



Volume and Issues Obtainable at Center for Sustainability Research and Consultancy

Journal of Business and Social Review in Emerging Economies

ISSN: 2519-089X (E): 2519-0326

Volume 6: Issue 2 June 2020

Journal homepage: www.publishing.globalcsrc.org/jbsee**Land Record Computerization brings more Trouble for Farmers in Punjab Pakistan**¹Muhammad Shabbir, ²Muhammad Shahid, ³Muhammad Atif, ⁴Uzma Niaz¹Assistant Professor, Department of Sociology, Government College University Faisalabad, Pakistan,drmsabbir@gcuf.edu.pk^{2&3}PhD Scholar in Sociology, Department of Sociology, GC University Faisalabad, Pakistan,shahid251rb@gmail.comaatiftabassam@gmail.com⁴Lecturer, Department of Criminology & Sociology, Ali Fatima College & Management Sciences, Faisalabad, Pakistan, uzmaniaz360@gmail.com**ARTICLE DETAILS****History**

Revised format: May 2020

Available Online: June 2020

Keywords

Digitalization, land record, computerization, e governance, landowners

JEL Classification

Q0, Q1

ABSTRACT

The research in hand focused on the issue of land record computerization that brings more troubles to the farmer instead of more ease in Punjab, Pakistan. This research was conducted in three major agricultural districts of Punjab, namely Faisalabad, Rawalpindi, and Multan selected by using purposive sampling strategy. A sample of 450 respondents was drawn from three selected districts through a proportionate sampling technique. It was found that a major part of the respondents knew the internet/digitalization of land records. It was perceived that a significant proportion of the respondents was dissatisfied with the current land records system and faced large difficulty in contacting with department officials for getting these services. It is clear from the results that digitalization of land record service is expensive, inaccessibility of relevant officials when needed, no service with unofficial payment and time-consuming. It was found that some factors behind the problems with the digitalization of land record such as lack of monitoring system, out of range, incompetent staff, lack of proper information about service, and distance. It was observed that the awareness level of people was low about the procedure of getting land records (fard, mutation, Fard Badar, etc.). Therefore, it was recommended in the research awareness campaigns should be launched at the village level by the concerned authorities and regular monitoring of the staff is expected to improve the current system.



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Recommended citation: Shabbir, M., Shahid, M., Atif, M., and Niaz, U. (2020). Land Record Computerization Brings More Trouble For Farmers In Punjab, Pakistan. *Journal of Business and Social Review in Emerging Economies*, 6(2), 753-760

1. Introduction

The most valuable property of human beings is land. The land is considered as an important asset of any nation to make their country visible. It is a rare natural resource and regarded as a measure of wealth, status, and power. Without considering this asset, it is nearly impossible to formulate any developmental activity. The assets of the nation and the economic development of a country are dependent on the state's land utilization policies. It is being

widely noted that the effectiveness and productivity of land management is one of the national development indicators. Hence, it can be concluded that land plays the most crucial role in the progress of any nation around the globe.

From the state's perspective, clear, organized land records are of pivotal importance as they form the basis of its revenue from taxes on agricultural income and the transaction of rents, revenues. They are also imperative for planning and infrastructure development. From the individual's perspective, land records form the basis of land transactions such as assignment, settlement of land titles, and in determining who owns what (Mahmood et al., 2010).

The land itself and how the governments are dealing with land issues are a matter of major concern for the development of a country. This is also notified at the global level. The Rio Conference 1992 (Agenda 21) was adopted for the Global Plan of Action for Sustainable Development. The agenda includes the following global objectives that are directly related to land issues including battling poverty, sustainable settlement of humans, sustainable agriculture, and forest conservation. For achieving these objectives, van der Molen (2006a) strongly recommended the legal frameworks for land ownership and land management. This framework can facilitate the urban and rural poor community to create efficient and accessible land markets and to build suitable patterns of land tenure. This will render security and safety for all land users, notably for the indigenous community.

The conventional methods of operating a Land Administration System (LAS) are supposed to be too slow, too complex, and expensive as well. It is a common perception that LAS mostly obliges only the elite groups of the society and rarely performs properly for the interests of the poor and middle class which are true to some extent. Consequently, new pathways and approaches are required to fulfill the demands of all groups. The maintenance of data should be formed in such a way that every individual can quickly access to his land data efficiently and effectively (van der Molen, 2006b).

In India and Pakistan, the land administration system (LAS) is very old and imperfections exist there. It is said that the Arthashastra was the first Indian who worked and mentioned village officers known as Gopa, they were responsible persons for the formation and preparation of different registers of records with village fields, their transfers, and due taxes at a pretty initial level. Sher Shah Soori (1534-1545) was the person who tried to make reforms in the land administration system. He developed the reforms for land categorization, land measurement, and rates were fixed for crops. These reforms were made during the time of Mughal King Akbar (1556-1605). Todar Mal, an adviser to Akbar, was the one who initiated the regularization of land record management for the first time. He also formulated the measures through which agricultural tax assessment can be made on a logical and rational basis. Afterward, the British in their colonial rule implemented the scientific system for land management. Whereby, large scale cadastral surveys were conducted to define the boundaries and extent of every landholding. Soil fertility, another important component was also incorporated to formulate and deliberate the tax system. The collection of land revenue was made from the landholders of every village (Iqbal and Faiz-ul-Hassan, 2017).

The present land management system of Pakistan is the one that matched with the system of Akbar's time and did not remove yet. It is stated that almost 190 million land records are arranged manually in Pakistan that accommodates the fraction of approximately 50 million landowners. In metropolitan areas, residential societies like Defense Housing Authority Karachi and Model Town Lahore took charge of the property that is located in housing societies. Board of Revenue is recognized as the authorized institution for the maintenance of the land records. In BoR, Patwaris are the most junior officers and recognized as sole custodians of the land records in Pakistan. Approximately, 14000 Patwaris are appointed in Pakistan to look after the original land record of a specific assigned area or among 2 to 8 revenue estates. A revenue estate maybe consists of a single larger village or 2 to 3 small villages. Patwari has the authority regarding making changes in the original record relating to taxation, use, and ownership (Qazi, 2006).

Land records not just hold the details of one's ownership, but also contain the details of sale, transfer, and crops which are grown on the particular land. Patwari possesses the 17 registers in which every register contains important details concerning to land records. For instance, one register contains the sale and transfer details of land; another register contains the present ownership details, and also one register holds the details of growing crops on the land. Another

infamous register named 'Red Book or LalKitaab' in which Patwari entered the unusual incidences or happenings concern to the property of a particular area, like an outbreak of diseases, death of cows, and bird flu, etc. A register contains the details of the genealogic of the families of a specific area to amortize the property. All the registers possess by the Patwari are cross-linked and may be subjected as scientific. However, in practice, it is a confusing system. (Blue Chip Magazine, 2004)

The Government of Punjab, Pakistan introduced the computerized land record system in an effort of improvement in service delivery as well as to fix the overall land record issues. In the old Patwari system, the transaction costs for land was high. Women were refusing their legal land rights and ownerships. The low rate of transfer of land and the less mobile land markets added its share in unequal land distribution as well as affect the livelihood opportunities of people (Gonzalez, 2016). This computerized land record system of our country is appreciated globally essentially the World Bank (WB) representatives recognized and appreciated it. The main functionality of LRMIS included: (Anayat, 2016).

- The issuance and verification of Fard in a short time span i.e. in 30 minutes
- Within the short time of 50 minutes the transfer in ownership without any difficulties
- Through the training staff, biometric data record, and building of Land Record Services in 150 districts & Tehsil of Punjab has ensured the safety for owners in claiming their ownership

Efforts have been executed in Pakistan to computerize the land record. The purpose of this execution is to simplify the process for every individual. The digital data recording and transparency in records are the basic motives behind it. The expected conclusion is a safer, quick, and efficient investment in land capital in the country (Qazi, 2006).

Usually, a quasi-title deed or document named "the fard" is needed for handling land-related concerns (Qazi, 2006). This document is also used in the following cases:

- In court cases, it is used as guarantee document for bails
- As a confirmation of permanent residency in a case to acquire a domicile certificate;
- Attached with the application concerned to "Agricultural Passbook" that is used for getting credits from monetary organizations and institutions;
- Used as a proof for changing ownership of land in case of inheritance, and,
- For dealing with land affairs like possession, sale, debt, lease, or to present someone

Digitalization (e-governance) is the need of time because the world is passing through the era of post modernization. The Government of Pakistan is trying to meet the international standards in the land revenue department by making the department digitalized. It is necessary to assess the problems faced by the landowners in the digitalization of land records. So, research in hand focused on the land records computerization that brings more trouble to farmers in Punjab, Pakistan.

2. Data and Methodology

The present study was conducted in three districts (Faisalabad, Rawalpindi, and Multan) of Punjab through the purposive sampling technique. A sample of 450 respondents was drawn from selected three districts and respondents from these three districts were taken by using the proportionate sampling technique. Data were collected with the help of a comprehensive interview schedule. Descriptive (frequency, mean, standard deviation) and inferential (chi-square and gamma) Statistical Package for Social Sciences were applied for data analysis. Conclusion was drawn on the basis of the results and policy recommendations were also mentioned by the researcher.

3. Results and Discussion

Knowledge and adaptation about land digitalization and satisfaction with running land records system

Knowledge about internet/digitalization of land record, the result reveals that a huge majority (86.9%) of the respondents knew internet/digitalization of land record, whereas only 13.1 percent of them never know about internet/digitalization of land record. The Government of Pakistan (2017) reported that the majority of the Pakistani population knew internet/digitalization of land records. Knowledge about services provided through internet/digitalization of land record was found that knowledge about "procurement of fard" and "mutations" services were most leading (80% and 72.0% respectively). Knowledge about 'fardbadar' and 'grievance redressal' was comparatively more moderate (37.1% and 27.6% respectively). Moreover, it was remarked that almost 67 percent of

them were using LRS for the acquisition of Fard, whereas 39.8 percent of them used these services for 'Mutations'. Usage of other services i.e. 'fardbadar' and 'grievalredressal' was relatively lower (24.2% and 22.7% respectively). According to Bokhari (2016), In comparison to South Asian countries, the adoption of digital technology was limited in Pakistan. The country launched the online land management system that can ease the process of land record transfer in 2007 in collaboration with the World Bank and the Government of Punjab. The tampering with manual land records was extremely high in the past. As satisfaction of the farmers with the current land records system is concerned, it was perceived that a little less than half (45.6%) of the respondents were displeased with the current land records system, whereas the remaining 19.3 percent of them satisfied and 35.1 percent of them had indifferent satisfaction level with current land records system. Almost similar findings were presented by Gallup (2009), who found that 42 percent population in the Punjab were dissatisfied with the current land records system, whereas the remaining 29 percent of them satisfied and neutral respectively with current land records system. Respondents shared their ungrateful experience with departmental officials. While frequent users of this system didn't complain about any difficulty. The respondents who choose the middle category that indicates access to officials is contradictory. UNH (2015) also published that the system through which they can take possession by a landowner is remarkably complex and tricky due to a number of reasons, such as a few designated Government officials (e.g. Patwari - the custodian of land revenue record) have full custody of the records and normally these officials are not easily available to the public. The selected population's opinions were distributed on the affluence of receiving Land Record services. 41.3 percent observed that it is challenging, 36.9 percent said that it is easy, and the remaining 21.8 percent of the sampled population cannot say.

Community Issues at the land record centers

Table 1: Selected population's views about extent of problems they faced in getting the access of land record centre (n = 450)

Problems	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean	S.D.
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>F</i>	%	<i>F</i>	%		
Time consuming	60	13.3	174	38.7	70	15.6	110	24.4	36	8.0	2.75	1.24
Expensive	42	9.3	73	16.2	79	17.6	162	36.0	94	20.9	3.43	.98
Chewiest/ Confusing/ Ambiguous	109	24.2	183	40.7	90	20.0	38	8.4	30	6.7	2.33	.81
No service with unofficial payment	92	20.4	113	25.1	116	25.8	58	12.9	71	15.8	2.78	1.27
Inaccessibility of relevant officials	104	23.1	66	14.7	99	22.0	107	23.8	74	16.4	2.96	1.21
Low quality of service	159	35.3	143	31.8	91	20.2	30	6.7	27	6.0	2.16	.99
Incorrect record	202	44.9	126	28.0	87	19.3	19	4.2	16	3.6	1.94	1.24
Any other	271	60.2	109	24.2	46	10.2	11	2.4	13	2.9	1.64	1.28

Table 1 represents the selected population's views about the extent of problems they faced in getting access to the land record center. The table illustrates that 8.0 percent of the respondents were strongly agreed whereas almost twenty-four percent of them agreed that they faced the time-consumption problem with the digitalization of land record service, whereas 15.6 percent were neutral, 38.7 percent disagreed and 13.3 percent of the respondents were strongly disagreed. With another statement that the service is expensive, almost 21 percent choose strongly agreed and thirty-six percent were agreed whereas 17.6 percent of the respondents remained neutral, 16.2 percent disagreed and 9.3 percent stated that they were strongly disagreed. Respectively, 6.7 percent and 8.4 percent of the respondents were strongly agreed and agreed that this service is Chewiest/ Confusing/ Ambiguous, whereas one-fifth (20.0%) of them remained neutral in their opinion. 40.7 percent and 24.2 percent of the respondents have disagreed and strongly disagreed with this issue respectively. With another statement that "they faced unofficial payment with service", approximately 16 percent were strongly agreed and 12.9 percent were agreed. 25.8 percent remained neutral and

disagreed respectively. Remaining respondents 20.4 percent were strongly disagreed about facing unofficial payment with service. Around 16 percent of the respondents were strongly agreed and 23.8 percent were agreed with the statement that they faced inaccessibility of relevant officials, whereas 22.0 percent remained neutral in their statement. 14.7 percent and 23.1 percent disagreed and strongly disagreed respectively. Interestingly, just six percent stated that they were strongly agreed as they faced low quality of service. 6.7 percent agreed and 20.2 percent remained neutral. Collectively, a huge majority 31.8 percent disagreed and 35.3 percent strongly disagreed with this observation. Very few of them were strongly agreed and agreed that they faced incorrect records as their share were not more than 8 percent. Whereas 19.3 percent were neutral, 28.0 percent disagreed and 44.9 percent strongly disagreed. 2.9 percent strongly agreed and 2.4 percent agreed that they faced any other problem with this system, whereas 10.2 percent remained neutral, 24.2 percent disagreed and 60.2 percent strongly disagreed. It is clear from the above findings that digitalization of land record service is expensive ($3.43 \pm .98$), Inaccessibility of relevant officials (2.96 ± 1.21), no service with unofficial payment (2.78 ± 1.27) and time-consuming (2.75 ± 1.24). Whereas some respondents were observed low quality of service ($2.16 \pm .99$) and incorrect record (1.94 ± 1.24). Bashar et al., (2011) stated that there is a general term "e-government" which is used for web-based services operated by the local and state government agencies. The principal purpose behind this idea is to use ICT, especially an Internet guide to engaging citizens. The government aims to provide them with internet land record services. In return, the government is expecting that the citizens will interact and utilize these services in different forms. In contrast with the conventional government, e-government is based on ICT that reduces paper-based dealings and time consumption in processing. A former traditional government that is based on pen and paper has strict rules to follow. It was time-consuming as well as afraid of change in land records.

Community perception about the problem of current land management system

Table 2: Selected population's perception about main reasons behind the problems (n = 450)

Reasons	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean	S.D.
	f	%	f	%	f	%	f	%	f	%		
Complex system	15	3.3	49	10.9	82	18.2	144	32.0	160	35.6	3.86	.76
Distance of offices	42	9.3	49	10.9	36	8.0	53	11.8	270	60.0	4.02	.82
Influence of others	63	14.0	87	19.3	104	23.1	73	16.2	123	27.3	3.24	.94
Outdated system	135	30.0	171	38.0	80	17.8	32	7.1	32	7.1	2.23	.96
Lack of proper information about service	19	4.2	36	8.0	52	11.6	93	20.7	250	55.6	4.15	.72
Official charges not defined	30	6.7	81	18.0	91	20.2	149	33.1	99	22.0	3.46	.91
Lack of monitoring system	14	3.1	27	6.0	49	10.9	45	10.0	315	70.0	4.38	.52
Incompetent staff	22	4.9	28	6.2	63	14.0	56	12.4	281	62.4	4.21	.68

Table 2 represents the sampled population's perception of the main reasons behind the problems. It was found that the majority of 35.6 percent of the respondents strongly agreed that the current land system is complex and only 3.3 percent of 450 respondents strongly disagreed with this reason. Almost 27 percent reported that they are strongly agreed that due to long distances from land offices they are unable to get proper information. The majority show the satisfaction towards the technicalities of the current land system 38 percent. More than half of respondents 55.6 percent strongly agreed that lack of proper information about services is the main reason behind the problems which compel this system towards digitalization of land record. 22 percent of the respondents strongly agreed and 33.1 percent agreed that official charges were not defined properly, which mislead the farmers while a huge majority of 70 percent of the respondents strongly agreed that weakness in the monitoring system is the main reason behind the problems with the digitalization of land record. A major part of the respondents 62.4 percent strongly agreed that incompetent staff in the current scenario in the land record system offices is the main reason which creating the issue for the community. Mean value shows that lack of monitoring system ($4.38 \pm .52$), out of range ($4.24 \pm .55$), incompetent staff ($4.21 \pm .68$), Lack of proper information about service ($4.15 \pm .72$), and distance ($4.02 \pm .82$) were the main reasons behind the problems with the digitalization of land record. It was observed some other reasons i.e. complex system ($3.86 \pm .76$), Official charges not defined ($3.24 \pm .94$), and the influence of others ($3.24 \pm .94$) behind the problems with the digitalization of land record.

Table 3:

Relationship between independent (location/area, age, education, income, knowledge) and dependent (problems) variables

Variables	χ^2	d.f.	P-value	γ	P-value
location/area	28.54	2	.000**	-.364	.000**
Age	110.49	4	.000**	.298	.000**
Education	81.60	6	.000**	-.151	.032*
Income	72.56	4	.000**	-.255	.000**
Knowledge	6.01	2	.052*	-.196	.022*

Dependent variable: Problems NS = Non-significant * = Significant ** = Highly-significant

The above table represents the relationship between the socio-economic characteristics of the selected farmers and their problems with the computerization of land records. Chi-square value ($\chi^2 = 28.54$) shows a highly significant ($p = .000$) association between location/area (1= Rural, 2: Urban) of the selected farmers and they were facing problems with computerization of land record. Gamma value ($\gamma = -.364$) shows a strong and highly significant ($p = .000$) and a negative relationship between the area of the selected farmers and they were facing problems with the computerization of land records. It means rural farmers were facing more problems with the computerization of land records as compared to urban farmers. Chi-square value ($\chi^2 = 110.49$) shows a highly significant ($p = .000$) association between the age of the selected farmers and they were facing problems with the computerization of land records. Gamma value ($\gamma = .298$) shows a strong positive and highly significant ($p = .000$) relationship between the age of the selected farmers and they were facing problems with the computerization of land records. It means old age farmers were facing more problems with the computerization of land records as compared to young farmers. Chi-square value ($\chi^2 = 81.60$) shows a highly significant ($p = .000$) association between the education level of the selected farmers and they were facing problems with the computerization of land records. Gamma value ($\gamma = -.151$) shows a negative and significant ($p = .032$) relationship between education of the selected farmers and they were facing problems with the computerization of land records. It means illiterate farmers were facing more problems with the computerization of land records as compared to literate farmers. Chi-square value ($\chi^2 = 72.56$) shows a highly significant ($p = .000$) association between the income of the selected farmers and they were facing problems with the computerization of land records. Gamma value ($\gamma = -.255$) shows a strong negative and highly significant ($p = .000$) relationship between income of the selected farmers and they were facing problems with the computerization of land records. It means lower-income farmers were facing more problems with the computerization of land records as compared to high-income farmers. Chi-square value ($\chi^2 = 6.01$) shows a significant ($p = .052$) association between knowledge about the digitalization of land records of the selected farmers and they were facing problems with computerization of land record. Gamma value ($\gamma = -.196$) shows a negative and significant ($p = .022$) relationship between knowledge of the selected farmers and they were facing problems with the computerization of land records. It means, if the farmers had more knowledge about the computerization of land records then they faced fewer problems as compared to those farmers who had limited knowledge about the computerization of land records.

4. Conclusions

The present research draws the conclusion that the digitalization of land record service is expensive, inaccessibility of relevant officials, and time-consuming. The low quality of service and the incorrect record problems were also observed. Employees of Land Record Centers never helped the customers without unofficial payment. It was found that lack of monitoring system, out of range, incompetent staff, and lack of proper information about service, distance, complex system, and undefined official charges were the main reasons behind the problems with the digitalization of land records. The major problem of computerization is that the computer officials are not experts in the old system of revenue records, also less knowledge about the shares of inheritance mutations while the old staff is not well-trained with a computerized system. Because of this lack of coordination, mostly the public is becoming shuttlecock between revenue field staff and computer officials. Most of the staff does not know how to deal with the public, it is impossible for them to read the faces of the Public. Education towards computerization can bring positive change in individual's behavior. It is noticeable that an educated individual is always logical and consistent towards innovations. Education plays an integral role in achieving the growth and development of a country. Small scale farmers were with ownership of fewer than four acres of land. Out of them were illiterate and because of this illiteracy, they were unable

to calculate the benefits of computerized land records system. Therefore, they were mostly relying on the Patwaris for their land concerns like; purchase and sale. There is a direct effect of respondent's education and age on their acceptance of a computerized land record system. This also effects on their intention to use the internet/digitalization of land record websites. While income remained non-significant.

5. Recommendations

Results lead the researcher to direct the following recommendations for the improvement of the issue. Skilled officials should be deployed to upgrade the running land system that ensured the quick and urgent service provision of record for the clients. The check and balance of the official of ARC should be ensured by the competent authority as well as attestation of approved documents should be done by the expert officials. Mutations that are passed by the ARCs should also be read out at the village level. NADRA should introduce another way/mode to verify the record of farmers other than the fingerprints. At last, the use of television/cable was recommended as the most efficient way of making people aware of their rights regarding land.

References

- Mahmood, S., Shahrukh, Nawaz, A. and Zafar, M. (2010). Emerging Role of Technology for Good Governance in Land Management in developing countries: a case study. Presented at 2nd International Conference on Mathematical Sciences held at Putra World Trade Centre, Kuala Lumpur from Nov 30 to Dec 2, 2010.
- van der Molen, Paul. (2006a) "The Importance of Enhancing Land Registration and Cadastre: Some General Considerations". Map India 2006, New Delhi, India.
- van der Molen, Paul. (2006b) "Unconventional approaches to land administration: the need for an international research agenda". 5th FIG regional conference for Africa: promoting land administration and good governance, 8–11 March, Accra, Ghana.
- Iqbal, M.Z. and Faiz-ul-Hassan. (2017). Delivering land administration services at scale, Punjab province of Pakistan. Paper prepared for presentation at the "2017 World Bank conference on Land and Poverty". The World Bank - Washington DC, March 20-24, 2017.
- Qazi, M.U. (2006). Computerisation of land records in Pakistan: A comparative analysis of two projects from a human security perspective. LEAD International, LEAD House, F-7 Markaz, Islamabad, Pakistan.
- Blue Chip Magazine. (2004). Land Record System in Pakistan. Blue Chip Magazine, Islamabad, August 2004, Vol 1, Issue 3. Gonzalez, M.L. (2016). Land records go digital in Punjab, Pakistan. The World Bank.
- Govt. of Pakistan (2017). Digital Pakistan Policy 2017. Ministry of Information Technology, Govt. of Pakistan, Islamabad, Pakistan.
- Anayat, R. (2016). Land Verification in Pakistan Computerization of Land Records. Property Right. Online available at: <http://rightproperty.pk/blog/land-verification-in-pakistan/>
- Sahni, D. 2000. Importance of Education. Retrieved from: <http://www.boloji.com/teens/articles/00337.htm>.
- Amir, J. 2003. An Investigation into the Adoption of Improved Broiler Production/ Management Practices by Poultry Farmers in Tehsil Samundri. M. Sc. (Hons.) Agricultural Extension Thesis. Univ. of Agri., Faisalabad.
- Khan, I. R. 2008. Analysis of the Farmers Current Socio Economic Status, Problems faced and Training Needs in Institute of Applied Research and Technology Transfer (IARTT) Area Faisalabad. M. Sc. (Hons.) Agricultural Extension Thesis. Univ. of Agri., Faisalabad.
- Geol, M. 2007. The Importance of Education. Retrieved from: <http://searchwarp.com/swa230219.htm>.

- Bokhari, A. (2016). Resistance to digitisation of land records. Daily newspaper “DAWN”, April 25, 2016.
- Mwangakala, Hilda. A. 2012. “The Effect of Demographic Characteristics on Citizens’ Usage of Government Websites”, Social Science Research Network, September 14, 2012 Available at SSRN: <http://ssrn.com/abstract=216597> or <http://dx.doi.org./102139/ssrn>.
- Govt. of Pakistan. (2017). Census of Pakistan. Pakistan Bureau of Statistics, Ministry of National Food Security & Research, Govt. of Pakistan.
- Gallup. (2009). Baseline Survey for Land Records Management and Information Systems. Gallup Survey, December 22, 2009.
- UNH (United Nation – Habitat). (2015). Digitalization of Land Records in Khyber Pakhtunkhwa. UN-Habitat, United Nations Human Settlement Program.
- Bashar, M.R., Rezaul, K.M., & Grout, V. (2011). E-Government vs. Ordinary Bureaucratic Government: A comparative study. The 4th International Conference on Internet Technologies and Applications, (pp.p.488-499). Wrexham: Glyndwr University.