



Impact of Urbanization and Industrialization on Cultivated Land: A Case Study of Lahore, Pakistan

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ABSTRACT

This research looks at the important link between the fast pace of urban development, increasing industries, and the resulting decrease in cultivated land in Lahore, Pakistan. It is worrying that in Pakistan, where agriculture is one of the major activities, contributing 22.9% to the economy and employing about 37.4% of the labor force, there is so much strain on agricultural land due to population growth and infrastructure expansion. This study aims to investigate how far urban development consisting of mass relocation, new housing projects, and industrial expansion has encroached onto farmland, particularly in Punjab which is the most agriculturally productive province in Pakistan. Based on a mixed-methods approach which included secondary data, literature reviews, and a theoretical framework of Rational Choice Theory, this study attempts to identify the dominant patterns of land conversion. It also compares other countries like India, Vietnam, and China to highlight that the same underlying forces exist in many parts of the world where the pursuit of economic development leads to the loss of farmland and ecological balance. The study findings indicate that urban sprawl and industrial expansion drastically changed the land use system around Lahore, which resulted in the reduction of farm sizes, rural to urban migration, and increased land abuse. The uncontrolled purchase of land along with industrial wastes aggravates the already deteriorating soil and water resources. To tackle these problems, the paper offers specific policy suggestions including land-use restrictions, the mobilization of rural communities, fostering healthy sustainable growth in cities, and the enhancement of agricultural resilience. This study provides developing countries with important strategies on how to manage the dual objectives of economic development and food security while safeguarding their agriculture from rampant urban and industrial encroachment.

Introduction

Agriculture is one of the most powerful tools to end extreme poverty and boost shared prosperity. Moreover, agriculture sector can feed a projected 10 billion people by 2050 (World Bank report 2024). Agriculture is also crucial to economic growth contributing 4% in global gross domestic product (World Bank agriculture report 2024). But agriculture sector is at risk of agriculture land loss due to rapid urbanization and industrialization. The world population is expected to increase from 8 billion to 9.7 billion in till 2050 (Population-United Nations 2024). The world population is increasing at rapid pace, which result in increased demand of houses and industries to meet population requirements. This urbanization and industrialization have impact on cultivated land worldwide. Agriculture has a particularly important position in the economic and social development of south and Southeast Asian countries. This sector has exclusively contributed to providing employment, improving food security and reducing poverty in these two regions. However, the agriculture growth rate in these regions is only 3.2% only (Liu, Wang, Yang, Rahman, & Sriboonchitta, 2020). Furthermore, the share of agriculture in GDP is shrinking in these regions. Slow growth and declining share of agriculture is due to urbanization and industrialization in these regions impacting cultivated land in south and south East Asia. Pakistan is an agriculture country with its 68% population directly or indirectly related to agriculture. According to Pakistan economic survey 2023-24 agriculture backs 22.9% in gross domestic product (GDP) of country as well as 37.4% in employment generation. Moreover, it provides essential raw materials to industrial sector and ensure food security in country. Unfortunately, the agriculture growth rate in Pakistan is decreased from 3.88% in 2017-18 to 1.55 in 2022-23 (Pakistan economic survey of overview of agriculture 2022-23). The reason behind this shrinking growth is loss of agriculture land in country due rapid increase in population. Population increases results in unplanned urbanization, increase in industrialization, which impacts cultivated land. Punjab is the most populated province of Pakistan with largest share in national agriculture production. Overall, 60% of agriculture share in national GDP come from Punjab. 72% land is available in Punjab for cropping which is decreasing due to increasing population in Punjab (Agriculture department of Punjab government). Punjab population is 127.7 million which is projected to reach 253 million by 2050 (Express Tribune 2024). This rapid population increase will increase demand for housing and other industrial products. Currently Punjab is experiencing cultivated land loss due to increase urbanization and industrialization. Punjab is facing crises of loss of agriculture land due to rapid urbanization and industrialization. Urbanization and industrialization on agrarian land is major cause of loss of cultivated land in Punjab. A lot of people migrated from rural to urban areas in search of better livelihood. This increased migration ultimately increase housing demand in urban and also increase demand to more industries to meet the requirements of increasing population. Lahore is second most urbanized city in Pakistan with 84% citizens living in metropolitan areas. Which causes loss of cultivated land on large scale (Fatima and Warisha, 2023). Due to shrinking farm size because of urbanization, agriculture as an occupation has started to yield under-sustenance with smaller land holdings also confronted with forced changes in dynamics for farming, triggering rural urban migration. Most often, it cannot be relied upon as a solitary means of gainful employment. Clearly, land around urban and semi-urban clusters of population is increasingly compromised due to increase demand of housing and industry. The development of housing societies around urban areas and road networks is one of the main factors for converted cultivated land into housing units or plot (The Auditor General of Pakistan, 2022) Urban sprawl goes on unchecked

and continue to expand in the form of housing societies and industries. The people generally purchase land in the peri-urban areas on relatively cheaper rates, hoping that they can sell it on high prices to earn some money. If urbanization and land conversion continue without adequate enforcement of laws to protect cultivated lands in the districts of Punjab, an increase in food insecurity due to less cultivated land could occur. The land use changes from agricultural to urban purposes considerably affects the sustainability of the soil and water resources, ecosystem functioning and biodiversity, leading to low farm output and economic impact on people associated with it (The Auditor General of Pakistan, 2022)

In Pakistan, urbanization and industrialization are resulting in reduction of area available for agriculture. This reduction effecting productivity and creating a serious situation for national food environment. Due to poverty, majority of Pakistan population in rural areas has low living standards. The income of people living in rural areas of country is very low, which makes it difficult for them to survive. More importance is given to industrial sector in Pakistan then agriculture. Industrial sector was considered a prerequisite for the development of a country. Aslam, (2019)

Problem Statement

According to agriculture department overview, 2024, Punjab is second largest province making 25.9% of total country land. From the total land of Punjab 72% is available for cropping. There is increasing concern about agriculture productivity is being impacted by metropolitan centers like Lahore due to unplanned urbanization and increase in industrialization. From 6.32 million population of Lahore, 1.03 million were migrants. Expansion of Lahore is impacting preservation of cultivated land resulting in loss of cultivated land in Punjab (Fatima and Warisha, 2023). Urbanization and industrialization are impacting cultivated land in Lahore, Pakistan. Current study explores the relationship of urbanization and industrialization on cultivated land in Lahore, Pakistan.

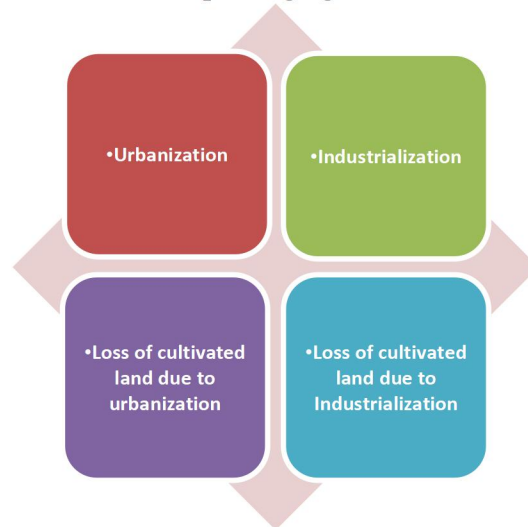
Research Questions

1. How does urbanization have effects cultivated land in Lahore, Pakistan?
2. In what ways industrialization have relationship with cultivated land in Lahore, Pakistan?

Significance of Study

In Pakistan 68% is directly or indirectly related with agriculture economy. In Punjab 72% area is available for cropping. Lahore the capital city of Punjab is experiencing continuous expansion of urban land due to increasing migrations and industrialization. So, in Lahore cultivated land is impacted by urbanization and industrialization. The study will explore urbanization in Lahore, Pakistan. The study will explore relationship of urbanization with cultivated land in Lahore, Pakistan. Ultimately providing solutions to solve the problem. The study will also explore impact of industrialization on agriculture land in Lahore, Pakistan and their relationship with cultivated land in Lahore. At last, it will provide solutions to solve the problem. This research will benefit by providing key insights on urbanization and industrialization, and their impact on cultivated land in Lahore.

REVIEW OF LITERATURE: The literature review of this research, which shows that urbanization and industrialization are impacting agriculture land.



(Developed by Authors)

Urbanization

Cities are the important and playing multiple functions in human societies. These cities are the main area where technology is developing and economy is boosting rapidly but these are the areas that are affecting the human environment by hazardous materials, inequality, unemployment and spreading of fatal diseases (McMichael, 2000). As the urbanisation is increasing day by day this spill over effect is continually spreading and it's becoming a global dimension and in short time it will occupy all over the world's population. (Alirol, Getaz, Stoll, Chappuis, Loutan, 2011). Cities are main social and economic zones of human activities (Boone et al., 2014; Pickett and Zhou, 2015). The people living in urban areas are enjoying better lifestyle as in cities there is modern civilisation because of science and technological advancements (Boone et al., 2014; Pickett and Zhou, 2015). Cities are swiftly becoming large specifically in developing areas of the world. The Asia and Africa are under great influence of urbanisation as this phenomenon is occurring in larger rates here. Urbanisation is moving the world towards advancement. The assembled countries are referring that in 2050, almost 68% of population in contrast of 55% in 2018 will live in metropolitan regions of the world (United Nations, 2018). There is a movement of mega cities is rising that will consists of population more than 10 million (Satterthwaite, 2010). This urbanisation trend is causing economic inequality because the advancement of cities is resulting in gaining more concentrated of wealth than the rural areas (Kanbur and Venables, 2005). These developed areas are mainly causing the environmental pollution that includes carbon emissions, air, and land and water pollution. Main issue is occurred when the land for urbanisation is used from peri-urban and rural areas are occupied that shifted the world dynamics and socioeconomic patterns (Seto et al., 2012). Economic imbalances are another result of urbanisation. To overcome these consequences there is sustainable urban planning methods will be useful (Haaland and Bosch, 2015). National Bureau of Statistics data says that in China 17.92% to 59.58% of urbanisation is increased from 1978 to 2018 and their average annual rate of urbanisation is rising to 1.04%. This rate is huge in contrast to the whole world in same time period. In regardless of fact the urban areas are increasing in economic development but the benefits are not equally distributed at the end this

process often moves towards more poverty and irregular settlements. However, fastest urbanisation has the potential to make worse the economic inequality (Kanbur and Venables, 2005). Think about the slums and temporary settlements of people that needs a secure habitual area where they can be protected from poor environment. Urban areas are major source of pollution also they are the main actors which are consuming energy and natural resources largely (Seto et al. (2012). Total population of world will increase and reach 9.7 billion in 2050 and 68% of total population (6.6 billion people) will live in urban zones. Sustainable urban development is mainly connected to future of humans. The urbanisation phenomenon is irregular in different parts of globe because of different socioeconomic development levels (Sun, Chen, Li, Q, 2020). Universally it has been figured that urbanisation is appeared as a main concern policy lately (Almulhim & Cobbinah, 2022). Urbanization has been alternatively and variously defined based on the position and level of development of nation-states. As a result of these definitions, in many ways, what is considered civic in one context is not in another (McGranahan and Satterthwaite, 2014).

Human activities because of urbanisation are completely changing the landscape and its bionomics. As the urbanisation is spreading and it is leading towards the conversation of vegetated and non-vegetated areas that results in changing the climate and weather conditions of the cities such as air pollution that includes increase of CO₂ concentration and urban heat island (UHI) effect. Frequently, urban environments are considered as harbinger of change in world's future that will largely make different harmful effects on the growth of vegetation. These effects on vegetation are further divided into directly and indirectly effects. Direct impacts are mostly negative and refer to land cover conversion from natural to city zones, decreases the vegetation cover and growth. The indirect effect of urbanization on plant growth is mostly due to human management practices in cities and higher air temperatures compared to surrounding natural areas. (Zhang et al. 2022)

Industrialization

Industrialization has been a significant driver of economic development and social transformation, particularly in developing regions of the world. According to Clark (2007), industrialization involves the transition from agrarian economies to manufacturing and industrial based economies. This shift is characterized by advancements in technology, increased productivity, and changes in labour structures. The Industrial Revolution, which began in the late 18th century in Britain, is main reason of global industrialization (Clark, 2007), The period saw significant technological innovations, such as the steam engine and mechanized textile production, which drastically increased production capacity and efficiency in world. These innovations spread to other parts of Europe and North America, leading to widespread economic growth and also resulting in urbanization. Industrialization has been associated with substantial economic growth in world (Allen, 2009). Countries that have successfully industrialized have experienced higher GDP growth rates, improved standards of living, and increased employment opportunities and better living. However, the benefits of industrialization are not evenly distributed in different parts of world (Acemoglu and Robinson, 2012). As Rodrik (2016) mentioned while industrialization can lead to overall economic improvement, it can also exacerbate income inequality between urban and rural areas. Industrialization has significant environmental consequences in the form of pollution. Industrial activities are major contributors to environmental degradation, including increased greenhouse gas emissions, deforestation, and different types of pollution. Industrialization leads to higher carbon emissions and resource extraction, impacting overall balance of environment (Rckström et al., 2009). Rodrik (2004)

emphasizes the importance of institutions in supporting industrial development. Policies that promote education, infrastructure development, and technological innovation can facilitate industrial growth within nations. Looking ahead, the role of technology in industrialization continues to evolve as world is progressing. The Fourth Industrial Revolution, characterized by advancements in digital technologies, artificial intelligence, and automation presents new opportunities and challenges for nations. These technological advancements can enhance productivity and innovation but also pose risks of job displacement and increased inequality in these parts (Schwab, 2017). Industrialization has been the attribute of national development in the twentieth century. Industrialisation is rooted to the National societies also a widespread phenomenon that takes place by international dynamics. After two decades of WWII United States gained the position in Political and economic superiority. It is main source of expansion was reconstruction of Europe and Asia. This expansion was based on International Trade and Direct foreign investment (DFI) due to which complex division of labour formed that lead world towards the industrialisation and geographical specialisation (Gereffi, 1990).

Loss of cultivated land due to urbanization

Vietnam had 833 urban areas as of 2018, meaning that the country's urbanization rate was roughly 38.5%. By 2025, this percentage is expected to rise to 50%. Between 1990 and 2017, total number of people living in cities increased from 19.51 million to 35.03 million. Vietnam's growing urbanization poses several obstacles, straining the country's technological and social infrastructure and having dire effects, despite the country's great economic development. The availability of agricultural land has been greatly influenced by the widespread conversion of agricultural land to urban area, even if the country's economy has dramatically improved. (Nhung, Martin, Heiko, 2021). Over 53% of these households experienced a drop in income following land conversion, impacting the livelihoods of 2.5 million people, according to the Vietnam Farmers' Union. Land conversion occurred between 2003 and 2008. An aging and feminized agricultural workforce is the outcome of urbanization also driving a significant exodus of young, male labor from rural areas to urban non-farm jobs. Vietnam's scarce farmland has been wasted due to ineffective management of agricultural land purchase for urban projects, which has resulted in some of the acquired land remaining wildland rather than being developed for residential or industrial use. Nonetheless, rural poverty has decreased as a result of urbanization and industrialization, which have also raised rural household earnings from non-agricultural sectors. Vietnam's development will continue to be significantly influenced by urbanization, which will push the conversion of farmland and provide chances and difficulties for future agricultural transformation (Nhung, Martin, Heiko, 2021). China's extensive urbanization in 2000 resulted in the loss of 33,080 km square, or 0.47% of the country's total agricultural land area. Crop losses were substantial, with a high decline of 24,783 km square, or 1.37% of the total area under cultivation. About 3750 km square, or 0.17% of China's total forest area, had lost forest cover at this rate. Grassland was least affected, losing only 0.15% (4547 km²) of its total area to urbanization (Kaifang, Jianping, Yun, Bailang, Tingbao, Linyi, Chang, Rui, Zuoqi, Jianping, 2016). Urbanization not only creates positive externalities through technological innovation and shared information, such as outstanding economic growth, increasing farming production, but also generates negative externalities such as problems in public safety, health, social equality, etc. (Bai, Wu et al., 2011) Similar to Africa, Asia also experiences the loss of farmland due to urbanization. The area used for agriculture in Hanoi has nearly one-third of it converted to residential use. Loss of agricultural land due to urbanization raises questions about the poor's access to food and the livelihoods of peri-urban farmers. The largest area that was

converted from agricultural to developed land between 1993 and 2000 was 3856.2 hectares. Moreover, a multiple linear regression model study carried out in Delhi, India, discovered that dwelling complexes ($p < 0.01$) and cottage industries ($p < 0.05$) had highly significant impacts on the pattern of farmland usage (Coulibaly, and Shixiang, 2020). The United Nations estimated that the urban population in India will rise to nearly 500 million in the period of 2010-2050. Occurrences of increase in Uptown Land due to increase in the number of people living in towns has exerted pressure on the agricultural facilities of country. For example, in China, urbanization has increased agricultural land-use intensity due to population increase (Jiang et al., 2013) and resulted in the straight loss of agricultural land (Jiang et al., 2012). In India, the land required for urban growth has similarly resulted in the conversion of agricultural lands in to urban areas (Chadchan and Shankar, 2012). Agricultural land is under severe pressure in the form of transformation to urban use and other pressure include land intensification, land abandonment, wide spread use of agricultural land available by degrading the land resource (Rahman et al. , 2011; Mishra, 2002, Reddy and Reddy, 2007, Varughese et al. , 2009). According to a survey by Varughese et al. (2009), it revealed that the state of Indian land resource is alarming as about half of it is in a degraded condition. Beside the problems regarding the agricultural land, population and population growth and decline affected food grain production that has led to the lower availability of other pulses and cereals apart from rice and wheat (Veni and Alivelu, 2005). Mishra (2002) studied the effect of population on the increase in the gross agricultural intensification in India during 1951-1991 proved by increase in frequency of cropping, use of chemical fertilizer and extension of irrigation facility.

Loss of cultivated land due to industrialization

Various studies highlight how the industrial revolution changed the way of land using. When agriculture lands are converted into industrial areas it causes the decrease of agricultural production. Discuss the process that causes habitat fragmentation and disturbs the natural phenomenon that are important for agriculture by industrial sprawl (Boyle et al., 2017). Furthermore, industrialisation pollutes the air, water and land that directly effects the agriculture production. Acid rain causes because of manufacturing pollution that harms the crops. Industrial waste is polluting the water resources that damages the irrigation system. Another issue is degradation of soil that is also causing by industrial pollution (Liu et al., 2018).

Industrialisation reached to the low-income Asian and Sub-Saharan African countries and it is the main reason is conduction of employment expansion. Industrialisation is rapidly increasing the standards of living is different parts of the world. As is Africa, there are several premature industrial sectors are running. Their employment ratio is rapidly increasing from past twenty years. Their main sources are small scale industries are increasing and limited labour and wages in large scale industries. This limited labour is a result of large amount of small-scale sectors. It is leading the country in rising its capital smoothly (McMillan, Margaret and Zeufack, 2022)

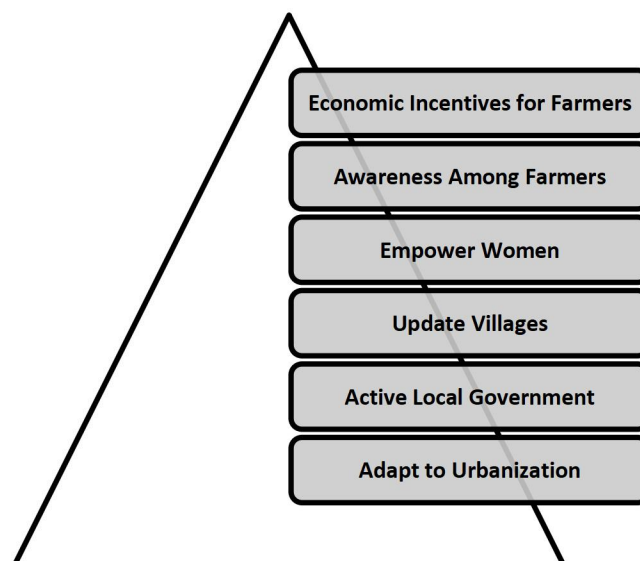
Natural resources are depleting because of industrialisation. The rivalry between agriculture and industries can cause water scarcity that effects the agriculture production in regions. Industrial groundwater misuse and lower water table are issues causing by industrialisation (Huang et al .2018). The situation is more alarming if we talk about Pakistan because it is economy is based on agriculture. The industries which are established near large cities are moving towards irrigated land for industrial expansion (World Bank, 2013). In addition, according to a report of Institute of Research and Development 2019 states that Pakistan's water bodies are affecting because of textile and manufacturing zones which is affecting its agriculture.

Research is carried out by using the Theory of Rational Choice proposed by James Coleman and paired with Moral Economy and Political Economy. The result of their research was that the main reason of transfer of functional land is based on economic factors for which landowners sell their lands. They sell them to fulfil their basic necessities such as educational expenses or to enhance their living standards. In developing countries despite the remarkable development, they are facing challenges of increasing their food demand for future generations, climate change and unsteady weather conditions, unsteady markets, decreasing arable land capital. All these challenges are caused by industrialisation. The industrialisation is increasing day by day and it is disturbing the ecosystem. The change causing by industrialisation is disturbing the nature by changing behaviour of world (Mu'adi, Maksum, Hakim, and Basrun 2020)

The Chinese initiative “Belt and Road” gained its popularity on international level and cities including Silk Road are also gaining importance because of their strategic high-quality development. This initiative of “Belt and Road” is considered as “Spill over” effect on industrialisation phenomenon of China. The dimensional shift of Chinese industries also helping the cities which are connected to Silk Road initiative by opportunities of industrial development are now becoming a major concern for regional governments as well as internationally. There are different ideas occurring regarding Silk Road initiative. First the development process is geographically heterogeneous in these cities. This initiative is changing the Town and economic system. It is also reshaping the social and political structure as well as dimensional relations of areas in line. Second the driving forces of all cities connected to this initiative are under influence. They cannot escape and their agriculture or habitant land will be used for industrial sector. People of those areas will sell their land and work in industries on their land. Third the industrial impact on land is very complex and dangerous. It also directly effects the ecological state framework. It directly effects the land, air and water that will disturb the whole nature of all the areas of Silk Road. That's why there is a need of policy making for governments to reduce their agricultural loses and stable industrial development (Zhao, Yan, and Han, 2021).

Industrial production is main reason of metal pollution in cultivated crops in China. This risk is slowly increasing from Northwest to Southeast of China. These are different issues that are decreasing the food supply because of industrialisation. There will be a risk of food scarcity in near future as the agricultural land is occupying with industries or effecting because of industrial waste. In near future human may face a famine kind of situation because of low production of food as the agricultural lands are using for industrial development (Kai, Wang, and Zhang. 2022).

Recommendations



(Developed by Authors)

The government should provide subsidies to farmers on fertilizers, fuel and ensure price control. It will help farmer to earn profit from their crops. Eventually contributing in reducing agriculture as more farmers will prioritize agricultural economy. Government should minimize the role of middle man and get crops directly from farmers. Government, non-governmental and nonprofit institutions should conduct awareness sessions for farmers especially in villages. The purpose should be to make them aware about contemporary farming methods, technologies and way of production for maximum production and profit. Policy makers are currently paying little attention in empowering women especially women in villages. Women can play important role in boosting agriculture sector. Rural women can play an important part in cultivation of vegetables, fruits and other crops. People move from villages to cities resulting in unplanned urbanization like slums. It can be controlled when rural areas will be provided with basic necessities like good health and education system as well as good economic opportunities. This can be done by updating agriculture system and increasing more arable land. Government and local farmers should collaborate to make efforts for uncultivated land. Use modern technology to make it available for cultivation purposes. Identify causes of land misuse and take action accordingly. Local community play important part in overall development of country. Government through local government should empower local community through local government. This will bridge the gap between government and local people. It will help government to understand their needs and local people will understand their role. This will eventually result in the uplift of rural and urban areas creating more opportunities for growth of agricultural sector, planned urbanization, and industries. Policy makers should develop policies for planned urbanization keeping in mind the cultivated land. Land use policies should be implemented strictly. Planned urbanization will help to reduce cultivated land loss. There is a need of strict policy implementation regarding industrial waste disposal and land use for industries. This will reduce the impact of industrial waste and unplanned land use, eventually leading to less loss of cultivated land. The urbanization in world is rapidly increasing resulting in the demand of large amount of high value products such as vegetables, fruits, dairy and meat etc. It needs the proper infrastructure includes stabling in electricity services, transport networks and other building blocks of modern supply chains. Government should provide these building blocks to farmers and channelize this process. It is the need of hour to fortify our agricultural sector against extreme weather condition and extreme temperatures, floods, pests and diseases. This will carry on with substantive policy reforms in agriculture research at governmental level, improved seed system Agriculture sector must adapt climate change to secure their agricultural sectors. Rehabilitation of canal system, maintaining and drainage of water must be protected and policies should be implemented accordingly. There should be proper protection system against water and energy needs of agriculture sector. Poverty can be controlled by helping farmers in villages by providing equal opportunities, adequate resources and facilities at local level. This will reduce poverty and ultimately results in farmer growth at local level.

Conclusion

This research highlights a problem that not only affects Lahore, but the rest of the world: rapid growth of urban areas and construction at the expense of farm land. Lahore demonstrates the impacts of unregulated growth; the population surge along with a focus on economic growth led to a drastic loss of farm land due to weak governance policies. Lahore's case is particularly important, as it lies in the Punjab region, which is known as the granary of Pakistan because it

provides the bulk share of the country's agricultural GDP. The study indicates that increased development of infrastructure such as housing societies and roads has resulted in fertile farmland being directly transformed into non-agricultural land. In the same way, industrial growth, which is usually around cities, has severely polluted the air, water, and soil, which in turn decreased agricultural productivity. As a result of these changes, Pakistan's food security status is at risk, especially considering the farming jobs that millions of people rely on. This is not a stand-alone situation; many other countries like China, Vietnam and India suffer from the same problem created through shortsighted policies where industrial growth is prioritized over sustaining agriculture. But in Pakistan, where most people rely on farming for their livelihood, it becomes increasingly problematic. The agricultural sector's worsening neglect in national investment and planning frameworks further exacerbates issues. This study firmly concludes that Pakistan needs a more comprehensive and holistic approach. Lawmakers need to implement stringent land-use policies to stop the arbitrary conversion of farmland into other uses. Urban development has to shift to a sustainable model that prioritizes vertical expansion. Controlled industrial growth should also be carefully planned to avoid the pollution of agriculture and environmentally sensitive areas. In addition, the unsustainable use of land can be challenged if local populations are empowered through local self-governance and education. Policies that help smallholder farmers with direct market access, subsidies, training, and modern farming techniques will stimulate agriculture and curb rural-urban migration. There should also be a stronger emphasis on building resilience in agriculture, including climate-smart interventions, better irrigation systems, and strategies on climate impacts on agriculture. As Pakistan has to understand the dangerous link between farmland and national security, it must address this not only as an agricultural issue, but as one of development and survival. Finding a balance between urban and industrial expansion and preserving agriculture is an urgent challenge. If Pakistan ignores this issue, it risks not only losing food independence, but also destabilizing rural economies which would increase socio-economic inequality. The future lies in continuing growth while fostering sustainability.

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