

Identification of Risk Factors Associated with Construction of Low-Cost Housing Schemes; A contextual Analysis of Naya Pakistan Housing Scheme

Mirza Hammad Ghazanfar Baig*, Muhammad Mutasim Billah Tufail and Mirza Jawad Ghazanfar Baig

Department of Business and Management Studies, Bahria University Karachi Campus, Pakistan

Abstract

Pakistan has been standing up to the inadequacy of housing units like any other underdeveloped country across the world. The enormous deficiency is rapidly increasing; in 1998 the housing stock was 19.2 million whereas the shortage was about 4.3 million. According to the population poll of 2017, it reaches to 32.2 million as housing stocks, whereas the shortage increased to 10 million and currently the housing deficiency reaches to more than 12 million (World Bank 2018). The housing industry remained neglected by all stakeholders including government itself in past. If at all the leadership got any attention, it ends up as a mere political rhetoric. Even though if the work was done, it didn't go beyond a certain desire or discussion and didn't even set a drafting table. The fate of the few launched housing schemes for low-income populace created an environment of mistrust. The bold initiative taken by current political party for construction industry and especially towards the construction of Low-cost housing units for under privileged citizens by giving them a chance of having their own home. This dictates identification of risk factors associated with the failure of low-cost housing schemes launched previously. These factors need to be analyzed thoroughly for success of the initiative taken thus keeping a strong sociopolitical relation. The procedure for low-cost housing scheme presented by NAPHDA was explored. The study is encompassed by a poll-based survey comprising variables placed using the Relative Importance Index (RII). The results of this investigation allow appropriation by the customers, contractor, and employees and suggest bold dynamic measures to manage these identified risks for the achievement of the planned project.

Keywords: Low-cost housing • Affordable Housing Schemes (AHS) • Construction • Risk management • Associated risk factors • Environmental degradation • Relative Importance Index (RII)

Introduction

The universal declaration from 1948 and the international covenant on financial, social, and cultural rights from 1966 both states that everyone has the right to adequate housing as a fundamental human right. Many essential rights, including the right to live and work, school, health, and security, are violated when the right to adequate housing is not recognized, protected, and fulfilled (UN-habitat fact sheet no 21, 2014). 2 million people are forced away from their homes every year; 150 million people are homeless; one in four people live in unsafe, unhealthy, and unsanitary conditions; and 1.8 billion people globally need suitable housing. With current estimates, around 3 billion people, or nearly 40% of the world's population, will be in need of suitable housing by 2030. All of this adds up to a daily construction requirement of approximately 96,000 homes in place to evade the current predicament.

Housing is a basic human need, yet in Pakistan, millions of people are still unable to afford a roof over their heads. Despite its importance and reputation, Pakistan's housing sector has remained mostly ignored and has not received even a moderate allotment of public sector resources. The rapid urbanization process has resulted in congestion of cities and environmental degradation. Overcrowding, inadequate sewerage, pollution, and poor building construction are all evident in the country's current housing circumstances, which give neither security of tenure or protection from weather extremes.

This basic human need is felt all the more at the lowest section of the pyramid, including monetarily underserved parts of the society. It is estimated that annually new houses need about 700,000 people a year, but only roughly a part of this is accomplished. The total housing shortage is estimated and is increasing at 10 million units.

The housing shortage in Pakistan is a result of both a lack of supply and a lack of affordability for those with the lowest incomes, as can be seen by the severity of the situation. PTI's election

*Address to Correspondence: Mirza Hammad Ghazanfar Baig, Department of Business and Management Studies, Bahria University Karachi Campus, Pakistan, Tel: 923215000000; E-mail: mirzahammad10@gmail.com

Copyright: © 2022 Baig MHG, et al. This is an open-access article distributed under the terms of the creative commons attribution license which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.

Received: 06 April, 2022, Manuscript No. JBMR-22-59742; Editor assigned: 11 April, 2022, Pre QC No. JBMR-22-59742 (PQ); Reviewed: 26 April, 2022, QC No. JBMR-22-59742; Revised: 06 June, 2022, Manuscript No. JBMR-22-59742 (R); Published: 14 June, 2022, DOI: 10.37421/2223-5833.2022.12.456

manifesto included a proposal for the Naya Pakistan housing policy to address the issue. PTI has promised to build five million homes in the next five years as part of an economic regeneration agenda. Prime Minister, Imran Khan, introduced the Naya Pakistan Housing Project on October 10th, 2018, he stated that "the aim of this (plan) is the common guy who could not even dream of having a house" as a means of helping the country's wounded economy. The dawn of the year 2018.

Construction sector including housing in Pakistan have increased recently from a relatively low level, although still in its infancy when compared to other emerging and developed countries. However, at 1% of GDP, there is great room for expansion, given the relatively stable and rising economy, the fast increasing population, the unmet housing need, and the growing knowledge of low-cost housing financing. The need for housing, industrial, commercial, and service facilities will rise in Pakistan as the country's economy develops. Although the housing sector's value chain and land market face major challenges, such as high land prices and rising real interest rates and construction material prices, the growth gained is still threatened by these concerns.

Problem statement

Pakistan's housing deficit is huge and it is steadily increasing. In 1998, the housing stock was 19.2 million units, while the shortage was 4.3 million units. The 2017 census showed that the housing stock was 32.2 million (39% of which were cities), thus indicating that the housing stock increased by an average of 680,000 per year between 1998 and 2017 (World Bank, 2017). The World Bank estimates that Pakistan's annual housing demand is about 400-700,000. Rough estimates indicate that the current gap is between 11 million and 12 million units, and the gap is increasing every year.

With enormous population expansion and price hiking in real estate, construction, land cost, the housing crisis has become more serious. In South Asia, the lack of cheap housing is a serious socio-economic problem, leading to dependence on slums and shanty towns. Almost half of the urban residents of Pakistan live in informal settlements (8 million in Karachi; 1.7 million in Lahore), the so-called Kachhi Abadi's. Developers and builders focus on providing housing for middle- and high-income people who can afford to buy real estate. The demand for low-cost housing has not decreased. Not surprisingly, more than 60% of the housing shortage in South Asia is experienced by low-income groups.

The fate of previously launched low-cost housing schemes in Pakistan has created an environment of mistrust among general public. The people are generally aware of the fact and subsequently made assumptions that any housing scheme launched for poor people will fail and turnout to be a scam as happened in past. The failure of these housing schemes was due to lack of drive from previous political governments. Keeping in view the above mindset of the people the current initiative of providing 5 million houses for low income individuals seems to be quite challenging as it is not taken very positively by the public as well.

Due to the lack of assessment of risks factors related to external, internal, financial, operational, construction, legal, social, and political risks, the low-cost housing scheme projects cannot meet their ideal

goals. Having said that, the current initiative by the government needs critical thinking and analysis of risk factors right from the outset to avoid the same fate as previously experienced by the people. This needs careful examination of risk factors associated with construction and success of low-cost housing schemes while maintaining a healthy socio-political relation as top most priority.

Previous practices of affordable/low income housing in Pakistan

Among the few low-cost housing projects successfully launched in Pakistan include the Korangi Township Grand Karachi Resettlement Plan funded by the World Bank in 1958 and the Surjani town plot. In these previous executed plans, HBFC participated in the provision of housing loan financing. Keeping in view the inconvenience of infrastructure and transportation issues at an initial stage, these projects were ineffective at first. Therefore, the occupants left the apartment and defaulted on the loan. Later, when the site was developed, these areas were reoccupied. Another plan is the Lyari Toll Road Project, which relocates squatters who build houses on the bed of the Lyari River. According to World Bank expert Zaigham Rizvi, the project provides a private framework and basic management, including a framework for transportation, water supply, and sewage treatment, and the plan is effective.

In the 1960's and 1970's, the Azam and Mayor construction companies, both openly private, collaborated with the management to facilitate significant results. The state subsidized the development of low-cost multi-store buildings by selling land at favorable rates. When Sabian (also HBFC) and a Non-Governmental Organization (NGO) came together to fund Kheda ki Basti, in Hyderabad between 1987 and 1999, it was another general populace joint venture that came to an agreement Karachi and Lahore, Pakistan, opened in 2006. As a result of the Acumen foundation's sponsorship for Lahore KKB, the organization has garnered worldwide acclaim and recognition. This paradigm is widely regarded as being adaptable. Ten percent of the land parcels will be sold at market value as part of the project's cross-appropriation approach. During this time, the property is not transferable and is in the care of the family who lives nearby. Ansar management company later adopted this strategy (AMC).

Ansar management company is a private manufacturer dedicated to improving the lowest cost housing [1].

One of the failures is the Asian project initiated by the Punjab government, which is currently investigating multiple allegations of corruption. There have been comparison activities before, but there are still doubts about the trust and completion of the project.

Pakistan's building industry is expanding rapidly and making a significant contribution to the national economy [2]. Over \$43 billion in building investment is coming to Bin Qassim's two islands, \$68 billion is going to a new development company in Hawks Bay, Karachi, and \$60 billion is going to the China-Pakistan Economic Corridor (CPEC) project. There will be 5 million additional homes built across Pakistan as part of the Naya Pakistan housing program, which will get underway soon [3].

Naya Pakistan housing program

The Naya Pakistan Houses Program (NPHP) was introduced by Prime Minister Imran Khan in October 2018 and aims to increase the

availability of moderate housing in Pakistan. Its goal is to provide Pakistani citizens with 5 million housing units and supporting facilities, especially focusing on economically poor and middle income communities (NPHP, 2019).

Key highlights of the project as declared are

- NAPHDA will be established at the federal level and will acquire the land for low-cost housing schemes.
- NAPHDA will ensure that an important framework is established on shore before planning housing plans/units. Developers and builders will propose to build housing units on these acquired plots.
- Developers and builders will use their rights or coordinate development financing from banks on commercial terms to plan the development of housing units.
- A portion of the land's cost will be reclaimed from customers in order to keep building expenses down.
- NAPHDA will assign houses with preference to those who do not own their own home, the selection process will be done with assistance with NADRA and Banking sector.
- Clients should pay 10% of the house cost as an up-front installment and get contract advance endorsement for 90% of the house cost from a bank.
- The home loan reimbursement term can be up to 20 years.
- NAPHDA will not be involved in the funding of accommodations. Developers and homebuyers alike should submit loan applications to their respective banks in order to obtain development financing. A cooperative organization, NAPHDA will work with other groups to purchase property, approve development projects, and then distribute the finished units to end users in accordance with previously established criteria. NAPHDA, in contrast to SBP, does not specifically target low-income individuals. It offers concessions to those who do not have independent private residences in Pakistan. Applicants can't have a salary cap; nonetheless, the current NAPHDA application structure covers the most extreme housing loan repayment, 20,000 Pakistani rupees per month. NAPHDA likely uses SBP in this part of the amount, which is a low salary of 60,000 Pakistani rupees per month and uses 33% of the housing loan cost as a feasible level [4].

Naya Pakistan housing and development authority

NAPHDA is an organization which is set up on 15 January 2020 via an Act of Parliament to design, develop, and manage real estate and projects including housing. The Authority is the Developing Arm of the Government is seeking multiple objectives in the domain of housing on both profit and non-profit premises throughout the country. The Authority will give one window activity through a facilitation Center to everyone including builders, investors, and citizens. The Authority is working under the support of the Prime Minister of Pakistan and will be placed in the Cabinet division/Prime Minister's Secretariat. The administrative center of the Authority is in Prime Minister's Secretariat, Islamabad. The regional offices were planned to be located in all provinces but still, only three are operational at Lahore, Karachi, and Islamabad. The Authority will carry out the

carry out the necessary survey, prepare reports and coordinate with banks for smooth execution of the tasks [5].

The main objective of the authority includes:

- Provision of 5 million houses in Urban, peri-urban and rural areas.
- Provide a respectable and affordable living environment to the citizens of Pakistan.
- Supporting the construction industry due to its major contribution towards the total GDP and capability of employing the skilled and unskilled labor as well.
- Creating opportunities for financial investment to support the business.
- The housing program may be a game-changer. The aspirations are to enable low-income communities in Pakistan to own their houses.

The construction of a house involves 21 distinct businesses and may have a major influence on our beleaguered economy. Housing funds may be combined with alternative energy solutions, general and personal insurance and clean water, which may permanently improve the way the low-income group lives [6]. However, good intentions are not enough to move this needle and the agony of the grassroots debtors has to be addressed. There is a definite move in the right direction with the latest modifications [7].

Unfortunately, if no other adjustments are made within five years, the promise of 5 million units will remain a fantasy (NAPHDA, 2020). According to the Naya Pakistan Housing Program (NPHP), 300,000 rupees are provided for each housing unit built for low-income groups. The subsidy will realize the desire of socially disadvantaged groups to own their own houses through installment payments instead of rent. After Prime Minister Imran Khan released the construction industry package plan, the beginning of large-scale construction projects around the country will help alleviate unemployment and poverty in the long run. Subsidies of Rs 300 crore have been offered to NPHP to help lower the cost of building material and boost the country's economic growth, say Naya Pakistan Housing and Development Authority (NAPHDA) [8].

Financial overview of NAPHDA

NAPHDA introduced a financial model in which all eligible applicants duly verified by NADRA and banking sector (considered bankable for grant of the loan), will be disbursed Rs 3 Lakh as cost subsidy and allowed markup subsidy on house financing (Tier 1) from commercial banks, as a "Turn Key Project". The concept is that homeless poor Pakistanis living in rented houses be able to get their own house through mortgage/ housing finance, by returning the bank loan in monthly installments almost equal to their monthly rent being paid to landlords. Provincial governments took initiative for the practical manifestation of the Prime Minister's vision of Affordable Housing Schemes (AHS) to be built on suitable State Lands across the provinces. A handsome amount of Revolving Fund for undertaking development works has also been catered for by the Government (NAPHDA, 2020) (Figure 1). The procedure for low-cost housing scheme by NAPHDA is shown below [9].

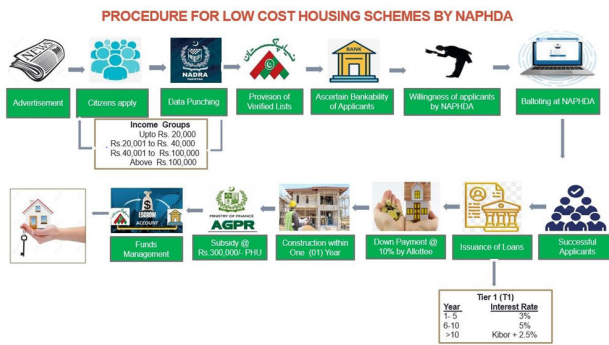


Figure 1. Procedure for low-cost housing scheme by NAPHDA.

In the financial model of the affordable housing scheme to lessen the cost of houses, the infrastructure development was sponsored by a revolving fund allotted by the ministry of finance which will later be recouped by Mortgage finance [10,11]. The other modalities considered are as under:

- Registered applicants will be granted a loan for 5, 10 or 20 years.
- Banks will provide loans for the cost of the house less cost subsidy amount 3% and 5% markup for 5 and 10 years respectively (Tier 1).
- The applicant will deposit 10% of the full cost of the house as advance payment.
- The loan will be repaid to the bank by the allotted on handing/ taking over the completed house to the allotted.
- Registered applicants shall be disbursed Rs 3 lakh cost subsidy.
- The project is to be completed in a compressed time frame through facilitation by all relevant departments.

Risk management in housing sector

An assessment of risk and its management is a critical aspect of making decisions in the housing business. Risks associated with the construction, activities, environment, procedures, and organization were exposed by the unpredictability of the project's design. In any case, the construction industry, particularly that of house developments, maintains a horrible position in adjusting to these risks resulting in losses and disappointments close to acceptance of reality. Despite the efforts of all parties involved in a project to ensure its successful completion while also protecting their own interests, analyses reveal that housing construction schemes and financing are among the riskiest endeavors Edwards and Shen. This is due to the variety of roles and responsibilities involved as well as the contributions made by various partners. It is possible that if the project is not handled properly and successfully, it will fall short of its goals, leaving everyone disappointed [12].

A framework for risk management for collaborative ventures in Russia provided by Aleshin includes a classification of risk occurrences and an assessment of their severity. During their research, uncovered and prioritized common risks in the construction industry, as well as risk management approaches to solve those risks. They also examined the current state of implementation of organization's risk management systems, as well as the barriers to risk management. Wang, et al. established a risk mitigation framework that focuses on risk identification, methodologies, risk

appraisal, and an efficient method for mitigating actions. Alien Eyes Model, a risk model that displays the hierarchical

Layers of risk and their affected relationships, was also introduced. Risk management approach introduced by Shen helps contractors identify and plan for significant risks and their associated mitigation strategies. In addition, the Hong Kong building sector has a limited use of analytical techniques to analyse important hazards. Risk assessment model provided in the partnership by Bing and Tiong is effective in identifying significant risk elements and in providing a better manner of assessing the discovered risk [13].

The study that looked at the positive and negative aspects of using the PPP approach to execute projects found that the essential components came from a variety of sources. Many stakeholders had competing goals and interests when it came to PPP projects, for example. These arrangements necessitated a great deal of wrangling. Socioeconomic and political contexts, as well as institutional and legal frameworks, round out the list of possible sources. Risks were recognized, studied, comprehended, and rated by all stakeholders, and the party best equipped to manage them was given credit for managing them. Risks were assigned to parties who could not handle them, resulting in failed projects. Contractual agreements included provisions for distributing risk in an appropriate manner. Because they set the partnership's structure, the obligations and financial instruments of the contract parties were clearly stated. However, because of the structure of PPP projects, the procurement and implementation transaction costs were overstated. Traditional project procurement methods with an emphasis on command and control were taken into consideration when most countries developed their legislative framework. In reality, governments were required to enact special legislation to facilitate PPP projects. Effective PPP contractual vehicles that are also compliant with a country's legal framework are the goal of this legislation. High transaction expenses and a weak legal framework have made the projects less financially viable and less appealing to investors. Before a deal was formed, the majority of initiatives were shelved. Both the public and commercial sectors played a role in these initiatives' failure. Despite the governments best efforts, weak procurement incentives and a lack of cooperation among government departments resulted from its PPP policy and strategy. Government entities, including corruption, were inexperienced, poorly structured, and less devoted to PPP project delivery. In the meantime, the private industry has suffered project suspensions and potential losses when adopting PPP project implementation due to its lack of experience and skill in formal contracts, technical, financial, and management challenges during project execution [14].

Risky partnerships were created as a result of inter organizational conflict, as were differences in culture. In the absence of partnering expertise and an excellent working relationship, this kind of partnership risk is particularly dangerous [15].

423 LCH program in Thailand downloaded by Asian Institute of Technology at 17:43 26 November 2014 (PT) cooperation with host government agencies led to a lack of results from the PPPs. Projects have been terminated or delayed as a result of public criticism due to attitudes toward private industry income, end user's inability to afford the costs, and a lack of openness in the awarding of contracts. The project's success was clearly hampered by a lack of knowledge of PPP concepts, an ineffective PPP strategy and approach, and an

inefficient process of awarding contracts. The failure of PPP projects was also due to reasons outside their control. Unanticipated obligations were a result of legal amendments. Because of political influence, projects were overrun with costs that weren't essential. The PPP's policies and goals frequently underwent shifts as a result of political turmoil and coalition formation. Volatility in interest rates and inflation had an effect on the project's costs. In order to avoid a harmful impact, these intervening influences needed constant monitoring. These reasons for failure can be applicable to both projects and programs. A program serves as a link between projects and the organization's overall strategy by acting as an efficient structure for project governance. Projects are protected from an externally volatile and uncertain environment because it is integrated and aligned with the organization's developing demands. As a result, a uniform strategy was established. Procurement methods, bidding papers, project sign-offs, decision-making frameworks, and costs (\$/unit) were all standardized for all projects [16]. The majority of project-related elements were program-based, significantly in relation of process, leadership, and structure. Due to the use of a common recruitment structure for workgroups and geotechnical conditions in the program, several project-specific criteria could also be implemented. The project teams' qualifications were also reviewed to deal with these kinds of challenges. In addition, the country's political

and socioeconomic conditions, as well as its legal and institutional structure, had an impact on the program's implementation. Risk factors affecting sociopolitical and success of housing project poor land management, recruitment, and transfer issues will all lead to increased cooperation costs. Karachi has more than 17 departments responsible for land registration and purchase. At the same time, land management is also an important issue. According to the World Bank's "Business Environment Research", it takes 208 days or 7 months to register a property in Pakistan. Nonetheless, Karachi real estate agents promised that they would need about 12-16 months to obtain pre development approval, including purchase and transfer [17]. These unnecessary delays in Pakistan pose a major threat to the new registration association, and therefore, due to experience, individuals are usually reluctant to invest in real estate and new housing projects. This has led to delays in development and investment by builders because many equities must be authorized by the company (Table 1). Risk considerations related to the development of the housing system are directly responsible for the success of the organization and the maintenance of trust as a socio-political relationship. The Probable risk factors associated with housing collected from previous studies and literature reviews are listed below. The factors are randomly placed and collected for further analysis and research [18].

S/N o	Risk I.D.	Type of risks	Risk Identification	Reference
1	E1001	External risks	Land acquisition/selection	(Francisco, et al., 2003)
2	E1002		Building development	(Francisco, et al., 2003)
3	E1003		Property management	(Francisco, et al., 2003)
4	F2001	Economical risks	Interest rate fluctuation	(Mirabile, et al., 2014)
5	F2002		Inflation	(Mirabile, et al., 2014)
6	F2003		Liquidity risk	(Lyons T, and Skitmore, 2004) (Zayed, 2008) (Schieg M, 2009)
7	F2004		Taxation risks	(Lyons T, and Skitmore, 2004) (Zayed, 2008) (Schieg M, 2009)
8	F2005		Finance arrangement	(Francisco, et al., 2003)
9	F2006		Market/revenue risks	(Mirabile, et al., 2014)
10	F2007		Cost overruns	(Mirabile, et al., 2014)
11	F2008		Exchange rate fluctuation	(Mirabile, et al., 2014)
12	F2009		Credit risks	(Mirabile, et al., 2014)
13	F2010		Updation of mortgage laws	(Mirabile, et al., 2014)
14	F2011	Banks strict policies	(Mirabile, et al., 2014)	
15	F2012	Insurance risks	(Mirabile, et al., 2014)	
16	I3001	Internal risks	Team selection	(Cretu, et al., 2011)
17	I3002		Project design and construction specifications	(Cretu, et al., 2011)
18	I3003		Regulatory risks	(Cretu, et al., 2011)
19	I3004		Production management	(Cretu, et al., 2011)

20	I3005		Lack of availability of required resources	(Lyons T, and Skitmore, 2004) (Zayed, 2008) (Schieg M, 2009)
21	I3006		Slow delivery of equipment	(Lyons T, and Skitmore, 2004) (Zayed, 2008) (Schieg M, 2009)
22	I3007		Lack of technical Manpower	(Lyons T, and Skitmore, 2004) (Zayed, 2008) (Schieg M, 2009)
23	I3008		Late deliveries of construction materials	(Lyons T, and Skitmore, 2004) (Zayed, 2008) (Schieg M, 2009)
24	I3009		Performance risks	(Cretu, et al., 2011)
25	O400 1	Operational risk	Supply risks	(El-Karim, et al., 2015)
26	O4002		Delay risks	(El-Karim, et al., 2015)
27	O400 3		Scope changes	(El-Karim, et al., 2015)
28	O400 4		Contract variations	(El-Karim, et al., 2015)
29	O400 5		Operations and maintenance	(El-Karim, et al., 2015)
30	C5001	Construction risks	A surging in traffic congestion	(Ngowi, et al., 2005)
31	C500 2		Low quality planning	(Ngowi, et al., 2005)
32	L6001	Legal risk	Change in laws	(Cvijanovic, et al., 2016)
33	S7001	Social risks	Increasing number in affordability gap	(Serpella, et al., 2014)
34	S7002		Changes to laws/regulatory changes	(Lyons T, and Skitmore, 2004) (Zayed, 2008) (Schieg M, 2009)
35	S7003		Rapid urbanization and economic growth	(Lyons T, and Skitmore, 2004) (Zayed, 2008) (Schieg M, 2009)
36	S7004		National cultural differences	(Lyons T, and Skitmore, 2004) (Zayed, 2008) (Schieg M, 2009)
37	S7005		Lack of experience of client	(Lyons T, and Skitmore, 2004) (Zayed, 2008) (Schieg M, 2009)
38	S7006		Expanding efficiency of housing construction	(Lyons T, and Skitmore, 2004) (Zayed, 2008) (Schieg M, 2009)
39	S7007		Information risks	(Lyons T, and Skitmore, 2004) (Zayed, 2008) (Schieg M, 2009)
40	S7008		Cultural communication	(Lyons T, and Skitmore, 2004) (Zayed, 2008) (Schieg M, 2009)
41	S7009		Poor social diversification	(Serpella, et al., 2014)
42	S7010		Disproportionate focus on economical profits	(Serpella, et al., 2014)
43	S7011		Corruption at all levels	(Serpella, et al., 2014)
44	P8001	Political risk	Diversity of government policies	(Francisco, et al, 2003)
45	P8002		Political instability	(Lyons T, and Skitmore, 2004) (Zayed, 2008) (Schieg M, 2009)

46	P8003	Poor economic policies	(Lyons T, and Skitmore, 2004) (Zayed, 2008) (Schieg M, 2009)
47	P8004	International political instability	(Lyons T, and Skitmore, 2004) (Zayed, 2008) (Schieg M, 2009)
48	P8005	Bureaucratic problems	(Jensen, et al., 2008)

Table 1. Factors affecting housing projects.

Materials and Methods

This study will be using quantitative methods to determine the risk variables that affect the success of low-cost housing projects and its sociopolitical impact. The term "research design" refers to a logical inspection system formed by supporting the strategy or process of collecting and dividing information. In the initial stage of the research proposal, a detailed and comprehensive literature review shall be done to understand the issues related to the completed or failed low-cost housing programs in Pakistan, and to determine the main risk factors affecting the success of these programs and their socio-political impacts. Mainly Google Scholar shall be used as a search tool for different informative articles and publications [19].

In the second step, an online pilot survey shall be produced in the form of a questionnaire based on a Likert scale to experts and other contractor's consultants and engineers. The variable ratings given by the interviewees will help in determining these factors. Respondents scored from 1 to 5 on the Likert scale, with 5 points indicating the strongest agreement, 4 points indicating agreement, 3 points indicating neutrality, 2 points indicating disagreement, and 1 point indicating strong disagreement. The questionnaire was sent to all contractors, developers and engineers who had been identified. Accordingly, the feedback obtained was examined using a variety of methods by those who had previously worked on house construction

projects in Pakistan. Out of the 115 surveys sent out, 89 had legitimate responses, resulting in a response rate of 77%. 30 percent is an excellent response rate in the construction industry. Consequently, this study's response rate is satisfactory [20].

Information gathered will be evaluated using MS Excel. Variables shall be placed according to the mix of the survey risk score and frequency research utilizing Relative Relevance Index Method (RII). The next step allowed a comparison between the discovered variables and those suggested in prior research.

Results

Data analysis

The collected data has been analyzed using MS Excel and SPSS-20. All the survey's data was recorded into Excel spreadsheets and structured in such a way that it could be used for future analysis. The study adheres to the standard significance level of 0.05.

Rank of critical factors-top ten risks

SPSS-20 and MS Excel and software were used to analyze the data obtained from 89 respondents for 49 risk factors. The risk factors' percentages, ranking, Relative Importance Index (RII) and means have been determined. The survey findings were used to calculate the RII risk factor probabilities and impacts. Table 2 shows the risk values as a result of the results.

Risk code	Risk factors	Mean	Percentage (%)	RII	Ranking
E1001	Land acquisition/selection	4.746	94.92	0.949	1 st
F2010	Updation of mortgage laws	4.746	94.92	0.949	2 nd
I3002	Project design and construction specifications	4.73	94.603	0.946	3 rd
S7011	Corruption at all levels	4.666	93.33	0.933	4 th
P8001	Diversity of government policies	4.571	91.43	0.914	5 th
P8002	Political instability	4.571	91.428	0.914	6 th
S7003	Rapid urbanization and economic growth	4.333	86.666	0.86	7 th
F2011	Banks strict policies	4.206	84.13	0.841	8 th
C5002	Low quality planning	4.158	83.17	0.831	9 th
S7006	Expanding efficiency of housing construction	4.158	83.174	0.831	10 th

Table 2. Top 10 ranking of risk factors.

Discussion

Land acquisition

Land acquisition issues are one of the most critical issues in success of any construction project. The government should carry out analysis and work this from different angles keeping in view various points. They could utilize and release more empty lands, then, expanding the housing zoning from existing land use. This land rezoning absolutely needs endorsement and changes in the land legislation. This could possibly give freedom to apply a better approach to assist with expanding the measure of reasonable housing around the city. This could bring about better town arranging, with an emphasis on moderate housing projects made around downtown and the encompassing rural areas. Whenever left unattended it's anything but a deadly issue concerning improper land use and a flood in social segregation.

Obtaining land for affordable and cheap housing schemes is mainly a major issue faced by these housing schemes for its success. The lack in the accessibility of metropolitan land to give supply to the rising interest of people in general is again a contributing factor. As the worth of land for a reasonable region for housing schemes near metropolitan areas is quite high that negatively affects the cost of housing scheme. This reason forces the authorities to look for lands in peri urban areas which again causes issues as the main financial hubs lies within the cities and creates issues like traffic congestion as people have to commute for their work on daily basis.

Updating of mortgage laws

The mortgage system in Pakistan facilitates house development finance for all. Lender's practices and systems make it harder for low-income people to profit. The majority of mortgage loans went to wealthy families since low-income persons couldn't present the appropriate paperwork required by banks. Until the laws are examined or altered, low-cost housing programmers will remain a pipe-dream. SBP must ensure that the mortgage laws must be amended accordingly to ensure the success of Primes ministers' vision of building 5 million houses for low-income individuals.

Project design and construction specifications

The project design plays an important role in success of a housing scheme. The word design encompasses the project planning to its completion. Usually, it is seen that whenever a low-cost housing scheme was launched the site provided was either too far from the cities. These sites were not very acceptable as people need a proper transport system to commute for their daily work.

The construction material used for these housing societies is again a major issue. The contractors and developers tend to use low quality material to cut down the price of a housing unit, which resulted in poor construction at the end.

The contractor's material and equipment must be fresh, meet the specification's quality level and ruggedness requirements, and perform and function as stated. The engineer must approve all materials and equipment supplied and installed by the contractor,

even if they are completely in compliance with the bill of quantities and drawings.

Corruption

Deficiencies in financial management, governmental accountability, and administrative efficiency contribute to Pakistan's housing shortage. The subject factor is dependent of multiple stakeholders' fair involvement starting from the beginning till completion of the project. As corruption is one of the major factors in success of any project. All authorities must ensure fair selection of land, clients and all to avoid any legal or failure issues in future. The appropriate standards and procedures need to be developed to track the development cycle and to keep the record updated to make necessary decision in time to avoid the external risk factors

Diversification in government policies

Governments, whether they are administrative, state, or municipal governments, usually focus their methods on currency development, but these goals will not be achieved because they do not deal with the problems of currency development. These two points are related to the development that relies on real estate speculation, which hinders the development of medium sized housing project.

The government should finalize the policies related to construction as well as for housing sector. The policies made should be favoring both the client and the developer so as to make the project a success. Government policy needs political support in order to create an efficient course of action. Like in case of Naya Pakistan housing and development authority it was initially believed that a loan will be provided to developers on subsidized rates so as to provide a suitable cost subsidy in total unit cost, but later it is provided on market rates due to which certain number of developers was unable to make it successful.

Political instability

Pakistan is a country which faced political instability. The change of government usually results in the cancellation or change of existing policies. This change of government has an effect on the strategic planning of the public sector. Therefore, Political Risks have a high impact on the program's implementation. The responsibility to make it success is shared by all stakeholders.

NAPHDA will be regularly updated and briefed during the concept and design stage and any requests from them will be considered and accommodated accordingly.

Uncontrollable factors also were a cause of PPP project failure. Changes in law resulted in unexpected requirements. Political patronage caused unnecessary project cost. Political instability and coalition often led to changes in PPP policy and plans. Interest rate volatility and inflation rate fluctuation had an impact on project costs. These intervening factors needed monitoring to prevent their negative impact.

Rapid urbanization and economic growth

Pakistan's population growth rate is roughly 2.4 percent, much greater than China (0.54 percent), India (1.24 percent), and the

United States (0.72 percent). Second, the tendency toward urbanization is accelerating rapidly.

Pakistan is presently the most urbanized country in South Asia, according to the United Nations Development Program in Pakistan (UNDP Pakistan 2019). In the 1998 census, only 32.5 percent of Pakistanis resided in urban areas (PBS 1998); by 2017, this figure had risen to 36.4 percent (PBS 2017). The United Nations Development Program (UNDP) Pakistan 2019 estimates that by 2025, over half of Pakistanis would live in cities. According to the United Nations Development Program (UNDP) Pakistan 2019, 55% of the population of Karachi, Pakistan's largest metropolis lives in urban slum

The housing shortage in Pakistan has been exacerbated by increasing urbanization and economic expansion. Rapid urbanization, inflated real estate values, inflow of poor immigrants, and lack of planning have exacerbated housing issues for low-income populations. People wish to live in cities but can't afford it due to poor income and excessive expenses.

Banks strict policies

The State Bank of Pakistan announced its own low-cost housing facility for widows, children of martyrs, transgender individuals, and those from terrorism-affected areas. These groups will receive 100,000 loans at 5% for up to 12.5 years for a total of PKR

2.7 million (State Bank of Pakistan 2019). The State Bank could have included Benazir Income Support Program (BISP) recipients in its efforts to help previously ignored populations. For the most vulnerable people in Pakistan, see BISP. This directory, created by the World Bank, may quickly target vulnerable communities in desperate need of home finance.

Low quality planning

Many organizations have problems in obtaining respectable, experienced, competent, and reliable hiring, design and staff employees. Deciding on the appropriate group of employees to achieve the required quality envisaged for the work is an important element to the accomplishment of the objective

Expanding efficiency of housing construction

This will be addressed by educating people about the different types of building designs. The people generally want to own a house than a Flat similarly a conventional model of construction is preferred as compared to some hybrid model like steel framed structure. So, there is a need to educate people so as to expand the efficacy of housing construction.

A more productive strategy is required in the property business. Partners could and should place their confidence in another innovation and approach the future by giving this a shot. An innovative upgrade could assist by decreasing building cost with a faster time frame in building construction. This could just give a positive effect on the business. By doing this engineers and different partners could give quicker and less expensive in-cost reasonable housing to the individuals who need it.

Summary of suggested measures

This study's suggestions are as follows:

- Institutions should encourage community (OPP, KKB, and Safiya Home) and private sector (Vienna and India) engagement in building 5 million housing units.
- Emphasize the role of private developers in providing affordable housing with a 5- million-unit target.
- Developers should be given density bones for boosting high-rise building in the country.
- To build 5 million homes, the country should support mortgage financing conventional or Islamic.
- In Pakistan, most civil officials are homeless. The government should build residences for them in the country. Can be included in 5 million housing schemes. This will help Pakistan's housing shortage.
- The government should push the cross-subsidized approach to achieve the set target.

Conclusion

The Naya Pakistan Housing Project, which aimed to create five million houses for low-income Pakistanis, will remain a pipedream until significant improvements are made to the scheme utilizing a customer-centric approach. While there has been traction in lending to building enterprises owing to large tax exemptions and the possibility to whiten money the actual number of low-cost home loans is pitiful with the disbursed amount for the whole banking sector being Rs 1.3 billion as of May 2021. (NAPHDA, 2020) This unsatisfactory result is not attributable to the State Bank of Pakistan's lack of attention (SBP). Rather, it's due to certain basic flaws in the program which were overlooked by the program's founders when they failed to consider the major requirement of the low-income population.

The SBP has now made three important amendments following consultation with the sector and should lead to a greater lending disbursement. The institution has recently relaxed the minimum 1-year-old housing unit restriction. The limitation on the initial transfer has also been temporarily abolished. The marking grant has been decreased further from 5% to 3% while the amount has been increased to Rs 10 million. This allows borrowers to match their current monthly lease with the monthly installment. Finally, a new level has been added to the three current levels. To enable micro-finance institutions to offer loans, Tier 0 has been introduced. Banks with microfinance may either utilize their own money or request financial support from commercial banks. A great strategy indeed however certain obstacles still have to be resolved before the low-cost housing needle is moved.

The Pakistani housing business is full of uncertainty, and our study has helped identify some important risks. The data show that risk variables overlooked at many levels cause failures in Pakistani housing developments. This risk factor indicates the lack of effective planning and administration in many Pakistani projects, which causes delays in construction projects.

This study also demonstrates that internal risk variables outnumber external risk factors in Pakistani construction. Although the country's political and economic situation is not stable, experts believe that internal risk factors outweigh external risk factors such as

the economy and political situation. Also noteworthy was the ownership of identified important risk variables.

This study is confined to qualitative risk analysis due to the difficulty of quantifying all risk factors. With this knowledge, Project Managers may plan ahead of time for the response to these highlighted risk factors. The project manager must also determine whether to perform a quantitative analysis of significant risk variables or to apply mitigation techniques to prevent them.

References

1. Ahmed, Ayaz, Iqbal N and Mustafa G, et al. Measuring the Impact of Remittances on Housing Demand: Evidence from Large Cities in Pakistan. Pakistan Institute of Development Economics, Pakistan. 10. 2020.
2. Ahsan M. Making Unaffordable to Affordable: Looking into Affordable Housing Issues and Its Remedies. RTU press (Riga Technical University) publisher, Lahore, Pakistan. 2019.
3. Alba RD and Logan JR. Assimilation and stratification in the homeownership patterns of racial and ethnic groups. *Int Migr Rev* 26 (1992): 1314-134.
4. Arbussà Reixach, Anna. The effects of information and communication technologies on the banking sector and the payments system. DUGiDocs, Girona, Catalonia, Spain. 2001.
5. Barber, Richard B. Understanding Internally Generated Risks in Projects. *Int J Proj Manag* 23 (2005): 584–590.
6. Basolo V. The impacts of intercity competition and intergovernmental factors on local affordable housing expenditures. *Hous Policy Debate* 10 (1999): 659-688.
7. Basolo V. City spending on economic development versus affordable housing: Does inter-city competition or local politics drive decisions? *J Urban Aff* 22 (2000): 317-332.
8. Börsch-Supan, A. Panel data analysis of housing choices. *Reg Sci Urban Econ* 20 (1990): 65-82.
9. Bovis C. The Private Finance Initiative (PFI) as the Prelude of Public Private Partnerships (PPPs). *Eur Procure Public Priv Partnersh Law* 1 (2006): 24-32.
10. Case FE. Comment on "Multifamily Housing Demand". *Real Estate Econ* 7 (1979): 130-130.
11. Chaplin SE. The role of the World Bank in India's Narmada valley project. *South Asia: J South Asia Stud* 19 (1996): 105-132.
12. Chinyio EA, Olomolaiye PO, Kometa ST and Harris FC, et al. A needs based methodology for classifying construction clients and selecting contractors. *Constr Manag Econ* 16 (1998): 91-98.
13. Chou WL and Shih YC. Hong Kong housing markets: Overview, tenure choice, and housing demand. *J Real Estate Finance Econ* 10 (1995): 7-21.
14. Choudhry, Rafiq Muhammad and Khurram Iqbal. Identification of risk management system in construction industry in Pakistan. *J Manag Eng* 29 (2012): 42–49.
15. Collins R. E-Learning Field book. The Learning Organization. Emerald Group Publishing Limited, Bingley, West Yorkshire, England. 2004: 135-141.
16. Cvijanović, Drago Mihailović and Branko, et al. Effects of Globalization on Economies in Transition. In: Global Perspectives on Trade Integration and Economies in Transition. IGI Global, Hershey, Pennsylvania, USA. 2016: 26-44.
17. Denis DJ and Mihov VT. The choice among bank debt, non-bank private debt, and public debt: evidence from new corporate borrowings. *J Finance Econ* 70 (2003): 3-28.
18. Francisco J and Acoba Scott P Foster. "Aligning Corporate Real Estate Evolving Corporate Missions". *J Corp Real Estate* 5 (2003).
19. El-Kari MS, El Nawawy OAM and Abdel-Alim AM Global Perspectives on Trade Integration and Economies in Transition. Business Science Reference (an imprint of IGI global), United States. 2016.
20. Gallagher Cunningham K. Understanding Civil War: Evidence and Analysis, Volume 1: Africa. Published by American Economic Association, Washington, DC: The World Bank, USA. 2005.

How to cite this article: Ghazanfar Baig, Mirza Hammad, Muhammad Mutasim Billah Tufail and Mirza Jawad Ghazanfar Baig. "Identification of Risk Factors Associated with Construction of Low-Cost Housing Schemes; A contextual Analysis of Naya Pakistan Housing Scheme." *Arabian J Bus Manag Review* 12 (2022) : 456.