International Journal of Leadership and Public Sector Reform (*IJLPSR)*
ISSN: 3005-8368(online), ISSN: 3006-4945(print)
Volume 1, Issue 2, 1-19, December 2023
https://journals.osu.edu.et

Implication of Urban Planning on the Provision of Infrastructure in Selected Cities/Towns of Oromia National Regional State, Ethiopia

Oromia State University in Collaboration with Oromia Urban Planning Institute

Corresponding Author: Desalegn Fekadu Etefa (PhD)

Mosisa Ararso (PhD), Itefa Dereje (MA), Gizaw Hawera (MA) & Assegid Mesfin (MSc)

Researcher and Consultant, Member of International Society for Development and Sustainability (ISDS)
Email: desalegnfekadu@gmail.com, phone +251911703974, Mosatto90@gmail.com, +251911904967, assegidmesfin6@gmail.com; +251965960041, itefadereje@gmail.com , +251925776113; gizawhawera@gmail.com ,+251921775868

Abstract

The study assessed the implication of urban planning on the provision of infrastructure in selected towns in Oromia region. Both qualitative & quantitative research approaches were followed. In addition, primary and secondary data were collected. The primary data were collected from 344 households and 151 experts of the cities/towns proportionally. Analyses were done using both descriptive and inferential statistics. The finding of the study revealed that for the full implementation of the structural plan as the required standard there still need much to work in the towns. With regard to the status of infrastructure in the towns, some are relatively at better condition while some of them need attention. The research identified the major challenges in the provision of infrastructure in accordance to the structural plans. Accordingly, the major challenges were financial bottleneck, lack of integration and composition, technical capacity, administrative problems, low commitment, weak stakeholders' participation, lack of regular monitoring and evaluation and low top management support. Thus, the research recommended that strengthening integration of sectors, assigning the right persons at right places, promoting stakeholders' participation, enhancing top management support, conducting frequent monitoring & maintaining the infrastructures at regular basis.

Keywords: Challenge; Infrastructure; Stakeholders' participation; Structural Plan; Urban Planning

1. Introduction

Today, the world is experiencing fast population growth. Due to its relative better life style, such growing populations prefer to live in urban centers. According to the estimates made by the World Bank cited in Almulhim *et al* (2023), currently, about 56% of the world's populations (4.4 billion) live in cities. This trend is expected to continue with the urban population more than doubling its current size by 2050, at which nearly 7 to 10 people will live in cities (Prieto-Curiel *et al.*, 2023).

The contribution of urban centers to the national product is high as 85% in the developed countries, and 50% in the developing countries. Similarly, their contribution to government revenue is also estimated to be very high (Bosker *et al*., 2021). Urban centers also are centers of social transformation as well as the transformation of the productive sector.

However, rapid urbanization has pushed governments and many other actors to face significant challenges. This rapid urbanization resulted in expansion of urban centers, which

continued to grow rapidly with much of it in an unplanned fashion (Johnes, 2017; Kebbede, 2017).

Moreover, policies, strategies, plans and implementations have not kept up with the speed of urban transformation. Cities, to accommodate such population growth, they need to re-think their spatial design and institutional organizations (Buck *et al*., 2017). This signifies urban areas require plans to balance all of the different elements that contribute to people's quality of life and the sustainability of their environment.

Ethiopia as being part of the world is facing rapid population growth leading to rapid urbanization. This rapid urbanization is accompanied with both positive & negative impacts (Keller & Mukudi-Omwami, 2017; Mohammed *et al*., 2020). The growth had brought so many challenges to towns and cities (Admasu, 2015).

It is a challenge in a sense that it would increase pressure on infrastructure provision. So, the demand & supply gap is large & provision is continuously lagging behind the urban population growth rate (Desalegn, 2012, 2019). Hence, urban planning is one of the foremost important tools to guide the growth of urban areas towards opportunity than defies elsewhere.

Plans have been prepared at a large numbers in Ethiopia as well, since 1980s because of institutionalization of urban planning. However, a number of plans have been prepared without considering how they are to be implemented (Bennett & Alemie, 2016). Most of the urban centers in Ethiopia still lack adequate public utilities. The increase in the number of urban population is high and capacity to provide the services proactively is limited (Mains, 2012; Tacoli, 2015). Studies in urban planning and implementation practices in Ethiopia indicated that most of the urban centers have faced difficulty in implementing what is proposed on the spatial plan.

The problem of improper plans implementation & management had emanated various problems such as improper land delivery, administration & control as well as financial optimization problems. These resulted in poor infrastructure and services delivery (Birhanu, 2019; Dibekulu, 2021). Urban Infrastructure systems are the pillars and backbone of cities. Good quality and sufficient infrastructure are vital elements of prosperity of any nation. In the absence of urban infrastructure, land has little potential for residential, commercial, industrial and other kinds of land uses. Urban Infrastructure plays a leading role in shaping urban space, determining where inhabitants live, work and creates wealth, how they move,

how they exchange or sell their goods (Lipman, 2013; Carmona, 2019).

Currently in most urban centers, there is problem in basic infrastructure provision (Girma *et al*., 2019; Mohamed & Worku, 2020; Gelan & Girma, 2021). In Oromia Region, Institute of Urban Planning since its establishment has carried out its duty to achieve the goal of urban development in the region. So far, the existing problems manifested at country level are prevalent in Oromia Region. Studies indicate, in the region most urban centers have faced difficulty in implementing the proposed plans. According to the implementation report of the OUPI, most of the prepared structure plan for urban centers are failed to transfer the proposed plans into the ground.

As a result, most urban plans are outdated before their implementation resulting in modification & other changes before its planning period. Urban planning implementation is the toughest and more problematic stage of the urban planning process, particularly in developing countries. At this stage many challenges and resistances from the community and institutions likely to emerge which greatly affect the outcome of the planning and eventually the living condition of the whole urban inhabitants. In the study of Rizwan & Obaidullah (2006), challenges of poor urban plan implementation resulted in wastage of money, time and human resources on the plan making bodies hence, really poses a challenge on the government. Therefore, although, a plan is a tool to guide and manage the growth of urban centers, plan preparation by itself is nothing for urban development if there is improper implementation.

In connection to this, research signifies the challenges to strategy implementation cannot be singly studied exhaustively as they are complex and convoluted in nature and differ in intensity from organization to other but they may be clustered into a few most prosaic categories as; social- cultural and political challenges, institutional challenges, leadership and communication challenges and resources challenges.

To this end, there is no specific previous research result that shows whether the stated problems are found in the selected towns. So, it is a necessity to provide evidence through relevant data & information as a base for decision making. Hence, the purpose of the research was to assess the existing practices of urban planning on infrastructure provision.

2. Study Area

The study was conducted in four towns in Oromia region- Ethiopia. The four towns were randomly selected as a study area. Geographically, these towns were selected

from the four directions of Oromia (Ambo-West, Bishoftu-East, Fiche- North, Shashemene- South). So, they are representative of the major towns of the region. The studied towns have populations greater than 100,000 which can be classified as higher and medium level urban areas in Ethiopia (Table 1).

Table 1: The Study Area with their Geographical Coordinates

Towns/Cities	Geographical Coordinates		Mean Elevation (Meter)
	Latitude	Longitude	
Ambo	$8^0 59' N$	$37^0 51' E$	2,101
Bishoftu	$8^0 44' N$	$39^0 00' E$	1,920
Fiche	$9^0 48' N$	$38^0 44' E$	2,738
Shashemene	$7^0 11' N$	$38^0 35' E$	1,939

Source: Modified from Asefa *et al.,* 2021

3. Research Methodology

In this research, both descriptive and explanatory research designs were used. It used descriptive since it included surveying and fact finding. Descriptive research allowed investigation of the issue of the role of urban planning on the infrastructure service of the town by exploring different view of the different set of respondents. An explanatory design was used since it examined the magnitude and relationship among variables, determinant factors that influence proper plan preparation and implementation that in turn influenced the provision of urban infrastructure in the study area. Triangulation was also used, which is a technique to analyze results of the same study using different methods of data. Accordingly, the combinations of qualitative and quantitative approaches were applied in this research.

3.1 Data Types and Sources

Pertaining to the data types, they were mixed data. Consequently, such mixed method was the preeminent approach to conduct the research. In connection to the sources of data, they were gathered from both primary and secondary sources. Primary data were collected from residents (households) of the towns. Experts working in 8 sectors whose day to day activities are highly related to infrastructure supply were other primary sources. These experts were from sectors such as water supply, education, health, municipality, construction; land administration, electricity supply and road & transport offices. While the secondary sources particularly from the annual report of the cities and Oromia Urban Planning Institute, statistical reports, online sources and other relevant materials were used as an input.

3.2 Sampling Design and Sample Size Determination

The plan and the infrastructure are for the residents. Using Kothari's formula, the city's residents who should provide necessary data were identified. So, the sample size was 385, which were included in the sample proportionate to their population from each city. Various sectors whose day to day activities directly related to the planning activities and infrastructure provisions were portion of the population of the towns that were purposively selected. Thus, 385 household proportional to the size of their population in the city were randomly selected. In addition, 160 experts were included in the respondents. Furthermore, from higher officials, 2 key informants from each town were interviewed.

3.3 Tools and Methods of Data Collection

Tools of data collection were questionnaire, interview, focus group discussion, observation, document analysis and GPS to indicate coordinates.

3.4 Validity and Reliability

The truthfulness and the consistency of the tools were checked. Validity of the tools was detected during pilot test. Reliability of the tools was checked by Cronbach's alpha. The usual array of Cronbach's coefficient alpha value ranges between 0-1 where the larger value reveals the larger degree of internal consistency (Ali & Raza, 2017).

Table 2. Cronbach's Alpha Result

Cronbach's Alpha	N of Items
.87	78

Source: computation of SPSS, 2023

Based on the computed Cronbach's Alpha test in table 2 above, the average result for both dependent and independent variables is 0.87. Therefore, based on this result it is categorized as high reliability indicating the tools are reliable for this study.

3.5 Data Processing and Analysis Approach

Following the completion of data collection, data processing was escorted through filtering inaccuracy, inconsistency; incompleteness and illegibility of the raw data to make analysis very easy. To solve such problems, editing, coding, data entry & consistency checking were done. Responses to the questions in the questionnaires were checked for errors & then codes were given. The data were entered into SPSS version 24. Once the process of data entry is accomplished, cleaning of the data was started. The data that were collected from questionnaire were analyzed through quantitative descriptive and inferential statistical tools.

Qualitative data from interview, observation & documents were analyzed qualitatively through detail description & interpretation of the data. Besides, using GPS existing & proposed plans were assessed.

Regression analysis was used to examine the extent of the relation of dependent variable with each independent variable. For the purpose of this study, the researchers employed binary logistic regression and Spearman's Rank Correlation to analyze the cause and effect relationship & also to test strength of relations between the independent & dependent variables. Besides, pairwise ranking and SWOT analysis were used.

4. Major Findings and Discussions

4.1. Existing Practices of Urban Planning on Infrastructure Provision

Regarding community participation at planning stage, 59.9% household respondents confirmed that they did not participate on planning agenda of their towns. On the other hand, 40.1% of them replied that they participated. This implies that the participation of urban dwellers is low. In connection to the skills of implementation, monitoring and evaluation of planning, 66.88% of experts reacted that the practice is there, but 33.12% repudiated. 79.5% of experts agreed that infrastructure is guided by structural plan while 20.5% of them disagreed.

Concerning the ease execution of the plan by the technical staff of the town, 72.85% of them consented the issue, while 27.15% of respondents refuted. In connection to integration, 75.5% of respondents supported the existence of the practice, but 24.5% of them denied. In general, the highest percentage with 'No' statement is from Fiche followed by respondents from Ambo towns.

Though the results from the respondents on the practice of plan and infrastructure provision seem well, FGD, key informant interview, observation and GPS result analysis did not reflect the same. FGD result from all the towns has shown the experts face difficulty in implementing the plan partly due to lack of technical knowledge and lack of attention to consider actual condition.

Observation result shown in some places of the towns, there is a problem where to provide infrastructure. For instance, utilities are not in place (Ambo) i.e., larger Water line existed in road at the geographical location of Easting and Northing respectively (373810.00 and 992482.00).

Moreover, there is lack of integration among sectors. In some places, observation revealed that proposed plan is not implemented in some areas in Bishoftu i.e. Elfora and heavy industry

in Bishoftu, etc. The new plan proposed Elfora to be changed into greenery but the town didn't implement. So, green infrastructure is violated.

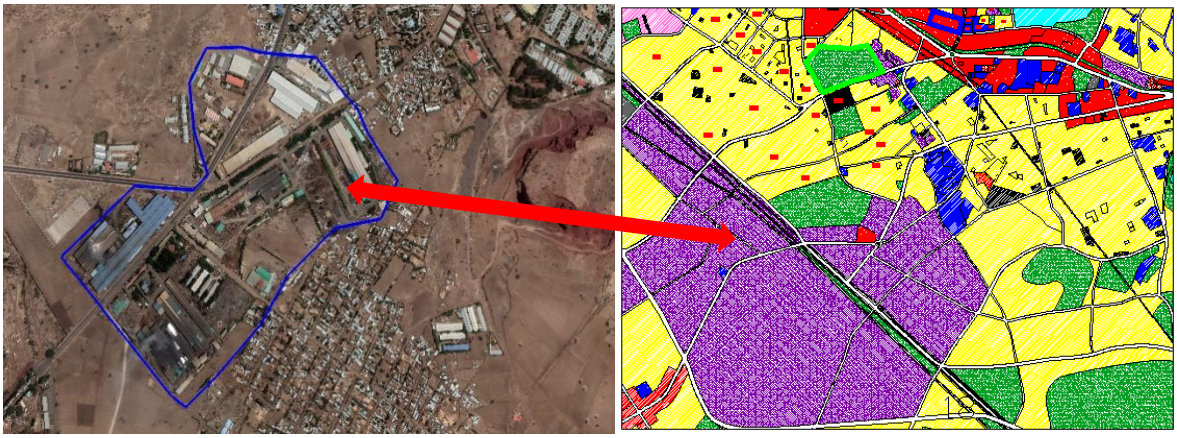

Figure.1 Residential Land use in the surrounding of Heavy Industry in Bishoftu at geographical location (494749.22E, 965504.28N)

In the same town, there is a residential land use in the surrounding of heavy industry. So, those residents confront pollution from the industry. As a result, incompatibility issue is happened. As per SP Manual 2018, Heavy industry should be out of residential lot. Sometimes, the revised structural plan of the towns changed the previously existing infrastructure, which is high in Bishoftu- the case of Kurkura and Foka schools. Technical positions are held by experts of other fields in Fiche town in particular.

Identified Reasons for Plan Violation during Monitoring & Evaluation include, mismatch of plan and implementation (55%) in Ambo by 24 respondents, Bishoftu 24, Fiche 21 and in Shashamene by 21 respondents. Lack of knowhow on the interpretation was also prevalent (19.9%) by 7, 3, 8 and 12 respondents in Ambo, Bishoftu, Fiche and Shashemene respectively. There is also deliberate violation of the plan (10.6%) by 5, 5, 3, and 3 respondents in Ambo, Bishoftu, Fiche and Shashemene respectively. Measures taken include, amendment of the plan (28%)-highest in Ambo, followed by Fiche. Capacity building (27.2%)-highest is in Shashamene, followed by Bishoftu and Fiche. Administrative measures-highest in Ambo, followed by Shashamene and Bishoftu, but low in Fiche.

4.2. Status of Urban Infrastructure

i. **Greenery and Buffer zone protection**

Majority of the respondents confirmed that greenery is well though the scope differs among towns. From the observation result, Bishoftu and Shashamene are at better status even if there is violation at some places.

Figure. 2 Vast area of buffer zone are under preservation (457370.00, 7955568.00 & 455713.02, 794680.15)

The above figure (2) shown best practice in green infrastructure implemented as per the plan, while figure 2 depicted the plan violation that the city and others have to check their practices.

On the other hand, as there is best practice in buffer zone and green area protection in Shashemene city, there is also violation of green area. Violated Green Infrastructure at 456723.45, 796077.96, where residential house is constructed (Shashamene). According to SP Manual 2018, RE-21 is Green Area.

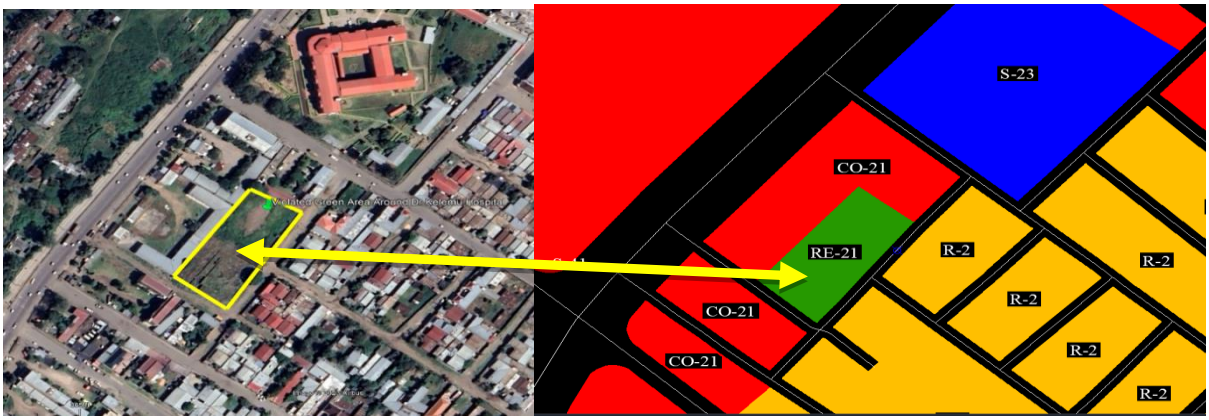

Figure 3 Violated Green Infrastructure (456723.45, 796077.96)

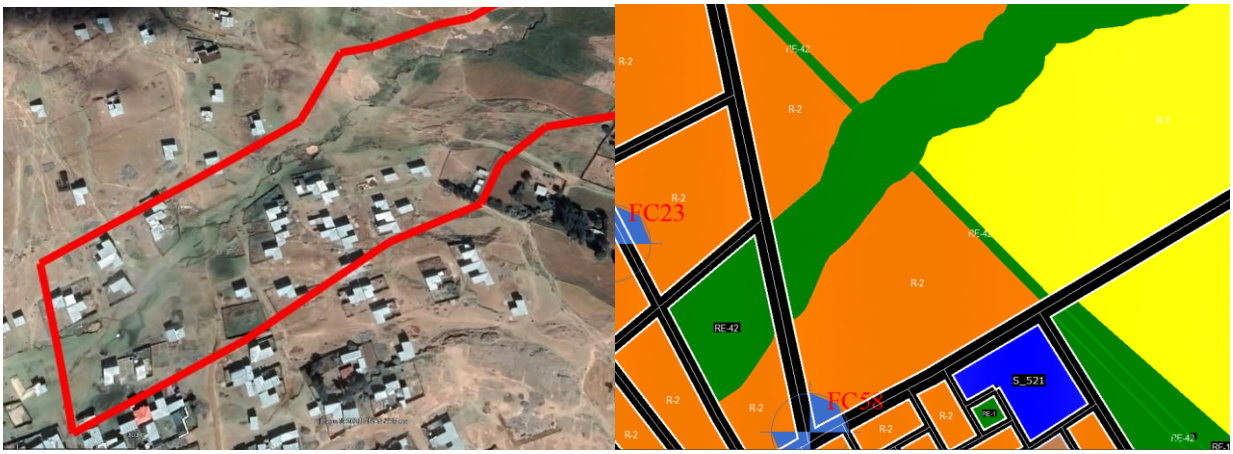

Figure 4 Residence on Buffer Zone and Flood Prone Areas (472198.74, 1080998.47) in Fiche town, which is against the SP manual 2018.

ii. **Waste Disposal**

Respondents' opinion, FGD and observation confirmed that Bishoftu and Shashamene are at good condition. Whereas in Fiche and Ambo towns, the problem of waste disposal is identified.

iii. **Proper Slaughter House Locations**

Of the respondents, 56% and 43% from Bishoftu and Shashemane respectively had reflected that butcheries in the two towns are located as per the structural plan. Majority of respondents from Fiche and Ambo indicated that its location is not proper. Observation result confirmed the same particularly in Ambo (at side of waste disposal), in Fiche part of it is in the Buffer zone against proposed site.

iv. **The Social Components (Health, School, Youth Centers, Play Grounds etc.)**

Household respondents and experts confirmed that social infrastructures in their towns are

adequate as per structural plan. Observation result confirmed the same regarding availability, but quality issue problems are identified. Regarding youth centers and play grounds, respondents indicated that they are not adequate in all the towns, but in (Bishoftu & Fiche-38%, shashamene-28%, and 14%-Ambo replied its availability). Observation result also has shown its commencement in the towns/cities; however there were problems in implementing such infrastructure as per the plan.

v. **Water Supply**

Response from more than 50% households and experts verified that there was water supply in the towns. From FGD, participants of the entire town proved that there is no adequate water supply due to rapid population growth. With regard to frequency of access to water, majority of respondents stated that they get once a week, which is below the WHO standard. As a result, some of the residents are exposed to water borne diseases.

vi. **Road**

Majority of respondents (82.8%) confirmed that they have access to different types of roads. FGD and Observation also signified that all the selected towns are doing to create accessible road. However, some of them are below the standard (against structural plan) e.g. in Ambo and Fiche, in Shashemene town, expansion of building in road side. Even if access is provided, at most places the roads are closed by construction materials and other utilities. Regardless of all the above, there are some very attractive roads even beyond the standard in Bishoftu and Ambo towns.

Figure 5 Utilities are not in place as per plan (Ambo), which can be obstacle to Traffic

vii.

Electric Power Supply

Majority of respondents (73.3%) confirmed that it is available while the remaining respondents complain for its interruption. Regarding the bureaucracy of the process, majority (78.6%) of them shown previous bureaucracy is simplified.

4.3. Challenges in the provision of the towns' Infrastructure

The major challenges identified were budget, technical capacity, administrative problems, topographic problems, lack of infrastructure input, rapid population growth etc., that respondents were asked to identify the top 3 by rank order.

i. Challenges in Water Provision

Of the stated sources of challenge, majority of respondents identified finance, lack of technician and rapid population growth as 1st, 2nd, and 3rd issues respectively.

ii. **Challenges with Power Provision**

Excessive bureaucracy, power supply interruption, high demand resulted from population growth as the top 3 challenges.

iii. **Road Provision Challenges**

Topography, corruption and lack of construction materials as the most 3 top challenges were identified.

From the FGD result, participants identified the major challenges: Lack of committed expertise and leadership, lack of up-to-date instruments, frequent land use change, lack of clear boundary delineation between the town administration and the surrounding areas and also dalliance of legal transferal of those areas bounded to the town. Lack of sufficient budget for compensation and operation, poor quality construction, and informal settlement are also some of them.

4.4. Major Determinants that Affect Infrastructure Provision in line with the Towns' Structural Plans

4.4.1. Descriptive Results

Awareness Creation, sufficient budgets, top management support, coordination and integration, monitoring and evaluation, stakeholder participation, commitment, and skilled manpower were identified. Accordingly, from the four towns: awareness creation has a determinant role, 61%, 72.5%, 63.9% and 61.5% of respondents agreed from Ambo, Bishoftu, Fiche and Shashamane cities/towns respectively. 86.1%, 65%, 69.4% and 74.4% of

respondents from Ambo, Bishoftu, Fiche and Shashamane towns respectively approved that sufficient budget plays role for infrastructure provision. Top management support 61.1%, 57.5%, 58.3% and 53.8% of respondents from Ambo, Bishoftu, Fiche and Shashamane towns respectively accepted that it determines infrastructure provision.

With regard to the role coordination and integration contributes to the infrastructure provision, 66.7%, 72.5%, 69.4% and 66.7% of respondents from Ambo, Bishoftu, Fiche & Shashamane towns respectively addressed their view. Besides, respondents confirmed their idea that monitoring and evaluation determines infrastructure provision with 72.2%, 70%, 50% and 74.4% respectively from Ambo, Bishoftu, Fiche and Shashamane towns. Stakeholder participation also determines with 63.9%, 62.5%, 77.8% and 61.5% with response from Ambo, Bishoftu, Fiche and Shashamane towns respectively. Commitment is determinant of infrastructure provision which was verified by 58.3%, 65%, 55.6% and 74.4% respondents respectively from Ambo, Bishoftu, Fiche and Shashamane cities/towns.

Lastly, the role of skilled manpower was specified by 52.8%, 67.5%, 58.3% and 59% respondents from Ambo, Bishoftu, Fiche & Shashamane towns respectively.

4.4.2. Inferential Result

Table 3: Variables in the Equation

		B	S.E.	Wald	Df	Sig.	Exp(B)
Step 1[a]	Awareness creation	1.417	.574	6.101	1	.014	4.126
	Top management support	1.610	.603	7.129	1	.008	5.001
	Coordination & integration	1.181	.579	4.163	1	.041	3.256
	Stakeholder participation	2.014	.677	8.855	1	.003	.134
	Commitment of organization	1.567	.546	8.250	1	.004	4.793
	Skilled manpower	2.318	.678	11.680	1	.001	10.158
	Sufficient budget	.975	.469	4.326	1	.038	.377
	Monitoring and evaluation	.196	.078	6.250	1	.012	1.217
	Constant	-7.445	2.110	12.454	1	.000	.001

Source: Field Work, 2023

Using this binary logistic regression model, researchers are able to determine infrastructural provision in line with structural plan implementation. In this model infrastructural provision in line with structural plan has dummy variable; whether infrastructural provision is there or not, which is represented by yes = 0 and no = 1.

β is computed, which expresses ordinal logistic regression coefficients (estimates). It is also called beta coefficient, which measures the degree of change in the outcome variable for every one-unit of change in the predictor variable. It measures the goodness of fit of the line. The coefficients are indicating the trend and intensity of the linkage among independent variables and the log odds of dependent variable. So, The Beta values of predictor variables were computed, which measures the degree of change in the outcome variable for every one-unit of change in the predictor variable.

Positive coefficients are interpreted as for each one-unit increase on an independent variable; there is a predicted increase of a certain value in the log odds of falling at an upper level on the predicted variable. Contrary to this, the negative estimates are interpreted as for each one-unit increase on independent variables, there is a predicted decrease of some quantity in the log odds of being in a higher level on the dependent variables, which simply mean that as the results of independent variables increase, there is a decreased probability of falling at an upper level on the predicted variable (Desalegn, 2023).

The value of an odd ratio is <1, =1 and >1. Thus, an odds ratio more than 1 proposes an increasing chance of being in a higher level on the predicted variable as values on an independent variable increase. On the contrary, an odds ratio below 1 suggests a decreasing probability with increasing values on independent variables which also mean, the occurrence is less likely than non-occurrence. Whereas an odds ratio equivalent to 1 recommends no predicted change in the likelihood of being in a higher category as values on independent variables increases.

Consequently, all the values are above 1 except monitoring and evaluation. Of them the value of skilled manpower was 2.32, which implies for each one item increase in skilled manpower, there is a predicted increase of 2.32 on the infrastructure provision, which is the same interpretation for all others depending on their values.

5. Conclusions and Recommendations

5.1. Conclusions

Urban planning is designed to regulate the urban land use and other physical resources. It plays a vital role to ensure the growth and development of urban centers. However, most of the urban centers in Ethiopia including the surveyed towns still lack adequate public utility services due mainly to mismatches and improper implementation of the structural plans. Hence, this study is intended to assess the role of urban planning implementation on infrastructural provisions in four selected towns.

Specifically, the objectives of this study included exploring of the existing practices of urban plan implementation and its implication on urban infrastructural provisions to show the status of existing infrastructure in accordance with the structural plan and identify the major challenges of urban plan implementation. Then, the major factors affecting urban plan implementation in the study area is examined as one of the major specific objectives. Finally, determinant factors were identified. The findings of this study is hoped to fill the urban plan implementation gaps and contribute to identify the major determinants in implementing urban planning that promotes coordinated action in infrastructure planning, implementation and joint monitoring. As a consequence, the research will benefit all stakeholders in providing clear and comprehensive understanding of existing situation and extent regarding the implementation of urban planning that provides integrated urban infrastructural development in accordance with the structural plans of the surveyed towns.

In order to conduct this research, both descriptive and explanatory research design with mixed research approach used for triangulation of the findings of the study. Data sources were from primary and secondary using tool of data collection i.e. questionnaire, interview, focus group discussion, observation and document analysis.

Quantitative data were analyzed through descriptive statistical tools and qualitative data were analyzed qualitatively through detail description and interpretation of the data. Regression analysis was also used to examine the strength of the relation of dependent variable with each independent variable. Moreover, participant observations were conducted for checking the ground truth of the urban structural plan of the surveyed towns. The thematic findings of the study show, incomplete urban plan implementation in the towns, however the degree of the stated problem is not similar among the towns. This has an implication on the provision of urban infrastructures. The finding of the existing

practices shown that nearly 60% of the respondents reportedly said urban planning of the surveyed towns were not participatory. Even though there are good practices indeed in exercising to implement urban planning in providing infrastructure, there is still problem in maintaining proper infrastructure solid and liquid waste disposal in particular as per the structural plans. Moreover, major challenges were identified constraining the implementation of urban plan in parallel with urban infrastructure provisions such as lack of capacity, deliberate violence of the plan, unprofessionalism, and others- (institutional, economical, Socio-cultural, political, & environmental factors). Lastly, determinants that affect infrastructure provision in line with the towns' structural plans were identified and finally verified by inferential statistics.

5.2. Recommendations

Oromia Urban Plan Institute, the surveyed towns' administrations and stakeholders have to prepare the integrative plan for implementation of the structural plan used for enhancement of the infrastructure provisions.

Leaderships' commitment should be improved to guide all activities of urban areas. In particular, the urban leaders should be committed to implement the plan and engaged on monitoring and evaluations of the status of infrastructure provisions actively.

Urban plan preparation phases including its implementation should be transparent, inclusive and participatory in order to minimize the miss-use and frequent change of the plans illegally.

Periodic provision of capacity building to the technical aspects for effective urban plan implementation and infrastructure provision.

Proper human resource should be recruited and assigned to a proper place. Strengthen and ensure Public and Sectorial Participation on Planning Issues, which in turn facilitate and improve the quality of infrastructures.

Due attention should be given for sensitive areas such as green area, playgrounds, protected areas (buffer zone), and forest lands and so on since they are sites frequently violated.

Conducting monitoring and evaluation frequently by technical assigns.

Conflict between the cities' administration and the surrounding rural areas on delineation of boundaries should be solved timely. Informal settlement should be controlled.

As problem of housing is one of the causes for the informal settlement, the city administrations better to implement housing provision program and strategies of the national government.

Structural plan of the cities should be provided properly, in this regard, special attention should

be given at plan preparation stage. In connection to this, sufficient projection should be in use during zonation.

Fiche town, specifically better to shift its stadium, from the CBD area to other proper part of the town.

Solid waste disposal of Fiche town, which is proposed in the water catchment area better to be shifted to the north-eastern part of the town where there is dense eucalyptus trees, calm wind speed and rare or scarce settlement area. Cheleleka Lake in Bishoftu should be protected.

Social service or any other change without proper investigation better to be minimized particularly the case of Bishoftu (Kurkura & Foka primary schools).

Peripheries in all cases and sometimes the very old areas (Bishoftu) should get attention for infrastructural development.

Those roads that are narrower should be kept as per standard (in Ambo town –Anatoli hotel to asphalt road).

Investments and other use such as cemetery should not be allowed on the side of rivers (Fiche & Shashamane) respectively.

Acknowledgment

We would like to thank Oromia Urban Planning Institute for the commencement of this research project starting from initiating the idea of this title up to providing financial and material support. Our special thanks go to Engineer Ebba Gerba, Head of Oromia Urban Planning Institute and Mr. Alemayehu Deresa, Research Directorate of the Institute for their unceasing follow ups. We also extend our gratitude for the Mayors and Head of Mayors of Bishoftu, Shashemene, Ambo and Fiche cities/towns. Last but not least, we appreciate the concern of the sample households, experts of the towns whose activities are highly related to plan implementation and infrastructure provisions and also key informants of the selected towns for providing us necessary information.

References

Admasu, T. G. (2015). Urban land use dynamics, the nexus between land use pattern and its challenges: The case of Hawassa city, Southern Ethiopia. *Land Use Policy*, *45*, 159-175.

Almulhim, A. I., Bibri, S. E., Sharifi, A., Ahmad, S., & Almatar, K. M. (2022). Emerging Trends and Knowledge Structures of Urbanization and Environmental Sustainability: A Regional Perspective. Sustainability, 14(20), 13195.

Asefa, E. M., Damtew, Y. T., & Barasa, K. B. (2021). Landfill site selection using GIS

based multi criteria evaluation technique in Harar City, Eastern Ethiopia. *Environmental health insights*, *15*, 11786302211053174.

Bennett, R. M., & Alemie, B. K. (2016). Fit-for-purpose land administration: Lessons from urban and rural Ethiopia. *Survey Review*, *48*(346), 11-20.

Birhanu, M. (2019). Ph.D. Candidate in College of Urban planning and Engineering, Department of Urban Planning and Development, Ethiopian Civil Service University.

Bosker, M., Park, J., & Roberts, M. (2021). Definition matters. Metropolitan areas and agglomeration economies in a large developing country. *Journal of Urban Economics*, *125*, 103275.

Buck, N., Gordon, I. R., & Harding, A. (2017). *Changing Cities:* rethinking urban competitiveness, cohesion and governance. Bloomsbury Publishing.

Carmona, M. (2019). Principles for public space design, planning to do better. *Urban Design International*, *24*, 47-59.

Desalegn Fekadu (2012). Water supply infrastructure and Service Delivery in Ethiopia. Case study of Gimbi town, Lab Lambert.

Desalegn Fekadu (2019). Analysis of Provision of Education Infrastructure and its Challenges in Ethiopia, The Case of Gimbi Town Primary Schools (Oromia Region), *Journal of Education and Practice*, *10(*25), 1-19.

Dibekulu, S. (2021). *Challenges and Opportunities of Urban Land Management: The case of Debre Berhan City Administration* (Doctoral dissertation).

Gelan, E., & Girma, Y. (2021). Sustainable urban green infrastructure development and management system in rapidly urbanized cities of Ethiopia. *Technologies*, *9*(3), 66.

Girma, Y., Terefe, H., Pauleit, S., & Kindu, M. (2019). Urban green infrastructure planning in Ethiopia: The case of emerging towns of Oromia special zone surrounding Finfinne. *Journal of urban management*, *8*(1), 75-88.

Jones, P. (2017). Formalizing the informal: Understanding the position of informal settlements and slums in sustainable urbanization policies and strategies in Bandung, Indonesia. *Sustainability*, *9*(8), 1436.

Kebbede, G. (2017). *Living with urban environmental health risks: The case of Ethiopia*. Routledge.

Keller, E. J., & Mukudi-Omwami, E. (2017). Rapid urban expansion and the challenge of pro-poor housing in Addis Ababa, Ethiopia. *Africa Review*, *9*(2), 173-185.

Lipman, P. (2013). *The new political economy of urban education: Neoliberalism, race, and the right to the city*. Taylor & Francis.

Mains, D. (2012). Blackouts and progress: privatization, infrastructure, and a developmentalist state in Jimma, Ethiopia. *Cultural Anthropology*, *27*(1), 3-27.

Mohamed, A., Worku, H., & Lika, T. (2020). Urban and regional planning approaches for sustainable governance: The case of Addis Ababa and the surrounding area changing landscape. *City and Environment Interactions*, *8*, 100050.

Prieto-Curiel, R., Patino, J. E., & Anderson, B. (2023). Scaling of the morphology of African cities. *Proceedings of the National Academy of Sciences*, *120*(9), e2214254120.

SP Manual (2018). Structural Plan Manual of Ethiopia.

Tacoli, C., McGranahan, G., & Satterthwaite, D. (2015). Urbanization, *rural-urban migration and urban poverty*. London, UK: Human Settlements Group, International Institute for Environment and Development.