Documenting Local Food Knowledge at Hindukush: Challenges and Opportunities

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Abstract: Local knowledge on food heritage is an important asset of communities in Hindukush Mountains of Pakistan. Literature is scarce on recording local food knowledge (LFK) and the associated challenges; therefore, to partially fill this gap of knowledge, the current research study presents an overview of some of the prominent challenges that curb documenting local knowledge on food heritage among various communities in the region. Qualitative data were gathered through direct observations during ethnobotanical research work across the region. The current research reveals that the complex sociocultural and political circumstances, in one way or another, might be impacting the recording of the LFK in the study areas. For instance, I have found that the fragile security circumstances in the western belt of the country is one of the obstacles that do not fully allow researchers to get access to the local communities. The lack of educational understanding among the local communities, especially those who are living in rural areas, has been creating a gap of communication between researchers and the communities. It is worth mentioning that globalization and social change have also changed the perception of the people regarding the local food resources and attached local knowledge. In addition, the policy issues linked to social science research in the country also have an indirect effect on community-based research, which does not encourage researchers to explore meaningful research findings. Hence, to deal with all these challenges, in this article, I propose some possible solutions to protect the local food heritage and practically revitalize the local/traditional knowledge through future development programs, as this knowledge is very important for combating future food insecurity.

Keywords: food heritage; NW Pakistan; local food knowledge; local communities

1. Introduction

The Hindukush region is populated by a myriad of ethnic groups including ethnic minorities; for instance, the Kalasha, Yadgha, Ormur, Brushu, Dehwar, and Hazara, who have rich knowledge of traditional/local food-centered cultural heritage and related ecological practices [1–6]. Local knowledge on the surrounding environment has been crucial in sustaining their livelihoods in these fragile socioecological environments for generations. The remoteness and hard topography in many parts of the region have always challenged food mobility; therefore, local food resources still present a vibrant arena for food production in these rural mountain territories [5,6]. The region could be recognized as “biocultural refugia” [7], where food is locally produced and the local ecological knowledge (LEK) on the food resources has a pivotal role in combating food insecurity in times of hardships. Little attention has been paid by scientists to document the food cultural heritage among the various ethnic groups residing in the region except for a few recent ethnobotanical studies that have only recorded the food heritage on wild food plants (WFPs) [5,6,8–10]. Hence, the scarcity of literature on documenting food heritage in the country does not only prevent us from fully understanding the cultural food diversity across the region, but it also creates a big gap of knowledge to reflect on the actual ground realities and the associated challenges.
of documenting and protecting the local food heritage so far. In general, given the complex social, cultural, political, and economic circumstances of the country, it has always been a challenging task for social science researchers to do research and overcome the various obstacles and have in-depth scientific discussions on the underinvestigated topic [11,12]. For instance, besides many others, the administrative mismanagement has also acted as a barrier to educational understanding among local people, especially in remote areas [11], which creates a gap in cross-communication and hinders appealing research findings to be recorded from the local population, especially in rural areas. Although the country contains islands of successful modernity in urban areas, where people are well educated, can communicate in a better way, and are much more aware of their social responsibilities, there are, however, numerous instances in which the mosaic pattern of challenges including vague government policies, in one way or another, keep the majority of the population away to make an exchange of meaningful information with non-native researchers and share their knowledge. Consequently, this has created an ambiguous societal situation for the local communities to enjoy and expand on their social networks which indirectly affect the domain of social sciences to explore cultural realities including food heritage too.

Based on my field research experience with various cultural groups in North and West Pakistan, I assume that different factors may prevent, or may have prevented, the proper documentation of the LFK, which differs from area to area and from group to group. The aim of the article is to empirically explore the different challenges that impact in some way the documentation of the LFK in the Hindukush region. I affirm that the qualitative observational study could help the audience to understand the complex web of sociocultural and political dynamics which may have challenged, either directly or indirectly, the exploration of food heritage in these mountain regions. However, I do not consider my reflections as final remarks on the subject, as there is always room for further debate and a wide array of systematic information is needed to fully explore the related dynamics.

2. Methods

The data on the existing challenges in documenting LFK were gathered through qualitative observations during field ethnobotanical surveys from 2019 to 2021. The data were collected from different study sites while researching LEK on WFPs in North and West Pakistan, i.e., Gilgit-Baltistan, Chitral, South Waziristan, and NW Balochistan. In the planned ethnobotanical studies, the main focus was to record the LEK among different ethnic groups and to explore the impact of linguistic and religious affiliations on the transmission on it, but in addition, I have also recorded the data on the associated challenges that hamper recording LFK in these regions. The ethnobotanical data have already been published in different research articles and can be found online [1–6]; therefore, in this article, I have exclusively focused on the existing challenges, which I presume are barriers to recording LFK in the study region. The current study, however, also gives a short reflection of the remarkable LPK that have been retained by the different ethnic groups in the next section.

3. Results and Discussion

3.1. Diverse Cultural Food Practices

Food ethnobotanical studies revealed that the different linguistic and religious groups in NW Pakistan have retained tremendous cultural knowledge on the use of WFPs and related local ecological practices. During my research work across the Hindukush in NW Pakistan (Figure 1), I recorded 159 WFP and mushroom taxa that were used in traditional food systems among the different cultural groups. Most of the recorded plants were either used as raw snacks (38.69%), and as cooked vegetables (32.18%), while the other culinary preparations include teas (13.42%), seasonings (6.48%), salads (9.72%), lacto-fermentation (1.5) and minor parts (3.7) of other food preparation.
Some of the important plants which were frequently reported among the different communities were *Allium carolinianum* Redouté, *Amaranthus* spp., *Chenopodium album* L., *Asphodelus tenuifolius* Cav., *Carum carvi* L., *Descurainia sophia* (L.) Webb ex Prantl, *Eremurus* sp., *Goldbachia laevigata* DC., *Lepidium draba* subsp. *Chalepense* (L.) P.Fourn., *Malcolmia africana* (L.) W.T. Aiton, *Portulaca oleracea* L., *Rumex dentatus* L., *Silene conoidea* L. *Allium* spp., *Portulaca* spp., *Urtica dioica* L. *Taraxacum campylodes* G.E. Haglund (see [1–6]). I also cross-culturally compared the food uses of the WFPs among the different studied groups which revealed a remarkable homogenization of LPK, apart from a small number of divergences recorded among a few of the linguistic minority groups. The sharing of plant knowledge, therefore, may be considered a phenomenon of cultural assimilation and standardization to the dominant culture within multicultural environments. I have observed that the LPK among ethnic minorities is quite threatened; therefore, it should be protected and celebrated in future development programs. These findings indicate that the local communities have remarkable local knowledge on wild food resources and here I have provided some of the pictures of traditional foods taken during the survey (Figure 2).

![Figure 1](image1.png)  
**Figure 1.** The author during a visit to a remote mountain Valley in Chitral.

![Figure 2](image2.png)  
**Figure 2.** Some of the locally prepared food and herbal drinks.
3.2. Challenges in Documenting LEK

3.2.1. Sociocultural Problems

Field research work is a difficult task, especially when it involves collecting data from the local communities. People very often avoid engaging in an interview for various reasons. Particularly, gender segregation is a concerning issue for researchers during data collection, which impacts recording reliable information on the topic being investigated. Approaching various study participants for interviews in North and West Pakistan, one of the problems I faced was interacting with women participants which I truly believe not only affected the research sample at certain locations but it has been an obstacle in getting in-depth information on the local food heritage among the studied populations. Among the different studied groups which include the Sunni, Shia, Ismaili, and Kalasha, I found prominent gender segregation among the Sunni population and observed strict practice of the Parda (Veil) among the women and even elderly women were not allowed to have an interview with an unknown man [5,6]. Researching the wild food plants’ (WFPs) related knowledge among the Ismaili and Kalasha communities, I did not face any problems and I have been given full support by each of the households. The Sunni people were very sensitive to the involvement of women in interviews. There were certain participants who affirmed the fact that many plant-based food recipes could be better described by women, as some male participants were not able to correctly mention them. Even at some points, men were not able to name certain food plants and they described that women know better about the traditional food knowledge but we cannot let them participate in the interviews. It reveals that I have probably missed recording some crucial information regarding the use of certain food ingredients among the studied populations. It is worth mentioning that women are recognized as important knowledge holders in these areas, as they are involved in cooking and know more about local food ingredients than men. Given the specific sociocultural context of many Pakistani societies, women are primarily responsible for cooking; therefore, it is more likely that they retained more knowledge than men.

3.2.2. Fragile Security Circumstances

The western belt of the country has been hit rudely by military conflicts for the last two to three decades and this fragile security situation has made the environment uncomfortable for local communities [13] who always live in a state of fear and tend to avoid interacting freely with outsiders. Most often, the outsiders are considered spies and therefore the local people do not put their trust in them. People always tend to avoid openly sharing information with an unknown person. Working with the different ethnic communities in the area of Balochistan, I have observed that people were scared to share their information, particularly among the Baloch community who were very resistant to interacting with an unknown person. In one of their camps near the city of Quetta, Baloch, people warned me and asked me to leave the camp area. Consequently, I had to go to another district to interview the Baloch community. Interviewing the Hazara ethnic minority was quite a challenging task in the city of Quetta. It is relevant to mention that the community has been the victim of many terrorist attacks and has suffered an extraordinary human-life loss for the last two to three decades. The Hazara community is an important diaspora and arrived in the last century from Central Afghanistan, bringing an important array of cultural practices related to food ingredients. Upon entering their towns, the armed forces and security agencies kept close eyes on everyone; hence, I felt it was hard to engage with them to fulfill my research objectives. I perceive that the security instability makes it hard for the Hazaras to freely practice WFPs foraging which, in turn, has a negative impact on the core body of traditional/local knowledge related to food. In the city of Mastung, people suggested that I had to avoid interviewing people as some of the outsiders were killed by unknown terrorists in the past years. Traveling towards Qalat, on the way, my field guide instructed me regarding communicating with the local people and he confirmed that it would be better if I do not speak anything until I get a reliable person to be trusted. Similarly, traveling in the Waziristan region for a field ethnobotanical survey, I heard some rumors
from local people that some of them referred to me as an agent of foreign states. People asked me several times about my identity in order to make sure that I am a researcher and belonged to the same area, which I perceived as a huge challenge in documenting the LFK.

Along my way to the Ishkoman Valley in Gilgit-Baltistan, and along Broghil Pass in Chitral, the security personnel were quite concerned about my research activities. In light of all these obstacles, community-based research is really a challenging task and researchers will have to go through all these obstacles to properly document LFK. It is quite upsetting to learn that the local knowledge on traditional foraging is also affected by the fragile security situation among some populations. In the Kalasha Valley of Hindukush, local informants confirmed that a few years back terrorist attacks had lain down a young men of the Kalasha community. In the aftermath, the Kalasha people took certain measures and made restricted their local ecological activities. They mostly abandoned foraging and collecting non-timber forest products in the remotest part of the Valley which, in turn, could make significant impacts over the body of LEK, including LFK linked to wild food resources. During the COVID-19 pandemic, I have also experienced problems in getting to some valleys. On the way, police officials stopped me and they were not able to allow me access to the area and I was referred back. I was supposed to have special permission granted by the high bureaucratic authorities from my hometown. There were no particular protocols to facilitate researchers and I spent research money for nothing as I was already short with research funds. These problems have placed unprecedented effects on my research activities.

3.2.3. Globalization and the Social Change

The impact of globalization and social change can be easily seen even in the very remote mountain areas of the country. People can have easy access to the local food markets. Our food ethnobotanical literature has confirmed that the biocultural heritage especially linked to the use of WFPs is highly threatened [1, 5]. In light of the findings of my years of research work, I argue that the food-centered biocultural heritage is quite threatened and this has been greatly disturbed by the invasion of food markets and food mobility. Globalization has changed the perception of value regarding wild food ingredients among the local communities. For instance, in some places, I have observed that people recognized WFPs foraging as an outdated ecological practice. Researching the food heritage, many of the participants were not interested in sharing their knowledge about the traditional food heritage. It was frequently mentioned by the informants that we do not need to use wild food ingredients anymore as we can easily get food products from the local shops or markets. In the area of Waziristan, I have found that people have even abandoned the local horticultural practices in most parts of the region and this could be perceived as a potent threat to their future food security. The abandonment of this kind of local ecological practices is indirectly putting an immense impact on the transmission of LEK, including the knowledge on food heritage. The disappearance of certain wild food ingredients among many cultural societies is in an alarming situation [1, 3, 5] and it certainly not only affects the future food sovereignty but also challenges the core body of local or traditional knowledge on food heritage. Globalization is the main issue that convinces people to get commodified food products instead of local food production or gathering and hunting. For instance, Fontefrancesco and Pieroni [14] have highlighted in their study from Western Alpine Valley in Italy that the local herbal knowledge has been highly affected by globalization and many old uses have been replaced by new uses and this inspiration was possibly taken from the new urban residents in the study area. In Pakistani Hindukush, I have seen that the younger generation is most often unaware of the importance of some commonly used food plants that are found around the villages. Therefore, policymakers should take better initiatives to protect the LFK for the future generations that could help them in getting sustainable food systems.
3.2.4. Lack of Educational Understanding

I have perceived the lack of educational understanding which has prevented the people from engaging in meaningful interactions during interviews and discussions. People recognize research or education as a meaningless entity. The lack of educational understanding could be referred to a variety of issues in which the most important is the passive role of state administrative bodies who define and implement rural policies. For instance, in Balochistan, the Sardari system has made many local communities persecuted [15] and people are deprived of their basic rights including education. In most parts of the region, some tribes are highly marginalized and this situation makes it hard to make social vibes with them and discuss with them the local cultural realities.

Moreover, at some places during my research mission in the Kalasha Valley of the Hindukush, I have observed some people who asked me for financial help so as to exchange and share their knowledge and information on food heritage, which indicates how it challenges a scientific inquiry and how difficult it is for a social scientist to deal with the complex situation. I believe that the lack of proper economic incentives for the local communities in the prevailing policy frameworks for ecosystem and resource management have made the people less interested in sharing or keeping alive their local cultural knowledge. I also found that the lack of economic stability also plays a major role in understanding the value of education and related practices. The poor economic status still keeps many traditional communities far behind in realizing the importance of their local cultural heritage, especially in many parts of Balochistan. I believe that the lack of awareness about the importance of local food practices is a threat to documenting and preserving the LFK. State authorities and relevant stakeholders are responsible for not propagating public awareness to protect and promote local biocultural heritage. UNESCO should have to keep a close eye on the cultural heritage and relevant policies in Pakistan which is very crucial for achieving the sustainable goals in the future.

3.2.5. Social Science Research in Pakistan—Gaps to Be Filled

Above all, social sciences have been facing immense challenges in Pakistan. Social science research does not succeed to attract much more attention from policymakers and funding bodies. Social science research is less valued and it is considered a subject of having fewer personal benefits to scientists and many students have to switch their educational careers to natural sciences. The Higher Education Commission (HEC) of Pakistan very often sponsors research projects in natural sciences; therefore, social science could hardly make its place [16]. The authorities are also focusing on research projects which have immediate and widely applied results on society and the Commission is highly selective in granting research funds to scientists. Consequently, this kind of policy measure creates a kind of polarization in the educational and academic spheres. Reports have shown that a huge amount of research funds have been granted to research projects in physical sciences. For example, I have some affirmations that economists play policy-relevant roles, unlike political scientists, anthropologists, historians, etc. and that is why economics dominates the social sciences in Pakistan [12]. The lack of funding grants is one of the major issues that does not encourage social scientists to expand their spectrum of knowledge and scientific explorations and ideas. It is important to project that one of the main problems that I have seen was the economic instability which has been a barrier to document the local food heritage. My field research experience revealed that in the economic instability in the time of the COVID-19 pandemic and then during the post-COVID time, researchers are really facing financial issues and the HEC has no solid plan to resolve these problems. I argue, in light of this discussion, that the documentation of food cultural heritage is a great challenge to cope with because institutions have no meaningful contribution to advancing the domain of community-centered research and this is most often done by individuals who happen to be based there. Other problems include the lack of a culture that is helpful in promoting free-floating discussion and debate among the institutions [17].
4. Conclusions and Proposed Solutions

The current study gives an empirical overview of the complex sociopolitical problems that challenge documenting the LFK. It is necessary to work in different directions to protect the cultural heritage. Given the complexity of documenting local food heritage among the local communities, we need efforts to be made in educational spheres as well as on a community level. For instance, in educational corridors, we need to better structure and design the food and environmental education. One of the possible solutions is to institutionalize LEK on food practices. A place-based curriculum should be designed and taught in schools. A pluralistic and integrative educational approach can effectively engage all the relevant stakeholders including the local communities for protecting and promoting local food practices and cultural heritage. However, this is a huge jump for solving these issues, but is not too far to achieve the main goal if the authorities are willingly taking on their initiatives.

On the community level, we should encourage food festivals which will have an effective role in revitalizing the LEK and practices. We should know that food festivals are not just events aimed at commodifying LEK, but they can be used as an important tool to reshape and maintain local wisdom and expertise, which is very crucial for social cohesion and cultural sustainability [18]. Francesco has emphasized the food festivals in order to read out the local response of marginal and rural societies and this could be helpful in designing better management strategies for countering their marginalization [19]. For instance, incentive-based measures are required to help local communities strengthen their sense of responsibility and own the importance of their cultural heritage. It requires trained people and this training could be institutionalized. Higher secondary schools could provide a possible platform where students should be assigned the task of know-how regarding local food heritage. Aziz et al. [20] has found in their study a potential for place-based education, aimed to revitalize this heritage in schools, such as study trips, traditional food day celebrations, developing herbaria, art competitions, and the introduction of food scouting. Place-based initiatives thus present a vibrant arena to produce emerging and trained focal persons, which could be known as “food heritage ambassadors”, and they can play a better role in this regard. Especially, girls should be involved in the knowledge-transmission process as it would be an easy approach to deal with women who have reputed knowledge of food heritage. Women who are reputed LFK holders should be invited to schools to get them involved in the process of revitalizing the fading cultural entity and this could be the possible alternative/option to promote food scouting across these geographies.

Further ethnographic studies should be focused on co-producing and co-creating new strategies for protecting the food heritage in order to achieve the goals of the 2030 Agenda for Sustainable Development.

It is worth mentioning that local cultural food practices should be brought in the framework Ark of Taste. The Ark of Taste is one of the many best biocultural conservation strategies being forwarded forth by Slow Food International [21]. The government of Pakistan should have a clear agenda about those disappearing food cultural practices and make national contact with Slow Food International. It is important to consult ethnobiologists in this regard to protect and preserve the cultural food diversity. I argue that these practices will not open a potential arena for the effective transmission of LFK but it will also create an atmosphere for the local communities to endorse the importance of their biocultural heritage. Local communities should be educated on the subject of cultural heritage. UNESCO is striving to protect the biocultural heritage and should also take certain measures in this regard. Regional offices linked to UNESCO should watch and revise their initiative in the country and especially its rural areas in order to effectively implement their policies. I would also suggest that the European Research Commission (ERC) should also come forward and establish links for promoting community research initiatives that could be beneficial not only for cultural preservation but it will also encourage native researchers in researching food cultural heritage.
Lastly, the local security authorities should revise their protocols in order to facilitate researchers instead of preventing them from entering some of the regions which are populated by important ethnic groups.

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