

Indigenous practices of Women for Sustainability: A QDA based Word-Cloud Analysis

Taseer Salahuddin¹

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ABSTRACT

This paper explores the vital contributions of indigenous knowledge and practices among home-based women entrepreneurs in Pakistan, emphasizing their role in fostering sustainability across generations. Through a qualitative approach, the study involved fifty-six semi-structured interviews with women from diverse ethnic backgrounds to examine their sustainable practices rooted in indigenous knowledge. Thematic coding and QDA Miner Lite software were used for data analysis, revealing key contributions and challenges in preserving these practices. Findings highlight significant contributions across various social themes: Environmental Sustainability, Poverty Alleviation, Physical and Mental Health, Quality Education, Reduced Inequalities, Economic Freedom, and Water and Sanitation. Each theme corresponds to specific activities or values, illustrating their prevalence within the community. For example, women's entrepreneurial roles and handicrafts enhance Environmental Sustainability, while resource conservation efforts aid Poverty Alleviation. Emotional stability and indigenous practices promote health, and Quality Education is enriched by values like kindness. Economic freedom is linked to labor roles and educational opportunities, with water provision addressing community needs. Overall, these interconnected themes underscore the impact of home-based women in enhancing well-being and sustainability, suggesting that recognizing their roles can lead to effective strategies for promoting gender equality and achieving Sustainable Development Goals.

Keywords: *Women inclusion, community empowerment, ethnographic research, Participatory approach, Sustainability.*

JEL Codes: O13, Q01, Q56, Z13, J15, J16, O44, R11

1. INTRODUCTION

There is a burgeoning interest in indigenous knowledge and practices, largely driven by the pursuit of sustainable development. This interest stems from the recognition that indigenous knowledge plays a crucial role in establishing and maintaining sustainable, environmentally friendly practices across generations. The United Nations Sustainable Development Goals (SDGs) are designed with a vision to transform our world, aiming to eliminate hunger, poverty, and disease. These goals advocate for gender equality, access to essential services such as quality education, livelihood

¹ Dr Taseer Salahuddin, Associate Professor, Government Sadiq College Women University, Bahawalpur, Pakistan Post-doctoral Fellow, Ibn Haldun University, Türkiye. drtaseer@gscwu.edu.pk ORCID 0000-0002-5098-893X

opportunities, social inclusion, and environmental safety. They envision a world characterized by safety, prosperity, justice, respect, freedom, sustainability, and peace, free from discrimination based on religion, caste, creed, color, culture, race, ethnicity, or ability.

This paper examines the contributions of indigenous knowledge and practices among home-based women in Pakistan, focusing on their role in fostering sustainability across generations. Pakistan, a predominantly Muslim country rooted in the Indus Valley, emerged in 1947 following the end of British colonial rule. Its rich history and cultural diversity encompass a wide array of ethnicities, sharing linguistic, ecological, socioeconomic, and religious ties with neighboring nations. Strategically located, Pakistan serves as a bridge between Central Asia and Western nations.

With a population of approximately 232 million, of which 49.2% are women, Pakistani home-based entrepreneurs significantly contribute to domestic food preservation techniques (including chatneys, murabas, achar, sawayan making, and meat and fruit drying) and handicrafts (such as embroidery, tie-dye, stonework, block printing, pottery, and glass painting). They also engage in straw weaving (producing pankhis, baskets, chabis, and chikus) and shoe making (including khusa, chapal, and kulapuri). Furthermore, these entrepreneurs employ effective traditional health care practices, enhancing the overall well-being of their communities.

This vision is of great significance to the over 3905 million women (49.58% of global population) worldwide (United Nations, n.d.), who have evidently suffered severe inequalities and majority of whom still face exploitation exclusion and marginalization. Even though improvements are being made to eradicate deprivations, nevertheless, women remain in the most deprived categories, despite being almost half of the global population (Meena, 1992). Their traditional practices, livelihoods and indigenous ways of life are increasingly under threat due to a multitude of factors, like lack of inclusionary public policies, lack of recognition and protection of their rights and the impacts of environmental change (Buallay et al., 2022). Discrimination in labor market, poor access to resources, lack of empowerment, forced marriages, exclusion from inheritance and traditional natural resources and land have made them even more vulnerable in economic and social terms (Braidotti et al., 1994).

Since time immemorial woman have played a central role in familiar decision making, taking care of families, and optimizing available resources for best possible resource allocations. Irrespective of the culture or geographical distribution, responsible of raising new generation and taking care of aging generation falls on shoulder of women (Hareven, 1994). Overtime women developed their own indigenous practices which were optimal for their own circumstances and helped them allocate resources to the best of their use. These practices not only have micro but also long-term macro level impacts on sustainability environmental protection, climate change, equality, health, social inclusion and removing deprivations. These, in a subtle way help achieve sustainable development goals in UN summit in 2000. On 25th Sept, 2015 MDG's were ungraded to much broader SDG's by UN general assembly, when it adopted Agenda 2030 for sustainable development (Nation., 2015). Development of SDG's in based on the realization that resources in the world are limited and if not used responsibility will result in disastrous consequences for us and our future generations. Sustainable economic development cannot be achieved without setting smart achievable goals. Currently more than 50 percent global population comprises of women. Therefore, ignoring the role of women while discussing sustainable development will be of no

avail. Role of women in every SDG is interlinked in a dual way. Although it is very difficult to separate the impacts and intentions of indigenous practices of women with respect of each sustainable development goals, we have tried to categorize our discussion for better understanding.

Pakistan is one of the marginalized and very much patriarchal societies where women despite their major social, familial, and cultural contributions have been kept deliberately under shadows. Pakistani women are 40.52% of 233.9 million of the country (*Pakistan Population (2023) - Worldometer, 2023*). Like many South Asian countries where women as mothers, wives, sisters, and daughters have major familial responsibilities on their shoulders, Pakistani women are also playing these roles. Rural women are even more active in economic and social spheres as compared to their urban counterparts (Salahuddin et al., 2018). Contrary to the popular image of down trodden, uneducated and enslaved version, women of Pakistan are very aware, socially, politically and economically contributing effectively (Salahuddin & Ahmad, 2017). However, sadly due to factors like male dominance, ego, religious excuses and cultural limitations, their efforts have never been recognized the way they should have been.

Indigenous practices of women, in particular, are exposed to multiple forms of discrimination and exploitation due to lack of knowledge, ignorance and capitalistic market strategies (Bayeh, 2016). The Sustainable Development Goals (SDGs) framework is a hope that their indigenous practices and contributions are recognized in establishing and contributing towards more sustainable and equitable development around the globe.

2. METHODOLOGY

This study employs a qualitative approach to explore the role of indigenous knowledge and practices of home-based women entrepreneurs in promoting sustainable lifestyles in Pakistan. The methodology revolves around data collection, thematic coding, and analysis using QDA Miner Lite software alongside word cloud generation to identify major contributing areas.

2.1. Data Collection

Data was collected through semi-structured interviews with home-based women entrepreneurs across various regions of Pakistan. Fifty-six in-depth interviews were conducted before saturation point for factors being identified as roles women played in establishing indigenous practices for sustainability was reached. A purposive sampling method was utilized to ensure a diverse representation of ethnicities and practices. The interviews focused on the following aspects:

- Indigenous knowledge used in sustainable practices.
- Specific contributions to sustainable lifestyles.
- Challenges faced in preserving and transmitting these practices.
- Perceptions of the impact of their practices on the environment and community.

Each interview was audio-recorded, subsequently transcribed, and anonymized to protect the participants' confidentiality.

2.2 Data Preparation

The transcribed interviews were prepared for analysis by ensuring clarity and consistency in the text. An initial reading of the transcripts was conducted to familiarize the researchers with the content and context of the responses.

2.3 Coding and Analysis

QDA Miner Lite software was utilized for the coding process. The coding involved two main steps:

2.3.1 Initial Coding

A line-by-line coding of the transcriptions was performed to identify recurrent themes and significant patterns. This phase focused on extracting relevant quotes and concepts pertaining to the sustainable practices and indigenous knowledge conveyed by the participants.

2.3.2 Focused Coding

In this phase, the initial codes were refined and grouped into broader categories that represented key aspects of women's contributions to sustainable lifestyles. This included themes such as food preservation, handicrafts, health practices, and environmental stewardship.

2.4 Word Cloud Analysis

To visualize the data and highlight the most significant themes, a word cloud analysis was conducted using the QDA Miner Lite software. This analysis quantified the frequency of terms associated with sustainable practices and indigenous knowledge. The resulting word cloud prominently displayed the most recurrent terms, facilitating an understanding of which areas are most emphasized by the participants.

2.5 Interpretation of Findings

The coded data and word cloud results were interpreted to draw connections between indigenous practices and sustainable lifestyle contributions by women entrepreneurs. These interpretations were further contextualized within the framework of sustainable development goals, ensuring alignment with the objectives of promoting gender equality and environmental sustainability.

2.6 Validation and Reliability

To enhance the validity and reliability of the findings, member checking was employed, wherein participants were provided with a summary of the findings for their feedback. This process ensured that the interpretations reflected the participants' perspectives accurately.

By employing these methodological aspects, the study aimed to contribute a nuanced understanding of how indigenous practices among home-based women in Pakistan facilitate sustainable lifestyles within their communities.

3. RESULTS AND DISCUSSION

'Indigenous knowledge' as a concept was initially used in the context of being natural, wild, or primitive in the western literature for the native. Indigenous knowledge refers to the knowledge possessed by the local or aboriginals not due to some formal education or scientific research but due to everyday life experiences gathered over generations and historically preserved. It is the 'native' way of knowing. This probably develops by the natives due to the development of understanding of themselves, their environment and interaction between the two. All this knowledge about the culture, plants, animals, beliefs, values, and the past help them understand life better and to develop sustainable practices. This sustainability that they achieve via practices not only protects the environment but also the people themselves (Semali & Kincheloe, 2002).

To develop a sustainable and respectful relationship between us and our nature we need to grasp diverse cultural ways of understanding the nature itself. There are three distinctive ways of doing this i.e. an indigenous way (as natives used to do); a neo-indigenous way (as we can revive practices based on native knowledge and historical practices); scientific way (Eurocentric approach to knowledge) (Briggs, 2005). No culture can be represented completely via any one of these ways of understanding knowledge. To better comprehend a heterogeneous, epistemological, value-based worldview, a combination of these ways should be used (Aikenhead & Ogawa, 2007). Post-colonial world encouraged scientific way of knowledge alone, but time has shown flaws with this strategy of isolated approach. Eurocentrism and development of science as a new god in 19th century industrialization and commercialization overshadowed these indigenous practices and knowledge. Everything that was non-scientific was ignored as being voodoo or outright primitive (Zaman, 2005); (Salahuddin et al., 2021). Today Indigenous people from Latin America, Africa, Asia, and Oceania are revisiting their Indigenous knowledge and practices to return address their sustainability. Some are even emphasizing the importance of formally teaching the indigenous knowledge in schools (Semali & Kincheloe, 2002). Therefore, indigenous, and neo-indigenous knowledge and practices are extremely important in attaining sustainability in all aspects of life. Nevertheless, while researching and writing about these practices, de-contextualization of this knowledge should be carefully avoided (Briggs, 2005).

Indigenous knowledge is particularly useful in environmental protection, sustainable use of resources and biodiversity conservation. This is because this sort of knowledge is gathered via historical continuity of observation of complex yet diverse ecological structures within the local context. Indigenous people have depended upon nature for centuries for their survival and they not only are closely bonded with it, but they also understand their utter dependency and coexistence with nature. They know that destruction of nature will mean their own extinction (Gadgil et al., 1993).

Figure 1: Bar chart for Identified Contribution of Women to Sustainable Practices

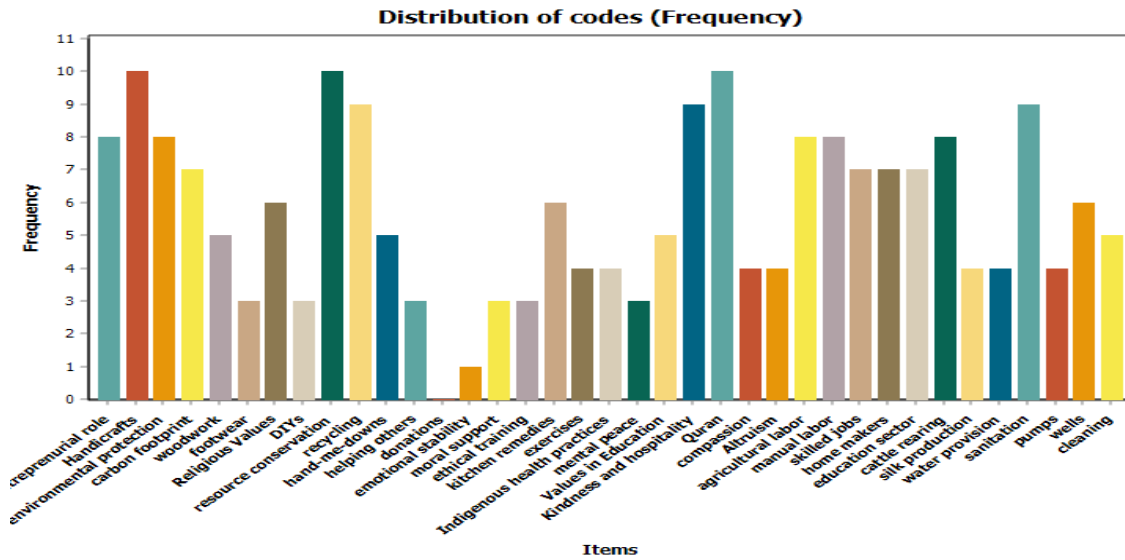


Figure 2: Word Cloud for Identified Contribution of Women to Sustainable Practices



Figure 1 and Figure 2 represent bar chart and word cloud of important indicators of women role in indigenous sustainable practices in Pakistan. The word cloud analysis reveals key themes related to the contributions of home-based women entrepreneurs in Pakistan towards sustainable lifestyles

and the application of indigenous practices. Prominent terms such as "handicrafts," "agricultural labor," and "entrepreneurial role" highlight their economic activities, while "resource conservation," "environmental protection," and "carbon footprint" reflect their commitment to sustainability. Additionally, concepts like "indigenous health practices," "sanitation," and "kitchen remedies" underscore the integration of traditional knowledge in promoting health and well-being. Social values, including "kindness," "hospitality," and "moral support," further illustrate the community-oriented nature of their work, emphasizing the importance of education and skills, as indicated by terms like "values in education" and "skilled jobs." Collectively, these themes underscore the significant role of women in fostering sustainable practices through a blend of cultural heritage and economic contributions.

3.1 Environmental Sustainability and Biodiversity

Environmental sustainability and biodiversity have many and deep-rooted links with gender. Marginalization of women in patriarchal societies has negatively impacted sustainability due to damage to the environmental and bio-diversity (SHIVA, 1992). Women from Pakistan are no different. They have for a very long time played a crucial role in sustainable practices including folk medicine (Tareen et al., 2010). These practices, however, are not always with the intentions of entrepreneurship.

The transformative role of women in preserving and implementing indigenous knowledge across generations is a subject of considerable significance. In Pakistan, women have notably contributed to various domains, including traditional medicine, food processing and preservation, childcare, handicrafts, cultural and value transmission, water and fuel conservation, sanitation, agricultural practices, and home-based entrepreneurship.

This paper examines the contributions of home-based female entrepreneurs in fostering and sustaining practices rooted in indigenous knowledge. The ensuing discussion presents detailed observations derived from qualitative research conducted over a span of one and a half years, encompassing all 36 districts of Punjab Province, Pakistan.

Sadiqabad, a city named after Nawab Sir Sadiq, is adjacent to the Province of Sindh and features a unique blend of Sarakri and Sindhi cultures, interwoven with Punjabi influences. The women of this district exhibit remarkable craftsmanship, creating intricate handmade items for daily use and decorative purposes from straw and grass blades. Among these artisans is Asia Bibi, who operates a micro-finance-based business. Her products include grain sifters (chaj), woven plates (chabian) for serving homemade bread (chapati), woven hotpots (chiku), and handmade fans (pakhian), some of which are intricately designed for decorative wall hangings. The incorporation of glasswork, embroidery, thread, colored cloth, and embellishments with woven straw results in aesthetically pleasing items. Additionally, they produce tablecloths, pillow covers, bedsheets, and other household textiles featuring embroidery and crochet.

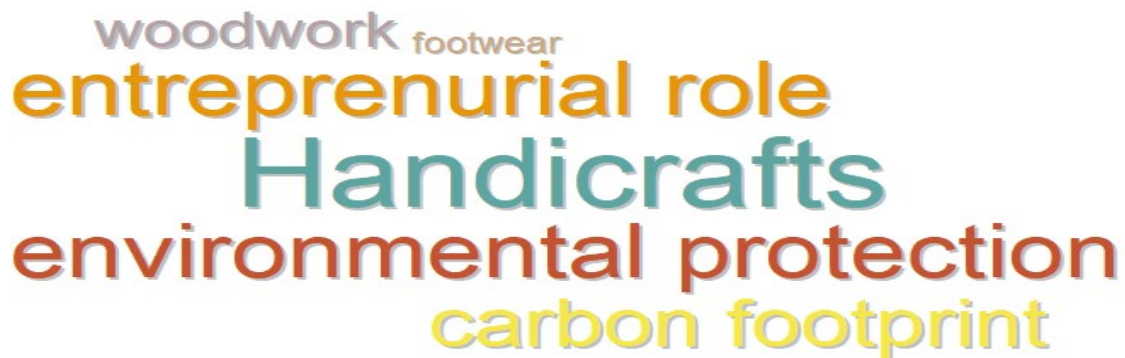
These economic activities serve not only as a source of income for these women but also contribute to environmental conservation by providing biodegradable, reusable, and low-cost alternatives. Most of the items are crafted from natural, organic materials readily available in the environment. Such local industries play a crucial role in reducing the carbon footprint by offering energy-

efficient and cost-effective alternatives to electric fans, plastic, and glass utensils. Asia very proudly told that *“I truly believe that our forefathers were very loving towards nature and used to use resources carefully, today when I sell these things, I feel we help educate people silently to contribute to saving our environment. When people use our products, they do not need to use plastic products that harms our country”*. One could not but agree with her and her level of awareness with almost no formal education was amazing.

Several notable aspects characterize these production activities, primarily rooted in indigenous practices that are unique to this region and not replicated elsewhere in the world. These skills have predominantly been passed down through generations within families for many centuries. Notably, most of these trades are women-centric; while a few skills, such as woodwork and the crafting of footwear (khusa and chapal), involve male artisans, most of the cottage or small industries are either operated by women or employ a significant proportion of female workers.

Moreover, these industries rely on local, environmentally friendly materials, significantly reducing their ecological impact compared to commercial alternatives. The unique nature of these industries not only presents substantial growth potential but also allows for innovations grounded in eco-friendly practices that contribute to climate change mitigation. Such responsible methods of consumption and production align with multiple Sustainable Development Goals (SDGs), thereby promoting sustainable economic development.

Figure 3: Word Cloud for Identified Contribution of Women to Environmental Sustainability and Biodiversity



The word cloud (Figure 3) illustrates key determinants of environmental sustainability and biodiversity, emphasizing the interconnected roles of economic activities and environmental stewardship. Terms such as "entrepreneurial role," "handicrafts," and "footwear" highlight the significance of sustainable economic practices that can reduce environmental impact while promoting local craftsmanship. The inclusion of "environmental protection" and "carbon footprint" underscores the awareness and commitment to minimizing ecological harm, suggesting that these entrepreneurial activities can contribute to broader sustainability goals. Additionally, "woodwork" reflects the importance of responsible resource management, indicating a potential for sustainable sourcing that supports biodiversity. Collectively, these elements demonstrate how local entrepreneurship can serve as a catalyst for environmental sustainability while fostering a respect for biodiversity.

3.2 Poverty and Hunger Alleviation

Not letting anything go to waste and strongly believing in recycling indigenous practices of women are deeply rooted in our religious values. These values directly help in reducing poverty and hunger, saving environment, be it land, water or air and establishing sustainable cities. SDG 1, 2, 6, 11, 12 and 13 are related to the discussion below.

Pakistan is a country of Muslim majority most mothers are raised in religious, or faith connected environment. Wastage of food or any other resource is an absolute No for any decent family. It is a common message given by mothers on dining table to be grateful for the food on the table and to think of those around the globe facing droughts, poverty, and hunger. Only taking as much as we can eat and sharing food with neighbors and needy is considered an important part of a girls' early years training. After marriage every mother-in-law inspects daughter in law for these virtues. It is a tradition to share food with neighbors & people in need on special occasions and even on daily basis. Maids and drivers or house help depends on this food charity to run their kitchens in such high inflation. It is very common for younger siblings to live mostly in hand-me-downs be it clothes, shoes, books, stationary, bicycles, toys, or any other personal use items. Mothers in Pakistan believe that this recycling saves the world unnecessary resource allocations to consumable things and move towards investment and other long term development needs. A female tagged as a 'sughar' (capable) daughter or daughter in law if she has such qualities. These habits are so common in our country that using metal boxes of biscuits and sweets for storage purposes, old jam bottles for spices and empty ice-cream boxes as tiffin or lunch boxes is a common sight in almost all homes be it rural or urban.

Making herbal and beauty products from leftovers and DIYs from scrapes of kitchen is another regular practice in Pakistani homes. Unlike some commercialized countries where products are considered disposable, our homes see electronic appliances being handed over to next generations. I can bet more than half of the Pakistani still has refrigerator, microwaves & washing machines of their mothers from 1980's and 90's still in their homes somewhere.

SDG 1 and 2 for zero poverty and hunger can be attained with the help of charity and kindness. People of my country are one of the most philanthropic people. That is why Pakistan is one of the leading countries when it comes to charity. People have values and beliefs which leads to these high levels of charity in Pakistan. Being Muslims, they believe in helping others. Some believe that if they help others, their own troubles will be resolved, some are superstition and believe that if someone asks and you do not give, something bad will happen to you. This is especially true if the beggar is mentally challenged, a 'dervaish' (holy man) or a transgender.

Women are frequently giving charity as compared to men. They give money to beggars who come to homes. They give away food & other useable items to house help and other beggars, they give charity before travelling, before exam of their children, before a business prospect, their husband's job assignments and even for political decisions in the country. We Pakistani women must all our lives to Almighty and fine 'sadqa' (Charity) as a source to dispel evil.

The subtle charity, which is a constant part of our homes, helps run homes of our home maids & servants. A major Proportion of what they eat, what they wear and even fee of their children and groceries consist of charity from the “bajis” they work for.

It is almost every day one sees the poor people on streets, daily wagers, laborers, street vendors giving charity to people who are poorer as compared to them. This is a lot to do on our religious values being transferred from generation to generation by our mothers.

Pakistan is a patriarchal society and apparently male dominated society. However, if one really digs deeper into our households and power structures, we see that our females have a lot of power within homes. As mothers, sisters and even daughters & wives they influence makes and their decisions in a subtle way. That is why the credit for the charity done by males also goes to women. Mosques, shrines, and social services institutions even big institutions like hospitals and schools are being run on the charity of people of Pakistan. Edhi, Shaukat Khanum cancer hospitals, Fatimid foundation, Al-Khidmat organizations are some of major charity organizations in Pakistan. Majority of their contributors are women (Becker et al., 2015)

Figure 4: Word Cloud for Identified Contribution of Women to Poverty and Hunger Alleviation



Figure 4 shows that poverty and hunger alleviation practices encompass a multifaceted approach that integrates resource conservation, community support, and sustainable living. Key strategies include promoting recycling and the reuse of materials, which not only reduce waste but also lower living costs for families. The practice of sharing "hand-me-downs" fosters a culture of generosity and resourcefulness, enabling families to access necessary goods without incurring additional expenses. Additionally, religious values often play a significant role in motivating individuals to assist others, reinforcing community bonds and collective responsibility. DIY (do-it-yourself) initiatives empower individuals to create solutions tailored to their specific needs, enhancing self-sufficiency and resilience. Together, these practices contribute to a holistic framework aimed at addressing the root causes of poverty and hunger, fostering sustainable development and community well-being.

3.3 Physical and Mental health

In any traditional society faith or value system defines life philosophy and thinking style (Krok, 2015). This life philosophy is the guiding beacon for actions we do or avoid doing in our lives (Sylvan and Gustafsson, 2013). Since industrial revolution in Europe and spread of Eurocentric education system around the globe dependence and reliance on indigenous thinking ideologies has weakened overtime (Mokyr, 2003). Pakistan as a society is no different. Rather due to being a

British colony as a part of Indian subcontinent, our indigenous education system was totally adopted and replaced by Eurocentric ideas (Sareen et al., 2013). That resulted in disconnection between who we were and what we are learning. A total identity crisis for whole generation (Alter, 2003). Identity crisis results in confusions, frustrations and mental health issues (Côté, 2018);(Barnes & Shardlow, 1996). The only connecting factor to our identity is faith and religious values which are being transferred to next generation by mother's (women) again are playing as part of crucial link between our part identity & the new ones we are currently developing. Surprisingly bringing in the indigenous definitions of who we are, is being by both formally educated and uneducated females alike. Zubaida an old lady from central Punjab is one such example. When I was doing narrative enquiries for my doctoral research indigenous definitions of women empowerment, Zubaida met me and changed my whole perspective of what a strong empowered lady looks like. Sitting in my university when I used to think about an ideal empowered lady, an image of a well-dressed, highly educated professional woman leading an independent, luxurious life came to my mind. Zubaida was quite contrary. She was a well-respected, not very financially sound but neat, graceful 'dhoti clad' (unstitched sheet wrapped around waist instead of pants) old lady sitting on 'charpai' (wooden bed) in a village. Not formally educated at all she was guiding her educated daughters how to teach Quran to the poor neighboring kids. There I saw how one uneducated poor lady can raise educated children not only of her own but also of the neighborhood. She told me self-respect, dignity, resilience, and sacrifice for common goals is what makes a person empowered. Her life story was very inspiring.

Not only our mothers instill in us our values and beliefs system, they also help us create mental anchors for emotional stability (Aydognmus et al., 2018). Unfortunately, these indigenous practices of listening to Grandma stories at night sitting in beds just before sleep time is almost eliminated due to breakdown of joint families into nuclear ones and induction of star-plus family politics version into next generations.

Family values of compassion, sacrifice, patience, and resilience, what an eastern woman was known for is being reaped away due to over adaptations of individualism and modern "empowerment" definitions. Where our indigenous trainings gave respect to a female who was tactful enough to maintain family unity has now been replaced with career oriented females with high divorce rates and single mother families (Camarero, 2019); (Nepal and Ramtel, 2020). Unlike West still parental families come to support single mother or divorced (Richards and Schmiege, 1993). However, family unit breakdown leads to increase in social & mental health issues & trauma after effects sometimes even for generations (Sareen et al., 2013); (Kucharska, 2018).

Just like anywhere in the world Pakistani "Grandma" remedies for maintaining physical health and mental stability have been used generations after generations. Some of these indigenous practices are simple to use and easily approachable. Almost all of them are significantly effective ones. Kitchen to Pakistani "Grandmas" was not only for food preparation and provision but their tiny magic potion room for their health wizardries which they taught their daughters and so on. Curing diseases like common colds, cough, stomachache, constipation, little burns, and bruises and much more with natural herbs and spices was crucial and human friendly alternative for too many antibiotics and not so needed chemicals in human body. Scientific research shows how overtime humans and disease causing germs have become accustomed to the available medical drugs and therefore, the ever increasing potency of medicines exists (Palombo, 2011);(Khachatourians,

1998). Home remedies for common issues may have taken a bit longer than antibiotics or steroids-based medicines to take effect but those were not only harmless with zero side effects but also beneficial in multiple ways other than cure of a particular disease. That ensured sustainability of human health in a subtle way.

A shift of the world towards science due to too much faith in logical positivism took away the respect and confidence these indigenous practices once enjoyed. Do not get me wrong I am totally in favor of modern medical treatment and hospitals but when really needed. These days, hospitals anywhere in the world are overburdened due to population pressure (Clements et al., 2008);(Ndayishimiye et al., 2022). But in developing countries like Pakistan medical practice has a culture of its own. Unlike developed countries where health is a very expressive business, no doctor would prescribe unnecessary medicines without proper investigations, in my country patients tend to inform the doctor about their diagnosis but also tell them the names of the medicines they like. Self-medication and availability of drugs over the counter even without prescription at times has led to resistant strains of viruses or bacteria which actually requires 4th generation antibiotics and steroids for recovery even in minor infections (Kumar et al., 2013).

Women played a crucial role, and they still do by handling minor infections at home with harmless out of kitchen cabinet remedies. Another aspect whose they are contributing without realization is to stop or avoid spread of diseases by avoiding unnecessary hospital visits. Hospitals anywhere are packed with germs and diseases of all sorts (Abu-baker et al., 2018); (Tang and Sze, 2019). Again, in countries like Pakistan where cleanliness and sanitation standards are often compromised due to overworked hospitals, patients not being trained in sanitation standards and much more, this issue becomes multiplied. Many a times a patient goes to hospital with a simple flu or cold but due to compromised immune system readily gets infected from the hospitals with something much dangerous (Din et al., 2021).

Indigenous health practices of women in Pakistan ensure health sustainability as it takes away unnecessary burden from over utilized health facilities, stops, or reduces avoidable disease spread, helps restore & maintain compromised immune systems and takes protection against over exposure to chemical-based medicines.

Mostly these remedies were based on indigenous herbs. Some of the common practices include combination of herbal teas like ginger, *saunf* and green tea and “*ajwain*” for colds and coughs and even weight loss. Ginger lemon tea is one of the most used teas for anti-cold (lemon grass) properties.

Hikmat was a medical practice of older days (Dols, 1987). It was believed by Hakims that most of the diseases of human body are linked with the diet one takes and therefore stomach was their main focus mostly (Angoa-Pérez et al., 2020);(Tang and Sze, 2019). Indigenous women health practices of Pakistan are also food related. ‘Tukh Balangao’ (Chia seeds) and ‘Isapaghol’ (Psyllium Husk) are two very effective laxatives and stomachache relievers. Current organic food fashion and weight loss industry is making millions using these very commonly used items from our indigenous practices.

‘Ajwain’ (Carom seeds) is an herb known for its benefits for digestion issues and Stomach gas problem. Little babies which are colic are often given ‘ajwain water’ to help soothe these ever-crying babies.

Turmeric mixed in milk is natural antiseptic given to everyone with cuts & bruises by their mothers. Plus, a paste created with warm mustard oil & turmeric is also applied on wounds to protect them from infections and for quick recovery. Pregnant and lactating are given ‘panjiri’ (A local dish which is made from whole-wheat flour fried in sugar and ghee, heavily laced with dried fruits and herbal gum) and ‘Aisi Kay ladoo’ (Flax seed balls) full of dry fruits, seeds, natural ghee and herbs for strength and recovery too. That helps them gain their energies and babies also benefits from the diet via mother’s milk.

Third Sustainable development goal which is the mental and physical wellbeing is directly impacted by all the above discussed indigenous practices of women in Pakistan. Without any credit or recognition these ladies are doing much contribution in achieving whatever possible in this domain.

Figure 5: Word Cloud for Identified Contribution of Women to Physical and Mental Health



Practices aimed at enhancing physical and mental health are diverse and often rooted in cultural traditions and community support (Figure 5). Engaging in regular exercises promotes physical fitness and contributes to emotional stability, while indigenous health practices, including the use of kitchen remedies, provide accessible and culturally relevant approaches to wellness. Moral support from family and community members plays a crucial role in fostering mental peace, as it encourages individuals to share their experiences and challenges, thereby reducing feelings of isolation. Additionally, ethical training cultivates a sense of purpose and responsibility, further enhancing mental well-being. Collectively, these practices create a comprehensive framework that addresses both physical health and mental resilience, promoting overall well-being within communities.

3.4 Quality Education

A Muslim is supposed to get education from birth to death. Our mothers alongside formal education opportunities also provide us constant training & informal education of “Quran” and

“Sunnah” of our Prophet (P.B.U.H). They train us in values like compassion, understanding, empathy, self-respect, tolerance, sharing, kindness, discipline, and resilience etc. Teaching Quran to own children and to the children of neighbors is still done in many households of every community by women in Pakistan. They are called “Qariya” the one who recites. This name is given to them due to their training in reciting Quran. We are not nature Arab’s and Quran is in Arabic. In every Muslims household around the globe formal training in Quranic Arabic and grammar is a must. Not only these “Qariya” train children especially girls in Arabic and Quranic text but also teach the above-mentioned values based on Quranic teachings. ‘Islam’ means ‘peace’. This is a religion of tolerance and peace. Although this may be a hard to digest fact based on Islamophobic times we live in these days.

If you listen to many travel bloggers and vloggers who visit Pakistan, one thing is common and that is the kindness and hospitality they experienced in Pakistan. From (KPK) Khyber to Karachi (Sindh) anywhere you go these values of brotherhood, kindness and hospitality is universal to all Pakistan. Our mothers are the ones behind in inculcating these values in the culture of our country. Pakistanis are the highest charity giving nation in the world (SeedOut, 2022). People like Abdul Sattar Edhi are our proud heritage. These people are born when a mother trains her child to share his school pocket money with a needy fellow at recess time. Unfortunately, in the times of competition some of these indigenous trainings have been overshadowed by the need to be “first”. Mothers teach never return a utensil without reciprocal food gift to a neighbor; never to return a beggar without help; to always live with altruism at least instead of selfishness.

Figure 6: Word Cloud for Identified Contribution of Women to Quality Education

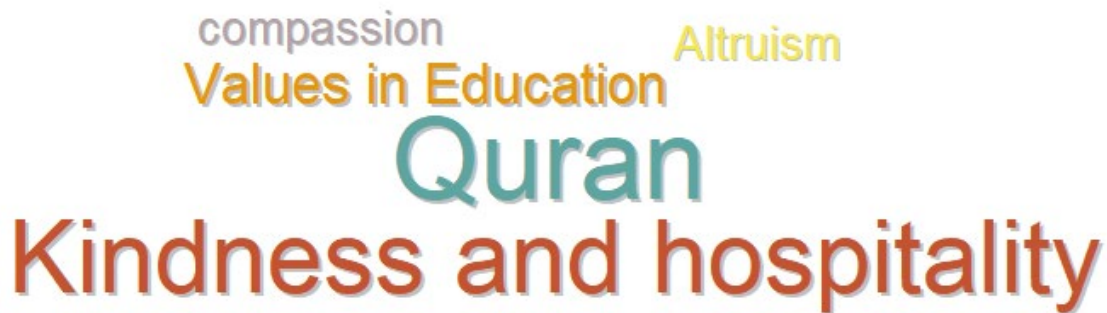


Figure 6 highlights following women-initiated practices rooted in values such as compassion, kindness, and hospitality are essential for fostering a supportive and cohesive community. The teachings of the Quran emphasize altruism and the importance of caring for others, which can be integrated into educational frameworks to instill these values in future generations. By promoting kindness and hospitality, individuals are encouraged to engage in acts of service and support, creating an environment where empathy and understanding thrive. This cultural emphasis on compassion not only strengthens social bonds but also enhances individual well-being, as acts of kindness have been shown to improve mental health and foster a sense of belonging. Collectively, these values contribute to a nurturing community atmosphere that prioritizes mutual respect and support. Women in Pakistan as mothers play central role in inculcating these values.

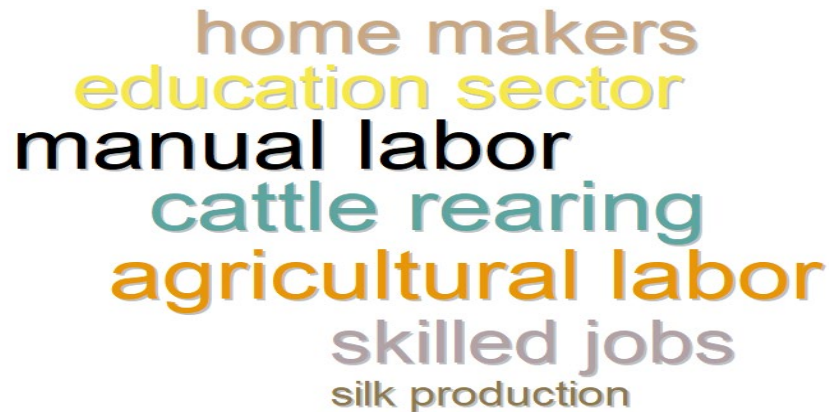
3.5 Reduced Inequalities and Economic Freedom

Furthermore, sustainable development goals 5, 7, 8, 10 and 13 are related to sustainable agricultural practices established by the women in Pakistan. There is a general impression about women in Pakistan for being housewives and not active members of Labor force. Unfortunately, that is a wrong impression because for one thing women have active become actively involved in academic as well as earning activities. New generation in urban areas understands the importance of education. Services sector is one of the fastest growing sector of our country (Ahmed & Ahsan, 2011). Although growth of service sector more than a certain percentage of manufacturing sector is not good for the economy and inflationary in nature. However, that is not a point of discussion now. This fast-growing sector has a major share of female labor force due to women excelling more than men in almost every academic line. Be it medical, engineering, business administration, science, banking, sports, or entertainment every field is experiencing rapid entry of females. However, being a patriarchal society filled with male dominance still women's share in leadership positions is minimal. However, female representation no matter, still less than desired, is highest in South Asia. Pakistan has twenty-two out of one hundred and fifty-six Women Vice Chancellors in universities as compared to India where only out of four hundred and thirty-one universities only thirteen are bring head by women VCs (Indian Express, 2022).

In recent years, women's education has become increasingly acknowledged in rural areas of Khyber Pakhtunkhwa (KPK) and Punjab, although rural Sindh and parts of Baluchistan still face challenges. Women play a crucial role in economic activities, particularly in agriculture, where they are involved in labor-intensive tasks such as crop sowing, weeding, harvesting, and animal husbandry. Their productivity often surpasses that of men, allowing them to effectively manage agricultural responsibilities. Inspirational figures like Azra Mehmood Sheikh highlight women's capabilities in agriculture, political participation, and sustainable practices. The return of educated young women to agriculture, equipped with innovative technologies, marks a significant shift towards sustainability. Moreover, women's involvement in animal husbandry, poultry, and sericulture, alongside government initiatives promoting silkworm rearing, demonstrates their economic potential. Their engagement in handicrafts, including 'Ajrak' and embroidered textiles, enhances family incomes and aligns with Sustainable Development Goals (SDGs) related to gender equality and economic growth. Ultimately, women are recognized as vital contributors to their families and communities, fostering a legacy of self-sufficiency and skill development for future generations.

Figure 7 highlights women role as home makers, educationists, manual laborers, agricultural laborers, doing skilled jobs and involved in cattle raring and silk production etc. these entrepreneurial activities are central for economic sustainability of the communities.

Figure 7: Word Cloud for Identified Contribution of Women to Poverty and Hunger Alleviation



3.6 Water and Sanitation

In many rural areas of Pakistan, particularly in Sindh and Baluchistan, women bear the responsibility of water collection, often requiring them to travel significant distances to access potable water. Despite the advantages of urban settings, where some have access to tap water, the quality is frequently inadequate, necessitating boiling or purchasing expensive bottled water for safe consumption.

To purify water, women in these communities often employ traditional methods, such as filtering, boiling, and cooling. The initial step involves passing tap water through a fine linen fabric to eliminate visible impurities. Subsequently, the water is boiled with herbs like ‘ajwain’ (carom seeds) or ‘saunf’ (fennel), which not only assist in digestion but also add a slight sweetness and fragrance to the water. After boiling, the water is cooled and filtered again to remove any remaining sediments or contaminants, allowing families to access clean drinking water each day.

Moreover, women are primarily responsible for household sanitation, encompassing tasks such as cleaning, laundry, and maintaining hygiene in domestic spaces. Despite their efforts to keep homes tidy, a collective lack of civic awareness often leads to improper waste disposal practices, with garbage frequently discarded in public spaces rather than designated waste management systems. This issue is exacerbated in rural areas and small towns that lack adequate waste disposal infrastructure, contributing to environmental degradation.

In regions like Khyber Pakhtunkhwa (KPK) and northern Pakistan, while the natural landscape resembles that of Switzerland, insufficient governmental intervention results in the pollution of rivers, mountains, and drinking water sources. The critical role women play in maintaining household cleanliness underscores their importance as key contributors to both family health and environmental stewardship, highlighting the necessity for enhanced community awareness and infrastructure development to support sustainable practices.

Figure 8: Word Cloud for Identified Contribution of Women to Water and Sanitation



Last but not the least women play a central role in water provision and sanitation both in rural and urban areas of the country. Within the fifty-six interviews Figure 8 highlights factors for their contribution in water and sanitation area.

4. CONCLUSION

This research paper has illuminated the vital role of home-based women entrepreneurs in Pakistan as pivotal agents of sustainability within their communities. By exploring the indigenous knowledge and practices they employ, we have identified significant contributions across key social themes, including Environmental Sustainability, Poverty Alleviation, Physical and Mental Health, Quality Education, Reduced Inequalities, Economic Freedom, and Water and Sanitation. These findings not only highlight the multifaceted nature of women's roles but also emphasize the interconnectedness of their efforts in promoting well-being and sustainable practices.

The study reveals that the activities undertaken by these women extend far beyond traditional views of economic contribution. Their involvement in resource conservation, health practices, and educational initiatives signifies a deeper commitment to community sustainability and resilience. Additionally, the themes identified reflect the broader implications of gender equality and environmental stewardship, reinforcing the need for policies that empower women and recognize their contributions to societal well-being.

However, several limitations should be acknowledged. First, the qualitative nature of this research means that findings may not be generalizable across all regions or communities in Pakistan. The study primarily focused on specific ethnic groups, which may limit the diversity of perspectives captured. Additionally, the reliance on semi-structured interviews may introduce biases based on participants' willingness to disclose information or their interpretation of sustainability. Future research could benefit from quantitative studies that validate and expand upon these findings across larger and more diverse populations.

Future research directions may include longitudinal studies that track the long-term impacts of women's contributions to sustainability initiatives over time. It would also be valuable to explore the intersection of these roles with formal education and training programs aimed at enhancing

women's skills and entrepreneurial capabilities. Furthermore, examining the role of technology in facilitating or hindering these women's initiatives could provide insights into how to better support their efforts in a rapidly changing socio-economic landscape.

In summary, this research underscores the essential agency of home-based women entrepreneurs in promoting sustainability in Pakistan. By recognizing and supporting their contributions, stakeholders can work towards more effective strategies that foster gender equality and advance the Sustainable Development Goals. Through collaborative efforts, communities can leverage the unique knowledge and practices of women to enhance environmental resilience and social equity for future generations.

REFERENCES

Abu-baker, N.N., C. Savage and B.H. Amarneh (2018). Parents' Strategies of Managing Minor Childhood Illnesses Using Complementary and Alternative Medicine in Jordan. *Global Journal of Health Sciences*, 10(2), 145–154.

Ahmed, A., and H. Ahsan (2011). Contribution of services sector in the economy of Pakistan. *PIDE Working Papers*, 79, 1–18.

Aikenhead, G.S. and M. Ogawa (2007). Indigenous knowledge and science revisited. *Cultural Studies of Science Education*, 2(3), 539–620.

Alter, S. (2003). The IS Core - XI: Sorting Out the Issues About the Core, Scope, and Identity of the IS Field. *Communications of the Association for Information Systems*, 12.

Angoa-Pérez, M., B. Zagorac, D.M. Francescutti, A.D. Winters, J.M. Greenberg, M.M. Ahmad, S. D. Manning, B.D. Gulbransen, K.R. Theis, and D.M. Kuhn (2020). Effects of a high fat diet on gut microbiome dysbiosis in a mouse model of Gulf War Illness. *Scientific Reports*, 10(1), 1–12.

Aydogmus, C. (2018). Millennials Career Attitudes: The roles of career anchors and psychological empowerment. *International Journal of Academic Research in Business and Social Sciences*, 8(6), 1-21.

Barnes, M. and P. Shardlow (1996). Identity crisis: mental health user groups and the 'problem' of identity. *Exploring the Divide: Illness and Disability*, 7(July), 114–134.

Bayeh, E. (2016). The role of empowering women and achieving gender equality to the sustainable development of Ethiopia. *Pacific Science Review B: Humanities and Social Sciences*, 2(1), 37–42.

Becker, F.G., M. Cleary, R.M. Team, H. Holtermann, D. The, N. Agenda, P. Science, Sk, S. K., R. Hinnebusch, A.R. Hinnebusch., I. Rabinovich, Y. Olmert, D. Q. G. L. Q. Uld, W. K.

H. U. Ri, V. Lq, W. K. H Frxqwu, E. Zklfk, L.V. Edvhg, R.Q. Wkh, ... ح. فاطمی. (2015). Gender Equality in Public Administration Pakistan Case Study. *Syria Studies*, 7(1), 37–72.

Braidotti, R., E. Charkiewicz, S. Hausler and S. Wieringa (1994). *Women, the environment and sustainable development: towards a theoretical synthesis*. Zed books.

Briggs, J. (2005). The use of indigenous knowledge in development: problems and challenges. *Progress in Development Studies*, 5(2), 99–114.

Buallay, A., R. Hamdan, E. Barone and A. Hamdan. (2022). Increasing female participation on boards: Effects on sustainability reporting. *International Journal of Finance and Economics*, 27(1), 111–124.

Camarero, E. (2019). Media Literacy for Woman's Empowerment. A Case Study with Groups of Honduran Indigenous and Rural Women in Vulnerable Situation. *Media Education*, 59(3), 367–380.

Clements, A., K. Halton, N. Graves, A. Pettitt, A. Morton, D. Looke and M. Whitby (2008). Overcrowding and understaffing in modern health-care systems: key determinants in meticillin-resistant *Staphylococcus aureus* transmission. *Lancet Infect Dis*. 427–434.

Côté, J. E. (2018). The Enduring Usefulness of Erikson's Concept of the Identity Crisis in the 21st Century: An Analysis of Student Mental Health Concerns. *Identity*, 18(4), 251–263.

Din, M., M. Asghar and M. Ali (2021). COVID-19 and dengue coepidemics: A double trouble for overburdened health systems in developing countries. *Journal of Medical Virology*, 93(2), 601–602.

Dols, M. W. (1987). The Origins of The Islamic Hospital: Myth and Reality. *Bulletin of the History of Medicine*, 61(3), 367–390.

Gadgil, M., F. Berkes and C. Folke (1993). Indigenous Knowledge for Biodiversity Conservation. *Ambio*, 22(2/3), 151–156.

Hareven, T. K. (1994). Aging and Generational Relations: A Historical and Life Course Perspective. *Annual Review of Sociology*, 20(1), 437–461.

Khachatourians, G. G. (1998). Agricultural use of antibiotics and the evolution and transfer of antibiotic-resistant bacteria. *CMAJ. Canadian Medical Association Journal*, 159(9), 1129–1136.

Krok, D. (2015). The Role of Meaning in Life Within the Relations of Religious Coping and Psychological Well-Being. *Journal of Religion and Health*, 2292–2308.

Kucharska, J. (2018). Cumulative trauma, gender discrimination and mental health in women: mediating role of self-esteem. *Journal of Mental Health*, 27(5), 416–423.

- Kumar, N., T. Kanchan, B. Unnikrishnan, T. Rekha and P. Mithra (2013). Perceptions and Practices of Self-Medication among Medical Students in Coastal South India. *PLoS One*, 8(8), 2–6.
- Meena, R. (1992). Women and Sustainable Development. *Equal Opportunities International*, 11(6), 7–11.
- Mokyr, J. (2003). Why Was the Industrial Revolution a European Phenomenon? *Supreme Court Economic Review* 10(May), 27-6
- Nation., U. (2015). The 17 Goals | Sustainable Development. Sustainable Development. <https://sdgs.un.org/goals#goals%0Ahttps://sdgs.un.org/goals>
- Ndayishimiye, C., C. Sowada, P. Dyjach, A. Stasiak, J. Middleton, H. Lopes and K. Dubas-Jakóbczyk (2022). Associations between the COVID-19 Pandemic and Hospital Infrastructure Adaptation and Planning—A Scoping Review. *International Journal of Environmental Research and Public Health*, 19(13), 1–22
- Nepal, R. M. and O.K. Ramtel (2020). Entrepreneurial Productivity of Single and Non-Single Women of Kathmandu Metropolitan City. *Management Dynamics*, 23(1), 253–260.
- Pakistan Population (2023) - Worldometer. (2023). <https://www.worldometers.info/world-population/pakistan-population/>
- Palombo, E. A. (2011). Traditional Medicinal Plant Extracts and Natural Products with Activity against Oral Bacteria: Potential Application in the Prevention and Treatment of Oral Diseases. *Evid Based Complement Alternat Med*, 12(Jan),1-15.
- Richards, L. N. and C. J. Schmiede (1993). Problems and Strengths of Single-Parent Families: Implications for Practice and Policy. *Family Relations*, 42(3), 277–285.
- Salahuddin, T., & Ahmad, A. (2017). Women Empowerment: A Quantitative Exploration. *Journal of Socialomics*, 06(04),1-5
- Salahuddin, T., A. Ahmed and I. Nasim (2018). Women Empowerment: An Ethnographic Exploration. *Pakistan Journal of Economic Studies*, 1(1), 59–78.
- Salahuddin, T., A. Shahzad, N.A. Sulehri and S. Qaim (2021). Poverty-To Measure or Not to Measure: Going Beyond Logical Positivism. *Ilkogretim Online*, 20(5).
- Sareen, J., J. Erickson, M.I. Medved, G. J. G Asmundson, M. W.Enns , M Stein, W. Leslie, M. Doupe and S. Logsetty (2013). Special Article. *Depression and Anxiety* 327(February), 321–327.
- SeedOut. (2022). Seed Out Empowering the People. <https://www.seedout.org/>

Semali, L. M. and J.L. Kincheloe (2002). What is indigenous knowledge? Voices from the academy (Vol. 1191). Routledge.

Shiva, V. (1992). Women's Indigenous Knowledge and Biodiversity Conservation. *India International Centre Quarterly*, 19(1/2), 205–214.

Sylvan, A. C. and N. Gustafsson, (2013). The Translation of Core Values in a Multinational Organisation. <http://umu.diva-portal.org/smash/get/diva2:639147/FULLTEXT01.pdf>

Tang, J. E. and W.T. Sze (2019). Public's Preferences in Managing Minor Illnesses: A Cross-Sectional Survey in Malaysia. *Characteristics of the Study Population*. 21(October), 60–70.

Tareen, R.B., T. Bibi, M.A. Khan, M. Ahmad, M. Zafar and S. Hina (2010). Indigenous knowledge of folk medicine by the women of Kalat and Khuzdar regions of Balochistan, Pakistan. *Pakistan Journal of Botany*, 42(3), 1465–1485.

United Nations. (n.d.). World Population Prospects - Population Division - United Nations. <https://population.un.org/wpp/Graphs/Probabilistic/POP/TOT/231>

Zaman, A. (2005). Towards a new paradigm for economics. *Journal of Islamic Economics*, 18(2), 49–59.