Ministry of Panchayati Raj

सत्यमेव जयते
Government of India

Empowerment through Ownership

My property, My Right

United Nations World Geospatial International Congress, New York

"We are using drones to map properties in villages. Using this data, villagers are receiving property cards. For the first time in decades, people in rural areas have clear documents of ownership."

- Shri Narendra Modi, Hon'ble
Prime Minister of India
(11 October 2022)

Table of Contents

1. SVAMITVA Scheme: Pathway to Self-reliant rural Abadi areas
2. A participative approach towards land survey and processes
   a. Monetization of Abadi land for bank loan
      (i) A case study on monetization of Abadi land for bank loan: Madhya Pradesh
      (ii) Testimonials of beneficiaries
   b. Dispute Settlement
      (i) A case study on dispute settlement: Uttarakhand
      (ii) Testimonials of beneficiaries
   c. The Foundation of Economic Progress
      (i) A case study on Economic Progress through SVAMITVA scheme: Maharashtra
      (ii) Testimonials of Elected Representatives
   d. Empowerment of women through Land Ownership Rights
      (i) A case study on empowerment of women: Gujarat
      (ii) Testimonials of beneficiaries
   e. Leveraging SVAMITVA data for Panchayat Planning
      (i) A case study on panchayat planning through SVAMITVA data: Kalonda Gram Panchayat, Uttar Pradesh
      (ii) Testimonials of beneficiaries
3. Outcomes: Digilocker, Drone survey in Difficult Terrain.
4. Impact of the scheme: Policy intervention of Drone as a service, Data sharing, Usage of Map, Assessment of Solar energy Potential, Technology transformation under the scheme, Employment opportunities, and Establishment of CORS (Continuously Operating Reference Station) network.
5. Conclusion.

SVAMITVA Scheme: Pathway to Self-reliant rural homestead areas

Introduction

SVAMITVA Scheme (Survey of Villages and Mapping with Improvised Technology in Village Areas) is an initiative by the Government of India, launched in 2020 by the Ministry of Panchayati Raj. The scheme aims to provide rural Abadi landowners with clear and legal ownership of their properties through modern technology like drone survey and Geographic Information Systems (GIS).

This initiative focuses on mapping of rural inhabited areas, creating digital property records, and issuing Property Cards to rightful property owners. By offering legal ownership, the scheme resolves long-standing property disputes, enhances financial empowerment, and facilitates access to other financial services.

It is a transformative step towards the establishment of ownership of property in rural Abadi areas.

Achievements

Drone survey in 321 thousand villages

31 States / UTs onboarded

24.4 million property cards prepared for 164,000+ villages

i. Drone survey completed in Lakshadweep, Ladakh, Andhra Pradesh, Madhya Pradesh, Uttar Pradesh and Chhattisgarh

ii. Scheme saturated in Haryana, Uttarakhand, Puducherry, Tripura, Andaman and Nicobar Islands, Goa and Dadra& Nagar Haveli and Daman & Diu

AWARDS HONOURED TO THE SCHEME

i. **January 2021 -** Computer Society of India 2021 SVAMITVA dashboard Award of Excellence.

ii. **July 2023 -** ET Digitech Conclave 2023 - Gold Award in the category of use of technology in e-Governance for Digital Transformation.

iii. **August 2023 -** National Awards for e-Governance 2023 (DARPG) - Gold Award in the use of Emerging Technology for providing citizen-centric Services.

iv. **January 2024-** Best Innovation Award at the Public Policy Dialogue 2024 at Indian School of Business (ISB).

v. **February 2024-** Award for Excellence in Governance and Development Planning in the Geospatial Leadership Summit 2024.

Monetization of Abadi land for bank loan

Context

In rural India, Abadi (inhabited) land has traditionally lacked formal land records, making it difficult for rural Abadi residents to access financial services such as bank loans. Without recognized proof of land ownership, rural Abadi families often rely on moneylenders, leading to exorbitant interest rates and debt traps. The SVAMITVA Scheme addresses this challenge by providing legally recognized property cards for Abadi land. However, the true objective of the scheme extends beyond issuing property cards—it aims to empower rural Abadi beneficiaries to leverage these records for their development. Additionally, it enables states and public institutions to design and implement various schemes that uplift and benefit these communities.

Background

SVAMITVA Scheme has transformed access to formal finance by providing recognized land ownership documents to rural Abadi households. With SVAMITVA property cards, residents can now use their residential land for credit and other financial services as collateral. Some states have also implemented digital system allowing banks to register charges on property cards online for Abadi areas. Banks have been enabled to offer loans against Abadi land, with transparent online tracking of ownership and charges via the Bhulekh portals.

Case Study

Details of Beneficiary:

Name: Shri Raja Ram Gour
Age: 54 Years
Occupation: Farmer
Date of Receiving Property Card: 20th April 2021
Location: Village Majili, Tehsil Harda, District Harda
Date of Availing Bank Loan: 23rd January 2023Loan **Amount:** Rs 4.29 Lakh

The Challenge:

Before receiving the SVAMITVA property card, the beneficiary faced difficulty in accessing credit. The absence of a legally recognized land record made it difficult for the family to secure loans from formal financial institutions. Banks did not recognize the land ownership and could not provide bank loan to the landowner.

How SVAMITVA property card helped Raja Ram Gour:

Banks are now recognizing SVAMITVA property cards as valid collateral for asset monetization and mortgaging the property. This enables property owners to secure loans and leverage their land for financial support and development. Rajaram Gour used the SVAMITVA property card to secure a bank loan, which he used to repair his house and buy a Maruti Suzuki Ecco for his son. With many students in his village struggling to travel 7 km for school, Rajaram's son started a successful pick-up and drop-off service, earning Rs. 3.60 lakh annually. This income helps repay the loan while supporting the family's finances and improving access to education for local children.

Case Study

"I have received Adhikar Abhilekh under the SVAMITVA Scheme, which enabled me to avail a bank loan of ₹4.29 lakh from the Bank of Baroda. I used the loan to repair my house's roof and purchase a school transport vehicle. This has significantly improved the overall quality and standard of life for my family."

Sh. Rajaram Gour, Majili Village, Tehsil Harda,
District Harda, Madhya Pradesh

Testimonials

“Under SVAMITVA Scheme, I have received Patta and Property card. I used the property card to avail a bank loan of Rs 3 lakh that got disbursed by the Bank in a streamlined manner. This has uplifted the standard of our family.”

Sh. Sukhlal Pargi, Falated Village, Sagwada Tehsil,
District Dungarpur, Rajasthan

“Using the SVAMITVA property card, I have availed a loan of Rs. 15 lakhs for the purpose of construction of my house in the village to start a homestay. SVAMITVA scheme has helped me in realizing the financial benefit of the property card.”

Sh. Tashi Gialson, Changa Village, Leh Tehsil,
District Leh , Ladakh

“Before SVAMITVA, I did not have a legal proof ownership of house hold in the Gaothan, so banks were not able to provide me with a desired loan. Now after receiving SVAMITVA property card, I have availed bank loan from of Rs 2 lakh and used it to built my own Well & pipeline for farm. This has provided me with a sense of ownership and self confidence.”

Sh. Hanumant Vishnu Borkar and Smt Aruna Hanumant Borkar, Village Ambodi, Tehsil Purandar, District Pune, Maharashtra

“Before the SVAMITVA Scheme, I lacked legal proof of ownership, which made it difficult for me to secure a loan from banks. However, after receiving the SVAMITVA property card, I was able to obtain a loan of Rs 8 lakh from the bank. I used this loan to construct a new house, which has not only given me a sense of ownership but also boosted my self-confidence.”

Smt Jyoti Korav, Village Sohan, Tehsil Bhander, District Datia, Madhya Pradesh

“I have used the SVAMITVA Adhikar Abhilekh to avail bank loan to expand my Dairy business. I have availed bank loan of Rs 10 lakh. This has provided me with an increase income through which I am able to pay off my loan and improve overall quality of life.”

Sh Manohar Devi Prasad, Village Pipliya Mira, Tehsil Sehore, District Sehore, Madhya Pradesh

“Earlier, I didn’t have legal proof of ownership, and as a result, I was unable to get the loan I needed from the bank. But after receiving the SVAMITVA property card, I was able to secure a Rs 3 lakh loan. I used this to extend and renovate my house, which has not only provided me with a sense of ownership but also greatly increased my self-confidence.”

Sh Kapthuama, Village Phulpui, Tehsil Aibawk,
District Aizawl, Mizoram

“As a result of receiving the SVAMITVA property card, I was able to secure a loan of Rs 4 lakh from the bank, which I used to expand my Kirana store. Prior to this, I did not have legal proof of ownership, which prevented me from getting the loan I needed. This expansion has boosted my income and enhanced the quality of life for my family”

Sh Mahendra Nagar, Village Kohdi, Tehsil Chhipabarod,
District Baran, Rajasthan

“I have received SVAMITVA Patta from Gram Panchayat and use it to avail education loan of Rs 7.5 Lakh for my children. The SVAMITVA Patta has provided me self-confidence and empowered me to provide quality of life to my children. I have a general store which generate sufficient income to pay off the debt.”

Smt Rachna , Village 23BB, Tehsil Padampur, District Ganganagar, Rajasthan

Dispute Settlement

Context

SVAMITVA scheme aims to address and minimize land ownership conflicts in rural Abadi areas through an efficient and transparent process. The scheme utilizes advanced drone-based mapping to capture accurate spatial data, producing updated and clear records of property boundaries. These verified records enable village residents to obtain legal ownership documents, known as “property cards,” which establish definitive property rights. By providing clarity over land ownership, SVAMITVA reduces the risk of prolonged legal disputes, promotes harmony within communities, and fosters a sense of security for property owners.

Background

SVAMITVA scheme, launched in 2020 by the Ministry of Panchayati Raj, is a pioneering initiative to resolve long-standing issues related to property rights in rural Abadi India. For decades, Abadi (inhabited) areas in villages remained unsurveyed, resulting in a lack of documented property ownership. This led to significant challenges for residents, who had no formal records or legal documentation proving ownership of their homes and land parcels within these Abadi areas. Property documentation addressed various problems, including frequent property disputes, difficulty in accessing financial services. Without official records, residents struggled to establish clear ownership, which sometimes led to lengthy legal battles and hindered the development and utilization of land resources. The SVAMITVA scheme addresses these issues by using advanced technology to survey and map rural Abadi properties accurately. By deploying drones and other geospatial tools, SVAMITVA provides a high-resolution digital mapping of village areas, demarcating individual property boundaries.

Case Study

Details of Beneficiary:

Name: Shri Vinod Kumar S/o Late Sh. Mamchand
Age: 31 Years
Occupation: Private JobDate of Receiving Property Card: August 2022
Location: Bheemawala village, Vikas Nagar Block, Dehradun
Date of filling the case: 14th March 2023
Date of the decision: 15th March 2023

The Challenge:

Before SVAMITVA scheme, there were no clear property boundaries and documentation, and led to disputes between the residents. With the SVAMITVA scheme, high-resolution digitized maps are prepared in a participatory approach that has settled disputes between the parties.

Role of SVAMITVA in the resolution of the Problem Statement:

Using the property card generated under the SVAMITVA scheme, Late Shri Mamchand, filed a petition with the Hon'ble High Court of Uttarakhand, Nainital to put a stay on the demolishment of the property. Upon examining the case and property ownership document furnished by the beneficiary, the Hon'ble High Court of Uttarakhand passed the judgment for recalling of the notice served by UJVN. Thus, relief was provided to the property owner and his family due to property card under SVAMITVA Scheme.

“Thanks to the SVAMITVA scheme, we were able to secure property cards for our land, which played a crucial role in defending our property rights. When the Jal Vidyut Nigam issued an encroachment notice, we filed four writ petition. The Hon’ble High Court ruled in our favor, directing the Jal Vidyut Nigam to retract the notice. The SVAMITVA scheme has been instrumental in protecting our home and ensuring our rightful ownership, and we are deeply grateful for its support in resolving this issue”

Sh Vinod Kumar S/o Late Sh Mamchand, Resident of Bheemawala village, Dehradun

Testimonials

“With the help of the SVAMITVA Scheme, we finally resolved the property dispute that had troubled our family for years. The clear and transparent mapping process ensured a fair division of our land, and with my official property card, I now have legal ownership of my share. This has brought peace and harmony to our family.”

Shri Subhash Chander, Shopkeeper, Purmandal Village, Bari Brahmana Tehsil, Samba District, Jammu and Kashmir

“After 25 years of uncertainty, the SVAMITVA Scheme finally gave me peace by giving me ownership rights over my ancestral land. With my property card in hand, I successfully settled a long-standing dispute with my neighbor. This initiative has been immensely beneficial for my family and me. Now, I have full ownership of my land.”

Smt. Sunita, Taropka village, Hamirpur Tehsil,
Hamirpur District, Himachal Pradesh

“After years of conflicts, the SVAMITVA scheme brought a fair and lasting solution to the land dispute. With the support of the Gram Panchayat and the transparent mapping process, I finally have the Property Card in my name, ending the disputes.”

Shri Nawang Namgial, Lamayouru village,
Khalsi Tehsil, Leh District, Ladakh

“Thanks to the SVAMITVA Scheme, the SVAMITVA property card provided clear documentation of my land boundaries, making the settlement process straightforward and fair. The Gram Sabha convened to resolve the property-related dispute allowing both parties to present their views and reach an agreement. I now have legal ownership of my ancestral land and the peace of mind that comes with it.”

C. Lalramdinthara, Primary school teacher, Phulpui village, Aibawk Tehsil, Aizawl District, Mizoram

“Getting the ownership documents for my house under the SVAMITVA Scheme has finally ended years of property disputes with neighbors. Now, there’s peace and harmony in my community, and I feel secure in my own home. This scheme has resolved long-standing tensions and strengthened my social standing. I am truly grateful for this new sense of stability.”

Shri Kaluram, Ex. Indian Army, Ekalsingha Village,
Bhinay Tehsil, Kekri District, Rajasthan

“After 15 years of property disputes, the SVAMITVA Scheme provided me with a property card that clearly defines the boundaries of my land. This official document allowed me to peacefully resolve the issue with my neighbor, who had been claiming part of it. Now, I have full legal ownership and no more worries. I’m grateful for this positive change. I feel secure and proud to have my ancestral Abadi land officially in my name, thanks to this transformative scheme.”

Shri Shiv Kumar, Farmer, Bhuganiyapur village,
Akbarpur Tehsil, Kanpur Dehat , Uttar Pradesh

“Thanks to the SVAMITVA Scheme launched by the Government of India for the benefit of rural Abadi landowners, I now have a property card with a clear sketch map of my land. This made demarcation easy and resolved all boundary disputes. This initiative has been highly beneficial not only for me but also for the entire community.”

Shri Sunil Kumar Biswas, Pensioner, Mathura village, Ferrargunj Tehsil, South Andaman , Andaman & Nicobar Island.

“After 10 years of property issues, the SVAMITVA Scheme provided me with an official property card that clearly defined my land boundaries. This document helped me resolve the conflict with my neighbor amicably, putting an end to years of worry. I now feel secure with full legal ownership of my family’s land. This initiative has brought clarity and peace to our village. I am deeply grateful for this support.”

Smt. Pulaka Mamata, Silaput village, Kolnara Tehsil,
Rayagada District, Odisha

The Foundation of Economic Progress

Context

The SVAMITVA Scheme empowers rural residents with secure and transparent property ownership through accurate property records. Utilizing drone technology, the scheme creates detailed property maps and digital records, significantly enhancing land management. These maps facilitate better infrastructure planning, disaster preparedness, and socioeconomic profiling of villages. Additionally, they have improved property registers in Gram Panchayats, boosting Own Source Revenue (OSR) and driving sustainable local development.

Background

The SVAMITVA Scheme provides property records to rural residents, ensuring secure and transparent land ownership. By using drone technology, the scheme creates accurate property maps and digital records. These maps not only enhance land records but also support improved infrastructure planning, disaster preparedness, and socioeconomic profiling of villages. Additionally, the maps have streamlined property registers in Panchayats, boosting the Own Source of Revenue (OSR) of Gram Panchayats and fostering sustainable local development

Case Study

Details of Beneficiary:

Name of Gram Panchayat: Ekhatpur
Block-Purandar
District-Pune
State- Maharashtra

The Challenge:

Before the SVAMITVA Scheme, Gram Panchayats faced challenges with unclear ownership records, frequent property disputes, encroachments, and limited planning for open spaces. Outdated property registers restricted revenue potential and hindered villagers' access to property-based loans. The SVAMITVA scheme addressed these issues by providing property cards, enhancing transparency, and supporting improved governance.

How SVAMITVA Scheme helped Ekhatpur GP:

The SVAMITVA Scheme has greatly benefited Ekhatpur Gram Panchayat (GP) by providing property cards to household owners, which has minimized property disputes and streamlined land ownership records. This initiative has enabled the GP to address encroachments on public spaces within the village Abadi area and resolve property-related conflicts. As a result, there has been a 25% increase in properties listed in the Property Register. The scheme has also helped identify open spaces, facilitating better planning for community development. The updated property registers, based on digital maps, have improved the GP's own source revenue (OSR). Additionally, property cards have empowered villagers by enabling them to secure bank loans for constructing and improving their properties, fostering overall economic and social development.

“The SVAMITVA Scheme provided property cards to household owners, helping to minimize property disputes in our Gram Panchayat. It has assisted Gram Panchayats in removing encroachments on public spaces within the Abadi area and resolving internal road disputes. The scheme also helped identify open spaces, facilitating better planning for the improvement of the Gram Panchayat. As property cards were distributed, the assessment registers were simultaneously updated, leading to an increase in the Own Source of Revenue (OSR) of our Gram Panchayat. Additionally, property cards enabled resident of Gram Panchayat to avail bank loans for constructing their properties.”

Smt. Shital Kiran Tilekdar, Sarpanch,
GP Name: Ekhatpur-Munjvadi, Ta.- Purandar, Dist. Pune

Testimonials

“The SVAMITVA Scheme is becoming a game-changer for our Gram Panchayat. With its implementation, we received strong support in resolving land disputes, and our Gram Panchayat’s own source of revenue increased due to the updates in the assessment register. The scheme has also helped us identify encroachments and enabled proper planning for road development, water pipe schemes, and streetlight management.”

Smt. Sarika Pradip Barkade, GP Name:
Pisurti, Ta, Purandar, Dist. Pune

“Due to the SVAMITVA Scheme, the residents of our Gram Panchayat have received Property Cards, which have helped them avail bank loans. The SVAMITVA maps have provided valuable resources for Gram Panchayat development planning and have also aided in removing encroachments in the Abadi area. Property transactions have become smoother, and the scheme has facilitated more accurate assessments of household areas.”

Sh. Rahul Anantrao Borkar, GP Name: Ambodi,
Ta, Purandar, Dist. Pune

“The SVAMITVA Survey has significantly contributed to updating property registers for the Gram Panchayat. Before the SVAMITVA survey, only 230 properties were recorded in the Property Register of the Gram Panchayat. After the SVAMITVA survey, the number of properties has increased to 708 properties, marking a substantial improvement.

This has helped Gram Panchayat in streamlining its Own Source of Revenue (OSR) and in utilizing its Own Source of Revenue in maintaining the development works like sanitation, street lights, etc.”

T. Rama Krishna, Sarpanch Chintalapudi Gram Panchayat, Duggirala Mandal, Guntur District, Andhra Pradesh

Empowerment of women through Land Ownership rights

Context

In rural India, the SVAMITVA Scheme has paved the way for the empowerment of women by providing them with land ownership rights.

The Scheme has contributed towards promoting women's empowerment in rural Abadi areas across the country by getting their names registered as rightful owners of the properties, helping them avail financial and social benefits of the Scheme.

Background

Several States and UTs have recognized women as owners/co-owners of property cards under the SVAMITVA Scheme. It is also a source of pride for the country. By mainstreaming their land rights, women have been ensured equal rights in residential property, paving the way for the empowerment of women in rural India.

Policy measures initiated by Madhya Pradesh :

To provide recognition of women's rights to property; Madhya Pradesh has made it mandatory to register co-ownership of women in property cards as per the Madhya Pradesh land revenue code.

Case Study

Details of Beneficiary:

Name: Smt Kokilaben Babaji Vaghela
Age: 45 Years
Occupation: Housewife
Date of Receiving Property Card: 21st April 2023
Location: Village Piplaj, Tehsil Gandhinagar, District Gandhinagar

The Challenge:

Before receiving the SVAMITVA property card, the beneficiary faced difficulty in declaring legal ownership of ancestral Abadi land. She was unable to access a bank loan despite residing on ancestral residential property for many years.

How SVAMITVA property card helped Kokilaben Babaji Vaghela:

Smt Kokilaben Babaji Vaghela, a woman from a rural village in Gujarat, received her SVAMITVA property card, marking a significant milestone in her life. The property card, issued under the SVAMITVA scheme, gave her legal ownership of her ancestral residential land, empowering her to access loans and build a better future for her family. She now feels a sense of dignity and financial independence, with her residential land recognized as a valuable asset. The scheme has not only secured her property rights but also boosted her confidence in managing her livelihood. She has planned to avail the financial benefit from the property card for house renovation in the near future.

“Now I have legal ownership of my family’s residential land. It has brought me a sense of security and confidence, knowing that I can access financial support when needed. This card has truly changed my life, giving me the strength to build a better future for my children.”

Smt Kokilaben Babaji Vaghela, Piplaj Village, Tehsil Gandhinagar, District Gandhinagar, Gujarat

Testimonials

“Receiving my SVAMITVA property card changed everything for me as a single mother. Now, I have legal ownership of my land, which means I can access loans and plan a better future for my children. This card has given me dignity, security, and the confidence to build a stable life.”

Smt. Veena Devi, Samluhi village, Hamirpur Tehsil, Hamirpur district, Himachal Pradesh

“I am a refugee from the 1947 partition and in all these years, I never thought I would hold official papers proving this land is mine. Thanks to the SVAMITVA Scheme, I now have the power to secure my family’s future and invest in my home. As a woman, this ownership gives me dignity and peace of mind.”

Smt. Sawarn Kantra, Dhoop Sari village, Ramgarh tehsil, Samba district, Jammu and Kashmir

“I now have legal ownership of my family’s land. It has brought me a sense of security and confidence, knowing that I can access financial support when needed. This card has truly changed my life as a single mother, giving me the strength to build a better future for my children.”

Smt. Maryam, Barchey village, Kargil Tehsil, Kargil District, Ladakh

“SVAMITVA scheme has helped me in securing my land rights. I am grateful to Government of India for providing property card that has given me a sense of confidence for security of my land.”

Smt. Chhiarpuithangi, Lamchhip village, Aibawk Tehsil, Aizawl District, Mizoram

“I am grateful to the Government of India for the SVAMITVA Scheme, which provides clear and legally valid documentation of my property ownership. I am highly satisfied with the benefits and transparency offered by this scheme.”

Smt. Sannagangamma,
Devagondanahalli village, Arasikere Tehsil,
Hassan District, Karnataka

“I was a landless individual without ancestral property, I was granted a free house site allowing me to construct a house for my family. Through the SVAMITVA scheme, I have received its property card, which further empowered me with security and confidence. The card includes vital details like my Ration Card and Aadhaar Card numbers, along with a property sketch and Geo-coordinates, enabling me to build a better future for my family.”

Smt. Chandira, Ariyankuppam village, Puducherry Tehsil, Puducherry District, Puducherry.

“Knowing that I can get financial assistance when I need it has given me a sense of security and confidence. The SVAMITVA property card has genuinely transformed my life and given me the courage to provide a better future to my kids.”

Smt. Shyam Wati, Devli village, Palwal Tehsil,
Palwal District, Haryana

“I am grateful for the SVAMITVA Scheme launched by the Government of India, which has greatly benefited landowners like me. The property card provides a clear sketch of my land, making it easy to demarcate boundaries and resolve any disputes. This initiative has not only helped me, but also the community as a whole. As a widow, I now have access to loans, allowing me to build a better future for my family. I feel a sense of security and increased confidence in managing our livelihood.”

Smt Duli Singh, Ferrargunj – Gram Panchayat,
Ferrargunj -Tehsil, South Andaman-District, Andaman
& Nicobar Islands

Leveraging SVAMITVA data for Panchayat Planning

Context

Under the SVAMITVA Scheme Gram Panchayats have received high-resolution Ortho Rectified Image (ORI) of the Abadi Area that have an accuracy of ± 5.00 cm and a scale of 1:500. These high-resolution images can be used for the purpose of spatial planning by the Gram Panchayats and other line departments.

The Spatial Plans will help Gram Panchayats utilize their land for optimum use. It will also help the Gram Panchayats in planning the Infrastructure and Services within the Abadi Area and curb unplanned development.

Background

The SVAMITVA (Survey of Villages and Mapping with Improvised Technology in Village Areas) scheme, launched in 2020 by the Government of India, is a transformative initiative enabling Gram Panchayats to optimize land use and infrastructure development through advance spatial planning. By providing high-resolution maps and GIS data, the scheme has helped identify government land and propose projects on it, optimize services like waste collection, and determine optimal locations for social and health infrastructure. Spatial planning for Gram Panchayats, akin to urban master planning, involves systematic land use management, zoning, and resource allocation to address immediate needs while planning for future growth. It helps tackle challenges like land disputes, haphazard development, and resource inefficiency while ensuring optimal placement of public facilities such as schools, health centers, and skill hubs. Modern tools aid in identifying environmentally sensitive zones, disaster management, and protecting natural resources. Additionally, the approach enhances revenue generation through accurate property taxation, facilitates infrastructure cost estimation, and leverages underutilized assets. Spatial planning thus equips Gram Panchayats with a structured governance framework, enabling sustainable development, improved living standards, and a smooth rural-to-urban transition.

Case Study

Details of Beneficiary:

Gram Panchayat Name: Kalonda Gram Panchayat
Block: Dadri;
District: GautamBuddha Nagar
State: Uttar Pradesh
Name of Sarpanch: Shri Mohammad Umar
Age: 44 Years
Gender: Male
Date of SVAMITVA Survey: 11-01-2021
Name of Partner Institution which helped in Spatial Planning: Apeejay School of Architecture and Planning, Greater Noida.

The Challenge:

The Gram Panchayats face significant development challenges due to the absence of accurate maps, GIS Data and Spatial Planning. This is caused by the lack of authenticated land records, which makes identifying and managing land ownership difficult, leading to disputes and inefficient land usage. Unclear boundaries and limited information on land availability and its topography hinder infrastructure and development planning. Additionally, the absence of modern mapping tools affect disaster management, climate resilience and environmental conservation efforts, further delaying project execution. Overall, this gap restricts effective decision-making and impedes sustainable rural development.

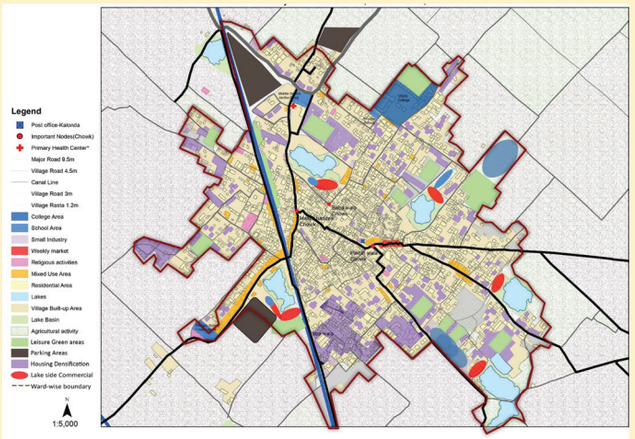
Role of SVAMITVA Scheme High-Resolution Data and GIS Maps for Spatial Planning:

The SVAMITVA Scheme, with digitized property records, GIS maps, and high-resolution data, has made enhanced spatial planning possible for Gram Panchayats. Accurate property records have reduced disputes and clarified ownership, ensuring optimal land use for various activities. GIS maps and data have enabled Panchayats to delineate boundaries, analyze land use, and plan infrastructure like roads and water supply efficiently. Partner institutions have helped Panchayats prepare detailed spatial plans tailored to local needs. This collaboration supports disaster management, climate resilience, environmental conservation, and sustainable development. Spatial planning helps Gram Panchayats mobilize resources, enhance governance, and improve the quality of life in rural areas. It empowers Panchayats to create structured, financially converged, forward-looking development plans.

“Before the SVAMITVA Scheme, planning was based on local knowledge of the village. However, the SVAMITVA maps have provided a clearer picture of boundaries and a precise demarcation of properties. With the support of the Partner Institution, the expertise of planners and architects has been leveraged to create detailed spatial plans. Spatial planning has allowed us to identify the most suitable uses for Gram Panchayat land, such as agricultural, commercial, or residential purposes. It has also simplified the estimation of costs and service rates. Additionally, with the aid of spatial planning and the SVAMITVA maps, we now have accurate measurements of public land, pond outlines, and Abadi area boundaries.”

Shri Mohammad Umar, Sarpanch of Kalonda Gram Panchayat, Gautam Budh Nagar

“The SVAMITVA Scheme Maps have proven to be a valuable resource in preparing the Spatial Plan for Kalonda Gram Panchayat. This spatial plan has helped conceptualize the Gram Panchayat as a functional entity, enabling a design-based planning model. The SVAMITVA data and spatial planning approach will aid in controlling haphazard development while promoting a green, ecologically rich environment for the Panchayat. As a result, the Panchayat will become more resilient to disasters and contribute to the conservation of arable land.



With the help of spatial planning, infrastructure such as roads, water pipelines, streetlights, and bus stops can now be identified, and their estimates can be more accurately planned. The Abadi Area map from the SVAMITVA Scheme has provided insights into the communities and clusters within the Gram Panchayat, aiding in the organization of usable open spaces. The prepared spatial plans will enable the Panchayat to manage its resources more effectively and become self-reliant in the long run. Furthermore, this initiative brings the Gram Panchayat closer to the research and academic community, facilitating case building, higher learning, and the scaling of spatial planning to other Gram Panchayats.”

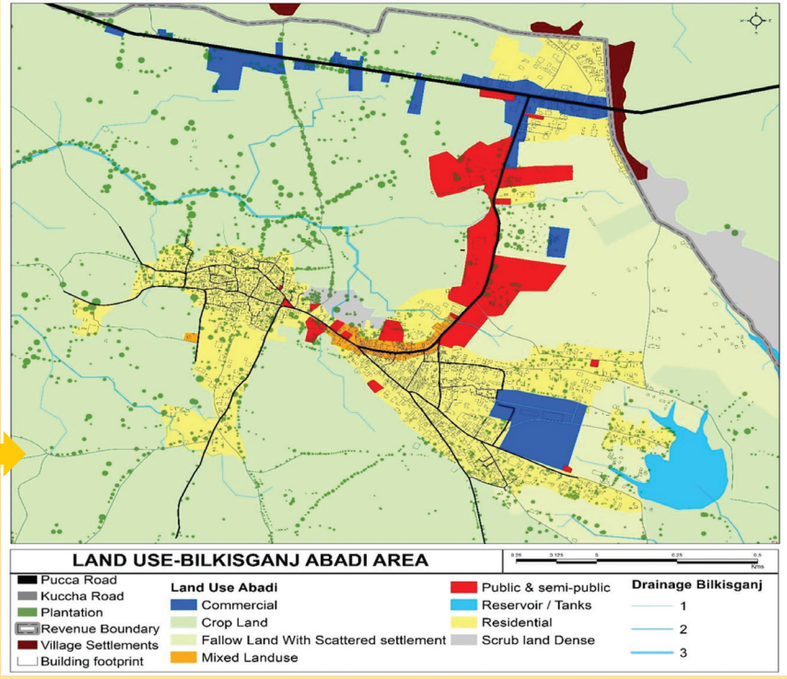
Ar. Anand Khatri, Professor, Apeejay School of Architecture and Planning, Greater Noida.
(Founder Director- Urban Village Charitable Trust)

Testimonials

“Before the SVAMITVA Scheme, planning was done using hand-drawn maps, making it difficult to determine exact dimensions and accurately estimate costs for services. However, with the introduction of Spatial Planning based on SVAMITVA Maps, we can now easily identify which land is suitable for specific activities and understand how development can optimize land use for maximum benefit.”

Smt. Priya Rajesh Jangde, Sarpanch, Bilkisganj GP,
Sehore, Madhya Pradesh

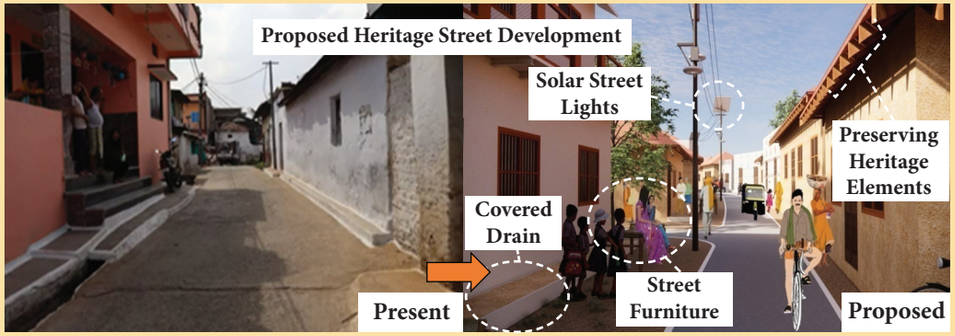
High-Resolution Bilkisganj GP Abadi Area ORI from SVAMITVA Scheme

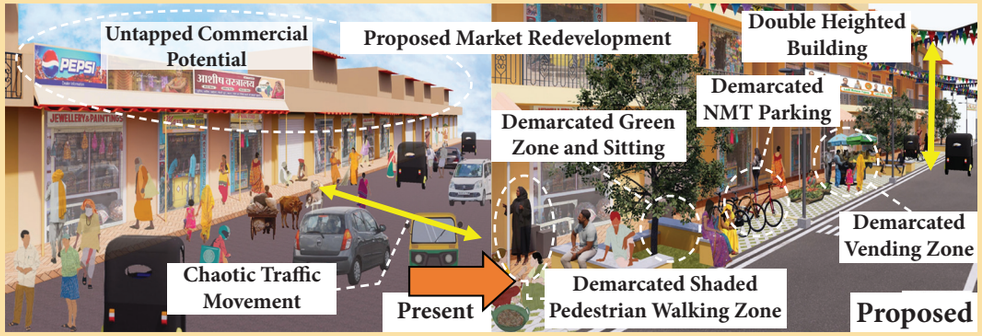


“The SVAMITVA data has enabled the creation of updated landcover and landuse maps, rural built-up sprawl studies, and encroachment analysis, including mapping high-value commercial properties for taxation. Discussions with Gram Panchayat leadership are now supported by precise, state-endorsed maps instead of outdated, non-scaled images. The database ensures accurate identification of public land for projects like skill development centers. High-resolution imagery allows real-time design of road sections and lakefronts using aerial views. Project DPRs are now more precise, grounded in on-site information, eliminating the need for assumptions about feasibility and site conditions.”

Dr. Rama Umesh Pandey, Professor & Head,
SPA-Bhopal, Madhya Pradesh

Proposed New Skill Development Centre
(Sustainable Construction Techniques)





“Previously, Panchayats relied on Nazri Naksha to prepare annual development plans, which made it challenging to accurately assess scale, estimates, and expenditures for any project. However, with the introduction of Spatial Planning using SVAMITVA Maps, selecting suitable locations for development has become much easier and more efficient.”

Smt. Shashikala Sinha, Sarpanch, Jheet GP, Durg, Chhattisgarh

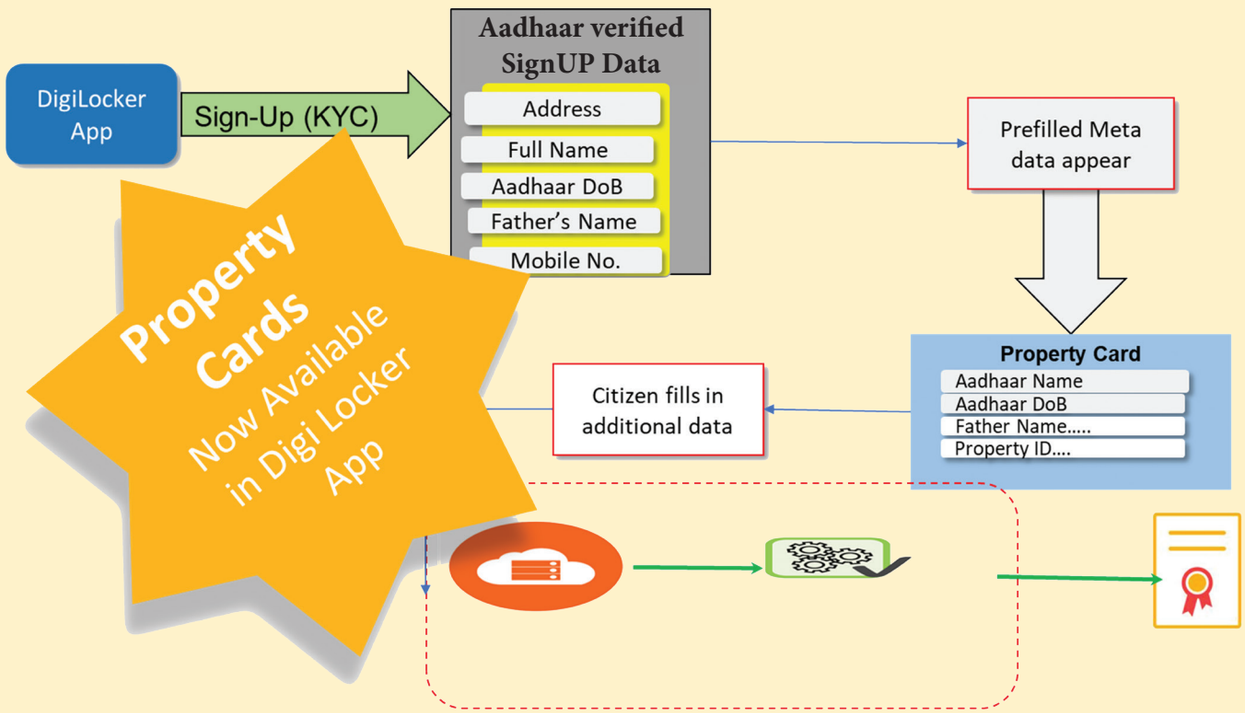
“The maps created under the SVAMITVA Scheme are being utilized to improve spatial planning, helping Gram Panchayats manage and control haphazard development within their boundaries. These high-resolution drone images provide a clearer understanding of the current situation in the Gram Panchayat, enabling the creation of detailed proposals for planned growth and future development. This approach ensures a more realistic strategy for sustainable economic growth and enhances opportunities for the Gram Panchayat to become self-reliant.”

Dr. Abir Bandyopadhyay, Professor, NIT-Raipur, Chhattisgarh

Outcomes

Digilocker Integration

Digilocker securely stores and links documents that anyone can access anytime, anywhere online. The State/UT may integrate Property cards created under the SVAMITVA Scheme with Digilocker. This enables online access to Property Cards by any Property owner.



State onboarded on Digilocker

- Haryana
- Madhya Pradesh
- Maharashtra
- Uttar Pradesh
- Uttarakhand
- A&N Island
- Dadra Nagar Haveli Daman & Diu
- Gujarat
- Puducherry
- J&K
- Odisha
- Ladakh
- Chhattisgarh
- Himachal Pradesh
- Karnataka

Difficult Terrain Drone Survey

Village – Purying, LGD code – 263341, District – Shi Yomi, Arunachal Pradesh

The village, located along the Siyom River on the Tato-Mechuka route, lacks road and network connectivity, requiring villagers to cross a suspended wooden bridge and trek 3 km to the main road. The team, including pilot Shri Dhrubajyoti Barman, co-pilot Shri Chesterfield Rymbui, and a field assistant, faced challenges navigating the uneven terrain for UAV flights while carrying heavy equipment like DGPS, trekking on foot through a hanging bridge.

Village – Paglam, Circle – Tinali, District – Lower Dibang Valley, Arunachal Pradesh

The village, surrounded by the Brahmaputra and its tributaries on three sides, lacks road connectivity and relies on locally operated boats for transport. The team, including pilot Shri Sattyam Tripathi, Junior Geomatics Officer Shri Banrikemlangki Shylla, a field assistant, and a driver, faced challenges transporting their car across the river, essential for traveling 20 km on unpaved roads to reach the village. Frequent monsoon floods further isolate the village from the mainland, compounding its accessibility issues.

Difficult Terrain Drone Survey – Uttarakhand

- Drone survey was undertaken in the remotest of villages of Uttarakhand including mountaneous regions of Munsiyari, Pithoragarh by the Survey of India.

- Overcame difficulties such as crossing rivers, navigating unpaved road and landslide prone regions to map the villages and provide property cards to eligible property owners.

- Owing to high altitude of the region Quadcopter drones were utilized enabling drone flying in low air density areas.

Impact of the Scheme

Policy Intervention – Introduction of Drone as a Service

- The Drone Policy of 2021, introduced by the Ministry of Civil Aviation, played a key role in fostering the development of the drone ecosystem in the country by liberalizing the policy and permissions framework for both drone flying and manufacturing

- Over time, the drone ecosystem has evolved, including the production of new models capable of operating in higher altitude regions.

- The SVAMITVA Scheme, supported by the Drone Policy, facilitates drone operations in remote areas. Additionally, the scheme has provided a platform for various startups and MSMEs to deploy drones, further contributing to the growth of the industry.

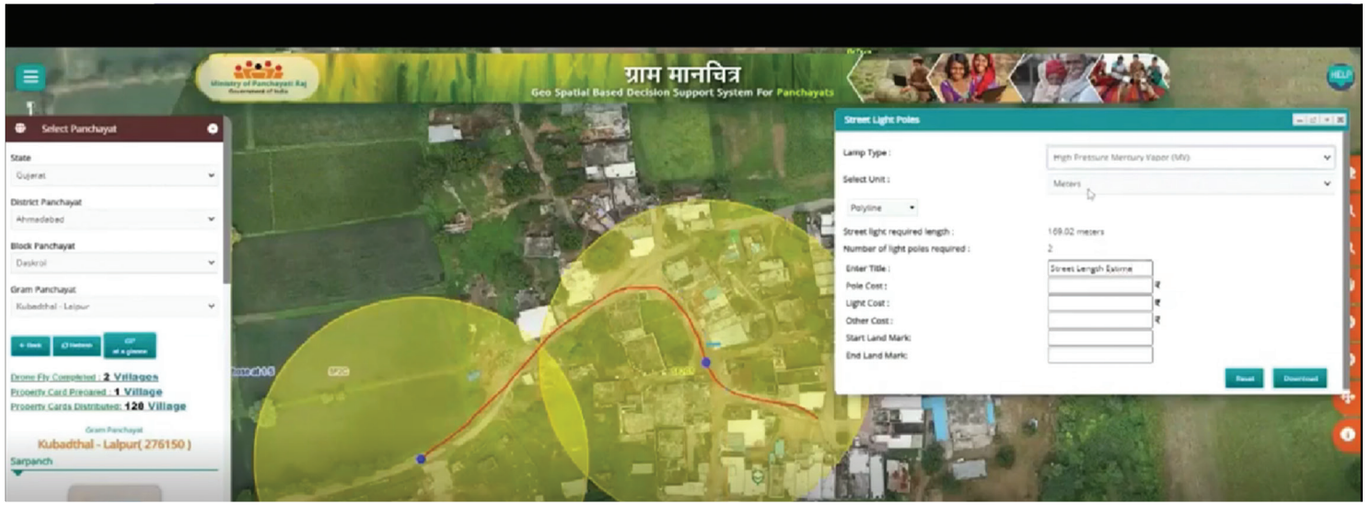
Policy Intervention – Data Sharing

- The Geospatial Policy of 2022 has liberalized the use of geospatial data, fostering innovation and enabling the development of Maps as a Service.
- The Geospatial Policy 2022 allows data exchange across all government ministries, ensuring geospatial data is accessible to various government departments at all levels. The liberalization helps maximize the use of geospatial data to develop solutions for addressing challenges across different sectors.

Maps usage

- SVAMITVA maps are used to assess Vehicle Navigability for village roads, thus aiding disaster response and mitigation

- Using SVAMITVA Maps, assessment of village infrastructure can be easily made, for eg. availability and sufficiency of street lights can be assessed



Assessment of Solar Energy Potential

- With accurate information on type of roofs of houses (Kuccha or Pucca), area of rooftops etc., It is now possible to assess Solar Energy Potential of houses in villages
- The initiative is utilized by PM Surya Ghar Yojana for beneficiary identification and assessment

	RCC	TILED ROOF	TOTAL	TIN SHEET	OTHERS
Total Area (SQ Mtr.)	7,205.864	0.0	7,205.864	0.0	42,557.34
90% Area From Total Area (SQ Mtr.)	6,485.278	0.0	6,485.278	NA	NA
Plots	201	0	201	0	1,092
Solar Panels Possible Installations (2.4m X 1.2m)	2,252	0	2,252	NA	NA
Potential Engery Production	1.126 per day (For 6	0.000 per day (For	1.126 per day (For 6	NA	NA

Technology Transformation under the Scheme

Upgradation in Survey Infrastructure- DGPS to CORS Technology

Transition from Satellite Image Procurement to drone survey technology

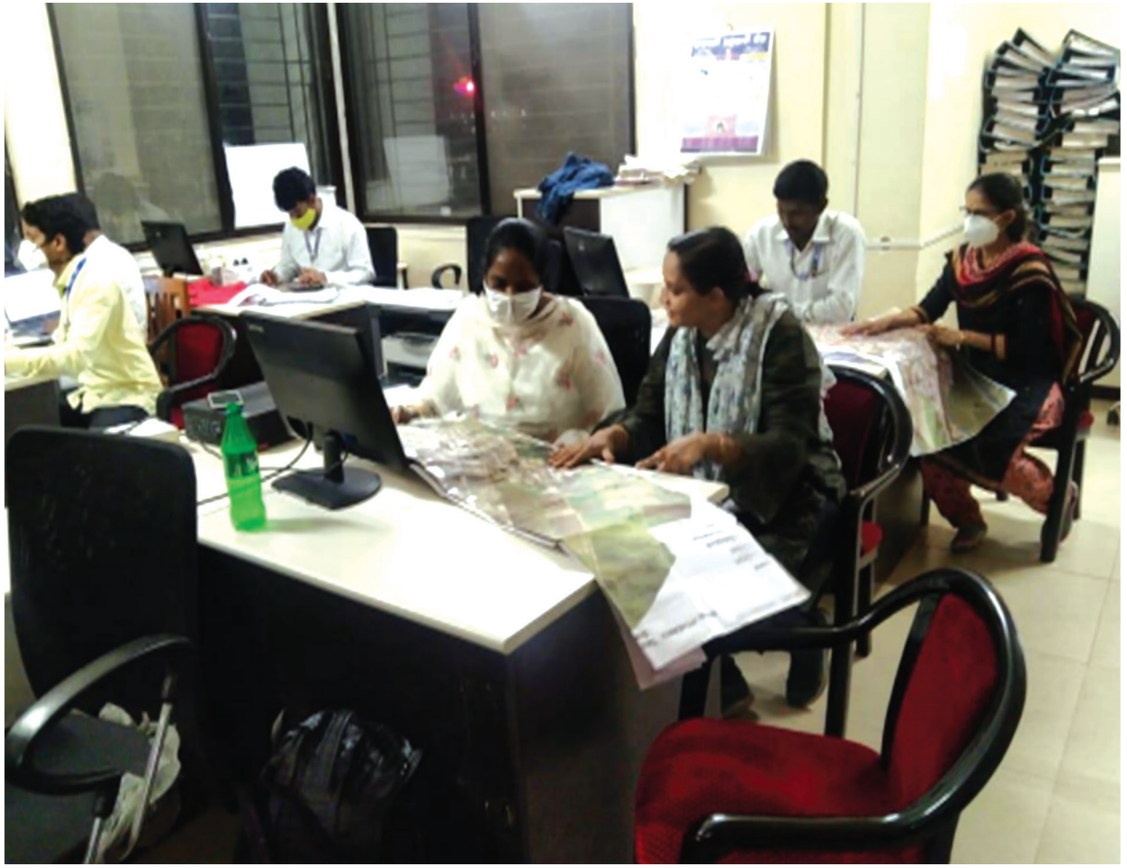
Enhancement in image resolution

Updation of Map records- Paper based maps to Digital Maps

Creation of Employment Opportunities

As part of SVAMITVA Scheme processes, Survey of India is mandated to digitize the maps and extract features like houses, land parcels, roads, etc. In order to cater to large number of villages being covered and subsequent digitization of maps, Survey of India has hired in-house digitizers to speed up the feature extraction work. This has resulted in creation of employment in states and UTs.

- Generation of demand for skilled manpower / digitizers, drone pilots, surveyors, etc by Survey of India
- Hiring of Manpower by States for SVAMITVA activities
- Outsourcing of Scheme Work to Private agencies
- Hiring of manpower for demaracation of properties
- Establishment of Project monitoring units at State and National level



Establishment of CORS Network

- Survey of India has established the National CORS (Continuously Operating Reference Station) Network under the Scheme across the country of 567 CORS. CORS provides high accuracy, real-time positioning services.
- With better positional accuracy of better than 5 cm, the setting up of Nationwide CORS network will have wide ranging ramifications and use cases for every sector viz Agriculture, Infrastructure, Roads, Power, Utilities, Irrigation, Railways and Telecom along with preparation of Detailed project Reports (DPR).

Conclusion

The SVAMITVA Scheme has had a huge impact for rural India, with a direct positive impact on land governance, financial inclusion, and rural community development. Beneficiaries of the scheme have shared powerful testimonials highlighting its role in facilitating easier access to bank loans, resolving land disputes, and empowering women by securing their property rights. These successes are a testament of the scheme's ability to create a fairer and more transparent land governance system for rural populations, offering them the opportunity for financial growth and social stability.

Moreover, the SVAMITVA Scheme is contributing to broader rural development by providing accurate land data, which supports better infrastructure planning and local governance.

Looking ahead, the potential for the SVAMITVA scheme is vast. The geospatial data generated could be leveraged for assessing solar energy potential across rural household rooftops, enabling the promotion of sustainable energy solutions and contributing to other government programs. It can also aid in more accurate property tax assessment, supports rural infrastructure development by identifying gaps, and in disaster management. SVAMITVA Scheme's data-driven insights could shape future rural policies and initiatives, creating smarter, more resilient villages while enhancing the quality of life of millions across rural India.