ISSN–2278-5655

AMIERJ Aarhat Multidisciplinary International Education Research Journal

Volume–XIII, Issues– III May – June, 2024

OPEN ACCESS Original Research Article

G-GOVERNANCE: AN EVOLVING PARADIGM IN MICRO-LEVEL GOVERNANCE IN INDIA- A CASE STUDY OF VILLAGE PANUTRE

*** Patil Sardar A.**

** Associate Professor and Head, Department of Geography, Athalye - Sapre - Pitre College (Autonomous), Devrukh. Dist. Ratnagiri, Maharashtra, India.*

Abstract

India's governance history, shaped by diverse cultures, traversed ancient republics, efficient empires, Mughal centralization, and a 1950 shift to a democratic republic influenced by British colonialism. Post-1950, India adopted a parliamentary system with a constitution emphasizing federalism, separation of powers, and a robust judiciary. Panchayati Raj upholds local self-governance, blending ancient wisdom with modern democratic principles. Governance paradigms evolved from authoritarian systems to a focus on individual rights, the rule of law, and representative democracy. In the late 20th and early 21st centuries, corporate governance, developmental governance, participatory governance, global governance, e-governance, and g-governance emerged with changing ideologies and technological advancements. Geo-Spatial Technology (GST), encompasses Remote Sensing, GIS, and GNSS, advanced environmental monitoring, urban planning, and disaster management. The Indian Government's commitment to geospatial technology, evident in initiatives like the BHUVAN Geoportal by ISRO, contributes to efficient governance in agriculture, urban planning, disaster management, and natural resource monitoring. The village Panutre in Kolhapur district serves as the study region, embodying a unique blend of plain and mountainous topography, coexisting harmoniously with agricultural livelihoods and the enchanting Sahyadri mountain range. The primary research objective is to leverage geospatial technology for enhanced good governance and decision-making, culminating in a tailored geospatial governance model for micro-level government structures. The present work is based on the primary as well as secondary data. The primary data is collected through fieldwork, and some satellite-based data is also used. The Oregon 550 GPS is used for the verification of satellite data. For the analysis of the data viz. for the creation of G-Governance set-up Q. GIS, open-source software, is used. The study reveals that the G-Governance is much better than the e-Governance. The case study of Panutre village illustrates the practical application of geospatial governance, emphasizing cadastral mapping, socio-economic mapping, and health information integration. The G-Governance model crafted for micro-level government structures holds promise for informed decision-making and corruption-free sustainable development.

Key Words: *Remote Sensing, Geographical Information System, GNSS, GPS, Q-GIS*

Introduction:

The term "governance," rooted in Latin and ancient Greek, originally denoted control, guidance, and manipulation. Initially synonymous with government, it expanded in the 1990s, gaining a broader sense from Western scholars. Now, it transcends traditional confines, being employed across major European languages and extending beyond politics into social and economic realms(Keping, 2018). India's historical and governance practices, shaped by diverse cultures and rulers, span ancient republics like Mahajanapadas and Maurya/Gupta empires, known for efficient administration. Mughals centralized rule, while British colonialism influenced India's shift to a democratic republic in 1950, blending ancient traditions with modern governance. India after 1950 embraced a

ISSN–2278-5655

AMIERJ Aarhat Multidisciplinary International Education Research Journal

Volume–XIII, Issues– III May – June, 2024

OPEN ACCESS Original Research Article

parliamentary system with a written constitution, emphasizing federalism, separation of powers, and a strong judiciary. Its multi-tiered governance includes central, state, and local bodies, addressing diversity and development disparities. Panchayati Raj upholds local self-governance, embodying a fusion of ancient wisdom and modern democratic principles in India's dynamic and intricate governance system(B. Singh & Pandey, 2018).

Governance paradigms refer to the prevailing models, frameworks, or approaches guiding the organization and functioning of political, economic, and social systems. Several governance paradigms have emerged over time, reflecting changes in political ideologies, economic philosophies, and societal expectations The paradigms in Governance have shifted over time. Historically, many societies were governed by authoritarian or traditional systems, where power was concentrated in a few leaders or a single authority figure. In the modern era governance came into the hands of the public and it focuses on the protection of individual rights, the rule of law, and representative democracy. It is characterized by free and fair elections, protection of human rights, and a system of checks and balances. In the fourth quarter of the 20th Century and the first quarter of the 21st century, corporate governance, developmental governance, participatory governance, global governance, e-governance, and g-governance have evolved with the march of time(Ado Kibon et al., 2016). These paradigms are not mutually exclusive, and governance in practice often involves a combination of elements from different models. The choice of a particular paradigm depends on historical context, cultural factors, and the specific challenges faced by a society or organization. Over time, paradigms can shift in response to changing ideologies, technological advancements, and societal demands.

E-governance, an abbreviation for electronic governance, embodies a revolutionary strategy in public administration that utilizes information and communication technologies to boost the effectiveness, openness, and availability of governmental services. (Anand & Khemchandani, 2019; Heeks, 2020; Meijer, 2015; A. Singh et al., 2018). In the era of digital advancements, e-governance assumes a crucial role in simplifying administrative procedures, minimizing bureaucratic obstacles, and promoting governance centred around citizens. (Al-Rzoky et al., 2019; Jain Gupta & Suri, 2017; Lyudmila et al., 2017; Umbach & Tkalec, 2022). Via online platforms, citizens gain access to a diverse range of government services, can submit applications, and participate in decision-making processes. E-governance not only expedites service delivery but also enhances accountability and diminishes corruption through the implementation of automated systems and digital record-keeping. This method empowers citizens by offering real-time information, enabling active participation in civic affairs. (Akpan-Obong et al., 2023; Gogoi, 2020; Jain Gupta & Suri, 2017; Palanisamy, 2004; Vaidya, 2020). With the ongoing progress of technology, the capacity for e-governance to transform the interaction between governments and their constituents, as well as the delivery of services, is limitless. This heralds a new era characterized by efficient, transparent, and inclusive governance.

The Geo-Spatial Technology (GST) includes Remote Sensing (RS), Geographical Information System (GIS) and Global Navigation Satellite System (GNSS). The evolution of remote sensing, Geographic Information Systems (GIS), and Global Navigation Satellite Systems (GNSS) marks a remarkable journey in the technological landscape. The term Geospatial Technology is used to represent Remote Sensing, GIS and GNSS. It is also called as Geoinformatics

ISSN–2278-5655

AMIERJ Aarhat Multidisciplinary International Education Research Journal

Volume–XIII, Issues– III May – June, 2024

OPEN ACCESS Original Research Article

(Patil, 2014). Remote sensing, initially rooted in aerial photography during the mid-20th century, transitioned to satellite-based systems, enabling a comprehensive and global perspective of Earth's surface. Concurrently, GIS emerged to organize, analyze, and visualize spatial data, providing a powerful tool for decision-making across various disciplines. GNSS, represented by systems like GPS, significantly enhanced location accuracy and navigation capabilities, revolutionizing fields ranging from transportation to precision agriculture (Liu et al., 2022). The integration of these technologies over time has synergized, presenting a holistic approach to understanding and managing spatial information. This integration has led to advancements in fields such as environmental monitoring, urban planning, and disaster management. This ongoing evolution continues to shape our perception and interaction with the dynamic world around us.

The Government of India has designated the birth anniversary of the esteemed late Atal Bihari Vajpayee as Good Governance Day. In a pioneering move towards advancing governance across diverse sectors, the government has embraced geospatial technology, exemplified by the development of the BHUVAN Geoportal by ISRO. Recognizing the transformative potential of geospatial data, the government has seamlessly integrated it into policymaking and service delivery. Notable initiatives such as the National GIS (Geographic Information System) and the Bhuvan platform underscore India's commitment to harnessing geospatial technology for efficient governance. These platforms offer a rich trove of spatial information applicable to sectors like agriculture, urban planning, disaster management, and natural resource monitoring. The government's dedicated focus on geospatial technology not only enhances decision-making processes but also promotes transparency and accountability. By capitalizing on the capabilities of location-based data, the Government of India aspires to construct a governance framework that is more efficient, informed, and inclusive, ultimately benefiting its citizens.

The Governance using GST is called as Geospatial Governance, which is also called as G-governance. In this era of science and technology, e-governance got a significant position but now time has come to shift the paradigm of e-governance to G-governance. Here an attempt has been made to explore various aspects of G governance at the micro level.

Study Region:

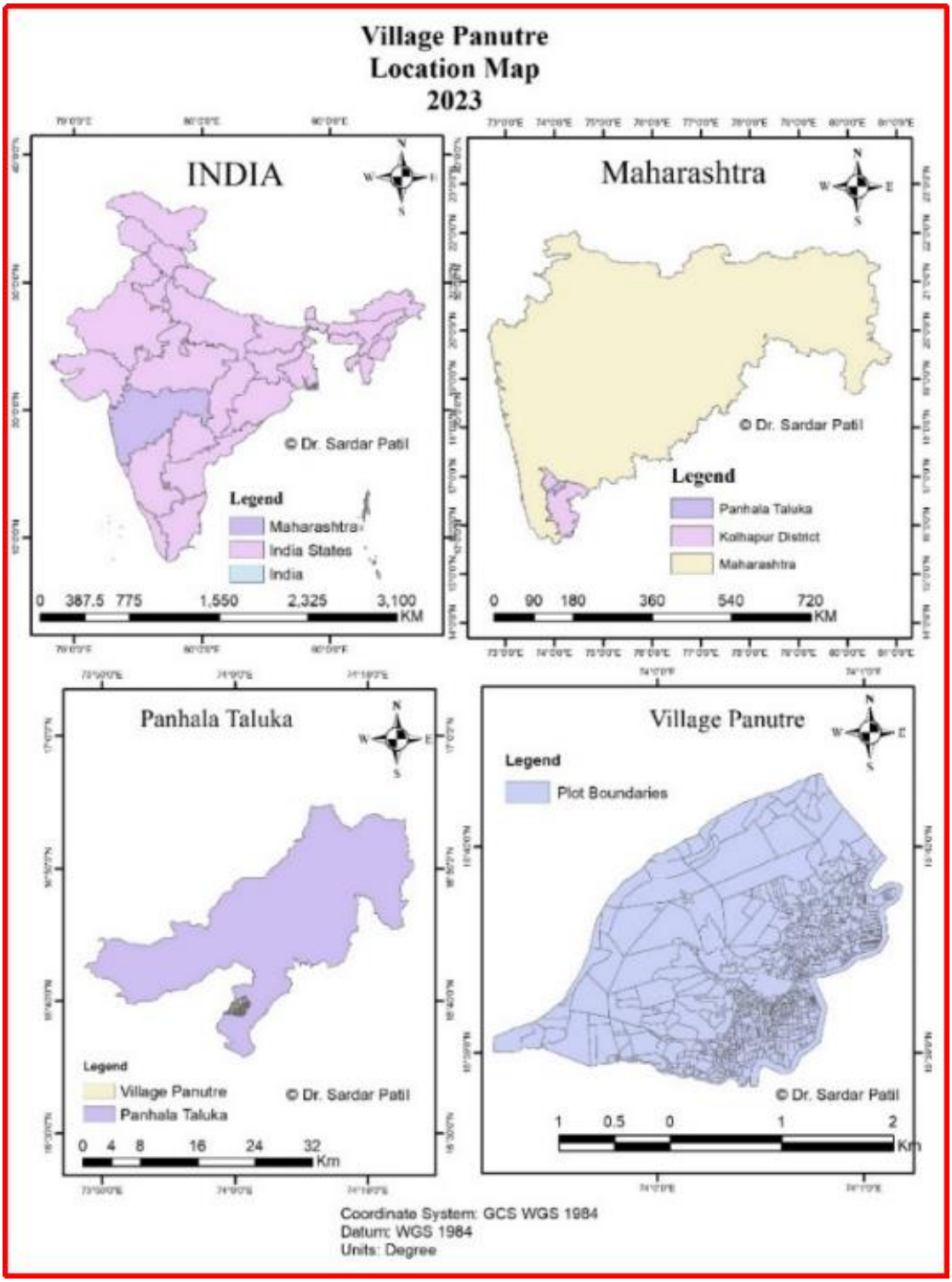
For the present study the village Panutre, which is located in the South -Western part of Panhala Tehsil of Kolhapur district is selected as a study region. Its latitudinal extent lies between 16^{O} 38’ 58.26” north to 16^{O} 39’ 56.42” north and its longitudinal extent lies between 73^{O} 59’ 02.25” east to 74^{O} 00’ 56.16” east (Fig.1). The elevation of the study region ranges between 566 meters and 790 meters from the mean sea level. Nestled on the left bank of the meandering River Dhamni, the village of Panutre is a picturesque enclave that boasts a unique blend of two distinct topographic divisions – the expansive plain and the rugged mountain range of Sahyadri. The fertile plain, traversed by the flowing river, supports a thriving agriculture system with carefully irrigated fields yielding a bounty of cash crops, prominently sugarcane, that contribute to the economic prosperity of the community. Rice, a staple food crop, flourishes in abundance, providing sustenance to the local population. Contrastingly, the mountainous region, characterized by rainfed agriculture, adds to the village's agrarian diversity. Notably, only certain pockets of the hilly terrain are adorned with forests, creating a captivating tapestry of nature. Panutre, with its unique geography, stands as a testament to the harmonious coexistence of agricultural livelihoods and the enchanting beauty of the Sahyadri mountain range.

ISSN–2278-5655

AMIERJ Aarhat Multidisciplinary International Education Research Journal

Volume–XIII, Issues– III May – June, 2024

OPEN ACCESS Original Research Article



Review of Literature:

The published research work on governance and management is mostly focusing on e-governance. Very few researchers attempted to study the use of Geo-Spatial Technology in Good Governance. Ado Kibon, Usman et. al. has attempted to study the Applications of Geospatial Mapping in Good Governance in Urban Zaria, Kaduna State, Nigeria. The researchers

ISSN–2278-5655

AMIERJ Aarhat Multidisciplinary International Education Research Journal

Volume–XIII, Issues– III May – June, 2024

OPEN ACCESS Original Research Article

attempted to analyse the role of geospatial mapping in decision-making. He stated that governance depends on various actors and geospatial mapping is also one of the actors affecting good governance (Ado Kibon et al., 2016). Belay, Mao and Li have attempted to analyze the Geospatial governance model for Ethiopia. The researchers emphasized assessing the existing models of Governance in Ethiopia and tried to suggest an appropriate model of Geospatial governance (Belay & Li, 2018). Despite this, Agbaje et al., 2018; Almontshery & Jamalallail, 2019; Anugraha et al., 2022; Boondao, 2008; Dano et al., 2020; Giribabu et al., 2018; Ngereja, Liwa, & ..., 2018; Ngereja, Liwa, & Buberwa, 2018; B. Singh & Pandey, 2018; Wickramasuriya et al., 2013; Wijesekara, 2022 attempted to research the applications of geospatial technology in governance.

Research Gaps:

Upon examining the research within the realm of geospatial governance, the researcher noted a widespread oversight of applied research topics such as G-Governance on a global scale. This neglect is particularly evident in the context of Village Resource Mapping and the associated decision-making processes.

Objectives:

The main objective of the present research work is to leverage geospatial technology to enhance good governance and decision-making. Additionally, the goal is to formulate a geospatial governance model tailored for micro-level government structures.

Methodology:

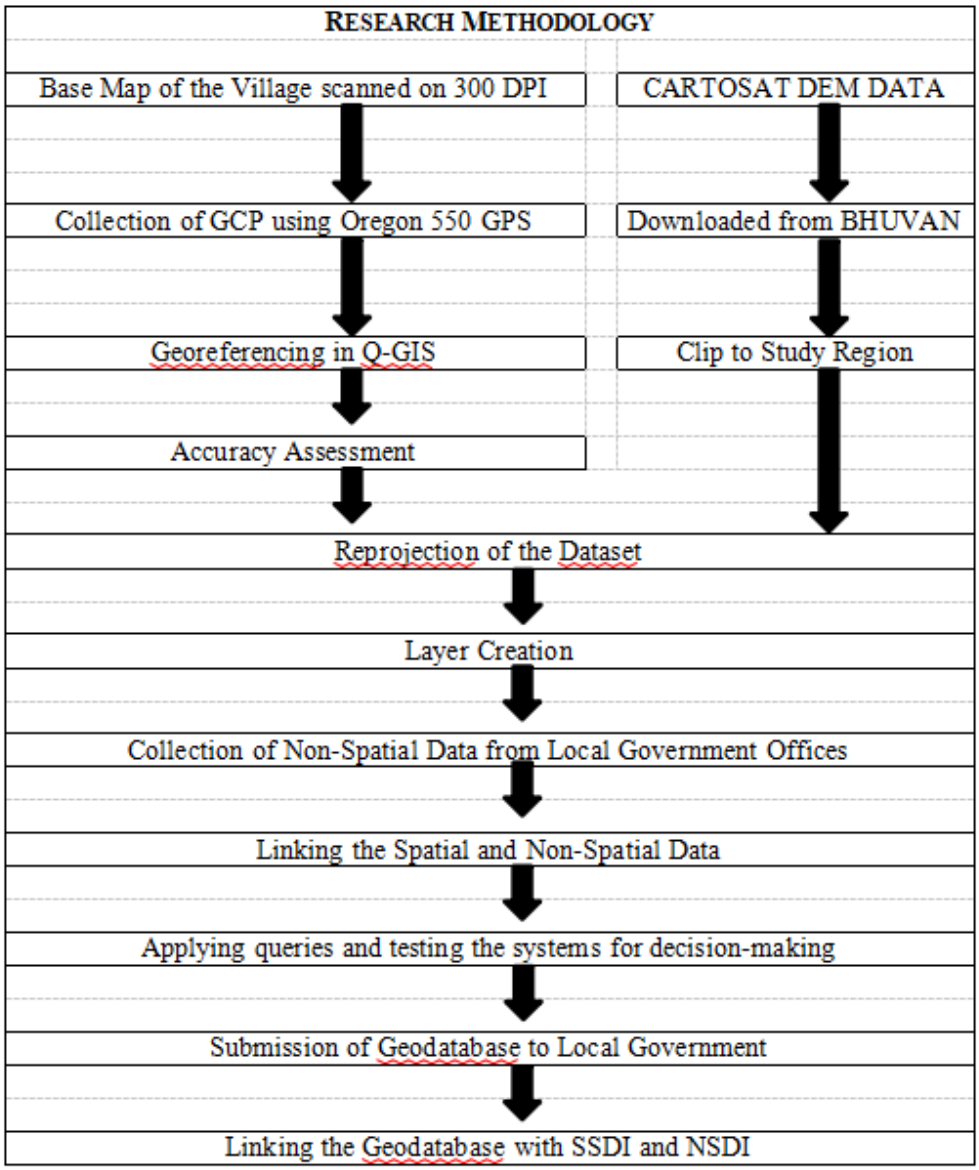
The research methodology employed in this study involved a multi-faceted approach to comprehensively capture and analyze the geographical and socio-economic landscape of the village. Firstly, a base map of the village was obtained by scanning existing maps at a high resolution of 300 DPI. To integrate elevation data into the study, CARTOSAT DEM data was utilized, enhancing the precision of spatial analyses. Ground Control Points (GCP) were meticulously collected using an Oregon 550 GPS device, and these were then overlaid onto the base map for georeferencing in Q-GIS. The dataset underwent reprojection to ensure consistency, followed by layer creation to facilitate a systematic analysis. To supplement the spatial data, non-spatial information was gathered from local government offices. This data collection process was crucial for establishing a comprehensive understanding of the socio-economic dynamics within the study region. Subsequently, an intricate linkage between the spatial and non-spatial datasets was established. The methodology also involved applying queries and testing systems for decision-making, ensuring the robustness of the analytical framework. An accuracy assessment was conducted to validate the precision of the spatial data. To facilitate effective governance, the geodatabase generated through this methodology was submitted to the local government. Further integration efforts included linking the geodatabase with State Spatial Data Infrastructure (SSDI) and National Spatial Data Infrastructure (NSDI). This comprehensive research methodology not only ensured the accuracy and reliability of the spatial data but also established a foundation for informed decision-making and effective governance within the study area. The following flow chart provides information about the methodology employed for the experimental research.

ISSN–2278-5655

AMIERJ Aarhat Multidisciplinary International Education Research Journal

Volume–XIII, Issues– III May – June, 2024

OPEN ACCESS Original Research Article



Results and Discussion:

Background of the Study Region:

The village Panutre in Kolhapur district serves as the study region, showcasing a unique blend of plain and mountainous topography. Nestled along the River Dhamni, Panutre stands as a testament to the harmonious coexistence of agricultural livelihoods and the enchanting Sahyadri mountain range. Panutre village is situated in the south-western part of Panhala tehsil of Kolhapur district, Maharashtra, India. It is located 50km away from the Panhala and 28km away from Kolhapur. The total geographical area of the village covers 544.09 hectares. The population of Panutre is 1,834, with 936 males and 898 females. The literacy rate in Panutre village is 59.71%, with 72.12% of males and 46.77% of females being literate. The village comprises approximately 360 houses. The village has plenty of resources and the proper planning of these resources may boost sustainable development with the 3-E principle, i.e., Education, Environment and Employment.

ISSN–2278-5655

AMIERJ Aarhat Multidisciplinary International Education Research Journal

Volume–XIII, Issues– III May – June, 2024

OPEN ACCESS Original Research Article

In Maharashtra, the administration of Gram Panchayats is governed by section 5 of the Bombay Gram Panchayat Act, 1958. Key officials, including the Sarpanch, Upasarpanch, and Gram Sevak, oversee the Gram Panchayat, which serves as a fundamental and crucial element of the Panchayat Raj system. The group Gram Panchayat for the village of Panutre and adjacent villages was initially established in 1963, encompassing areas like Panutre, Ambarde, Harpavade, Niwachiwadi, etc. As the population grew over time, the Gram Panchayat underwent a division into separate entities. Since 1982, the Gram Panchayat has been responsible for governing the village of Panutre and plays a vital role in its development. The local Panchayat provides essential services to the village residents and implements various central and state government schemes to foster village development. However, there is an observed tendency towards unscientific implementation, often with a predominant focus on budget expenditure.

G-Governance Implementation:

Geospatial governance assumes a central role in overseeing various environmental facets, addressing crucial elements such as Land Use and Land Cover (LULC), social dimensions, and economic considerations. The mapping of LULC provides invaluable insights into evolving land utilization patterns, supporting effective planning and sustainable development. Social aspects, encompassing demographic data and community needs, form integral components of geospatial governance, ensuring policy alignment with societal values and welfare. Economically, geospatial information facilitates resource allocation, infrastructure development, and economic planning, contributing to overall growth. The integration of specialized Geographic Information Systems (GIS), such as Land Information Systems (LIS), Resource Information Systems (RIS), Disaster Information Systems (DIS), and Environmental Information Systems (EIS), enhances precision and efficiency in geospatial governance, fostering a comprehensive approach to managing diverse challenges sustainably.

Geospatial technology manifests significant applications across diverse fields, spanning resource management, land planning, agriculture, forestry, water resources, urban/rural planning, environmental management, risk mitigation, business/marketing, real estate, facility mapping, transportation, telecommunications, mining, government agencies, defence, emergency operations, crime management, health studies, archaeology, and beyond. In essence, the utility of geospatial technology is bound only by the expansive scope of human thought.

To institute a geodatabase for informed decision-making and foster a corruption-free sustainable development model, the researcher has tailored a geospatial governance model for a small gram panchayat like Panutre. This entails a focus on key areas such as cadastral mapping, LULC analysis, socio-economic mapping, and the incorporation of health information within the creation process of the G-Governance Model. Oversight of the G-Governance model involves controlled access to geospatial technology.

Cadastral Mapping:

In the current experimental research, the cadastral map of the village Panutre has been scanned at a resolution of 300 DPI. The comprehensive analysis of the geodatabase was conducted using Q-GIS, an open-source GIS software. Georeferencing of the cadastral map was executed using the georeferencing tool in Q-GIS software, incorporating Ground Control Points (GCPs) obtained through the Oregon 550 GPS for known points. Following georeferencing and accuracy assessment, the digitalization of the cadastral base map for the village was undertaken within Q-GIS.

ISSN–2278-5655

AMIERJ Aarhat Multidisciplinary International Education Research Journal

Volume–XIII, Issues– III May – June, 2024

OPEN ACCESS Original Research Article

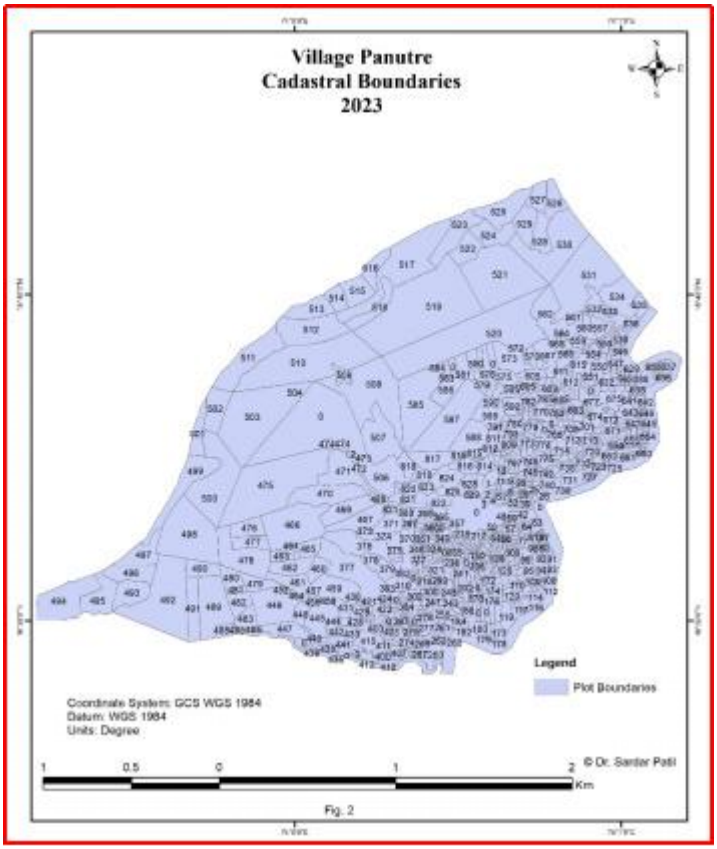


Fig. 2

The G-Governance model is predicated on the integration of both spatial and non-spatial information. Consequently, the researcher has concentrated on establishing links between plot boundaries and non-spatial data, such as survey numbers, the current owner's name, type of ownership, any changes in ownership, dates of purchase/reward/ownership transfer, local area names, land use types, irrigation specifics, soil structure, soil texture, year-wise cropping details, connectivity particulars, area measurements, perimeter/length of sides, number of dependents, slope, and more. The objective is to leverage these details for effective decision-making processes. Fig. 2 provides information about the cadastral details of the village of Panutre. Fig. 3, 4, 5, and 6 give an insight into how GIS can be utilized for information extraction using query options in Q-GIS.

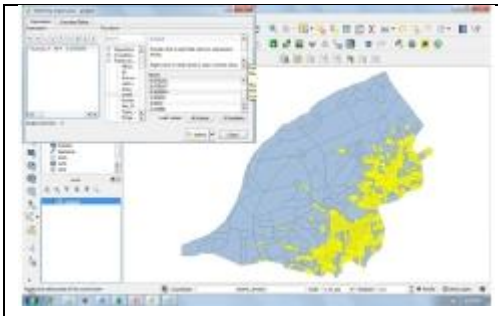


Fig. 3: Area equal to or less than 0.99 hectare


Fig. 4: Area equal to 47.32 hectare

ISSN–2278-5655

AMIERJ Aarhat Multidisciplinary International Education Research Journal

Volume–XIII, Issues– III May – June, 2024

OPEN ACCESS Original Research Article

Fig. 5: Un-irrigated area

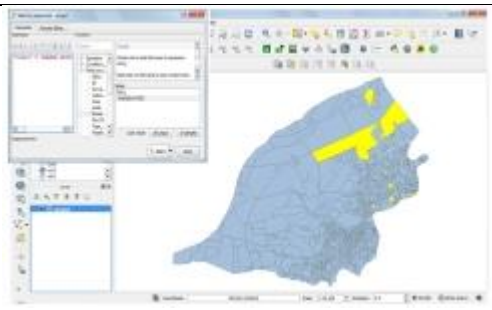


Fig. 6: Owner Information

Socio-Economic and Health Information Mapping:

In the realm of G-Governance, the integration of socioeconomic information plays a pivotal role in informed decision-making, blending both spatial and non-spatial dimensions. On the spatial front, meticulous mapping of buildings, infrastructure, and resources, along with amenities, provides a comprehensive view of the physical landscape. This spatial information serves as a foundational element for effective governance and urban planning.

Complementing the spatial data are non-spatial details, covering a spectrum of personal, social, economic, and health-related aspects. Personal information, encompassing details such as name, gender, date of birth, Aadhar number, PAN number, address, blood group, marital status, number of dependents, names of children and spouse, native place, education, language proficiency, personal occupation, and migration details, forms a rich dataset. Social information extends to family dynamics, participation in politics and NGOs, vehicle details, infrastructure, amenities, and sanitary and electricity facilities, among others. Economic information sheds light on economic status, family occupation, annual income, and housing details. Health information includes individual health-related details and information on health facilities provided by the local government.

This holistic integration of spatial and non-spatial information empowers G-Governance with a robust foundation, enabling authorities to make well-informed decisions that are responsive to the diverse needs and dynamics within the community. The seamless amalgamation of these data sets promotes a comprehensive understanding of the socioeconomic fabric, fostering more targeted and effective governance strategies.

Conclusion:

In conclusion, the journey from traditional governance paradigms to the present era of geospatial governance reflects the dynamic evolution of governance models. The fusion of ancient wisdom and modern technology, particularly in India's case, showcases a commitment to efficient, transparent, and inclusive governance. The integration of e-governance and geospatial technology, known as G-governance, signifies a paradigm shift with immense potential for transformative impact. The case study of Panutre village illustrates the practical application of geospatial governance, emphasizing cadastral mapping, socio-economic mapping, and health information integration. The G-Governance model crafted for micro-level government structures holds promise for informed decision-making and corruption-free sustainable development. While the review of the literature reveals research gaps in the global application of G-Governance, the present study aims to fill these voids by providing a comprehensive methodology and tangible results. As nations navigate the complexities of governance, the synergistic

ISSN–2278-5655

AMIERJ Aarhat Multidisciplinary International Education Research Journal

Volume–XIII, Issues– III May – June, 2024

OPEN ACCESS Original Research Article

relationship between technology, information, and decision-making emerges as a powerful catalyst for building resilient and responsive societies.

References:

3D Virtual Simulation Technology, Digital Twin Modeling, and Geospatial Data Mining in Smart Sustainable City Governance and Management. (2022). Geopolitics, History, and International Relations, 14(1). https://doi.org/10.22381/ghir14120223

Ado Kibon, U., Adamu Ibrahim, A., Marcus Ameh Magic Fingaz Biz World, A., & -Zaria, A. (2016). APPLICATION OF GEO-SPATIAL MAPPING IN GOOD GOVERNANCE IN URBAN ZARIA, KADUNA STATE, NIGERIA. In Dutse Journal of Pure and Applied Sciences (DUJOPAS) (Vol. 2, Issue 2).

Agbaje, G. I., Bello, I. E., & Ojo, A. G. (2018). Empirical assessment of the role of geospatial technology in delivering governance and strengthening democracy in Nigeria. GeoJournal, 83(4). https://doi.org/10.1007/s10708-017-9797-4

Akpan-Obong, P. I., Trinh, M. P., Ayo, C. K., & Oni, A. (2023). E-Governance as good governance? evidence from 15 West African countries. Information Technology for Development, 29(2–3). https://doi.org/10.1080/02681102.2022.2123770

Almontshery, A. M., & Jamalallail, F. M. (2019). Building Smart Cities by Using Enterprise GIS in Saudi Arabia. Journal of Geographic Information System, 11(06). https://doi.org/10.4236/jgis.2019.116040

Al-Rzoky, H. M. M., Al Mahdi, S. K. A. R., & Al-Samariy, P. H. H. (2019). E-governance applications and usage patterns in developing countries. Periodicals of Engineering and Natural Sciences, 7(3). https://doi.org/10.21533/pen.v7i3.719

Anand, D., & Khemchandani, V. (2019). Study of e-governance in India: A survey. International Journal of Electronic Security and Digital Forensics, 11(2). https://doi.org/10.1504/IJESDF.2019.098729

Anugraha, A. S., Erdiza, H. P., Apriyadi, D., & Aguscandra, B. (2022). INTEGRATION OF GEOSPATIAL AND CITIZEN PARTICIPATION USING GEOGRAPHIC INFORMATION SYSTEM FOR SMART CITY: A STUDY OF PRIORITY VILLAGES PROGRAM IN JAKARTA, INDONESIA. International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences - ISPRS Archives, 48(4/W5-2022). https://doi.org/10.5194/isprs-archives-XLVIII-4-W5-2022-17-2022

Belay, A., & Li, ; Shanjun Mao; Mei Mei. (2018). Adaptive Geospatial Governance Model for Ethiopia (Vol. 6, Issue 2). www.ijournals.in

Boondao, R. (2008). Geospatial information system and technology for good governance in Thailand. International Journal of Geoinformatics, 4(2).

Dano, U. L., Balogun, A. L., Abubakar, I. R., & Aina, Y. A. (2020). Transformative urban governance: confronting urbanisation challenges with geospatial technologies in Lagos, Nigeria. GeoJournal, 85(4). https://doi.org/10.1007/s10708-019-10009-1

Giribabu, D., Rao, S. S., Reddy, C. S., & Rao, P. V. V. P. (2018). Coordination with the Help of Geographical Coordinates: g-Governance in India. Journal of Map and Geography Libraries, 14(2–3).

ISSN–2278-5655

AMIERJ Aarhat Multidisciplinary International Education Research Journal

Volume–XIII, Issues– III May – June, 2024

OPEN ACCESS Original Research Article

https://doi.org/10.1080/15420353.2019.1623149

Gogoi, N. (2020). E-Governance in India: Issues and Challenges. International Journal of Management (IJM), 11(10).

Heeks, R. (2020). Understanding e-Governance for Development. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.3540058

Jain Gupta, P., & Suri, P. (2017). Measuring the public value of e-governance projects in India: citizens' perspective. Transforming Government: People, Process and Policy, 11(2). https://doi.org/10.1108/TG-07-2016-0043

Keping, Y. (2018). Governance and Good Governance: A New Framework for Political Analysis. Fudan Journal of the Humanities and Social Sciences, 11(1). https://doi.org/10.1007/s40647-017-0197-4

Liu, Y., Kuai, X., Su, F., Wang, S., Wang, K., & Xing, L. (2022). Research on the spatiotemporal distribution and evolution of remote sensing: A data-driven analysis. Frontiers in Environmental Science, 10. https://doi.org/10.3389/fenvs.2022.932753

Lyudmila, V., Chugunov, A., & Vidiasov, E. (2017). Developing e-governance in the Eurasian Economic Union: Progress, challenges and prospects. International Organisations Research Journal, 12(1). https://doi.org/10.17323/1996-7845-2017-01-66

Meijer, A. (2015). E-governance innovation: Barriers and strategies. Government Information Quarterly, 32(2) . https://doi.org/10.1016/j.giq.2015.01.001

Ngereja, Z. R., Liwa, E. J., & ... (2018). Adoption Of Geospatial Governance In The Context Of E-Goverment In Tanzania: Addressing Bottlenecks In Spatial Data .... In ... Archives of the ....

Ngereja, Z. R., Liwa, E. J., & Buberwa, F. (2018). Adoption of geospatial governance in the context of E-Goverment in Tanzania: Addressing bottlenecks in spatial data infrastructure development. International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences - ISPRS Archives, 42(4W8). https://doi.org/10.5194/isprs-archives-XLII-4-W8-163-2018

Palanisamy, R. (2004). Issues and challenges in e-governance planning. Electronic Government, 1(3). https://doi.org/10.1504/EG.2004.005551

Patil, S. (2014). Application of Geo-Spatial Technology for the Analysis of Linear Aspects of the Saptlingi Basin. In Aayushi International Interdisciplinary Research Journal (AIIRJ. www.aiirjournal.com

Singh, A., Ramakanth Kumar, P., & Cholli, N. G. (2018). Empowering E-governance with E-voting. Indonesian Journal of Electrical Engineering and Computer Science, 12(3). https://doi.org/10.11591/ijeecs.v12.i3.pp1081-1086

Singh, B., & Pandey, S. (2018). Geospatial policies in India and their implementation in good governance. In Geospatial Infrastructure, Applications and Technologies: India Case Studies. https://doi.org/10.1007/978-981-13-2330-0_1

Umbach, G., & Tkalec, I. (2022). Evaluating - governance through e-government: Practices and challenges of assessing the digitalisation of public governmental services. Evaluation and Program Planning, 93.

ISSN–2278-5655

AMIERJ Aarhat Multidisciplinary International Education Research Journal

Volume–XIII, Issues– III May – June, 2024

OPEN ACCESS Original Research Article

https://doi.org/10.1016/j.evalprogplan.2022.102118

Vaidya, M. (2020). E-governance initiatives in Chandigarh (India): An analytical study. International Journal of Electronic Governance, 12(1). https://doi.org/10.1504/IJEG.2020.106995

Wickramasuriya, R., Ma, J., Berryman, M., & Perez, P. (2013). Using geospatial business intelligence to support regional infrastructure governance. Knowledge-Based Systems, 53. https://doi.org/10.1016/j.knosys.2013.08.024

Wijesekara, N. (2022). Geospatial Technology for Health System Strengthening. International Journal of Health Systems Resilience, 2022(01). https://doi.org/10.51595/injhsr22/011

Cite This Article:

Patil Sardar A. (2024). *G-Governance: An Evolving Paradigm in Micro-level Governance in India- A Case Study of Village Panutre. In Aarhat Multidisciplinary International Education Research Journal: Vol. XIII (Number III, pp. 20–31).* ***DOI: https://doi.org/10.5281/zenodo.11633753***