

CAN COMMUNICATION CHANGE LIVES? MEASURING EFFECTIVENESS OF RADIO, SMS AND ROBOCALLS FOR BEHAVIOR CHANGE IN PAKISTAN'S TRIBAL BELT

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Abstract

Patriarchal institutions in Pakistan's Newly Merged Districts of Khyber Pakhtunkhwa (KP) continue to constrain women's land and inheritance rights, weakening social cohesion and prospects for peace. This study tests whether behavior change communication (BCC) can shift norms and practices around women's land inclusion within an ongoing land-registration reform. We conducted a mixed-methods field study across seven subdivisions, combining household surveys ($n = 764$; 69% men, 31% women) at baseline (September 2023) and mid-term (November 2024) with 15 key-informant interviews (revenue officials, district administrators, ombudsperson staff, and subject experts). Instruments were translated and piloted for cultural fit. The BCC package comprised a Pashto radio magazine (13 episodes), 36 radio PSAs (1,370 spots), 1.8 million SMS, and 450,000 robocalls.

Broadcast and phone-push channels contributed marginally to awareness (radio 3%; robocalls 2%; SMS 1%). Social media predominated, followed by face-to-face engagement, yet a pronounced digital gender gap constrained women's reach. Structural inequalities persisted: 58% of women reported no or limited schooling; 97% of households had no female landowner; women's awareness of land investment (43% vs 75% of men) and digitized registration (37% vs 85%) lagged markedly. Disputes centered on ownership (37%), boundaries (36%), and possession (16%). Trust deficits were acute—41% overall, and 70% of women, feared state expropriation. While informal justice (jirga) remained dominant (94%), recourse to formal mechanisms rose (courts 49%; deputy commissioners 37%). Nonetheless, from baseline to mid-term, women receiving legal shares increased (9%→14%), consultation in land matters rose (26%→38%), and female-to-female transfers became more common. Policy implications are clear: pivot from broadcast and generic phone-push to community-led engagement and micro-targeted social media that address male gatekeeping; pair BCC with institutional reforms (female front-line staff, women's facilitation desks, representation in ADR/DRCs); mitigate expropriation fears via transparent cadastre milestones, grievance redress, and feedback loops; and fund sustained norm-change measurement. Integrating BCC with land-governance reform can strengthen women's property rights and yield peace-building dividends.

Acknowledgment: The author gratefully acknowledges the Board of Revenue, Government of Khyber Pakhtunkhwa, and USAID Pakistan for their joint implementation of the Land Registration Project through DAI Pakistan. Their collaboration, technical support, and commitment to improving land governance and transparency in Khyber Pakhtunkhwa provided the foundation for this research. The author also recognizes the efforts of the project teams whose data, insights, and field expertise were invaluable to the completion of this study.

INTRODUCTION

Power and Patriarchy as Systems of Control

Power, as conceptualized by Foucault (1975), functions through mechanisms of control, normalization, surveillance, and internalized authority. This phenomenon is acutely visible in patriarchal societies, where male dominance often shapes and limits women's decision-making capacities. While much of the global literature on patriarchy and control emerges from the Global North, these dynamics are equally, if not more, entrenched in the sociocultural frameworks of South Asia. A particularly stark manifestation can be observed in the Merged Districts of Khyber Pakhtunkhwa (KPK), Pakistan—a region characterized by its tribal structure and deep-rooted patriarchy (Naveed, S. 2018).

The Gendered Impact of Conflict in the Tribal Belt:

Following the events of 9/11, the Federally Administered Tribal Areas (FATA), now merged into KPK, experienced intense conflict between the Taliban and the Pakistani military. This period of violence has had long-lasting repercussions on community attitudes, particularly regarding women's autonomy and mobility (USIP, 2018). Despite numerous awareness campaigns, resistance persists among many tribal Pashtun men who view women's education, employment, and agency as threats to traditional gender hierarchies (Asghar, 2024; Mustafa, 2013; Akbar, 2010).

In line with global post-conflict studies, gender inequalities in KPK have widened, especially in access to resources, participation in decision-making, and vulnerability to gender-based violence (USIP, 2018).

Legal Reforms and Persistent Patriarchy:

The 2018 merger of the tribal areas into KPK was a significant constitutional reform aimed at enhancing

governance and extending state protections to marginalized regions (Hashmi, 2024). Yet, such legal changes have had limited impact in transforming entrenched tribal customs (rivaj), particularly regarding women's land inheritance rights (Khalid et al., 2015). Weak judicial systems have perpetuated societal divisions and created fertile ground for extremist ideologies (Avis, 2016; Khan, 2012).

The Taliban capitalized on these governance gaps, embedding themselves in communities and reinforcing patriarchal norms that excluded women from education, mobility, and decision-making (FES, 2005 as cited in Avis, 2016).

Education as a Pillar of Peace building: Education has long been recognized as a critical factor in peacebuilding and societal recovery (Smith & Vaux, 2003). The KP-FATA merger, formalized in 2013, aimed to expand administrative and legal access. However, development outcomes have been undercut by recurring emergencies and slow policy implementation (TDS, 2019).

Stark gender disparities remain in literacy and employment. Male literacy stands at 49.7% compared to only 12.7% for females, while women's labor force participation is a mere 5.9%, highlighting persistent exclusion (TDS, 2019; FDIHS, 2013-14).

Gender Identity as a Driver of Conflict:

Gender identity intersects with other identity markers—tribal, ethnic, and religious—to influence conflict dynamics (Kuehnast and Robertson, 2018; Siddiqui, 2017). Gender, unlike other identities, cuts across all forms of social stratification, and its exclusion from peacebuilding mechanisms has significant repercussions.

The absence of women in Alternative Dispute Resolution (ADR) and Dispute Resolution Committees (DRC) underscores the institutional marginalization of women in peace processes across merged districts (TDS, 2019; Mehsud, 2024). This exclusion undermines participatory peacebuilding frameworks and weakens gender-sensitive conflict analysis (Jumaina Siddiqi, 2017).

Gender Responsive Budgeting- Rhetoric vs. Reality:

Budgetary allocations reflect strategic intent. While gender-responsive budgeting is globally recognized as essential for sustainable development (Naciti et al., 2023), its uptake in Pakistan remains minimal. Within the Tribal Decade Strategy (TDS), 'Gender and Women Development' ranks fifth in priority and has seen the steepest budget reduction—from PKR 4,975 million in 2019 to PKR 2,733 million by 2026—indicating a deprioritization of gender equity in provincial planning (TDS, 2019).

Global research warns that such gender-blind policies deepen inequalities and diminish the efficacy of public interventions (Chigbu, 2019).

Institutional Challenges in Gender Mainstreaming:

Despite the inclusion of gender objectives in National Development Plans, the actual integration within public systems remains superficial (Goetz, 1995; Rubin & Bartle, 2005). Understaffing of gender units, lack of technical capacity, and weak political will erode the long-term sustainability of gender-focused policies (Naciti et al., 2023). UNDP's Gender Outcome Evaluation concluded that existing efforts have yet to

translate into lasting institutional change in Pakistan's public sector.

The Role of Behavior Change Communication (BCC):

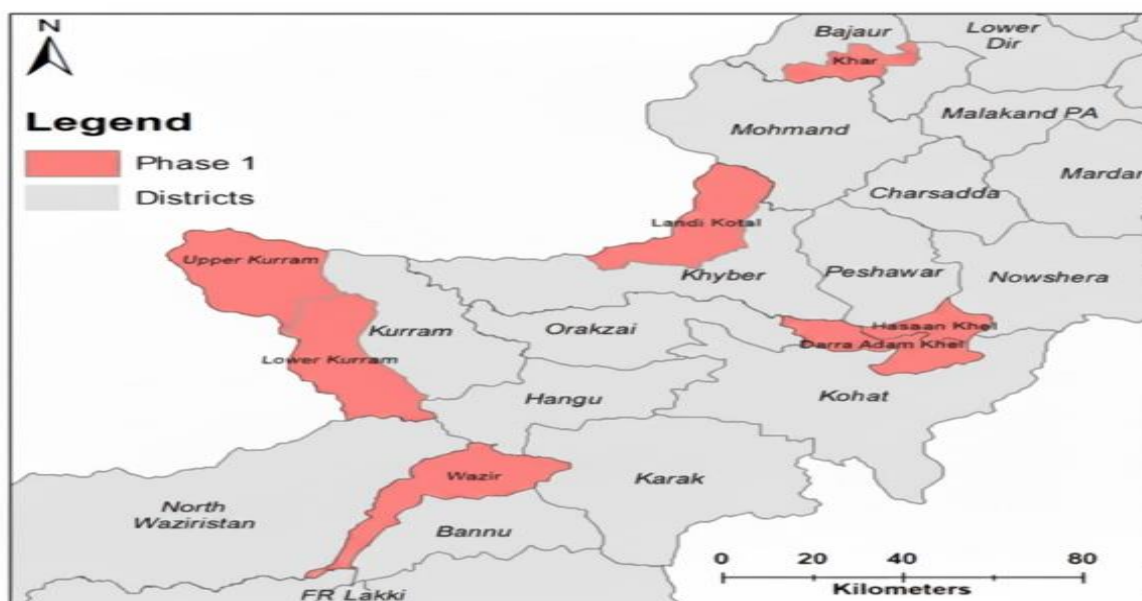
Behavior Change Communication (BCC) offers a framework for addressing the social norms that inhibit women's rights and participation. Grounded in psychological, sociocultural, and biological theories of behavior, BCC strategies aim to realign community attitudes and practices (Eagly & Wood, 1999; Glanz et al., 1990).

Effective BCC interventions must be locally grounded, data-driven, and account for gatekeeping structures—especially in patriarchal contexts like KPK, where access to women is regulated by men, clerics, and community leaders (Akbar, 2010; World Bank, 2024).

Media Campaigns for Gender Equality and Peacebuilding:

Media campaigns—through radio, SMS, TV, and robocalls—have shown promise in influencing public attitudes. However, evidence from Pakistan suggests a preference for interpersonal communication and localized messaging over traditional broadcast media (Hanan et al., 2019).

FCDO's review of 149 studies highlights the potential of media to affect attitudes, though the link to actual behavior change remains under-explored (Cramer et al., 2016). A robust operational framework for media-driven peacebuilding, especially involving women in conflict zones like KP, is urgently needed (Howard, 2002).



CASE STUDY: Effectiveness of Radio, SMS, PSA and Robocall campaigns in Raising Awareness of Women in Merged Areas of KP on Land and Inheritance rights

Target Merged Areas: i) Hassan Khel, Peshawar ii) Dara Adam Khel, Kohat iii) Khar, Bajaur iv) Bannu, Wazir, v) Upper Kurram vi) Lower Kurram vii) Landi Kotal, Khyber

Problem Statement: The absence of a formal land tenure system in the merged areas of Khyber Pakhtunkhwa (KP) represents a profound structural challenge rooted in the legacy of colonial governance and entrenched tribal customs. Land in these regions is predominantly held under communal or tribal ownership and regulated through *rewaj*—unwritten traditional norms enforced by tribal *jirga* councils. These

customary mechanisms, while historically significant, operate in the absence of legal codification or formal documentation, rendering land tenure insecure and highly susceptible to disputes. This informal and archaic land management system has engendered persistent conflicts over ownership and usage, some of which have escalated into broader sectarian violence. The lack of a transparent and reliable cadaster impedes dispute resolution,

undermines trust in governance institutions, and constrains long-term economic development by deterring both public and private investment. The resultant uncertainty surrounding property rights discourages infrastructure development and stifles entrepreneurial activity, perpetuating the region's economic marginalization.

Moreover, the absence of a formalized judicial framework to adjudicate land disputes exacerbates public grievances and erodes the legitimacy of the

Source: Revenue and Estate Department, Govt. of Khyber Pakhtunkhwa

state. The informal adjudication mechanisms fragment tribal societies along multiple fault lines, including tribal affiliation, ethnicity, generational divisions, religious sectarianism, and gender identity. Of particular concern is the systemic exclusion of women under *rewaj*, which categorically denies them the right to own, inherit, transfer, or utilize land for socio-political or economic purposes. This gendered marginalization not only violates constitutional and international legal standards but also constrains the agency and economic participation of half the population.

Intervention:

In 2021, the Board of Revenue (BoR), Government of Khyber Pakhtunkhwa (GoKP), in collaboration with

the United States Agency for International Development (USAID) Pakistan, launched a strategic initiative aimed at formalizing land governance in the newly merged districts of KP. This intervention sought to address longstanding structural deficits in land administration through a multi-faceted land registration and mapping program. The core objectives of the initiative included i) establishing a transparent, verifiable, and technologically-enabled cadaster of land rights using Differential Global Positioning System (DGPS) technologies ii) enhancing governance outcomes by improving the accessibility and accuracy of land records, thereby facilitating secure and efficient land transactions iii) stimulating economic growth by unlocking the potential of land and mineral assets for sustainable development iv) reducing the incidence of land-related conflicts through documentation and legal clarity, thereby contributing to peacebuilding efforts and v) promoting the inclusion and protection of women's rights to land ownership and inheritance in accordance with constitutional and human rights principles.

Given the complex terrain and infrastructural limitations of the target districts—including unreliable electricity and limited internet connectivity—the project deployed context-sensitive strategies to ensure effective community engagement. Special emphasis was placed on inclusive communication and behavioral change campaigns, with a particular focus on mobilizing women and other historically marginalized groups. These efforts were designed not only to raise awareness but also to promote social acceptance of formal land registration processes within traditionally governed tribal societies.

Media and communication Campaigns:

Land rights and registration lies at the core of tribal societies. The communication strategy employed by the LRMA Project adopted focused on the development of content related to land governance and took inspiration from global theories of 'participatory communication' and 'social norm change theory'. This theoretical underpinning allowed for emphasizing upon including community engagement aimed towards transformation of societal attitudes through tailored and context specific discussion (Servaes, 2008; Cislighi & Heise, 2018).

Based on a series of stakeholder consultations with key representatives from the Govt., media, researches, policy experts and women rights lawyers the project crafted a series of key messages and adaptive communication content tailored to the complexities of the target communities i.e., inhibiting patriarchal culture; low internet penetration; and sporadic electricity supply.

Keeping in view the socio-cultural religious sensitivities of the tribal communities, the project adopted a Do-No-Harm to safeguard its communication campaigns for any unintended side effects on the local communities such as prevailing tensions or triggering social backlash (Rohwerder, 2020). Thus, the messaging was based on a thorough stakeholder mapping which factored in the prevailing power dynamics and drivers of conflict in the target merged areas (UNDP, 2021).

Employing Radio Programming for Behavior Change:

The merged areas of Khyber Pakhtunkhwa are remote and inaccessible due to its geographical terrain. The closed patriarchal society and tribal way of life frowns upon free community engagement, especially with women and marginalized communities. As such radio remains is one of the few medium of communication with promise of raising awareness of the communities. One such example is of Radio Pakistan – the national public broadcaster – that has played an important role in disseminating information to the merged areas of KPK and educating them towards the socio-economic development of the region (Chaudhry et al., 2020).

Global Scholarship suggests that radio programming have been used to promote social and behavioral change particularly in the fragile contexts of so called third world countries (Clift, 1989). In this background, the Land Registration in Merged Areas Activity developed the following four media and communication campaigns for awareness raising and facilitating dialogue between local communities.

30-Minute Weekly Radio Magazine Show

To enhance public awareness and mobilize community engagement on land registration issues in the merged districts of Khyber Pakhtunkhwa (KP), a localized, culturally resonant communication intervention was conceptualized and implemented in the form of a

weekly 30-minute Pashto-language radio magazine show. The show was strategically designed as a multi-format audio program incorporating a radio news bulletin, a talk show segment, a scripted radio drama series, and a short public service message (PSM) to 3. maximize both reach and engagement among diverse 4. listener demographics in the region.

The **radio magazine show** was structured into three primary components:

1. **Radio Bulletin (15 minutes):** Each episode commenced with a 15-minute news bulletin providing **timely updates and progress reports on the Government of Khyber Pakhtunkhwa's (GoKP) land registration initiatives**. These bulletins were curated in close coordination with district-level administrative authorities and relevant departments to ensure **accuracy, relevance, and immediacy of information**. The bulletins covered key developments, ongoing registration drives, community facilitation measures, and government outreach activities, thereby serving as a critical information node for the public.
2. **Radio Drama Series (15 minutes):** The second segment featured a dramatized narrative built around a **fictional yet relatable family navigating the challenges and opportunities presented by the land registration process**. This narrative approach was intended to personalize the policy process, rendering it more accessible and emotionally resonant. The drama episodes leveraged well-developed characters and culturally appropriate storytelling techniques to **dispel myths, address fears, and demonstrate the tangible benefits of land ownership**, such as increased security,

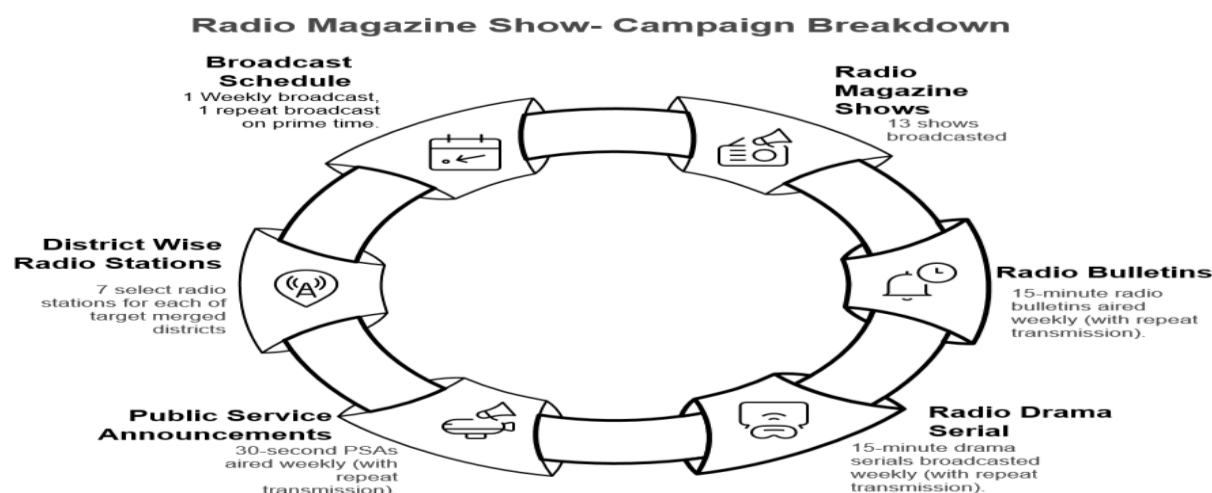
access to credit, and generational wealth transfer. Each episode stood alone in its message while contributing to a coherent series arc.

Public Service Message (30 seconds):

A succinct, **30-second PSM was embedded within each episode**, crafted specifically to **call communities to action**. These messages were context-specific and localized, often voiced by trusted figures (e.g., religious leaders, female community members, or local elders) to enhance credibility. The PSMs reinforced the core themes of the episode and provided clear, actionable steps for individuals to initiate or participate in the land registration process.

A total of **13 episodes** were developed and broadcast during the campaign cycle. The primary airing was scheduled for **every Sunday at 4:00 PM Pakistan Standard Time (PST)**, with a **repeat telecast every Wednesday at the same time**, ensuring higher exposure and listener convenience. Broadcasts were conducted via **regionally prominent FM radio stations**, which provided optimal coverage across **select target districts in the merged areas**.

The program's **content design and scheduling** took into account local media consumption habits, literacy levels, and gendered access to media. By leveraging **radio—a cost-effective and widely accessible medium even in remote or infrastructurally underserved locations—the intervention aimed to bridge information gaps and empower local communities with the knowledge and motivation to assert their land rights**.



Graph 1: Radio Magazine Show – Campaign Breakdown

2: Radio Public Service Messaging Campaign

As part of a broader communication strategy aimed at increasing awareness and promoting behavioral change regarding land registration in the merged districts of Khyber Pakhtunkhwa (KP), a comprehensive radio-based Public Service Announcement campaign was implemented. The campaign employed a segmented, culturally nuanced approach, rooted in behavior change communication theory, to engage and inform a wide cross-section of the population.

A total of 36 distinct PSAs were developed, each tailored to address the specific informational needs, concerns, and motivations of key community subgroups. These segments included i) Community elders and family heads who are often key decision-makers in land-related matters ii) Women and adolescent girls who are frequently marginalized in legal and bureaucratic processes iii) Male youth and general male audiences, targeted for their role in active engagement with administrative systems.

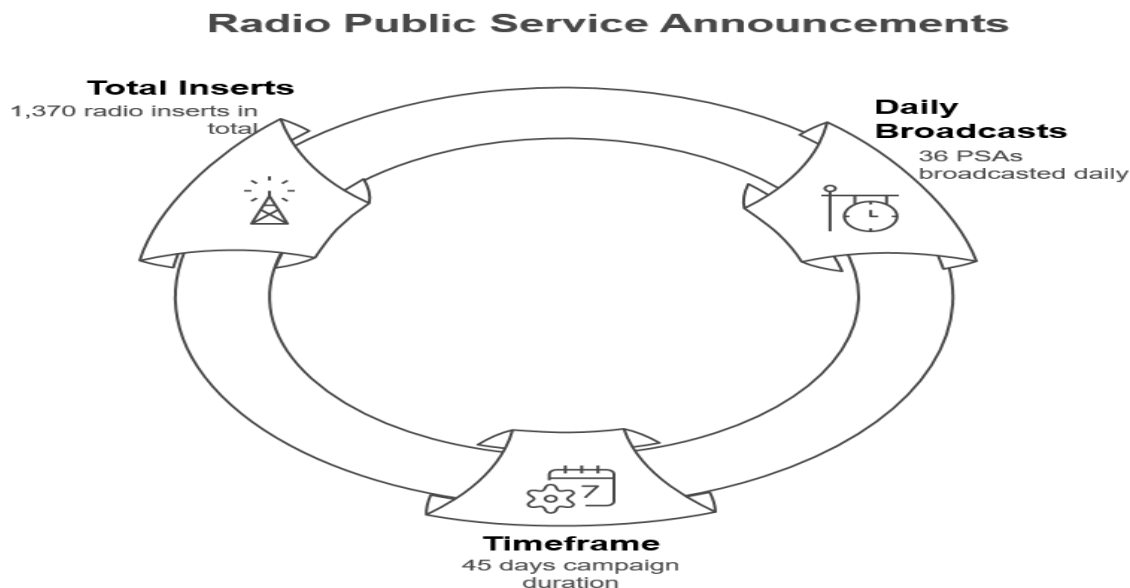
Each Public Service Announcement was crafted in the Pashto language and included localized dialects to ensure cultural appropriateness and resonance. Messaging design considered gender norms, power dynamics, and community hierarchies, and was informed by formative research on media

consumption patterns and local perceptions of land rights.

The PSA campaign was implemented over a 45-day period, during which a total of 1,370 radio spots were broadcast. Airtime was strategically scheduled between 8:00 AM and 8:00 PM daily, maximizing audience reach during peak listening hours. This high-frequency exposure model was designed to enhance message retention and increase the likelihood of community-level discourse and action.

To ensure geographical penetration and linguistic relevance, the campaign partnered with seven regional FM radio stations covering the target merged areas. This network was selected for their established listener base, trust among local populations, and ability to broadcast in region-specific dialects.

The auditory appeal of the PSAs was enhanced through the integration of background music and radio jingles inspired by traditional musical motifs and cultural rhythms specific to the merged districts. These elements were intentionally developed to evoke familiarity and emotional connection, thereby strengthening message impact. The jingle composition served both a mnemonic and aesthetic function, reinforcing key messages in a memorable and engaging format.



Graph 2: Radio Public Service Announcements

3. Mobile phone SMS Campaigns

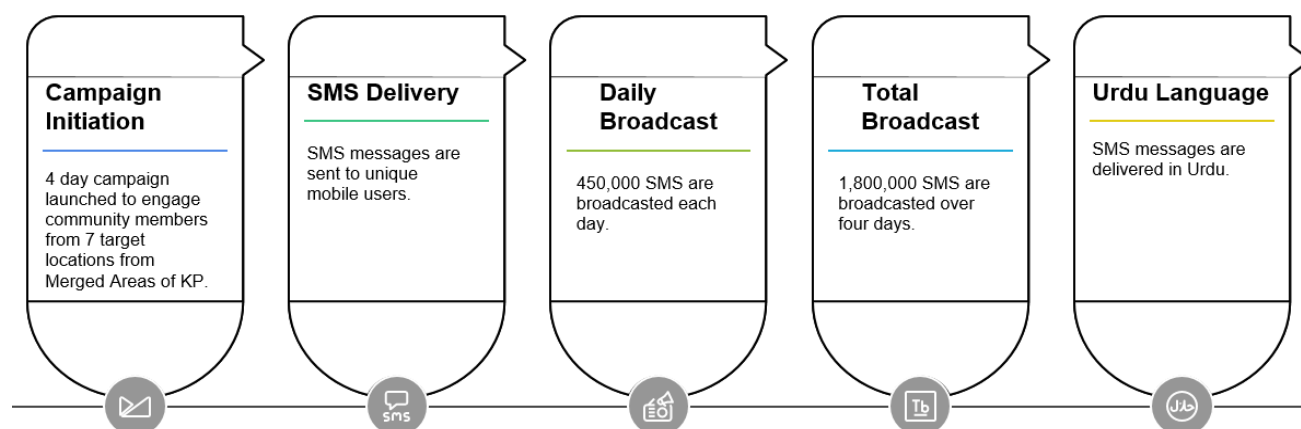
Over a four-day implementation window, a total of 1.8 million SMS messages were broadcast across seven strategically selected districts, with approximately 257,143 messages disseminated per district to unique mobile subscribers. The campaign utilized the infrastructure of all four major mobile network operators in Pakistan—Ufone, Telenor, Zong, and Jazz—to ensure maximal geographic and demographic coverage.

To enhance accessibility and readability, all messages were crafted in Urdu, the national lingua franca, thereby ensuring broader comprehension. The decision to forgo Pashto—the regional language in several target areas—was informed by literacy data indicating that a significant proportion of Pashto

speakers, particularly in rural and tribal settings, possess limited reading proficiency.

Each SMS was contextually tailored to the sociocultural and administrative landscape of the target communities. This included the integration of locally relevant content and the provision of contact information for designated government officials responsible for land registration, thereby facilitating immediate follow-up and practical engagement. Additionally, gender-sensitive messaging was specifically developed for women in tribal areas. These messages aimed to raise awareness about the Khyber Pakhtunkhwa Provincial Ombudsperson Secretariat, emphasizing the availability of institutional support mechanisms for women to claim and protect their land and inheritance rights.

Mobile SMS Campaign Sequence



Graph 3: Mobile SMS Campaign Sequence

4. Mobile phone Robocall Campaign

Over a four-day outreach period, a total of 450,000 robocalls were placed across seven target districts, with each district receiving approximately 50,000 calls directed to unique mobile phone users. The intervention was executed through all four major telecommunications providers in Pakistan—Ufone, Telenor, Zong, and Jazz—ensuring equitable distribution and minimizing network-related access disparities across diverse geographic and demographic groups.

The robocall content was standardized yet contextually sensitive, and delivered in Urdu to optimize listener comprehension and engagement across linguistically diverse populations. The exclusion of Pashto as a delivery language was a deliberate decision grounded in regional literacy assessments, which revealed low levels of reading

and auditory comprehension among Pashto-speaking populations in the targeted areas. In addition to general awareness messaging, the robocalls incorporated targeted content tailored to the specific needs and administrative frameworks of each

district. This included providing relevant contact information for local government officials tasked with land registration services. Furthermore, special attention was given to the inclusion of gender-focused content. Calls directed toward female audiences emphasized the availability of legal recourse and

support through the Khyber Pakhtunkhwa Provincial Ombudsperson Secretariat, thereby promoting institutional pathways for women's access to land and inheritance rights in traditionally underserved tribal regions.

Mobile Automated Robocalls

	Ufone	Telenor	Zong	Jazz
Target Districts	Landikotal; HassanKhel; Dara Adam Khel; Upper Kurram; Lower Kurram; Bannu Wazir; Khar, Bajaur	Landikotal; HassanKhel; Dara Adam Khel; Upper Kurram; Lower Kurram; Bannu Wazir; Khar, Bajaur	Landikotal; HassanKhel; Dara Adam Khel; Upper Kurram; Lower Kurram; Bannu Wazir; Khar, Bajaur	Landikotal; HassanKhel; Dara Adam Khel; Upper Kurram; Lower Kurram; Bannu Wazir; Khar, Bajaur
Robocalls Per district	50,000	50,000	50,000	50,000
Overall Robocalls	450,000	450,000	450,000	450,000

Graph 4: Mobile Automated Robocalls

Overview of the Evaluation

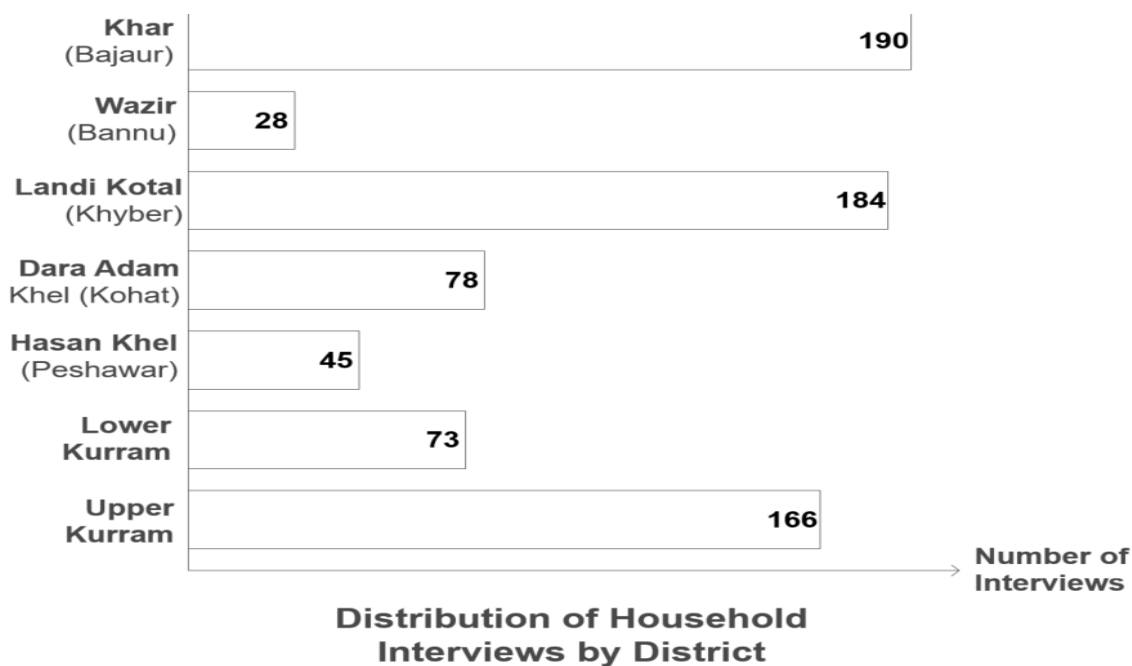
To gauge the efficacy of the communication campaigns, interventions, an evaluation was conducted in November 2024 in the seven sub-divisions of the target districts of the merged areas of KPK i.e., i) Bajaur ii) Bannu Wazir iii) Landi Kotal iv) Dara Adam Khel v) Hasan Khel vi) Upper Kurram vii) Lower Kurram (GoKP, 2025).

This evaluation study employed a mixed-methods research design, integrating quantitative and qualitative components to enhance analytical rigor and enable triangulation across data sources (Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 2010). To facilitate accurate and culturally resonant data collection, all instruments were translated into local languages—a practice recommended in cross-cultural social research to improve comprehension and response quality (Brislin, 1970).

The primary data collection methods included i) a structured household survey administered to a *purposefully randomized* sample of 764 individuals, designed to ensure representativeness across demographic groups (Bryman, 2016), and ii) a series of 15 key informant interviews (KIIs) were conducted.

The KII's were conducted with select Tehsildar's (Land Revenue Officer), Assistant Deputy Commissioners-General, Project Management Staff of Board of Revenue GoKP, Provincial Ombudsperson Secretariat Peshawar, and subject matter experts on land registration. As inspired by relevant global scholarship, these KII interviews were essential in which provided contextual insights and validation of survey findings (Patton, 2015).

Among the survey participants, 69% were male and 31% female—a distribution shaped by both logistical constraints and prevailing gender norms that often limit women's participation in field-based studies in the region (Kabeer, 2005; Cornwall & Rivas, 2015). The sampling approach—purposeful random selection—was specifically chosen to balance statistical diversity with practical field realities. Respondents represented a wide range of age groups, educational levels, and occupational categories, thereby strengthening the study's external validity and ensuring that community voices were captured across social and economic strata (Marshall & Rossman, 2016; Palinkas et al., 2015).



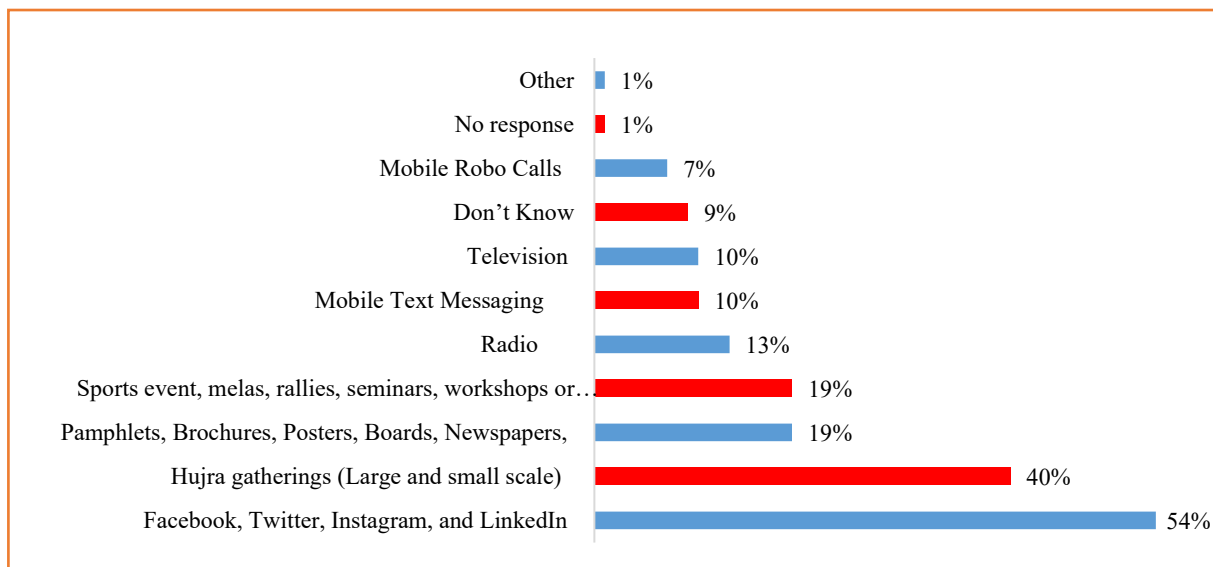
Graph 5- District-wise Distribution of Household Interviews

FINDINGS

This section compares results from the baseline survey (September 2023) with those from the mid-term review (November 2024) to assess the effectiveness of media campaigns in influencing women's awareness of, and attitudes toward, the land registration process across seven sub-divisions of the merged districts in Khyber Pakhtunkhwa (KP).

Finding 1: Modern Communication methods are ineffective in merged areas of KP

Survey responses from 724 participants indicate that broadcast and mobile-based communication channels made only marginal contributions to public awareness. Reported impact was lowest for SMS messaging (1%), robocalls (2%), and radio programming (3%), suggesting that these modalities had limited resonance with target audiences.

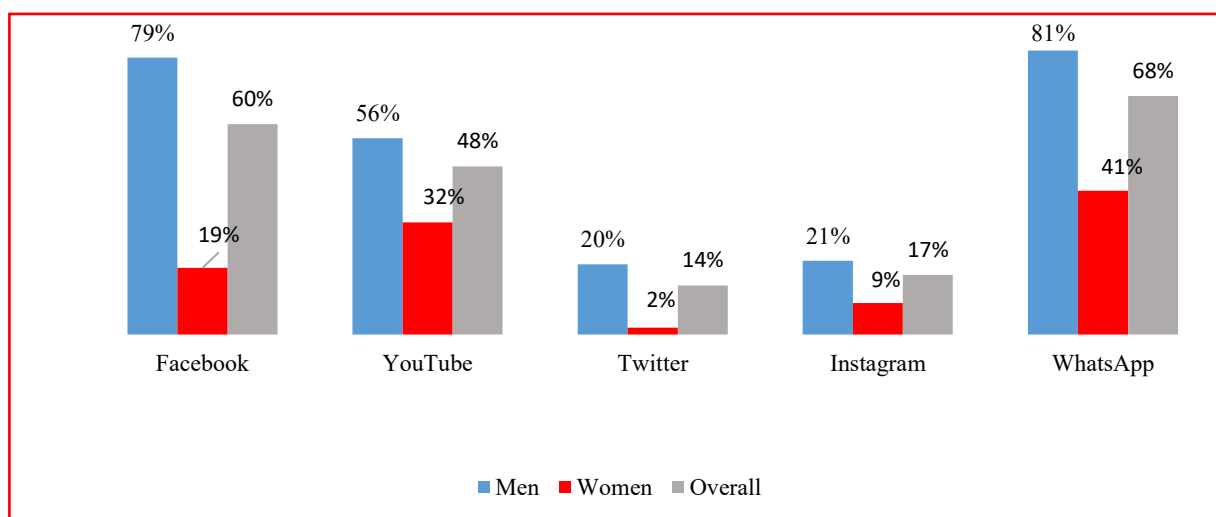


Graph 6- Sources of Information Consumption

Finding 2: Digital Poverty and Gendered Access to Social Media

The most frequently cited source of information was social media (e.g., Facebook, Twitter/X, LinkedIn, Instagram), followed by direct community engagement, which accounted for 40% of responses. Traditional print-based information, education, and communication (IEC) materials, such as posters, pamphlets, and brochures, had modest reach (19%).

Broadcast channels—radio (13%), television (10%), SMS (10%), and robocalls (7%)—were among the least relied upon. While social media has become the dominant information channel, access remains highly gendered. Men are significantly more likely than women to use platforms such as Facebook, YouTube, Twitter/X, Instagram, and WhatsApp. This disparity reflects both infrastructural limitations and socio-cultural constraints on women's digital engagement.



Graph 7- Gender wise use of social media

Finding 3: Persistent Gender Gaps in Education, Land Ownership, and Awareness

Household survey data (n=764; 69% male, 31% female) highlight substantial gender disparities:

- a) **Education:** 58% of women had no formal education or fewer than 10 years of schooling, compared to much higher attainment levels among men.
- b) **Land Ownership:** 97% of respondents reported no female landowners in their households; only 2% had one female owner, and fewer than 2% had two or more.
- c) **Awareness:** While 65% of respondents were aware of land investment opportunities, awareness among women (43%) was notably lower than among men (75%). Women also reported lower clarity regarding digitized land registration (37% versus 85% for men) and lower participation in economic activities (19%).

Finding 4: Reasons for Land Disputes

The GoKP is progressing with the land registration process, with progress slowed down due to various factors, including high prevalence of land-based

disputes. The findings suggest that the most common causes of land-related disputes were ownership disagreements (37%), boundary conflicts (36%), and disputes over possession (16%). Tenancy disputes, other unspecified causes, and uncertainty accounted for the remainder.

Finding 5: Public Perceptions of the Land Registration Process

Community trust in the Govt. of Khyber Pakhtunkhwa ongoing land registration process remains low. The most frequently expressed concern was the fear that the government might expropriate land (41% overall; 70% among women). Other concerns included system complexity (15%), corruption (15%), preference for traditional systems (11%), and fear of taxation (6%). Women consistently expressed higher levels of mistrust than men. As the data suggests, women of merged areas - compared to male respondents - exhibited the highest trust deficit with the GoKP as they remain anxious about the Govt. grabbing their land.

Table 1: Public perception about perceived ineffective land registration process

Perceived Ineffectiveness of Land Registration Efforts	Men	Women	Overall
Government will grab our land	37%	70%	41%
New system is difficult to understand	14%	20%	15%
There will be corruption	18%	0%	15%
More accustomed to old system	13%	0%	11%
Lack of education	2%	10%	3%
Mafia group can capture our land during the process	2%	0%	1%
No basic rights of the land are defined, and the process can be exploited	8%	0%	7%
Fear of taxes	6%	0%	6%

Finding 6: Access to Justice Mechanisms

Informal justice systems remain dominant, with 94% of respondents citing reliance on *jirgas*. Other informal actors include community elders (39%), political leaders (18%), and local influencers (15%). Formal mechanisms—courts (49%) and deputy commissioners' offices (37%)—are increasingly used, but alternative dispute resolution remains the primary channel.

Finding 7: Baseline–Mid-Term Changes in Key Indicators

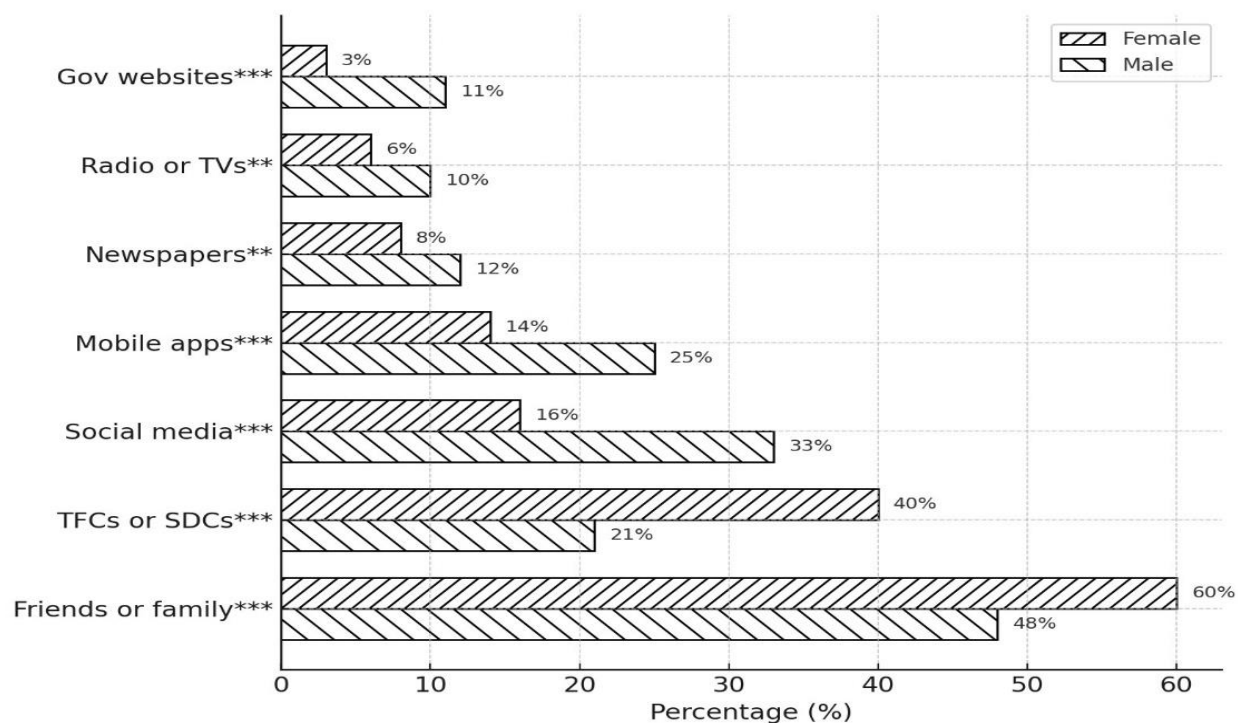
Comparative data show incremental improvements:

- Women receiving their legal share of immovable property increased from 9% to 14%.
- Women consulted on land-related matters rose from 26% to 38%.
- Among women who received inheritance, there was a shift toward transferring shares to other female relatives rather than male relatives, potentially indicating declining trust in male family members.

DISCUSSION

Radio has historically demonstrated the capacity to engage both urban and rural populations across diverse thematic areas, including health, education, and agriculture (Chaudhry et al., 2020; Saleem et al., 2019). Its potential for influencing social and behavioral change, particularly in developing-country contexts, is well-documented (Clift, 1989). However,

in the context of the Newly Merged Districts of Khyber Pakhtunkhwa (KP), findings from this study identify radio as one of the least preferred sources of information. This finding is consistent with evidence from the World Bank (2023), which notes low usage of radio among both men and women—especially the latter—within the region.

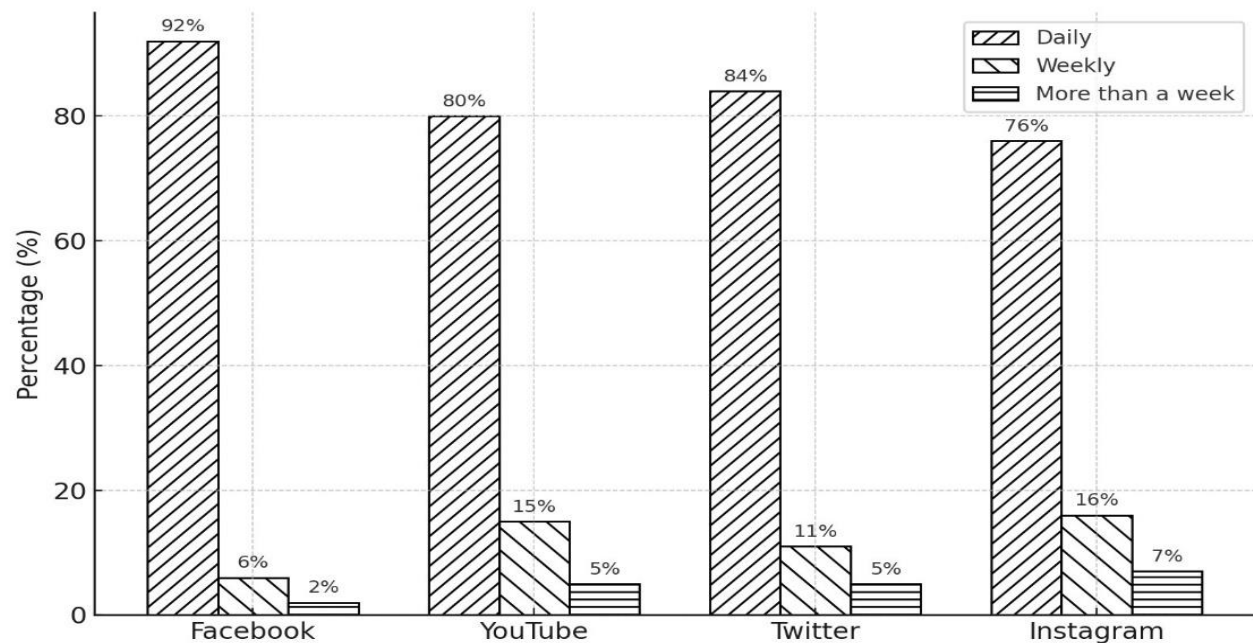


REFERENCES

World Bank (2023). Figure 8- Source of Information on taxes (page 24).

The data findings suggest that despite widespread access to mobile technology in the merged districts, the impact of SMS campaigns and robocalls was minimal, particularly among women. This limitation appears to be linked to socio-cultural constraints, most notably “male gatekeeping.” World Bank (2023) offers an explanation for this observation and argues that

women’s phone numbers are often replaced with those of male relatives; in some cases, men restricted women from participating in phone-based surveys, and women themselves were hesitant to respond to unfamiliar calls or felt insufficiently informed to engage with the subject matter. Thus, within this restrictive environment, social media offers comparatively greater potential for outreach. A significant proportion of respondents reported daily use of Facebook, followed by Twitter/X, YouTube, and Instagram. Social media usage patterns indicate that 79% of respondents access these platforms for news, the same proportion for entertainment, and 60% for educational content.

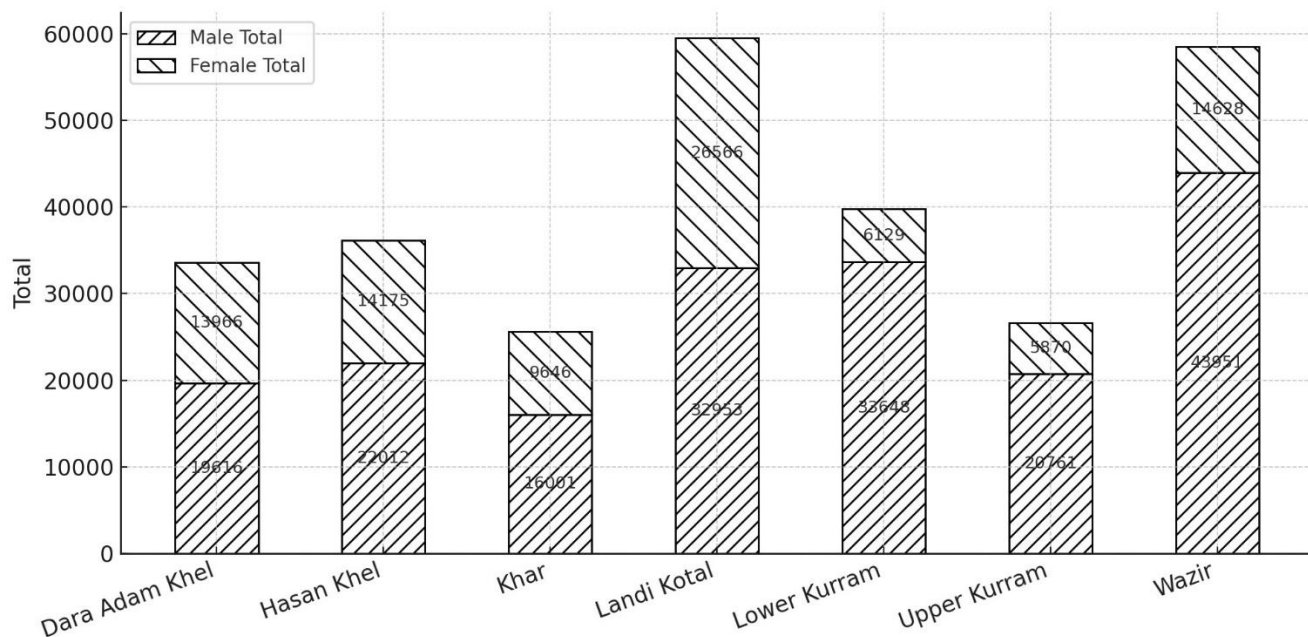


The data further reveal a strong correlation between women's educational attainment and their use of social media platforms, suggesting that education functions as a facilitator of digital engagement and, by extension, empowerment. Social media has created spaces for women, youth, and other marginalized groups to participate in discussions on socio-economic and cultural issues, thereby expanding opportunities for collective agency (Kumari, 2024). Nevertheless, the persistence of "digital poverty," when combined with low female literacy and male gatekeeping, continues to constrain women's full inclusion in development discourse. These limitations echo broader global findings that identify such structural barriers as both drivers of conflict and significant challenges for

development actors seeking to promote women's participation (World Bank, 2023).

These barriers have tangible consequences for women's socio-economic well-being, particularly in relation to property rights. Administrative data from the Board of Revenue, Government of Khyber Pakhtunkhwa (2024), indicate pronounced gender disparities in land registration outcomes (Table 1). The *Shajara Nasb* (family tree) records reveal consistently lower female representation across all target sub-districts. For example, in Dara Adam Khel, of 33,582 family-tree entries, 58% were male and 42% female; in Lower Kurram, the disparity was more pronounced, with males accounting for 85% of entries and females just 15%.

Graph: Total Shajara Nasb Prepared by BOR-GoKP (Gender-wise Land Ownership, September 2024)



These disparities reflect the structural exclusion of women from land ownership and related economic opportunities. Qualitative data from this research highlight the primary causes of land disputes: ownership conflicts (37%), boundary disagreements (36%), and disputes over possession (16%). Women's absence from land mapping exercises not only marginalizes them from formal ownership but also limits their ability to influence development planning and dispute resolution processes. This aligns with global scholarship documenting the institutionalized denial of women's property rights (Chigbu, 2015).

Institutionally, women's exclusion is further entrenched by the absence of female personnel in key land administration roles. As of 2024, only 12 female *patwaris* served the entire merged region; there were no female GIS land mapping analysts, no women's facilitation desks at district Sustainable Development Centres, and no female *tehsildars*. Furthermore, women are not represented in Alternative Dispute Resolution mechanisms or Dispute Resolution Committees (Mehsud, 2024). These institutional gaps reinforce patriarchal norms and perpetuate gender-based exclusion in land governance (O'Reilly, 2013).

Despite these barriers, there are signs of gradual change. Women are increasingly engaging with both informal and formal justice systems to protect their land and inheritance rights. While *jirgas* remain dominant (94%), other informal actors such as community elders (39%), political leaders (18%), and local influencers (15%) also play a role. Simultaneously, more respondents are turning to formal mechanisms such as district courts (49%) and deputy commissioners' offices (37%). Nevertheless, women's involvement remains largely participatory rather than authoritative, limiting their agency in conflict resolution and peacebuilding (Lwambda et al., 2022).

Finally, since the initiation of the GoKP's land mapping exercise in 2019, there has been a modest increase in the proportion of women receiving their rightful share of immovable property—from 9% at baseline to 14% at the mid-term review. Notably, women who acquired land often chose to transfer it to female relatives rather than male family members, suggesting an emergent, though cautious, assertion of agency within a still-constrained socio-cultural environment.

REFERENCES:

- Aid to Pakistan by the numbers. (2013). Centre for Global Development. <https://www.cgdev.org/page/aid-pakistan-numbers>
- Bennet, C. (2014). *A gender agenda: The effectiveness of quota systems in increasing women's meaningful participation in politics*. Australian Institute of International Affairs. <https://www.internationalaffairs.org.au/news-item/a-gender-agenda-the-effectiveness-of-quota-systems-in-increasing-womens-meaningful-participation-in-politics/>
- Bicchieri, C. (2017). *Norms in the wild: How to diagnose, measure, and change social norms*. Oxford University Press.
- Blackstock, K., Ingram, J., Burton, R., Brown, K., & Slee, B. (2010). Understanding and influencing behaviour change by farmers to improve water quality. *Science of the Total Environment*, 408(23), 5631–5638. <https://doi.org/10.1016/j.scitotenv.2009.10.018>
- Board of Revenue, Government of Khyber Pakhtunkhwa. (n.d.). *Settlement and land record (7 districts)*. Retrieved October 7, 2025, from <https://revenue.kp.gov.pk/settlement-and-land-record-7-districts/>
- Brautigam, D. (2000). *Aid dependence and governance*. Almqvist & Wiksell International.
- Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology*, 1(3), 185–216. <https://doi.org/10.1177/135910457000100301>
- Bubeck, P., Botzen, W. J. W., & Aerts, J. C. J. H. (2012). A review of risk perceptions and other factors that influence flood mitigation behavior. *Risk Analysis*, 32(9), 1481–1495. <https://doi.org/10.1111/j.1539-6924.2011.01783.x>
- Bryman, A. (2016). *Social research methods* (5th ed.). Oxford University Press.
- Chaudhary, S., Kumari, R., & Yadav, R. (2020). Impact of community radio programs in rural development. *International Journal of Scientific & Technology Research*, 9(1), 1234–1237.
- Cislaghi, B., & Heise, L. (2018). Four avenues of normative influence: A research agenda for health promotion in low- and mid-income countries. *Health Psychology*, 37(6), 562–573.
- Clift, E. (1989). Folk arts and health communication. *Development Communication Report*, 64–67, 1–4.
- Clift, E. (1989). Social marketing and communication: Changing health behavior in the Third World. *American Journal of Health Promotion*.
- Cornwall, A., & Rivas, A.-M. (2015). From 'gender equality and women's empowerment' to global justice: Reclaiming a transformative agenda for gender and development. *Third World Quarterly*, 36(2), 396–415. <https://doi.org/10.1080/01436597.2015.1013341>
- Cramer, C., Goodhand, J., & Morris, R. (2016). *Evidence synthesis: What interventions have been effective in preventing or mitigating armed violence in developing and middle-income countries?* Department for International Development.
- Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). Sage.
- Dijkstra, G. (2017). Aid and good governance: Examining aggregate unintended effects of aid. *Evaluation and Program Planning*, 68, 225–232. <https://doi.org/10.1016/j.evalprogplan.2017.02.012>
- Dreibelbis, R., Winch, P., Leontsini, E., Hulland, K., Ram, P., Unicomb, L., & Luby, S. (2013). The integrated behavioral model for water, sanitation, and hygiene. *BMC Public Health*, 13, 1015. <https://doi.org/10.1186/1471-2458-13-1015>
- Eagly, A. H., & Wood, W. (1999). The origins of sex differences in human behavior: Evolved dispositions versus social roles. *American Psychologist*, 54(6), 408–423.
- Kuehnast, M., & Robertson, C. (2018). *Gender inclusive framework and theory: A guide for turning theory into practice*. United States Institute of Peace. <https://www.usip.org/publications/2018/08/gender-inclusive-framework-and-theory>

- Goetz, A. M. (1995). *The politics of integrating gender into state development processes*. United Nations Research Institute for Social Development & UNDP.
- Hanan, M. A., Saleem, N., Khawar, N., & Arshad, A. (2019). Media and behavior change: Effectiveness of public health campaigns in Pakistan. *Isra Medical Journal*, 11(4), 323–326.
- Hashmi, R. S. (2024). Beyond military operations: Fostering good governance and resilient state-society relations in newly merged districts (A counter-terrorism strategy). *Pakistan Journal of Terrorism Research*, 6(1).
- Hassan, Z., & Silong, A. D. (2008). Women leadership and community development. *European Journal of Scientific Research*, 23(3), 361–372.
- Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Sage.
- iMotions. (n.d.). *Foundations of human behavior*. <https://imotions.com/blog/learning/research-fundamentals/foundations-of-human-behavior/>
- Rubin, M. M., & Bartle, J. R. (2005). Integrating gender into government budgets: A new perspective. *Public Administration Review*, 65(3), 259–272. <https://doi.org/10.1111/j.1540-6210.2005.00452.x>
- Interview with Mumtaz Mehsud. (2024). *Career-focused community engagement specialist for merged areas of KP*.
- IWRM ActionHub. (2024). *Behavior change communication*. <https://iwrmactionhub.org/learn/iwrmtools/behaviour-communication-change>
- Jenkins, K. (2018). Toward an account of gender identity. *Ergo*, 5(27). <https://eprints.gla.ac.uk/223690/>
- Kabeer, N. (2003). *Gender mainstreaming in poverty eradication and the millennium development goals*. Commonwealth Secretariat; CIDA.
- Kabeer, N. (2005). Gender equality and women's empowerment: A critical analysis of the third millennium development goal. *Gender & Development*, 13(1), 13–24. <https://doi.org/10.1080/13552070512331332273>
- Kimari, M. (2024). Social media and women empowerment. *International Journal of Scientific & Technology Research*. https://www.researchgate.net/publication/378042467_Social_Media_And_Women_Empowerment
- Mackie, G., Moneti, F., Shakya, H., & Denny, E. (2015). *What are social norms? How are they measured?* UNICEF; University of California.
- Marshall, C., & Rossman, G. B. (2016). *Designing qualitative research* (6th ed.). Sage.
- Mehsud, M. (2024). *Interview held to discuss NMD and their potential for BCC campaigns*.
- Muhammad, R. K. (2011). International forced migration and Pak-Afghan development concerns: Exploring Afghan refugee livelihood strategies. *Journal of Social and Development Sciences*, 2(4), 181–187. <https://ideas.repec.org/a/rnd/arjds/v2y2011i4p181-187.html>
- Muhammad Umair Chaudhry, T. H., & Ghani, A. (2020). Role of FM radio on Pakistani youth: Socio-political perspective. *Geo Political Review*.
- Naciti, V., Noto, G., Pulejo, L., & Vermiglio, C. (2023). Accountability for gender equality: A bibliometric and content analysis of gender budgeting in the public sector. In P. Paoloni & R. Lombardi (Eds.), *When the crisis becomes an opportunity* (pp. 265–283). Springer. https://doi.org/10.1007/978-3-031-21932-0_19
- Naveed, S. (2018). *The importance of educating girls in NMDs of KP, Pakistan*. Echidna Global Scholars Program, Policy Paper.
- Palinkas, L. A., et al. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health*, 42(5), 533–544. <https://doi.org/10.1007/s10488-013-0528-y>
- Patton, M. Q. (2015). *Qualitative research and evaluation methods* (4th ed.). Sage.
- Reynolds, L. G. (1985). *Economic growth in the Third World, 1850–1980*. Yale University Press.
- Rohwerder, B. (2020). *Communicating for social change in fragile contexts*. Institute of Development Studies (IDS).

- Saleem, A., Rizvi, W. R., & Saleem, M. (2019). Role of Radio Pakistan in advancing socio-economic development of rural areas. *Global Regional Review*, 4(2), 359–363.
- Sarwar, A., Hassan, M., & Mahmood, T. (2015). Foreign aid and governance in Pakistan. *Pakistan Economic and Social Review*, 53(2), 149–176.
- Servaes, J. (2008). *Communication for development and social change*. Sage.
- Tashakkori, A., & Teddlie, C. (2010). *Sage handbook of mixed methods in social & behavioral research* (2nd ed.). Sage.
- Tufte, T., & Mefalopulos, P. (2009). *Participatory communication: A practical guide*. World Bank.
- UNDP & CDA Collaborative Learning Projects. (2021). *Do no harm in strategic communications: A toolkit for practitioners*.
- UNDP Pakistan. (2008). *Gender outcome evaluation*. UNDP.
- USAID Pakistan. (2024). *Country factsheet*. <https://www.usaid.gov/sites/default/files/2024-08/2024-USAID-Pakistan-Country-Factsheet.pdf>
- Wakefield, M. A., Loken, B., & Hornik, R. C. (2010). Use of mass media campaigns to change health behavior. *The Lancet*, 376(9748), 1261–1271.
- Siddiqui, J. (2017). Identity, gender, and conflict drivers in Pakistan. *Peace Brief* 221. United States Institute of Peace. <https://www.usip.org>
- Mustafa, U. (2013). Determinants and implications of major conflicts in Pakistan. *Millennial Asia*, 4(1). <https://doi.org/10.1177/0976399613477313>
- Foucault, M. (1977). *Discipline and punish: The birth of the prison* (A. Sheridan, Trans.). Pantheon Books.
- Asghar, W. (2024). FATA merger impacts on status of tribal women. *Journal of Development and Social Sciences*, 5(2).
- Akbar, N. (2010). *Women's rights in FATA Pakistan: A critical review of NGOs' communication strategies for project implementation*. Lambert Academic Publishing.
- Kuehnast, K., & Robertson, D. (2018). *Gender inclusive framework and theory: A guide for turning theory into practice*. United States Institute of Peace.
- Khalid, A., Nyborg, I., & Khattak, B. N. (2015). Rural land ownership and gendered development. *Journal of Rural Studies*, 41, 47–58.
- Avis, W. (2016). Drivers of conflict in the Swat Valley, Pakistan (GSDRC Helpdesk Research Report 1398). University of Birmingham.
- Smith, A., & Vaux, T. (2003). *Education, conflict, and international development*. UK Department for International Development.
- Government of Khyber Pakhtunkhwa. (2019). *Tribal decade strategy 2020–2030*. Planning and Development Department. <https://pndkp.gov.pk/download/tribal-decade-strategy-2020-2030/>
- FATA Development Indicator Household Survey. (2015). Bureau of Statistics, Planning and Development Department, FATA Secretariat. <https://phkh.nhsrpk.gov.pk/sites/default/files/2019-07/Fata-Development-Indicators-Household-Survey-2013-14.pdf>
- Chigbu, U. E. (2019). Rural land ownership and land use conflicts in Africa: Exploring implications for agricultural development. *Land Use Policy*, 86, 126–135. <https://doi.org/10.1016/j.landusepol.2019.04.018>
- Glanz, K., Lewis, F. M., & Rimer, B. K. (Eds.). (1990). *Health behavior and health education: Theory, research, and practice*. Jossey-Bass.
- Komatsu, H., & Touqeer, I. (2023). *Gender and taxpayer study in Khyber Pakhtunkhwa, Pakistan: In preparation for the one-stop taxpayer facilitation centers*. The World Bank Group.
- Howard, R. (2015). Conflict-sensitive journalism: (R)evolution in media peacebuilding. In *Communication and peace* (1st ed., p. 14). Routledge. <https://doi.org/10.4324/9781315688961>
- O'Reilly, M., Ó Súilleabháin, A., & Paffenholz, T. (2015). *Reimagining peacemaking: Women's roles in peace processes*. International Peace Institute. <https://www.ipinst.org/wp-content/uploads/2015/06/IPI-E-pub-Reimagining-Peacemaking.pdf>
- Lwamba, E., et al. (2022). Strengthening women's empowerment and gender equality in education: A systematic review and meta-analysis. *Campbell Systematic Reviews*, 18(1), e1214. <https://doi.org/10.1002/cl2.1214>

Hashmi, R. S. (2024). *Beyond military operations: Fostering governance and resilience in newly merged districts*. Pakistan Journal of Terrorism Research, 6(1).

UNDP & CDA Collaborative Learning Projects. (2021). *Do no harm in strategic communications: A toolkit for practitioners*.

Government of Pakistan. (2015). *FATA development indicator household survey 2013–14*. Bureau of Statistics.

