780           | .769        |
|                                     | “I believe tourism is a strong economic contributor to the community”                                                    | .744           | .832        |
|                                     | “I like tourism because it brings new income to our community”                                                          | .702           | .897        |
| Construct                  | Item description                                                                 | Factor loading | Communality |
|---------------------------|----------------------------------------------------------------------------------|----------------|-------------|
| Community participation   | “Tourism decisions must be made by all in my community regardless of a person’s background” | .806           | .766        |
|                           | “Full participation of everyone in the community in tourism-related decisions is a must for successful tourism development” | .778           | .749        |
|                           | “Sometimes, it is acceptable to exclude a community’s residents from tourism development” | .734           | .674        |
|                           | “Community residents should have an opportunity to be involved in tourism development and management” | .712           | .809        |
| Long-term planning        | “I believe that we need to take a long-term view when planning for tourism development” | .890           | .927        |
|                           | “I believe that successful management of tourism requires an advanced planning strategy” | .860           | .896        |
|                           | “I believe tourism development needs well-coordinated planning”                  | .834           | .892        |
|                           | “I think residents must be encouraged to assume a leadership role in tourism planning committees” | .800           | .835        |
|                           | “The tourism industry must plan for the future”                                  | .767           | .858        |
|                           | “Tourism development plans should be continuously improved”                     | .732           | .807        |
| Visitor satisfaction      | “Tourism businesses must monitor visitor satisfaction”                           | .820           | .783        |
|                           | “The tourism industry must ensure good quality tourism experiences for future Visitors” | .804           | .864        |
|                           | “Tourism businesses have a responsibility to provide for visitor needs”          | .782           | .913        |
|                           | “Community attractiveness is a core element of ecological “appeal” for visitors” | .730           | .781        |
| Community centered economy| “I think tourism businesses should hire at least one-half of their employees from within the local community” | .882           | .896        |
|                           | “The tourism industry should be required to obtain at least one-half of their goods and services from within the local community” | .863           | .889        |
|                           | “The tourism industry must contribute to community improvement funds”           | .820           | .852        |
|                           | “Community residents should receive a fair share of benefits from tourism”       | .788           | .801        |
while 0.6 or above is an acceptable reliability coefficient for studies at the early stage of scale development. Values ranged from 0.80 to 0.98 with total scale reliability of 0.94. It is apparent that the variables are internally consistent and exhibit reasonable correlations with their factor groups.

The data in the tables support the notion that the initial response of residents to tourism growth may be uniform. Residents’ perceptions and reactions to tourism are characterised by a sense of uniformity (R W Butler, 2006; Doxey, 1975; Mason & Cheyne, 2000). Residents’ perspectives of tourism are among the most explored areas within the tourism literature (McGehee & Kim, 2004). Given the possibly asymmetrical power allocation between residents and prominent advocacy groups, community involvement in tourism development has aroused tourism research interest (Zhang et al., 2013). Respondent participation aims to educate, engage, and promote tourism-related community activities. The study included a diverse group of people from various socio-demographic backgrounds. Community-centered tourism, long-term planning, and environmental sustainability construct showed high degree of agreements. Except for the perceived social cost construct, practically all respondents agreed on all SUS-TAS construct components. Looking at prior studies that used the SUS-TAS, there are evident trends in the factor loadings acquired by factor analysis. When the same was conducted along with reliability tests, it became apparent that the items are internally consistent and have reasonable correlations with their construct groups.

### 5 Conclusion

The results suggest that the local communities in Pahalgam support sustainable tourism growth. The perceived social cost of tourism development was not agreed upon by respondents. Locals in the research region prioritize tourism development, and negative/unsustainable tourism impacts on Pahalgam are not easily visible. Since tourism studies began as an academic area over decades, residents’ views and opinions have been assessed (Alrwajfah et al., 2019; Choi & Sirakaya, 2005; Huayhuaca et al., 2010; Vargas-Sánchez et al., 2015; Wijaya, 2017). The point of the study is to provide evidence that “SUS-TAS” is a robust and valid tool for measuring residents’ attitudes toward sustainable tourism development.
“SUS-TAS” has been further verified and widely used by subsequent researchers (Hung et al., 2011; Obradović et al., 2021; Prayag et al., 2010; Sirakaya-Turk, 2007; Yu et al., 2011). Also, the construct factors highlight essential metrics linked with tourist sustainability, and SUS-TAS can be used to gauge local communities’ attitudes to tourism sustainability. The same approach can be used in locations where tourism has yet to emerge as a substantial economic contribution to local economies. Future research should collect longitudinally and latitudinally data to determine local populations’ attitudes to sustainable tourism. Furthermore, the present research work is part of a larger existing literature that may become a powerful instrument involving stakeholders for sustainable tourism development.

Tourism academics agree that the tourism paradigm has evolved from traditional to sustainable tourism, indicating that the future tourism industry’s sustainable growth will be a challenge, and resident engagement will be significant. Understanding residents’ views on sustainable tourism help prioritize management strategies while respecting their needs and rights. The local population’s acceptance and tolerance of tourists are essential for sustainable tourism development. Since every research analysis has its limitations but given the context of the present study, sustainable tourism is a holistic concept in tourism research and multi-stakeholders views are essential to reach a concrete conclusion having diverse socioeconomic, cultural, and ethnic backgrounds.

References

Abdollahzadeh, G., & Sharifzadeh, A. (2014). Rural residents’ perceptions toward tourism development: A study from Iran. *International Journal of Tourism Research, 16*(2), 126–136.

Zhang, Y., Cole, S. T., & Chancellor, C. H. (2013). Residents’ preferences for involvement in tourism development and influences from individual profiles. *Tourism Planning & Development, 10*(3), 267–284.

Allport, G. W. (1966). Attitudes in the history of social psychology. *Attitudes, 1*, 15–21.

Almeida-García, F., Peláez-Fernández, M. Á., Balbuena-Vazquez, A., & Cortés-Macias, R. (2016). Residents’ perceptions of tourism development in Benalmádena (Spain). *Tourism Management, 54*, 259–274.

Alrwajfah, M. M., Almeida-García, F., & Cortés-Macías, R. (2019). International aid to tourism planning and stakeholder participation in the Petra region. *Cogent Social Sciences*. https://doi.org/10.1080/23311886.2019.1616362

Amerta, I. M. S. (2017). The role of tourism stakeholders at Jasri tourism village development, Karangasem regency. *International Journal of Social Sciences and Humanities (IJSSH), 1*(2), 20–28.

Anand, A., Chandan, P., & Singh, R. B. (2012). Homestays at Korzok: Supplementing rural livelihoods and supporting green tourism in the Indian Himalayas. *Mountain Research and Development, 32*(2), 126–136.

Ap, J. (1992). Residents’ perceptions on tourism impacts. *Annals of Tourism Research, 19*(4), 665–690.

Baron, R., & Byrne, D. (1991). *Social Psychology: Understanding Human Interaction*. Allyn & Bacon A division of simon and Schuster. Inc.

Bashir, S., & Goswami, S. (2016). Tourism Induced Challenges in Municipal Solid Waste Management in Hill Towns: Case of Pahalgam. *Procedia Environmental Sciences, 35*, 77–89. https://doi.org/10.1016/j.proenv.2016.07.048

Bello, F. G., Lovelock, B., & Carr, N. (2018). Enhancing community participation in tourism planning associated with protected areas in developing countries: Lessons from Malawi. *Tourism and Hospitality Research*. https://doi.org/10.1177/1467358416647763

Boley, B. B., Nickerson, N. P., & Bosak, K. (2011). Measuring geotourism: Developing and testing the geotraveler tendency scale (GTS). *Journal of Travel Research, 50*(5), 567–578.

Butler, R. W. (1999). Sustainable tourism: A state-of-the-art review. *Tourism Geographies, 1*(1), 7–25.

Butler, R. W. (2006). The concept of a tourist area cycle of evolution: Implications for management of resources. *The Tourism Area Life Cycle, 1*(1), 3–12.

Carmichael, B. A. (2000). A matrix model for resident attitudes and behaviours in a rapidly changing tourist area. *Tourism Management, 21*(6), 601–611. https://doi.org/10.1016/S0261-5177(00)00007-8
Cheng, T.-M., Wu, H. C., Wang, J.T.-M., & Wu, M.-R. (2019). Community Participation as a mediating factor on residents, attitudes towards sustainable tourism development and their personal environmentally responsible behaviour. *Current Issues in Tourism, 22*(14), 1764–1782.

Choi, H. S. C., & Sirakaya, E. (2005). Measuring residents’ attitude toward sustainable tourism: Development of sustainable tourism attitude scale. *Journal of Travel Research. https://doi.org/10.1177/0047287505274651*

Churchill, G. A., Jr. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research, 16*(1), 64–73.

Comerio, N., & Strozzi, F. (2019). Tourism and its economic impact: A literature review using bibliometric tools. *Tourism Economics, 25*(1), 109–131.

Dar, S. N. (2019). Role of tourism in poverty alleviation and socio-economic development. *History Research Journal, 5*, 1544–1560.

Dar, S. N., Shah, S. A., & Wani, M. A. (2016). Tourism carrying capacity assessment for Leh Town of Ladakh region in Jammu and Kashmir. *International Journal of Current Research, 8*(2), 26403–26410.

Devine, P. (2020). *Democracy and economic planning: The political economy of a self-governing society*. Routledge.

Diedrich, Amy, & García-Buades, Esther. (2009). Local perceptions of tourism as indicators of destination decline. *Tourism Management, 30*(4), 512–521.

Dube, K., Nhamo, G., & Chikodzi, D. (2021). COVID-19 cripples global restaurant and hospitality industry. *Current Issues in Tourism, 24*(11), 1487–1490.

Dutescu, A., Popa, A. F., & Ponoțchiuca, A. G. (2014). Sustainability of the tourism industry, based on financial key performance indicators. *Amfiteatru Economic Journal, 16*(8), 1048–1062.

Garau-Vadell, J. B., Gutierrez-Taño, D., & Diaz-Armas, R. (2018). Economic crisis and residents, perception of the impacts of tourism in mass tourism destinations. *Journal of Destination Marketing & Management, 7*, 68–75.

Getz, D. (2012). Residents’ attitudes towards tourism: A longitudinal study in spey valley, scotland. *Tourism Management. https://doi.org/10.4324/9780080519449-17*

Gidebo, H. (2019). Attitude of local communities towards sustainable tourism development, the case of nech sar national park, ethiopia. *International Journal of Advanced Research. https://doi.org/10.21474/IJAR01/8684*

Gohari, S., Baer, D., Nielsen, B. F., Gilcher, E., & Situmorang, W. Z. (2020). Prevailing approaches and practices of citizen participation in smart city projects: Lessons from Trondheim, Norway. *Infrastructures, 5*(4), 36.

Green, S. B., & Salkind, N. J. (2005). *Using SPSS for Windows and Macintosh: analyzing and understanding data*. Upper Saddle River: Pearson Prentice Hall.

Haqbin, A., Shojaei, P., & Radmanesh, S. (2022). Prioritising COVID-19 recovery solutions for tourism small and medium-sized enterprises: A rough best-worst method approach. *Journal of Decision Systems, 31*(1–2), 102–115.

Helmy, E. (2004). Towards integration of sustainability into tourism planning in developing countries: Egypt as a case study. *Current Issues in Tourism. https://doi.org/10.1080/1368350505408668199*

Hsu, C.-Y., Chen, M.-Y., Nyaupane, G. P., & Lin, S.-H. (2020). Measuring sustainable tourism attitude scale (SUS-TAS) in an Eastern island context. *Tourism Management Perspectives, 33*, 100617.

Huayhuaca, C., Cottrell, S., Raadik, J., & Gradl, S. (2010). Resident perceptions of sustainable tourism development: Frankenwald Nature Park, Germany. *International Journal of Tourism Policy, 3*(2), 125–141.

Hung, K., Sirakaya-Turk, E., & Ingram, L. J. (2011). Testing the efficacy of an integrative model for community participation. *Journal of Travel Research, 50*(3), 276–288.

Kala, D., & Bagri, S. C. (2018). Barriers to local community participation in tourism development: Evidence from mountainous state Uttarakhand. *Tourism.

Khalid, S., Ahmad, M. S., Ramayah, T., Hwang, J., & Kim, I. (2019). Community empowerment and sustainable tourism development: The mediating role of community support for tourism. *Sustainability, 11*(22), 6248.

Ko, T. G. (2005). Development of a tourism sustainability assessment procedure: A conceptual approach. *Tourism Management. https://doi.org/10.1016/j.tourman.2003.12.003*

Kvasova, O. (2011). Socio-demographic determinants of eco-friendly tourist attitudes and behaviour. *Tourism Today, 11*, 73–95.

Lankford, S. V., & Howard, D. R. (1994). Developing a tourism impact attitude scale. *Annals of Tourism Research, 21*(1), 121–139.

Marques, C. P., Guedes, A., & Bento, R. (2022). Rural tourism recovery between two COVID-19 waves: The case of Portugal. *Current Issues in Tourism, 25*(6), 857–863.
Marzuki, A., Hay, I., & James, J. (2012). Public participation shortcomings in tourism planning: The case of the Langkawi Islands, Malaysia. *Journal of Sustainable Tourism, 20*(4), 585–602.

Mason, P., & Cheyne, J. (2000). Residents’ attitudes to proposed tourism development. *Annals of Tourism Research. https://doi.org/10.1016/S0160-7383(99)00084-5*

McGehee, N. G., & Kim, K. (2004). Motivation for agri-tourism entrepreneurship. *Journal of Travel Research, 43*(2), 161–170.

Nepal, S. K., & Chipeniuk, R. (2005). Mountain tourism: Toward a conceptual framework. *Tourism Geographies, 7*(3), 313–333.

Nicola, M., Alsafi, Z., Sohrabi, C., Kerwan, A., Al-Jabar, A., Iosifidis, C., Agha, M., & Agha, R. (2020). The socio-economic implications of the coronavirus pandemic (COVID-19): A review. *International Journal of Surgery, 78*, 185–193.

Obradović, S., Stojanović, V., Kovačić, S., Jovanovic, T., Pantelić, M., & Vujčić, M. (2021). Assessment of residents, attitudes toward sustainable tourism development-A case study of Bačko Podunavlje Biosphere Reserve, Serbia. *Journal of Outdoor Recreation and Tourism, 33*, 100384.

Page, S. J., & Connell, J. (2020). *Tourism: A modern synthesis*. Routledge.

Prayag, G., Dookhony-Ramphul, K., & Maryeven, M. (2010). Hotel development and tourism impacts in Mauritius: Hoteliers’ perspectives on sustainable tourism. *Development Southern Africa, 27*(5), 697–712.

Presenza, A., Del Chiappa, G., & Sheehan, L. (2013). Residents, engagement and local tourism governance in maturing beach destinations. Evidence from an Italian case study. *Journal of Destination Marketing & Management, 2*(1), 22–30.

Puiu, N., Ovidiu, T. M., et al. (2008). The relationship between the integrated tourism development of a region and the respective local communities of Romania. A moral approach. *The Amfiteatru Economic Journal, 10*(23), 41–45.

Rebollo, J. F. V., & Baidal, J. A. I. (2003). Measuring sustainability in a mass tourist destination: Pressures, perceptions and policy responses in Torrevieja, Spain. *Journal of Sustainable Tourism, 11*(2–3), 181–203.

Ribeiro, M. A., Pinto, P., Silva, J. A., & Woosnam, K. M. (2018). Examining the predictive validity of SUSTAS with maximum parsimony in developing island countries. *Journal of Sustainable Tourism, 26*(3), 379–398.

Richards, G., & Hall, D. R. (2003). *Tourism and sustainable community development*. Psychology Press.

Saarinen, J. (2019). *Communities and sustainable tourism development: Community impacts and local benefit creation in tourism*. Edward Elgar Publishing.

Shah, A. R. (2013). A sociology lens of pilgrimage tourism in Kashmir valley: A case of holy Amarnath pilgrimage. *Tibet Journal, 38*(3–4), 57–85.

Shah, S. A., & AhmadWani, M. (2014). Impact of conflict on tourist flow and spatial distribution of tourists in Kashmir valley. *World Applied Sciences Journal, 31*(6), 1160–1167.

Sharpley, R. (2020). Tourism, sustainable development and the theoretical divide: 20 years on. *Journal of Sustainable Tourism, 28*(11), 1932–1946.

Singh, K., & Ujjum, I. (2016). Tourism in Jammu and Kashmir economy: Role and performance. *Journal of Economic & Social Development, 12*(2), 112–123.

Singh, D. V., Bhat, J. I. A., Bhat, R. A., Dervash, M. A., & Ganei, S. A. (2018). Vehicular stress a cause for heavy metal accumulation and change in physico-chemical characteristics of road side soils in Pahalgam. *Environmental Monitoring and Assessment, 190*(6), 1–10.

Sirakaya-Turk, E. (2007). Concurrent validity of the sustainable tourism attitude scale. *Annals of Tourism Research, 34*(4), 1081–1084.

Sood, J., Lynch, P., & Anastasiadou, C. (2017). Community non-participation in homestays in Kullu, Himachal Pradesh, India. *Tourism Management. https://doi.org/10.1016/j.tourman.2016.12.007*

Sthapit, A. (2021). Cooperation and collaboration for sustainable tourism: Key to recovery and growth in post-pandemic era. *Nepalese Journal of Hospitality and Tourism Management. https://doi.org/10.3126/njhtm.v2i1.44390*

Stone, L. S., & Stone, T. M. (2011). Community-based tourism enterprises: Challenges and prospects for community participation; Khamza Rhino Sanctuary Trust, Botswana. *Journal of Sustainable Tourism, 19*(1), 97–114.

Tabachnik, B. G., & Fidell, L. S. (1989). *Using multivariate statistics* (2nd edn). New York: Harper and Row.

Thetsane, R. M. (2019). Local community participation in tourism development: The case of Katse Villages in Lesotho. *Athens Journal of Tourism, 6*(2), 123–140.

Torres-Delgado, A., & Saarinen, J. (2014). Using indicators to assess sustainable tourism development: A review. *Tourism Geographies, 16*(1), 31–47.
Tosun, C. (2001). Challenges of sustainable tourism development in the developing world: The case of Turkey. *Tourism Management*. https://doi.org/10.1016/S0261-5177(00)00060-1

Tsaur, S. H., & Wang, C. H. (2007). The evaluation of sustainable tourism development by Analytic Hierarchy Process and fuzzy set theory: An empirical study on the green Island in Taiwan. *Asia Pacific Journal of Tourism Research*. https://doi.org/10.1080/10941660701243356

Var, T., & Gunn, C. (2020). *Tourism planning: Basics, concepts, cases*. Routledge.

Vargas-Sánchez, A., Valle do, P. O., Costa Mendes da, J., & Silva, J. A. (2015). Residents’ attitude and level of destination development: An international comparison. *Tourism Management*, 48, 199–210.

Viljoen, F. (2007). *Sustainability indicators for monitoring tourism route development in Africa*. University of Stellenbosch.

Wijaya, A. (2017). The relationships between Indonesian Fourth Graders’ difficulties in fractions and the opportunity to learn fractions: A snapshot of TIMSS results. *International Journal of Instruction*, 10(4), 221–236.

Woosnam, K. M., & Norman, W. C. (2010). Measuring residents, emotional solidarity with tourists: Scale development of Durkheim, s theoretical constructs. *Journal of Travel Research*, 49(3), 365–380.

World Commission on Environment and Development. (1987). Report of the World Commission on Environment and Development: Our Common Future (The Brundtland Report). *Medicine, Conflict and Survival*. https://doi.org/10.1080/07488008808408783

Yamane, T. (1967). *Statistics: An introductory analysis*.

Yu, C.-P., Chancellor, H. C., & Cole, S. T. (2011). Measuring residents, attitudes toward sustainable tourism: A reexamination of the sustainable tourism attitude scale. *Journal of Travel Research*, 50(1), 57–63.

Zaidan, E. (2016). The impact of cultural distance on local residents perception of tourism development: The case of Dubai in UAE. *Turizam: Međunarodni znanstveno-stručni časopis*, 64(1), 109–126.

Zhuang, X., Yao, Y., & Li, J. J. (2019). Sociocultural impacts of tourism on residents of world cultural heritage sites in China. *Sustainability*, 11(3), 840.

Bell, S., & Morse, S. (2008). *Sustainability indicators Measuring the immeasurable?* (2nd ed.). Earthscan Publication for Sustainable Future.

Brida, J. G., Osti, L., & Faccioli, M. (2011). Residents’ perception and attitudes towards tourism impacts. *Benchmarking: An International Journal*.

Doxey, G. V. (1975). A causation theory of visitor-resident irritants: Methodology and research inferences. In *Sixth Annual TTRA Conference*.

Eagly AH, C. S. (1993). (2000). The Psychology of Attitudes. Fort Worth, TX: Harcourt Brace.

Halvitigala Ihala Gamage, C. K. (2016). *Challenges to Implementing Community Based Ecotourism (CBET) as a Bottom up Development Approach in the Sinharaja Rain Forest (Sri Lanka)*. University of Waikato.

Census Handbook. (2011). *District census handbook Anantnag, Jammu and Kashmir*. Govt of India.

Huang, W. (2011). Good practice in sustainable tourism: Developing a measurement system by providing a model assessment procedure. *IEEE Master Thesis*.

McDougall, G. H. G., Munro, H., & others. (1987). Scaling and attitude measurement in tourism and travel research. *Scaling and Attitude Measurement in Tourism and Travel Research*, 87–100.

Shah, S., Dada, Z., & Wani, M. (2016). Climate variations and visitation: An interplay between seasonality and tourist influx in Ladakh. *Tourism Innovations*, 6(2).

Singh, J., Gorea, R. K., & Aggarwal, A. D. (2005). *Victimology of high altitude pilgrimage*. Cabi.

Swarbrooke, J. (1999). *Sustainable tourism management*. Cabi.

UNWTO. (2018). *UNWTO Tourism Highlights. International Tourism Trends 2017*. *United Nations World Tourism Organization*.

Vehbi, B. O. (2012). A Model for Assessing the Level of Tourism Impacts and Sustainability of Coastal Cities. *Strategies for Tourism Industry - Micro and Macro Perspectives*.

Walley, K., Custance, P., Orton, G., Parsons, S., Lindgreen, A., & Hingley, M. (2009). Longitudinal attitude surveys in consumer research: a case study from the agrifood sector. *Qualitative Market Research: An International Journal*.

Wang, Y., & Pfister, R. E. (2006). Residents’ attitudes toward tourism development: A case study of Washington, NC. In *Proceedings of the 2006 Northeastern Recreation Research Symposium*.

Wani, A. Y., Kirmani, N. R., Khan, H. M., Arif, O., Banday, M. T., & Paul, M. A. (2021). Socio-economic status of Ponywallas associated with Shri-Amarnath Yatra and ecotourism in Kashmir valley. *The Indian Journal of Animal Sciences*, 91(11).

World Travel and Tourism Council. (2019). *Travel and Tourism: World Economic Impact 2019. Current Issues in Tourism*.
WTTC. (2018). Economic Impact 2018. *Travel and Tourism*.

**Publisher's Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Springer Nature or its licensor holds exclusive rights to this article under a publishing agreement with the author(s) or other rightsholder(s); author self-archiving of the accepted manuscript version of this article is solely governed by the terms of such publishing agreement and applicable law.