Investigating Location Attributes For Industrial Area Development: A case area of Balaju Industrial Area

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Abstract
Industrial areas play a significant role in the economic growth and sustainability of any region. The choice of an ideal location for industrial growth is an important choice with an impact on several stakeholders, including enterprises, communities, and governments. This study focuses on the investigation of location attributes for industrial area development, with a specific case study of the Balaju Industrial Area, situated in Kathmandu, Nepal. The study takes a different approach to examine the major variables affecting industrial growth in particular region. In-depth literature reviews, surveys, and interviews are conducted to collect data. Regression analysis was then used to investigate the relationship between the impact and industrial location satisfaction. Following the discovery of such relationship, location attributes are investigated and recommended. The study examines and assesses several geographical characteristics that are necessary for the industrial development are studied and identified. One of the key findings of this study is that the site of an industrial development directly affects the community and can have both positive and negative effects. As a result, it is essential to allocate location attributes for industrial development carefully. According to this study, it is major to consider a variety of factors, including infrastructure, a skilled and semi-skilled labor force, availability of land, safety and security, new technology, research center, effective laws and policies, accessibility to markets, financial viability, and environmental sustainability, when choosing a location for industrial development. The study's conclusion emphasizes the necessity for a holistic approach for developing industrial areas that takes into account the interaction between location attributes and their effects on economic, social, and environmental issues. Finally, by using the Balaju Industrial Area as a case study to highlight important lessons and best practices, this research serves as a valuable guide for urban planners, policymakers, and other stakeholders interested in recognizing the fundamental elements that influence and required for the growth of industrial regions.

Keywords
Industrial Area, Location Attributes, Local Community, Balaju Industrial Area.

1. Introduction

An industrial area is a specified geographic area that was created and planned with industrial companies and business operations where various manufacturing, processing, and production activities take place. The industrial sector's progress has led to many achievements such as increasing regional economic growth, employment, and business opportunities. However, industrial activities also led to a variety of negative impacts associated with environmental and social problems that can degrade the quality of the environment and in turn, will reduce the carrying capacity of the environment [1]. Industrial area development plays a vital role in economic growth and development of a region. The selection of an appropriate location for industrial development is crucial, as it can significantly impact various factors such as productivity, efficiency, transportation, and overall economic performance. In this context, this study provides an overview of the study conducted to investigate the location attributes for the development of the Industrial Area, considering Balaju Industrial Area as a case area for this study.

The establishment of the industrial zone has been started by laying the foundation stone of Balaju Industrial District at Balaju, Kathmandu in 2016 B.S. with the support of the joint effort of Government of Nepal and the American government. Taking into consideration the geographical and regional economic balance of the country, industrial zones were established in different places of the country by the Nepal government itself and with the cooperation of various friendly countries to encourage local investment, labor and raw material based industries and industrial promotion. To coordinate and manage the management aspects of the industrial districts Nepal Government established Industrial District Management Ltd. under Company Act in 2045 B.S. According to the policy of the Nepal government, this company has been playing an important role as an agency for industrial promotion and serving the industry in a systematic, unified manner [2]. Industrial Development Management Limited (IDML) was constituted by the Government of Nepal in order to boost the balanced regional development by making optimum utilization of local capital, natural resources (agriculture and forest based etc.) and human resources for industrial promotion [2]. There are 11 industrial estates and 10 are in operation except Dhankuta, six are being developed and five are proposed for consideration [3]. It is crucial for well-informed decision-making, strategic planning, and long-term industrial growth to conduct research on examining geographic attributes for industrial area development, with a focus on the case study of Balaju Industrial Area. The results of this study can help develop efficient rules and regulations, allocate resources accurately, and build successful business environments in industrial zones.

According to M.C. Ruiz [4], agreements on balanced development, the relationship between an urban environment with optimal social services, and the search for a quality physical environment to be conserved have taken on a key role in the combination of industrial activity and environment. Industrial areas play a crucial role in economic development, but their impacts on nearby communities are often a subject of concern.It is important for well-informed decision-making, strategic planning, and long-term industrial growth to conduct research on examining geographic attributes for industrial area development, with a focus on the case study area. The results of this study can help develop efficient rules and regulations, allocate resources accurately, and build successful business environments in industrial zones[5]. It is important for making better decisions, plan strategically, and ensure sustainable industrial growth. It guides policymakers, attracts investments, and creates thriving business environments in industrial areas.

There were no homes nearby when the industrial area when it was first built, but because it is in the capital city of Nepal, the urbanization took place rapidly. As the industrial area located in Balaju there are lots of prospects and problems to the local community. The absence of any buffer zone around the Industrial Area is the main issue. As a result of numerous forms of pollution brought on by enterprises, there is a conflict between the public and industrialists on several agendas. These issues manifest as significant problems, including environmental pollution, posing threats to air, water, soil, and sound quality. The local population faces health risks stemming from exposure to industrial pollutants, while continuous noise and vibrations disrupt their well-being. Furthermore, the movement of vehicles associated with industrial activities contributes to traffic congestion and safety concerns, causing damage to infrastructure and road accidents. Lastly, the presence of the industrial area impacts land use and property values, with pollution, noise, and safety concerns affecting property sales and degrading the visual appeal of the local community.

The main objective of this research is to examine the relationship between the industrial area and the communities that surround it. It then looks at the potential and consequences of the industrial area from different perspectives, and then finally suggests location attributes for the ideal industrial zone in an urbanizing area.

The research have limitations regarding the time frame of the study. Industrial areas are dynamic and subject to changes over time. The findings of the research reflect the conditions and factors present during a specific period, potentially overlooking recent developments or future trends that could influence industrial area development. Considering these limitations is important to ensure a comprehensive understanding of the research findings and to encourage further studies that complement and expand upon the existing research in investigating location attributes for industrial area development.

2. Literature Review

2.1 Industrial Revolution

The Industrial Revolution was a period of most needed technological advancements and socio-economic transformation that occurred during the 18th and 19th centuries. It marked a shift from an agricultural and handicraft-based society to one characterized by mechanization, mass production, and urbanization [6]. The main characteristics of the Industrial Revolution were technological advancements, mass production in factories, urbanization, specialization of labor, the rise of capitalism, social and economic changes, improved transportation and communication, and environmental consequences [7].

2.2 Industrialization

Industrialization refers to a process which has occurred in the history of all economically 'developed' nation states and which remains an aspiration for most of the governments of those many populations which remain today relatively undeveloped [8]. A nation's economy undergoes a major transformation during industrialization. When machinery and energy sources like coal and oil replace the majority of labor done by humans and animals in the production of goods. This makes production quicker and more effective[9].

2.3 Types of Industries

From the industrial theory [6], industries are classified into four main types based on their characteristics:

Primary Industry: This industry [6], involves the extraction and production of natural resources. It includes activities like farming, fishing, mining, and forestry. Primary industries provide the raw materials needed for other industries.

Secondary Industry: This industry [6], also known as the manufacturing industry, this sector transforms raw materials from primary industries into finished products. Examples include factories that produce cars, electronics, clothing, and machinery.

Tertiary Industry: This is the service industry [6], where businesses provide various services rather than physical products. Tertiary industries encompass areas like healthcare, education, retail, hospitality, banking, and entertainment.

Quaternary Industry: This is a subset of the tertiary sector [6], that deals with knowledge-based activities. It includes industries focused on research, technology, information technology, and intellectual services. Quaternary industries play a crucial role in the modern knowledge-based economy

2.4 Theory for Industrial Area

Agglomeration Theory: According to Marshall [10], agglomeration economies arise from three main sources: labor pooling, knowledge spillovers, and shared infrastructure. In regions with a concentration of industries, a larger pool of skilled labor is available, allowing firms to access a diverse and

specialized workforce. This leads to efficiencies in recruitment, training, and labor mobility.

Growth Pole Theory: The growth pole theory, proposed by economist François Perroux, suggests that concentrated growth in specific regions or "growth poles" can stimulate overall economic development. According to this theory, these growth poles act as catalysts for economic growth by attracting investment, generating employment, and stimulating economic activity. The positive effects of growth radiate outwards from these concentrated areas, benefiting surrounding regions and creating a ripple effect of development. The growth pole theory highlights the importance of identifying and nurturing these focal points of economic growth to achieve broader regional development and balanced economic expansion.[11]

Gravity Model Theory: The gravity model for industrial development is an economic concept that draws an analogy between the force of gravity and the patterns of trade and industrial activities between regions. The model suggests that the flow of goods, services, and economic activities between two regions is directly proportional to their economic sizes (measured by GDP or population) and inversely proportional to the distance between them [12]. In the context of industrial development, the gravity model implies that industries tend to concentrate in regions with larger economic markets and closer proximity. Larger markets offer a greater potential for sales and access to customers, while closer proximity reduces transportation costs and facilitates supply chain management.

Weber's theory of industrial location: Weber's theory of industrial location [6], also known as the location theory, was developed by German economist Alfred Weber in the early 20th century. The theory focuses on explaining why industries tend to be located in specific areas. Weber argued that the location of an industry is influenced by three main factors: transportation costs, labor costs, and agglomeration economies. Weber's theory of industrial location [13] emphasizes the interplay between transportation costs, labor costs, and agglomeration economies in shaping the spatial distribution of industries. While it provides insights into the factors influencing industrial location decisions, it does not account for other important factors such as market demand, government policies, and technological advancements, which have gained significance since Weber's time.

3. Methodology

The research used a mixed-method approach to collect and analyze data to solve the problem. Ontology and epistemology are to research what 'footings' are to a house: they form the foundations of the whole edifice [14]. The study's ontological position for the study is that the current location of the Balaju Industrial Area affects the local community in both positive and negative ways, making it important to look into location-related factors. Epistemology [15], deals with what can be considered valid knowledge to claim the ontological assumption. The epistemological position for the study is that the location attributes of industrial location can be obtained
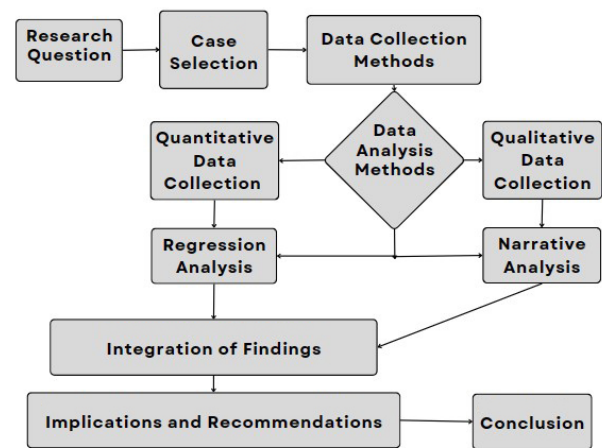

Figure 1: Research Design

from qualitative and qualitative analysis. Valid knowledge can be obtained through observation, interviews, and interpretation of secondary data.

Research paradigm, as defined by [16] is a collection of shared assumptions and understandings among scientists regarding how issues should be understood and solved. Research paradigm helps to examine the social and natural realities of the world. Research paradigms can be characterized by the way Scientists respond to three basic questions: ontological, epistemological, and methodological questions[17]. Lub[18] put forward "the beliefs the researcher holds, will reflect the way the research is designed, how data is both collected and analyzed and how the research results are presented." Thus, recognizing a paradigm is critical to aiding the research process, finalizing the course of action, and determining opinions.

Both quantitative and qualitative along with primary and secondary data sources were utilized to gather comprehensive information about the location attributes of Balaju Industrial Area. Primary data collection involved surveys, interviews, and field visits to industries and relevant government authorities. Secondary data sources included literature reviews, reports, and statistical data from government agencies and industrial associations.This study is primarily qualitative in nature and involves data analysis obtained from the interviews with key informants. However, it also incorporates quantitative data derived from gathering, analyzing, and integrating the results of on-site household surveys that were conducted as part of the investigation of the Balaju Industrial Area and Local Community.

Regression analysis was used to evaluate hypotheses about the relationship between local community satisfaction and the overall impact of industrial areas on local communities using quantitative data. After the establishment of the relation, the narrative analysis was carried out for the qualitative data because both methods were used for resolving problems. Based on the narrative analysis, which also incorporates self-observation, key informant interviews, and secondary data analysis. Triangulation was used in this method to analyze the data and validate the data that had been collected. After the data were successfully validated, the analysis and integration of the results took place and eventually a conclusion and suggestions were drawn.

4. Context of Study

Balaju Industrial Area is a industrial zone located in Balaju Area along the rig road in kathamndu. It is one of the main industrial zone in Nepal and is located in the northwest of the Kathmandu Valley. This region is home to a large number of manufacturing and processing businesses that have a significant impact on the industrial development of the nation. The main centre of Kathmandu is easily accessible from the Balaju Industrial Area. It lies approximately 6 kilometers northwest of Kathmandu Durbar Square, one of the city's major landmarks. The industrial area is well-connected to the rest of the city through multiple transportation routes, making it easily accessible for both commuters and logistics purposes. The industrial area covers a 670 ropanies of land area, featuring a well-organized layout to accommodate a diverse range of industries. Balaju Industrial District has a total area of 670 ropanies out of which 540 ropanies are well developed. The land occupied by service sector are 130 ropanies. Currently there are 131 industries established inside the district out of which 97 industries are in operation [2].

From the data from IDM [2], Balaju Industrial Area consists of numerous industrial plots designated for different types of industries. These plots vary in size and are demarcated to accommodate factories, manufacturing units, warehouses, and other industrial establishments. The plots are usually rectangular or square in shape, with clearly defined boundaries.
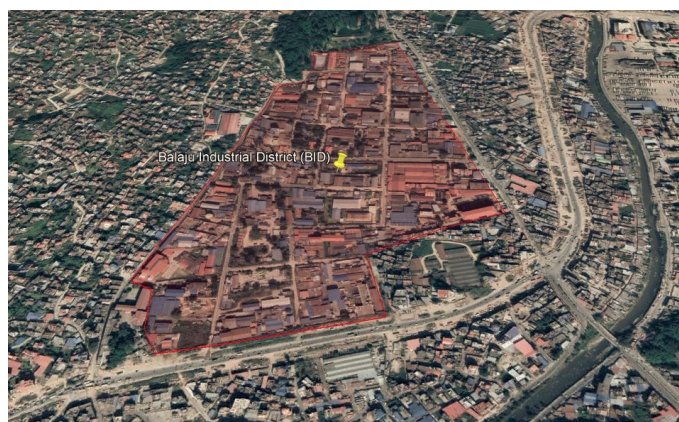

Figure 2: Balaju Industrial Area in Aerial View

Balaju Industrial premises is directly connected to the local community. The local community consist of diverse group of people, including employees, business owners, labours and other residence. Neighborhood residents have a strong sense of support and community, which promotes a welcoming environment who are little far from the industrial area however there is conflict who shares boundary with industrial area. Most of them value cooperation and regularly participate in initiatives to promote social harmony.

The concentration of diverse industries in Balaju Industrial Area can create an agglomeration effect, good collaboration, knowledge-sharing, and economies of scale inside industrial zone as well as can be observed outside an industrial area. The proximity of different industries allows for the efficient exchange of resources, services, and ideas. Hence the

clustering result in increased productivity, innovation, and competitiveness for businesses in this area. The area as a whole benefit from the presence of the Balaju Industrial Area. It attracts investments in social services, commercial establishments, residential construction, and infrastructure. Because of industrial location most people are happy with the agglomeration of small business which directly and indirectly gets opportunities for income and few of them are unhappy because of negative impact of the industrial area. There is park near by industrial area that has positive impact to community.

5. Analysis and Result

At first the well-designed questionnaire was prepared and survey was conducted among the targeted audience. We cover crucial areas such as demographic details, occupational trends, environmental concerns, different issues, and the socio-economic impact of the industrial area on its surroundings.

5.1 Quantitative Analysis (Regression Analysis)

Data collected from the local public and industrialist in google form in rating scale which was then separated into independent variable and dependent variable. The Independent variable is the overall impact whereas the dependent variable includes the satisfaction of the current location of the industrial area. The independent variable include data such as The disturbance, air quality, noise pollution, traffic problem, health impact, psychological impact,Overall environmental quality, economic opportunities, overall development, cleanliness and maintenance, and social work or facilities. Similarly Dependent Variable (location of industrial District) includes The problems, overall positive or negative impact, overall visual appearance, and the satisfaction of the present location of the industrial area.

All this data are on Likert scale, So this data transferred to Excel form the google form and then with the help of IBM SPSS, regression test was performed. Then independent variable and dependent variable is produced by averaging the likert scale data and then to perform regression analysis,at first descriptive analysis was done to check the normality of the data. To conduct the normality test, IBM SPSS and Excel were used. As we have data that is less than 100 we choose Shapiro-Wilk as we have data set of 41. (If the data set is greater than 100 then use Kolmogorov-Smirnov)

Tests of Normality						
	Kolmogorov-Smirnov^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Satisfaction_Current_Location	.166	41	.006	.971	41	.384
Overall_Impact	.081	41	.200*	.986	41	.879
*. This is a lower bound of the true significance.						
a. Lilliefors Significance Correction						

Figure 3: Tests of Normality

We see that from the Significance (p) value that is greater than 0.05. So the data from the variables are normally distributed. Using 5 percentage of significance. Since the data are normally distributed we conduct further linear regression analysis. After the normality test reliability test was conducted.

From Reliability Test Result .563 for data obtained. Since the data are 56.30 percentage reliable. So for the data linear regression can be conducted.

ANOVAa						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.171	1	2.171	8.117	.007b
	Residual	10.430	39	.267		
	Total	12.601	40			
a. Dependent Variable: Satisfaction_Current_Location						
b. Predictors: (Constant), Overall_Impact						

Figure 4: ANOVA Test

The result confirms that the overall regression model is significant for the data, and this was captured by the ANOVA (F-statistic) value of 8.177 and its associated probability value of 0.007 (F = 8.177, p<0.05), which was found to be significant at 5 percent level. We accepted the result and proceeded with the test because the regression analysis was significant despite the weak regression value caused by a large amount of data averaged to a single dependent and independent variable.

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.994	.526		1.890	.066
	Overall_Impact	.583	.205	.415	2.849	.007
a. Dependent Variable: Satisfaction_Current_Location						

Figure 5: Coefficients Test

To interpret the t-statistic, you should examine the probability value (or P-value) captured as Sig. Given a p-value, you can tell at a glance if you are to reject or accept the null hypothesis The overall impact coefficient value which was found to be 0.415, shows that a unit increase in overall Impact, on average, increases the satisfaction of the current location by 0.415 units. Since the p-value is less than 0.05 at a 5 percentage level of significance, we conclude that the overall impact has a positive and significant impact on satisfaction of the current industrial location.

Result from the analysis: From the graph (Figure 6), the equation of slope is given by

$$Y = a + bX \qquad (1)$$

where, Y is the dependent variable, X is the independent variable, a is the intercept, and b is the slope coefficient.
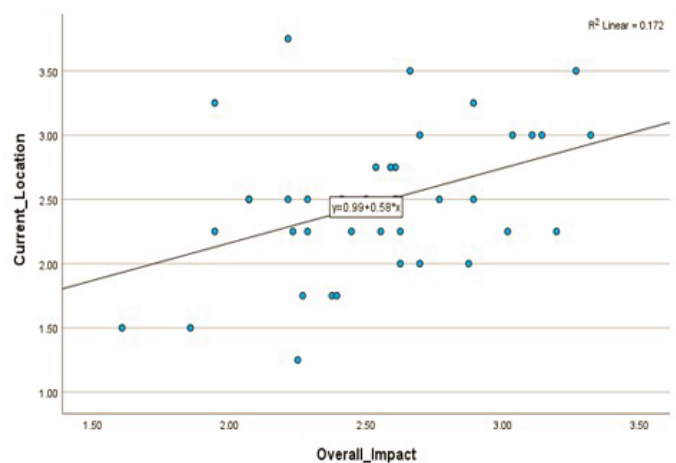

Figure 6: Regression Analysis Graph

Here, b is equal to 0.58 Which shows that the Impact is Positive as the value is positive. As a result from the graph, there is a relation between the local community and the current industrial area. Result from the analysis, From the above result, we can conclude that from the regression analysis that there is a relation between the local community and the current industrial area. Hence, Null Hypothesis was rejected and Alternative Hypothesis was accepted.

5.2 Qualitative Analysis (Narrative Analysis)

From the key informant survey, self-observation and secondary data analysis qualitative analysis was conducted and the following analysis and output was obtained.

From key informant Interviews (KII) The Key Informant Interviews are conducted with different stakeholders that includes high level officers from Balaju Indistrial area such as Mr. Himal Bhandari (Senior Officer), Mr. Bhusan Kumar Upadhaya (Assistant Director, Information Officer), Sailaja Khanal Ghimire (Senior Secretory) and Er. Shushil Timilsina (Technical Officer). Similary other stakeholders such as Late Mr. Mukunda Rijal (Ward chair Person of Kathmadu Metropolitan City ward number 16), Mr. Jibnath Giri (Ex-Chairperson of Tole Sudhar Sumati), Pramod Ghimire (Plastic Factory Owner/ Industrialist) and conduct with local public and with planners as well. And analysis was done and finding are industrial areas and the communities nearby are closely linked. When there's no buffer zone between them, conflicts often arise, and limited budgets make things even tougher. As these areas develop, they also bring destruction, which can be both good and bad. We need to think about the negative effects, especially on society as a whole. Industrial areas create many problems in our society. This happens because there are not enough factories and mostly just warehouses. Gas storage can also affect the mental well-being of local people, and places like Balaju in Kathmandu suffer from high pollution because of industrial areas. Issues with implementing policies make things more complicated.

But if we manage things properly, there can be a good relationship between industrial areas and local communities. Unfortunately, industrial areas harm the local community in many ways, like causing air pollution, bad smells, and other

environmental issues.

However, there are some positive effects too, like higher sales and higher rents for houses. Overall, if we handle things well, there can be more positive impacts and fewer negative ones on society.

Yet, industrial areas have their own problems, like work culture, labor unions, and political involvement. It's important to strike a balance to make sure that industrial development benefits the local community while also considering society's well-being.

From Self Observation   The presence of job opportunities and a variety of businesses near Balaju Chowk brings more positive impacts to our society. There are some problems we need to address that include air pollution, traffic jams, noise, and issues with handling garbage and unpleasant smells. On the bright side, there are open spaces and access to water facilities, as well as fire brigade services and small shops that helped local labor force. But, we do have challenges like poorly maintained sidewalks, a lack of greenery, and no buffer zones. Inside the industrial areas, infrastructure is usually well-maintained, but outside, it's often poorly managed. Due to the air pollution causing health problems, some local community members have even had to leave their homes. Moreover, many industries appear unclean and mismanaged, with restricted access for visitors. The disposal of solid waste and untreated wastewater is also a problem that needs attention. We need to work together to improve these issues for a healthier and happier community.

From Secondary Data Analysis   The Secondary Data that are studied for this analysis are Economic Survey Data 2020/21, environmental impact assessment report, report on small- and medium-scale enterprise, Remote Sensing data on urbanization patterns in Kathmandu Valley, Datas from Department of Industry, 2023 and so on. In many industries, they don't follow the rules about how they should treat their workers, and this can be a big problem. Their lack of labor rights inside a industrial area. For women often don't have good job options, and they're not always happy with the jobs they can find. Some jobs are part-time, which means they might not be secure, and there aren't many jobs opportunities to choose from.

The condition of roads, drainage, electricity, and water systems need fixing .Lack of planning at work sites, and need of making sure workers are safe and healthy. Don't have enough money to do all these things, and lack of money collection from leasing land and buildings. There is need of creative and come up with new ideas for industries.

Lastly, different parts of the government need to work together better, and should have a clear plan for our future development. Most need is to understand how our industries affect our country's economy and job opportunities. And most importantly, take action to make things better growth of industrial sector considering sustainable development.

6. Finding and Discussion

Finding From Quantitative Analysis (Regression Analysis)
From the quantitative analysis we find that the there is a positive relation between the location of industrial area and the community. We prove it from the hypothesis testing by using regression analysis that the location of the industrial area does affect the local community.

Finding From the Qualitative analysis (Narrative analysis)
In this analysis data are analyzed with the help of interpretation from the data that are collected from KII, Self-Observation and secondary data. And from the data analysis we find that the location of industrial area affects the local community in positive as well as in negative way. So with the verification of data by triangulation method it was found that the location of industrial area is directly or indirectly related to the settlement.

Discussion from the narrative analysis   Building strong ties with the neighborhood is essential for the country's economic development.   However, inadequate facilities and an insufficient framework for implementing policies make this difficult. Even though there are some favorable economic effects, they are still few and uncoordinated. Pollution is a problem in areas like the Bajaj area, not just because of industrial activity but also because of unpaved roads and ring road dust. Unfortunately, it seems that there isn't enough money in the budget to support both the local economy and the industrial sector, which makes the problem worse. It is vital to address these problems for the general welfare and prosperity of the country since outdated infrastructure structures and the fees that a lot of traffic on the infrastructure takes on the infrastructure increase these difficulties.

7. The Ideal Location for Industrial Zone In Urbanizing Area

The selection ideal location for an industrial zone for urbanizing area in context of Nepal involves careful consideration of various factors to ensure the success of industrial area, sustainability, and minimal negative impacts on the environment and surrounding communities. Following the research, we learned that, in the context of Nepal, the best location for an industrial zone in an urbanizing area should have six distinct location attributes. The location attributes they are identified are as follows.

Land Use Regulation and Legal Compliance   This location attributes includes land availability, cost of land, enough land for expansion, land zoning, and land use regulations. Social harmony and the systematic development of communities are important considerations, and there should be special laws and regulations that protect the both urban area and industrial sector. Enough space on site for the industrial expansion as well as open space for local community should be considered in land use regulation. The requirement for expansion in industrial regions with a vision that sufficient space must be considered when selecting a new industrial area. In terms of legislation, it's important to consider the

development of industrial clusters that promote collaboration, resource sharing, and innovation with low negative impact on urbanizing place. Proximity to different urban areas can enhance supply chain integration and promote overall industry growth. The government should establish beneficial programs that support research and development, encourage investment, and make it simple for businesses to operate. Better laws and regulations that benefit the impacted areas as well as a variety of services should be included in these policies. Political stability and business-friendly governing structures to attract more enterprises to the area and encourage their growth and finally laws that provide cash incentives, tax rebates, and other services should be considered for affected community and industries.

Energy and Resources Infrastructure, raw materials, electricity, water systems, transportation systems, and other major facilities are all included under this heading. An efficient road network is necessary for the transfer of resources, goods and connectivity with different cities. The most important and necessary infrastructure is the transportation system that links the industrial site to suppliers, consumers, and distribution centers.Availability of reliable and efficient infrastructure, including buildings, warehouse, road network, electric power, and water treatment plant, sanitation, and communication facilities is major need for industrial operation in smooth way. Modern technology and digital infrastructure with enough research and development is the need in industrial area. Businesses will be attracted and their operations will be made easier by good infrastructure. Along with that good facility for urbanizing area for overall development of that area.

Investment and Workforce Synergy For a trained workforce that meets industrial expectations, collaboration between educational institutions and industries is necessary. Technical colleges and vocational training facilities is key to the growth of the industrial sector. Access to a highly skilled and qualified labor force by providing educational resources, guidance, and training programs. The attraction of the location for both employees and employers can be improved by providing benefits like low-cost housing, healthcare, and educational facilities for industrial workers. Industrial locations with a strong economy, a large market, trained labor, attractive rules, tax benefits, and excellent facilities are more desirable to investors. These elements lower risk and raise the potential of an investment's return. And finally, if the workforce is qualified and readily available, the area can attract investors. With all of these resources, a healthy ecosystem for society can be established, enabling it to be well-managed and livable.

Proximity and Impact Most important factor for the industrial region is simple to reach by road networks. Investors are searching for highly desirable locations, which can be found by situating industrial areas close to important consumer markets, as well as raw material and vendor suppliers. Businesses must lower time and transportation expenses to remain competitive with the capacity to react more quickly to adjust to supply and demand. The location within or close to urban areas with a high concentration of consumers is favorable. Environmental effect is also an essential aspect, thus industries must use environmentally friendly practices that reduce environmental harm. This means following the rules about the environment, finding ways to handle waste better, and using clean energy like solar, electricity and other alternative. It's important to obey environmental laws and have good plans to prevent pollution and manage waste. Sustainability plans and using renewable energy sources like the sun, hydro-power and wind energy are important. As a direct result of this kind of strategy, which also encourages improved community relations and decreases pollution.

Stakeholder Engagement and Security Protocols Listening to different level of stakeholder with their concerns and involving them in decisions helps make the urban area with industrial zone a better place and more acceptable to everyone. In order to create a balanced, safe environment for everyone, local public and politicians must take into account the local community environment. Strategies for infrastructure resilience and preparedness for emergencies to protect industrial investments from natural disasters and other unanticipated incidents. To keep the company, its workers and community safe and make sure everyone is protected, it's important to have rules and security measures in place. These measures help keep things like company property and people safe. It ultimately comes down to ensuring that everyone is safe in the sense that the community is protected from industry, industry is safe from society, and so on, and so on, from a variety of unknown risk factors.

Market Dynamics and Profitability Determining the location and needs of your target market is essential. Knowing this the need of that area talks about the demand. Supply is all about having everything you need to operate an industrial zone effectively and meet market demands. Making a profit is the primary objective since it indicates how financially successful your industrial zone is. To pick the best place for your business it's important to conduct a thorough feasibility study and market analysis to make decisions when selecting the ideal location for an industrial area in an urbanizing area.

8. Conclusion and Recommendation

Conclusion In conclusion, from the case area study of Balaju Industrial Area we find the appropriate location of industrial area plays a key role to make community livable as well as the success of industrial area. Location attributes plays major concern for industrial growth and development of that area. By focusing on accessibility, infrastructure, proximity to suppliers and markets, workforce development, environmental sustainability, safety, zoning, and incentives should be for industries zones as well as for the affected communities. Careful planning and collaboration with stakeholders is must need for the full potential of this industrial area, fostering economic growth and job creation in the region while ensuring sustainability and prosperity for sustainable growth. In the end, this comprehensive plan contributes to the creation of a living community by encouraging economic growth and sustainable development, which guarantees the continued prosperity and sustainability of both urban and industrial areas.

Recommendation Depending on specific industry, geographical location, and economic conditions, location factors for industrial development can change. A few similar elements that are important for industrial development from analysis and study's shows that important locations attributes for industrial growth. Industrial area has positive relation with local community that is very important for economic growth of the nation. Water treatment plant location is critical for new industrial sites. Political parties and labor unions should not exist in new industrial locations. A framework for implementing policies and enough infrastructure should be in place in the new industrial region. The location of the new industrial area should be far enough from residential areas. Good facilities and incentives for impacted individuals should be given. Sufficient green space should be located close to industrial areas in order to support sustainable growth and the maintenance of the pollution balance. New industrial area developments should prioritize having a suitable demand and, more crucially, low production costs in order to maximize profits. Promoting gender equality is essential.There should be good policies regarding the labor rights and wages. It is advised for micro management of industrial districts like Road, Drainage, Culvert, Electricity, Water supply, Water filtration services and finally to suggested on proper maintenance of existing infrastructure of Industrial District Management.

As a result, if a region in Nepal plans to establish a new industrial area, the ideal location for an industrial zone in context of Nepal can be take in consideration from above section and other features are in recommendations mentioned above are suggestions for the study and, if possible, for implementation in the best way possible.

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