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Female Education and Social Change: Changing Perceptions of Women's Roles in Society in the High Mountains of Northern Pakistan

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This article investigates the emergence of female education and its social impacts in a remote and male-dominated mountain community through a case study of Nagar District in northern Pakistan. Drawing

on qualitative interviews with 24 women from different educational backgrounds and 15 selected male informants, the study reveals a notable increase in educational opportunities for girls and young women within a relatively short time span, and shows how these changes have affected local perceptions of women's social roles. While there are mixed opinions about the usefulness of education for girls—some find that educated women are better housewives

and mothers, while others highlight career opportunities for women—female education has clearly contributed to an increase in self-determination of women. Young women now marry later and have fewer children, parents give their daughters more freedom, and education has contributed to an increase in female mobility and to a more confident and visible role of women in community life. While other aspects of social change also play critical roles, this study shows that female education is one important element in the development of a more equitable society in mountains and elsewhere.

Keywords: female education; development; gender inequality; Gilgit-Baltistan; Karakoram; Nagar District.

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Introduction

When the central wish of an uneducated mother is to give her children the opportunity to go to school for as long as they want, even if this means that she has to work twice as hard in the fields, then one can be sure that education is considered a chance for a better life. In Nagar, a high-mountain community in northern Pakistan (36.25°N, 74.54°E), such strong and impressive women are not an exception.

Access to education, especially for girls, is still lacking in parts of the world. Despite its prominent role within the Sustainable Development Goals (SDGs) and their predecessors, the Millennium Development Goals, we are far from reaching “Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.” The recently published SDG progress report of the United Nations Secretary-General flags that 262 million children and youth between the ages of 6 to 17 were out of school in 2017, while two-thirds of the 750 million illiterate adults are women (UN ECOSOC 2019). Furthermore, there is great structural inequality behind these figures. Higher rates of illiteracy and poor educational infrastructure are more frequent in remote, rural areas than in urban settlements, while educational levels are higher for men than women and for wealthier households (Somuncu 2006; UNESCO 2010; Benz 2013). That access to quality

education in remote mountain areas is generally low, as pointed out in several case studies, is therefore not surprising (Somuncu 2006; Audsley et al 2016; Schwilch et al 2017).

Studies on education in mountains have shed light on a number of important aspects, such as the role of public infrastructure in providing education to communities (Simedru 2006; De Piero et al 2017; Schwilch et al 2017; Song et al 2017). Other aspects that have received significant attention are questions related to the inclusion of marginalized ethnic groups in educational systems (Hu and Liu 2017; Thi Kim Chi and Hongcheng 2018; Xiaoyan et al 2018) and to the role of education in promoting sustainable development and ecological awareness among mountain communities (Roa García et al 2008; Laurentiu 2018; Mili et al 2018). The topic of female education, however, has received less attention in research on education in mountains, despite its important role in broader research and policy debates on sustainable development (Gurung 1999; Murtaza 2012; Eger et al 2018; Wier and Price 2019). Through a case study in the high-mountain region of Gilgit-Baltistan, Pakistan, this paper aims to address this gap.

Despite its peripheral location in high mountains with low population density and often poor communities, educational levels in the semiautonomous region of Gilgit-Baltistan are surprisingly high. Benz (2014: 9) found that in 2005–2006, the total net enrollment of the region's primary

schools was above the country's average, with 100% enrollment for boys and 66% for girls. However, disparities can also be witnessed within Gilgit-Baltistan. For instance, the 2 districts of Hunza and Nagar are direct neighbors and share ethnolinguistic similarities but are otherwise conspicuously different. Hunza, a well-researched community of predominantly Ismaili Muslims, showed a high attendance of school-age children in educational institutions—over 90%—even before the 1990s (Kreutzmann 1993: 36), while the more conservative Twelver Shia community of Nagar reached a similar level only around 2007 (Benz 2013: 137). For a large part, this lag can be explained by a later emergence of female education: in Nagar, the first girls' school opened only in the late 1980s. Since then, however, female education has undergone rapid development. This development and its impact on mountain communities—in northern Pakistan in general, and in Nagar in particular—has not received much scientific attention.

Based on 7 weeks of qualitative field research, we investigate how education for girls has emerged in the community of Nagar and how this development has contributed to a process of social change. Many academics argue that female education changes people and societies. Among others, women may become more self-confident and higher education can enable them to gain skills for jobs and leadership and to achieve economic independence (Basu 2002; Malik and Courtney 2011; Murtaza 2012). To assess such changes, the aim of this paper is to shed light on the local perceptions of changes of women's roles in Nagar's society, and how these changes are influenced by female education. We ask the following research question: In what way has female education contributed to a shift in women's (perceived) social roles in a remote and male-dominated mountain community in northern Pakistan?

To address this question, we begin with a brief literature review on how female education can influence women's roles in society in countries of the global South, focusing on Pakistan. We then introduce the study area and research methods, before providing an overview of the development of female education in Nagar. The remaining part of the paper investigates the ways in which the emergence of female education has contributed to a shift in the perceived social roles of women. Based on the manifold effects highlighted by interview partners we structure our findings into 4 different aspects of change: (1) the perceived practical use of education for women, (2) perspectives on family planning, (3) changes in female mobility, and (4) increased self-confidence of women.

Women, education, and social change in rural Pakistan

Our aim is to analyze how perceptions of women's role in society can change with the emergence of female education. A role can be understood as the expected behavior of an individual, along with the individual's rights and obligations within a particular social setting. In this regard, women often have to deal with a role overload that comes with expectations, demands, and obligations—for example, their reproductive role, caring for relatives, and other work obligations (Erdwins et al 2001; Akter et al 2017).

Female education must be seen as one of many aspects that can influence the social role of women, and the outcomes of educational developments on gender relations can vary strongly between different cultural contexts (Parpart and Marchand 1995; Lind 2003; Mohanty 2006). Furthermore, a society is always in a process of change, and the causes of this change might not always be traceable. Internal household factors, for instance, often play a prominent role—especially in Pakistan, where households are usually joint families represented by a male head (Shah and Shah 2012). As Murtaza (2012) and Shah and Shah (2012) argue in their research in rural Pakistan, the control over resources and decision-making—including education-related decisions—is seldom in women's hands.

In addition to the limited decision-making power of women within the household, a variety of other factors hinder female education in rural Pakistan. First, the financial situation of a household: generally, less affluent parents in Pakistan are more willing to invest in their sons' education because work opportunities are better for men, and also because sons usually stay with the family, while daughters leave the household when they get married and are often needed to work in their husbands' families (Lloyd et al 2007; Shafa 2011). Other factors contributing to low enrollment rates of women and girls, especially in remote areas, are the lack of qualified (female) teachers, educational facilities, and basic sanitary infrastructure for schools (Khalid and Mujahid-Mukhtar 2002; Shah and Shah 2012). Moreover, the distance to school can be an important factor in the educational decisions of conservative households, when girls are not supposed to leave the house and wander around the village by themselves (Kabeer 2005; Malik and Courtney 2011). Gender relations are strongly regulated and create separate worlds for women and men, which, in male-dominated societies such as Pakistan, often leads to the social exclusion of women (Shafa 2011; Grünenfelder 2013).

The status of a family depends on its reputation within its social network and can significantly change through the behavior of female family members, as highlighted by research on the concept of honor (*izzat*; see Shah and Shah 2012). In conservative rural areas, there is often a fear that the increased independence gained by young women through education might lead to culturally inappropriate behavior, such as disapproved of forms of contact with unrelated men (Khalid and Mujahid-Mukhtar 2002; Shafa 2011). However, various studies in Pakistan observe that educated women—and thus their families—gain a higher status within their community (Malik and Courtney 2011; Murtaza 2012). Several studies find that women's role in Pakistani society is primarily seen in reproductive terms, with education being a helpful instrument for becoming a better mother and wife (Durrant and Sathar 2000; Kabeer 2005; Grünenfelder 2013). Educated women are believed to have better saving habits, make better investments in health and children's education, and have better access to knowledge and information (Kabeer 2005; Janzen 2008; Murtaza 2012). However, socially accepted jobs for women do exist in Pakistan. Most of these occupations are located in a female environment: for instance, women's doctor, nurse, or girls' teacher (Bradley and Saigol 2012; Grünenfelder 2013). Remote rural communities particularly benefit from these occupations, where women fill the missing gaps. However, the ability to gain income also allows women a

FIGURE 2 Workshop with students at a girls' school in Minapin, Nagar District, 7 April 2015. (Photo by Katja Voigt)



workshops with (mainly female) teenage students (see Figure 2) and participatory observations during community meetings, invitations to households, and discussions in schools. These observations could not always be noted down directly but were protocolled afterwards. The majority of interviews were conducted with the help of female research assistants (local teachers), who facilitated access to interview partners and interpreted between the local languages, Burushaski and Shina, and English. In around half of the interviews (*Supplemental material*, Appendix S1: <https://doi.org/10.1659/MRD-JOURNAL-D-20-00028.1.S1>), the main language was English and the first author communicated directly with the interview partners. During the interviews, notes were taken and, with the consent of the interview partners, some interviews were recorded and transcribed later. After each session, a short review of the interview notes was carried out with the research assistant to check for gaps and misunderstandings. One interview with a male informant was conducted jointly with the second author. As a female and foreign researcher, the first author did not experience cultural restrictions on conducting interviews with women and men. On most occasions, an open and trustful atmosphere could be created during the interviews, which was also because the research assistants were known to the interview partners and belonged to the same community.

Inspired by the grounded theory of Glaser and Strauss (2010), the first author used an open-coding approach to categorize the empirical data. In several rounds of qualitative data analysis, the field notes and interview transcripts were coded into various codes and subcodes, which were then grouped into coherent categories that translated into the 4 aspects of change presented below. For the analysis, the codes and categories were used to structure and more systematically interpret the diverse arguments and

narrations provided by the interview partners. Data analysis was qualitative, focusing on understanding the complex social processes and relations through local narratives and life stories rather than quantifying them. Throughout the coding and analysis process, the identified arguments, codes, and categories were discussed with and checked for plausibility by the second author. The following section is based mainly on interviews with male key informants, while the main findings presented in this article draw primarily on the 24 semistructured interviews with women.

The emergence of female education in Nagar

In the princely state of Nagar, education was previously reserved for boys and young men of the local elite—members of the royal family and religious leaders and their families. As informants explained, the ruling class was afraid they would lose power if education became available to all. Hence, educational opportunities for boys of the general public became available only after the local ruler was overthrown in 1972 (Frembgen 1985). However, female education was still out of the question: some influential religious scholars strongly opposed the establishment of girls' or mixed schools; some even argued against secular education in general. After 1972, religious leaders played an increasingly influential role in the Shia community of Nagar and were afraid to lose their newly gained power. In the 1980s, however, the village of Minapin became the center of educational efforts for girls. An attempt by the government to establish a girls' school in 1974 failed because of protests by local men loyal to conservative religious leaders. However, subsequent years saw a growing number of local activists lobbying for educational opportunities for girls. Their

efforts eventually paid off: the first girls' school in Nagar was established in Minapin in 1986. The initiative came from a group of well-educated men. Some of these activists were related to the well-known community leader Syed Yahyah Shah, who played an important role in bringing ideas of modern development to the community (Spies 2019; Kreutzmann 2020). The first teacher was chosen strategically—a local, well-respected, and educated man, who had just graduated from a university in Karachi. The first girls he taught were his relatives, but soon the number of students grew from 27 to around 100. The school became a governmental school in 2009 and hosts classes up to grade 10 today.

In the more remote village of Hobar, in turn, the first attempts to establish female education started in the 1990s, when an educated couple returned from Karachi and established a home-based school for girls. The fact that their daughters would be taught by a woman played an important role in the decision of neighbors to send them to these classes. The couple was supported with a small salary by a local NGO, the Naunehal Development Organisation, and continued home-based schooling until the first official girls' school opened in Hobar in 1995.

Since the 1990s, local and external NGOs, in particular the Aga Khan Foundation and the Uswa Education System, have played important roles in supporting female education in Nagar, by providing funds for community-based schools, raising awareness among parents, and even constructing their own schools. While the NGO and community-based schools usually take a moderate fee from parents to pay for teachers and infrastructure, they are known to be better quality than governmental schools, even though teachers earn considerably less.

While there has been a strong proliferation of governmental and private schools that offer education of girls all over Nagar since the 1990s, local religious scholars also began to favor female education. As many scholars—and increasingly other people—began to travel to Iran on pilgrimages, they experienced a stronger participation of women in daily life and relatively advanced development of female education. There are also religious schools for girls in Nagar today, and some parents even send their daughters to Iran or other Shia communities for higher education. The Shia background of the privately funded Uswa schools proliferating in Nagar might also have played a role in their acceptance by the community (Mostowlansky 2016). However, as the principal of one Uswa school in Nagar explains, some local religious leaders have been in strict opposition to these schools because of their mixed-gender classes. Furthermore, since Karakoram International University was opened in the nearby town of Gilgit in 2002 (Felmy 2006) and opportunities for distance education appeared through universities such as the Allama Iqbal Open University in Islamabad, families are increasingly allowing young women to access higher education.

Today, almost every young girl in Nagar goes to school. Even though it is still an ongoing process, access to education by girls and young women has greatly increased. Some women from Nagar have already completed master's degrees in business, engineering, medicine, and education. As will be discussed in the following, many informants regard this development as a crucial element of social change.

Female education and changing perceptions of women's social roles in Nagar

Becoming teachers and better housewives—use of female education

When we asked illiterate mothers in Nagar why they sent their daughters to school, many of them argued that they knew from their own experience which problems their daughters would face without education. Some of them simply stated that their daughters went to school because every girl in the village does so, while others mentioned the advantage that their daughters could read letters from relatives or other information to them. A man working with a local NGO stated that women are the first people from whom children get education—“This has an effect on the society and on the whole nation” (interview in Sikanderabad, 4 April 2015). Informants argued that the education a woman receives would be helpful to manage a household, take better care of children, and handle money more carefully. Several respondents claimed that they had already observed changes in household and living standards as a result of these effects. Yet many young and educated women in Nagar do not want to stay at home or work in the fields like their mothers, but strive for jobs in the off-farm sector. During the school workshops, most teenage girls stated that they wanted to become a doctor or teacher; some already had clear specializations in mind. Economic independence is a strong motivation for women to get higher education, but income opportunities are limited. In Nagar, socially accepted jobs for women are mostly restricted to a female environment, for example in the health or education sectors.

Generally, many women mentioned that they were supported by their family to gain higher education, in the hope of finding better-paid jobs. Some mothers argued that they now worked twice as much in the fields to support their daughter's university fees while compensating for the lack of workforce in the household. While many parents are still reluctant or unable to facilitate higher education for their daughters, a significant change is evident and many people are very optimistic about future developments, as a male informant stated: “Now, *Nagarkuts* [people from Nagar] have to be prepared for well-educated mothers” (interview in Minapin, 23 March 2015).

Fewer children, more education—perceptions on family planning

Female education is often claimed to be responsible for declining fertility levels and shifts in the age of marriage and birth of the first child (Kabeer 2005; Palloni et al 2012). Many educated young women in Nagar confirm this. Married women often explained that their independence vanished after marriage, which constituted the biggest change in their life. Before marriage they studied, worked, and had free time, now they have “a lot of housework and many children” (interview in Minapin, 29 March 2015). As a girl in Minapin stated: “Boys are independent, and they can go wherever they want. When girls get married, they are dependent when they want to get higher education” (workshop discussion in Minapin, 7 April 2015). Hence, many interviewed mothers argued that they support the decision of their daughters to complete their education before getting married.

Some women are mothers, housewives, and teachers all at once—although they recognize that this would not be possible without the help of relatives and early childhood development classes that start before primary school. In Pakistan, only 6 months of paid maternity leave are granted (Alvi 2020), but at the time of research, this period was only 3 months. The difficulties of balancing childcare and work strongly influence family planning: when young women were asked about how many children they want to have, they usually answered 2–4 children—a big difference from their mothers, who often gave birth to 6–8 children.

“Go out and see the world”—changing mobilities

Twenty years ago, women did not know anything about the world; today they can go outside and see it. This development came with education. Men thought that women belong in the house and should not talk with other people; now they can go outside and meet others.

(interview with middle-aged woman in Minapin, 29 March 2015)

Respondents argued that only a few decades ago, it was rare to see any woman in public places in Nagar. This has changed significantly: not only are women and girls able to move around the village today, more and more people are willing to send their daughters to Gilgit or even lowland Pakistan to better schools or for higher education. Respondents argue that it is not only decision-making by men, but also changing attitudes of mothers, that play a critical role in this change: the idea of sending their daughters to different places with many perceived dangers frightened them. With increasing work migration to Gilgit and lowland Pakistan, some parents can now send their daughters to stay with close relatives. While some respondents felt safer when their daughters stayed with relatives, others strongly opposed this idea—and would rather rent a house or have them stay in a girls’ hostel so that they could better concentrate on their studies and did not have to help in the household.

While girls and young women in Nagar migrate mainly for education, the idea of traveling for work is also gradually gaining social acceptance in Nagar, at least within the district. Female teachers, for instance, often commute to a different village for work, which would have been unthinkable previously. It is generally believed that this trend of women’s increasing mobility will continue. As respondents stated, many people are still afraid of giving their daughters freedom, but this attitude will change with the coming generation (interview in Minapin, 30 March 2015).

Becoming more self-confident

The daily interaction with people of one’s age group outside the household, as in schools, can have a positive impact on self-confidence (Basu 2002; Murtaza 2012). This positive effect is also reported by respondents in Nagar. As a local NGO worker argued:

[When I] observed the waiting room of a doctor, women could not talk to the doctor, they could not speak Urdu and had no self-confidence. Now this has changed.

(interview in Sikanderabad, 22 March 2015)

Moreover, several female teachers recalled that they had to force themselves to overcome their fears when they started their profession in a very male-dominated society. Now, they encourage other women to do so. Today, informants explained, many families and the village community respect and support female teachers and encourage their daughters to pursue their education along a similar path. In Nagar, it is not just (former) students that benefit from female education: women generally gain more confidence and play a more active role in public life by engaging with teachers, joining school support groups, getting involved in community projects, or opening the small shops for women that have recently emerged in various villages.

In Minapin, local women established a women’s organization 9–10 years ago that takes care of the village environment, among other duties: they regularly patrol the village and fine people who pollute the irrigation water channels or illegally graze their animals on other people’s cropland. Similar women’s organizations were reported in other villages of Nagar. Apart from community and school, the household is also an area in which women’s influence and confidence is perceived to have increased. The interviews revealed that educated mothers are usually more trusted when it comes to their children’s education, and are believed to be better at handling money and taking over other decision-making responsibilities within the household. While female education cannot be regarded as the sole reason for this increase in self-confidence, it certainly played an important role.

Discussion and conclusion

Nagar’s current female education situation is the product of a dynamic process in which different actors, including local activists, NGOs, and conservative religious leaders, played important roles. Moreover, educational developments have been shaped to a large extent by rapid socioeconomic developments following political reforms and the construction of the Karakoram Highway in the 1970s. As a result of this process, Nagar has had a reasonably well-developed education system for girls for about 1–2 decades now, at least for primary and middle schools. Today, most men and women in Nagar appear to value female education highly, and many parents are willing to give their daughters time and space to study—and increasingly invest in their higher education. In the conservative and highly male-dominated society of Nagar, this would have been unthinkable a few decades ago, and this observation alone hints at a significant process of social change.

In what way does this notable change affect local perceptions and opinions on women’s roles in society more generally? First, there are mixed opinions on the usefulness of education for girls. In particular, while some parents and older people perceive education as an important means to becoming a better housewife and mother, young women and girls primarily see education as a possibility to pursue a career. However, in order to have a reasonable chance of employment in Pakistan, the level and quality of education is especially important (Aslam and Kingdon 2008)—opportunities for which are particularly lacking in mountain areas (Somuncu 2006; Lloyd et al 2007; Shah and Shah 2012;

Schwilch et al 2017). Second, changes can also be witnessed in family planning issues: young women want to finish their education and possibly work for a few years before getting married and starting a small family. Many mothers support these aspirations because they want their daughters to have a more self-determined life. As also found by Wier and Price (2019) in a study in rural Nepal, for instance, the family's support and commitment to education must be considered a crucial factor in the educational success of girls. Third, female education contributes to an increase in mobility of girls and young women in this remote mountain setting, not only for attending better schools and higher educational institutions, but increasingly also for work. The idea of daughters living away from the household is gaining social acceptance. The increasing acceptance of women being able to live outside of patriarchal control should be regarded as a crucial factor for more gender-just development in mountain areas of the global South, where local opportunities for gaining quality education are limited and education, besides job opportunities, is a major reason for migrating to cities in the lowland (Murtaza 2012; Schwilch et al 2017; Sudmeier-Rieux et al 2017). Fourth, female education and new opportunities to work have significantly increased the self-confidence of many women, which has affected local society: women are more active in community life and contribute more than before to household decisions, which also holds true for many poorly educated women, who now participate in public events or create their own small enterprises. As found in various studies in Pakistan and beyond, the daily interaction with unrelated people of one's age group; the ability to read, write, and calculate; and in some cases also a self-earned income give women more confidence and decision-making power (Basu 2002; Kabeer 2005; Murtaza 2012).

Female education itself is not solely responsible for the changes observed; various other factors shape local perceptions and opinion making in multiple ways and play important roles in developments towards a more emancipated society. Such factors are found in the varying intrahousehold (power) relationships, but also in more structural inequalities at the community or government level, among others. Gender discrimination on all levels can be seen as a major hindering factor for achieving national and international educational goals, such as SDG 4 (UN ECOSOC 2019; Zulfiqar et al 2020). Nevertheless, several studies in Muslim and other societies of South Asia have found that educated parents are usually more willing to send their children to school (Basu 2002; Lewis and Lockheed 2007; Lloyd et al 2007; Wier and Price 2019). Thus, given the significant expansion of both male and female education in Pakistan over the last 2 decades (Benz 2013), it can be assumed that the new generations of educated parents will play an important role in pushing forward similar developments, as observed in Nagar. As this study has shown, the promotion of female education is one important element in the development of a more just society with strong and confident women—in mountains and elsewhere.

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REFERENCES

- Akter S, Rutsaert P, Luis J, Nyo Me H, Su Su S, Raharjo B, Pustika A.** 2017. Women's empowerment and gender equity in agriculture: A different perspective from Southeast Asia. *Food Policy* 69:270–279. <https://doi.org/10.1016/j.foodpol.2017.05.003>.
- Alvi M.** 2020. Despite govt senators' opposition: Senate passes maternity, paternity leave. *The News International*. 28 January 2020. <https://www.thenews.com.pk/print/605343-despite-govt-senators-opposition-senate-passes-maternity-paternity-leave>; accessed on 29 April 2020.
- Aslam M, Kingdon G.** (2008): Gender and household education expenditure in Pakistan. *Applied Economics* 40:37–41.
- Audsley A, Wallace RMM, Price MF.** 2016. Mountain child: systematic literature review. *Maternal and Child Health Journal* 20(12):2415–2423. <https://doi.org/10.1007/s10995-016-2051-8>.
- Basu AM.** 2002. Why does education lead to lower fertility? A critical review of some of the possibilities. *World Development* 30(10):1779–1790. [https://doi.org/10.1016/S0305-750X\(02\)00072-4](https://doi.org/10.1016/S0305-750X(02)00072-4).
- Benz A.** 2013. Education and development in the Karakorum: Educational expansion and its impacts in Gilgit-Baltistan, Pakistan. *Erdkunde* 76(2):123–136. <https://doi.org/10.3112/erdkunde.2013.02.02>.
- Benz A.** 2014. *Education for Development in Northern Pakistan: Opportunities and Constraints for Rural Households*. Karachi, Pakistan: Oxford University Press.
- Bradley T, Saigol R.** 2012. Religious values and beliefs and education for women in Pakistan. *Development in Practice* 22(5–6): 675–688.
- De Piero AJ, Rossi MC, Bassett MN, Sarmán NC.** 2017. Food and nutritional assessment in schoolchildren from mountainous areas of Argentinean northwest. *Journal of Clinical Nutrition & Dietetics* 3(4):24. <https://doi.org/10.4172/2472-1921.100059>.
- Durrant VI, Sathar ZA.** 2000. *Greater Investments in Children Through Women's Empowerment: A Key to Demographic Change in Pakistan?* Policy Research Division Working Paper No. 137. New York, NY: Population Council.
- Eger C, Miller G, Scarles C.** 2018. Gender and capacity building: A multi-layered study of empowerment. *World Development* 106:207–219. <https://doi.org/10.1016/j.worlddev.2018.01.024>.
- Erdwins CJ, Buffardi LC, Casper WJ, O'Brien AS.** 2001. The relations of women's role strain to social support, role satisfaction, and self-efficacy. *Family Relations* 50(3): 230–238.
- Felmy S.** 2006. Transfer of education in the mountains. In: Kreutzmann H, editor. *Karakoram in Transition: Culture, Development, and Ecology in the Hunza Valley*. Karachi, Pakistan: Oxford University Press, pp 370–381.
- Frembgen J.** 1985. *Zentrale Gewalt in Nager (Karakorum): Politische Organisationsformen, ideologische Begründungen des Königtums und Veränderungen in der Moderne*. Stuttgart, Germany: Südasiens-Institut Universität Heidelberg.
- Glaser BG, Strauss AL.** 2010. *Grounded Theory: Strategien qualitativer Forschung*. Bern, Switzerland: Verlag Hans Huber.
- Grünenfelder J.** 2013. Negotiating gender relations: Muslim women and formal employment in Pakistan's rural development sector. *Gender, Work and Organization* 20(6):599–615.
- Gurung J.** 1999. Women, children and well-being in the mountains of the Hindu Kush Himalayan region. *Unasylva* 196, 50(1). <http://www.fao.org/3/x0963e/x0963e05.htm>; accessed on 29 April 2020.
- Hu D, Liu J.** 2017. Widening participation in higher education: Preparatory education program for students from ethnic minority backgrounds. In: Shah M, Whiteford G, editors. *Bridges, Pathways and Transition: International Innovations in Widening Participation*. Amsterdam, the Netherlands: Chandos, pp 127–140.
- Janzen MD.** 2008. The women of Agabagaya: Education and post-development theory. *Canadian Journal of Education* 31(1):8–31. <https://doi.org/10.2307/20466686>.
- Kabeer N.** 2005. Gender equality and women's empowerment: A critical analysis of the third millennium development goal 1. *Gender and Development* 13(1):13–24.
- Khalid HS, Mujahid-Mukhtar E.** 2002. *The Future of Girls' Education in Pakistan: A Study on Policy Measures and Other Factors Determining Girls' Education*. Islamabad, Pakistan: UNESCO.
- Kreutzmann H.** 1993. Challenge and response in the Karakoram: Socioeconomic transformation in Hunza, Northern Areas, Pakistan. *Mountain Research and Development* 13(1):19–39. <https://doi.org/10.2307/3673642>.
- Kreutzmann H.** 2006. Settlement history of the Hunza Valley and linguistic variations in space and time. In: Kreutzmann H, editor. *Karakoram in Transition. Culture, Development, and Ecology in the Hunza Valley*. Karachi, Pakistan: Oxford University Press, pp 251–272.
- Kreutzmann H.** 2020. *Hunza Matters: Bordering and Ordering Between Ancient and New Silk Roads*. Wiesbaden, Germany: Harrassowitz.
- Laurentiu A.** 2018. The role of geodiversity in environmental protection, economic development and education in the Anina mountains, Romania. *Current Politics & Economics of Europe* 29(3):245–275.
- Lewis MA, Lockheed ME.** 2007. Social exclusion: The emerging challenge in girls' education. In: Lewis MA, Lockheed ME, editors. *Exclusion, Gender and Education: Case Studies From the Developing World*. Washington, DC: Center for Development, pp 1–27.
- Lind A.** 2003. Feminist post-development thought: "Woman in development" and the gendered paradoxes of survival in Bolivia. *Women's Studies Quarterly* 31(3):227–246.

- Lloyd C, Mete C, Grant M.** 2007. Rural girls in Pakistan: Constraints of policy and culture. In: Lewis MA, Lockheed ME, editors. *Exclusion, Gender and Education: Case Studies From the Developing World*. Washington, DC: Center for Development, pp 99–118.
- Malik A, Piracha M.** 2006. Economic transition in Hunza and Nager valleys. In: Kreutzmann H, editor. *Karakoram in Transition. Culture, Development, and Ecology in the Hunza Valley*. Karachi, Pakistan: Oxford University Press, pp 359–369.
- Malik S, Courtney K.** 2011. Higher education and women's empowerment in Pakistan. *Gender and Education* 23(1):29–45. <https://doi.org/10.1080/09540251003674071>.
- Mili B, Suparana K, Anamika B.** 2018. Enhancing adaptive capacity through education: A case study of rural mountain communities, Sikkim, eastern Himalaya India. In: Barua A, Narain V, Vij S, editors. *Climate Change Governance and Adaptation: Case Studies From South Asia*. Boca Raton, FL: CRC Press, pp 109–135.
- Mohanty CT.** 2006. Under western eyes: Feminist scholarship and colonial discourses. In: Durham MG, Kellner DM, editors. *Media and Cultural Studies: Keyworks*. Maldern, MA: Blackwell, pp 396–422.
- Mostowlansky T.** 2016. Humanitarianism across mountain valleys: “Shia aid” and development encounters in northern Pakistan and eastern Tajikistan. In: Kreutzmann H, Watanabe T, editors. *Mapping Transition in the Pamirs*. Cham, Switzerland: Springer, pp 229–244.
- Murtaza KF.** 2012. Women empowerment through higher education in Gilgit-Baltistan. *International Journal of Academic Research in Business and Social Science* 2(9):343–367.
- Palloni A, Novak B, Rodrigues de Souza L.** 2012. *Female Education, Low Fertility, and Economic Development*. CDE Working Paper No. 2012-03. Madison, WI: CDE.
- Parpart JL, Marchand MH.** 1995. Exploding the canon: An introduction/conclusion. In: Marchand MH, Parpart JL, editors. *Feminism/Postmodernism/Development*. London, United Kingdom: Routledge, pp 1–22.
- Roa García MC, Roa García CE, Brown S, Cordero E.** 2008. Water resource research and education in mountain communities. *Mountain Research and Development* 28(3):196–200. <https://doi.org/10.1659/mrd.1038>.
- Schwilch G, Adhikari A, Jaboyedoff M, Jaquet S, Kaenzig R, Liniger H, Upreti BR.** 2017. Impacts of outmigration on land management in a Nepali mountain area. In: Sudmeier-Rieux K, Fernández M, Penna I, Jaboyedoff M, Gaillard J, editors. *Identifying Emerging Issues in Disaster Risk Reduction, Migration, Climate Change and Sustainable Development*. Basel, Switzerland: Springer, pp 177–194.
- Shafa MD.** 2011. Getting the girls to school: The community schools project in Gilgit-Baltistan of Pakistan. *International Journal of Business and Social Science* 2(7):244–250.
- Shah S, Shah U.** 2012. Girl education in rural Pakistan. *International Journal of Sociology of Education* 1(2):180–207.
- Simedru DC.** 2006. Alba County: The role of the mountain region within social cohesion strategy. *International Conference of Territorial Intelligence*. Alba Iulia University, Alba Iulia, Romania, 20–22 September 2006. <https://halshs.archives-ouvertes.fr/halshs-01003202>; accessed on 26 April 2020.
- Somuncu M.** 2006. Achieving universal primary education in mountains. *Mountain Research and Development* 26(1):20–23. [https://doi.org/10.1659/0276-4741\(2006\)026\[0020:AUPEIM\]2.0.CO;2](https://doi.org/10.1659/0276-4741(2006)026[0020:AUPEIM]2.0.CO;2).
- Song X, Deng W, Liu Y, Zhao C, Wan J.** 2017. Residents' satisfaction with public services in mountainous areas: An empirical study of southwestern Sichuan Province, China. *Chinese Geographical Science* 27(2):311–324. <https://doi.org/10.1007/s11769-017-0865-y>.
- Spies M.** 2018. Changing food systems and their resilience in the Karakoram mountains of northern Pakistan: A case study of Nagar. *Mountain Research and Development* 38(4):299–310. <https://doi.org/10.1659/MRD-JOURNAL-D-18-00013.1>.
- Spies M.** 2019. *Northern Pakistan: High Mountain Farming and Changing Socionatures*. Lahore, Pakistan: Vanguard.
- Sudmeier-Rieux K, Fernández M, Penna I, Jaboyedoff M, Gaillard J, editors.** 2017. *Identifying Emerging Issues in Disaster Risk Reduction, Migration, Climate Change and Sustainable Development*. Basel, Switzerland: Springer Nature.
- Thi Kim Chi V, Hongcheng G.** 2018. Ethnic policies to reduce poverty in ethnic minority and mountainous areas in Vietnam: Patterns and solutions toward 2020. In: Chunyan H, Jin W, editors. *Proceedings of the 3rd International Conference on Humanities Science, Management and Education Technology, Nanjing, China*. Paris, France: Atlantis, pp 645–648. <https://doi.org/10.2991/hsmet-18.2018.128>.
- UN ECOSOC [United Nations Economic and Social Council].** 2019. *Special Edition: Progress Towards the Sustainable Development Goals. Report of the Secretary-General*. E/2019/68. <https://unstats.un.org/sdgs/files/report/2019/secretary-general-sdg-report-2019-EN.pdf>; accessed on 29 April 2020.
- UNESCO [United Nations Educational, Scientific and Cultural Organization].** 2010. *Reaching the Marginalized*. EFA Global Monitoring Report 2010. Paris, France: UNESCO.
- Wier SE, Price MF.** 2019. Identifying paths to successful higher education for girls in the Solukhumbu District, Nepal. *Mountain Research and Development* 39(3):D1–D8. <https://doi.org/10.1659/MRD-JOURNAL-D-19-00030.1>.
- Xiaoyan W, Liang C, Xuejun L, Song C, Nan X, Baoxuan J, Junsong Z, Jiahui L, Lu C.** 2018. Spatio-temporal analysis of educational convenience in ethnic mountainous areas with road network constraints: A case study of Yunnan Province, China. *Applied Geography* 100:39–54. <https://doi.org/10.1016/j.apgeog.2018.08.006>.
- Zulfiqar Z, Muhammad SC, Ishfaq K.** 2020. Factors of non-achieving universal primary education in South Punjab: A sociological study. *Pakistan Social Sciences Review* 4:469–480. [https://doi.org/10.35484/pssr.2020\(4\)37](https://doi.org/10.35484/pssr.2020(4)37).

Supplemental material

APPENDIX S1 List of interview partners.

Found at: <https://doi.org/10.1659/MRD-JOURNAL-D-20-00028.1.S1>.