

EXPLORING THE DYNAMICS OF PUBLIC PRIVATE PARTNERSHIPS IN
INFRASTRUCTURE FINANCING IN ZIMBABWE

by

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Abstract

Infrastructure development plays a crucial role in driving economic growth and development of the country as good infrastructure facilitates trade and commerce, enhancing productivity and competitiveness, attracting investment, employment creation, and supporting social development, among other benefits. Despite the governments' recent investments in improving infrastructure in the country, Zimbabwe still faces infrastructure deficit due to poor infrastructure financing among other factors. The aim of this paper was to explore the role of PPPs in infrastructure financing by looking at international best practices and learning from success stories where PPPs have been implemented across the world. The study explored case studies in the transport sector, energy, and health sector. The major findings were that PPPs are a viable sources of infrastructure financing. Countries that have succeeded in bigger PPP projects have demonstrated clear legal and regulatory frameworks, stakeholder consultation, political will, transparency, and accountability in procurement, among other factors. The study recommends the government of Zimbabwe to prioritize allocation of resources in funding of productive and critical infrastructure projects through PPPs, enhance investment promotion targeting local private partners as well, improvement in skills to attract private partners, skills in implementation of PPPs, simplification of the regulatory framework governing PPPs, among ways to ensure that PPPs are effective in developing infrastructure across the country.

Key Words: Public Privet Partnership, Infrastructure

1. Introduction and Background on infrastructure development and financing

Good infrastructure is the foundation upon which a country's development and progress are built. It encompasses a wide range of physical structures, systems, and facilities that support economic activities, social well-being, and overall connectivity. From transportation networks and energy systems to communication networks and public utilities, infrastructure plays a pivotal role in shaping the growth, competitiveness, and quality of life within a nation (Aswal, 2020). The importance of good infrastructure in a country cannot be overstated. It serves as a catalyst for economic growth, enabling the seamless movement of goods, services, and people. Efficient transportation systems facilitate trade and investment, while reliable power supply and advanced telecommunications foster innovation and productivity. Moreover, infrastructure connects regions, promotes social integration, and ensures that no community is left behind.

However, Africa is a continent rich in resources and potential but has long struggled with poor infrastructure that hampers its economic development and the well-being of its people (Calderon, Cantu and Chuhan-Pole, 2018). One of the primary reasons behind this persistent issue is the lack of adequate financing for infrastructure projects. The insufficiency of funds, coupled with other challenges such as governance issues and limited access to capital markets, has hindered Africa's ability to build and maintain the necessary physical structures and systems that are vital for sustained growth and prosperity. The poor state of infrastructure in Africa has far-reaching implications for various sectors of the economy. Inadequate transportation networks impede the movement of goods and hinder trade, affecting both domestic and international commerce (Mafusire et al., 2017). Deficient energy systems lead to frequent power outages, limiting industrial productivity and undermining the competitiveness of African businesses. Additionally, limited access to clean water, sanitation facilities, and reliable healthcare infrastructure contributes to public health challenges and impedes the delivery of essential services to communities.

This has also been a case with Zimbabwe where the financing gap has been a longstanding issue which has affected infrastructure development in the country. According to the African Development Bank report on Zimbabwe infrastructure, it estimates that Zimbabwe needs to invest about USD3.3 billion every year until 20230 in order to restore and improve its infrastructure in sectors such as energy, water, transport, ICT and social infrastructure (AfDB, 2019). This level of capital re-

quires an inclusive approach, where all possible sources of infrastructure financing are explored. Thus, PPPs is one of the viable solutions that Zimbabwe can rely on. Traditional sources of financing such as government budgets and international aid have often fallen short of meeting the enormous funding requirements for infrastructure projects in the country (Chigora et al., 2021). Insufficient domestic revenue generation, coupled with competing priorities for limited resources has also made it challenging for the government to allocate the necessary funds to address infrastructure needs effectively. Moreover, Zimbabwe's ability to secure external financing has been constrained by factors such as weak credit ratings, economic sanctions, and concerns over debt sustainability. These factors have limited access to international capital markets, making it difficult to attract the necessary investment for infrastructure development in the country. In some cases, high borrowing costs and stringent lending conditions have further exacerbated the financing challenges faced by Zimbabwe.

In the face of these challenges in infrastructure financing in Zimbabwe, the government has the option to enhance and strengthen the use of Public Private Partnerships (PPPs) as a strategic source of infrastructure financing in the country.

2. Objectives of the paper

The main aim of this paper is to explore the dynamics of PPPs in infrastructure financing and also seek to attain the following objectives.

- Focuses on the analysis of the potential of PPPs in addressing Zimbabwe's infrastructure financing challenges learning from success stories of PPPs implementation and,
- Provide policy recommendations for their effective implementation.

The paper is significant as it suggests possible ways in which PPPs can be implemented to ensure effective infrastructure development in Zimbabwe. The government of Zimbabwe can then capitalise on the strategies in the use of PPPs to ensure quality infrastructure that drives the overall economic development.

3. Overview of PPPs

Public-private partnerships are collaborative arrangements between the public and private sectors to jointly undertake and finance projects or services that traditionally fall under the responsibility of the public sector (Osborne, 2000).

PPPs involve a long-term contractual relationship between the government or a public authority and a private sector entity. PPPs are characterised by shared risk and responsibility, long-term contracts, value for money, performance-based contracts, transfer of assets, financing structure, and stakeholder engagement (Akintoye and Beck, 2009). PPPs take different models and structures that can be utilized based on the nature of the project and the desired level of private sector involvement. These models include the Build-Operate-Transfer (BOT), Build-Own-Operate (BOO), Build-Transfer-Operate (BTO), Concession, Management Contract, Lease contract and joint ventures (Yescombe and Farquharson, 2018). In a BOT model, the private sector partner is responsible for financing, designing, constructing, operating, and maintaining the infrastructure project for a specific period. At the end of the contract, ownership and operation of the asset are transferred back to the public sector. In a BOO model, the private sector partner finances, builds, and operates the infrastructure project for a defined period, retaining ownership of the asset throughout the contract duration. The private partner is responsible for operation and maintenance during the contract period. A BTO model involves the private sector partner financing and constructing the infrastructure project, after which ownership is transferred to the public sector. The private partner then operates and maintains the asset for a specified period.

Also, in a concession model, the private sector partner is granted the right to finance, operate, and maintain a specific infrastructure facility or service for a defined period. The private partner may also be responsible for making upfront investments and recovering costs through user fees or other revenue streams. Under a management contract, the private sector partner is responsible for managing and operating the infrastructure facility or service on behalf of the public sector. The private partner may not have ownership rights but is accountable for achieving performance targets and delivering services efficiently. In a lease contract, the public sector leases an existing infrastructure asset to a private sector entity, which assumes responsibility for its operation and maintenance during the lease period. The private partner pays lease payments to the public sector. Joint ventures involve a partnership between the public and private sectors, where both parties contribute resources, expertise, and capital to develop and operate an infrastructure project. The ownership and decision-making are shared between the public and private partners.

The ability of the government to attract private investors in PPPs for the financing of different projects rests upon the design of each model of the

PPP itself. The design of the model should in all cases portray that PPPs are a positive sum game.

3.1 History of PPPs in Zimbabwe

The use of PPPs in infrastructure financing in Zimbabwe has a relatively short but evolving history. PPPs emerged as a means to address the country's infrastructure deficit, attract private investment, and leverage expertise and resources from the private sector to improve infrastructure development and service delivery. In the early 2000s, Zimbabwe faced significant economic challenges, including hyperinflation, political instability, and a deteriorating infrastructure (Zinyama and Nhema, 2015). Recognizing the need for alternative financing mechanisms, the government began exploring PPPs as a way to bridge the infrastructure investment gap. The Infrastructure Development Bank of Zimbabwe (IDBZ) was established in 2005 to promote infrastructure development and facilitate PPP projects.

One of the notable early PPP initiatives in Zimbabwe was the National Railways of Zimbabwe (NRZ) concession project. In 2007, the government sought to partner with private investors to revitalize and modernize the railway system (Massimo, 2013). However, the project faced challenges, including delays and funding constraints, and did not progress as initially envisioned. In subsequent years, the government continued to explore PPP opportunities in various sectors, including energy, water, transport, and telecommunications. The IDBZ played a key role in promoting and facilitating PPP projects, providing technical assistance, project structuring, and financing support. In 2015, the Zimbabwean government enacted the Public-Private Partnership Act, which aimed to provide a legal framework for PPPs and streamline the approval and implementation processes. The Act established the Institutional Framework for PPPs, including the establishment of the PPP Unit within the Office of the President and Cabinet to oversee PPP projects.

Despite these efforts, the implementation of PPPs in Zimbabwe has faced challenges mainly economic uncertainties, limited access to financing, regulatory bottlenecks, and governance issues have hindered the progress of PPP projects. Additionally, the country's risk perception and credit rating have affected private sector participation and investment interest. However, recent years have seen renewed efforts to promote PPPs in Zimbabwe. The government has been actively engaging with international financial institutions and development partners to attract investment and improve the enabling environment for PPPs.

The identification of priority projects, such as road infrastructure, water supply, and energy projects, has been a focus for PPP implementation in the country. Therefore, there is need for the country to learn from international best practices in the implementation of PPPs.

3.2 Legal and regulatory framework for PPPs in Zimbabwe

A key necessity for the success of PPPs is the legal and regulatory framework within the country. However, Zimbabwe has a sound foundation of the laws governing PPPs. There is the Public Procurement and Disposal of Public Assets Act (Chapter 22:23) which governs public procurement processes, and it includes provisions for PPPs. It sets out the principles and procedures for procurement, including PPPs, and establishes the Procurement Regulatory Authority of Zimbabwe (PRAZ) as the regulatory body responsible for overseeing procurement processes. Also, the Infrastructure Development Act (Chapter 14:18) provides a framework for the planning, design, construction, operation, and maintenance of infrastructure projects in Zimbabwe. It includes provisions for PPPs and outlines the roles and responsibilities of the public and private sectors in infrastructure development. The National Development Strategy (NDS1 2021-2025) also sets out the government's development priorities and strategies for a specific period. It emphasizes the importance of PPPs in infrastructure development and identifies sectors where PPPs can be promoted, such as energy, transport, water and sanitation, and agriculture.

PPPs are well defined in the ZIDA Act of 2020 [Chapter 14: 37] which provides a number of provisions for PPPs in general. What remain in Zimbabwe is the effective implementation of the laws and policies available to be able to improve infrastructure in the country through PPPs. As long as the laws are clear and comprehensive, private investors become interested. The legal framework should also adhere with international best practices since most of the investors in developing countries comes from abroad. Thus, if the whole process of PPPs is not to a greater extent standardised, it may deter investment.

3.3 Implementation of PPPs across the world

Several countries have successfully implemented PPPs in infrastructure financing, demonstrating the effectiveness of this model in driving infrastructure development and service delivery. This has happened in both developed and developing countries, and the success stories in Africa countries gives Zimbabwe the potential to also implement PPPs successfully. Some of the coun-

tries that have implemented PPPs in infrastructure development include the United Kingdom, Australia, Colombia, South Africa, Morocco, Kenya, Rwanda, Senegal, to mention a few.

The UK has been a pioneer in PPP implementation, particularly in sectors such as transportation and healthcare. Notable projects include the London Underground public-private partnership, which involved private sector management and investment in the subway system, and the Private Finance Initiative (PFI) in healthcare, where private companies were contracted to design, build, and operate hospitals.

Australia has a long history of successful PPPs across various sectors. Notable projects include the Sydney Metro Northwest, a large-scale rail project, and the Peninsula Link, a major road infrastructure project in Victoria (Ramos, 2018). The country has established robust frameworks and processes for PPP procurement and has seen significant private sector participation in infrastructure development. Canada has embraced PPPs as a means to deliver infrastructure projects efficiently. Notable examples include the Confederation Bridge, which connects Prince Edward Island to mainland Canada, and the Eglinton Crosstown LRT in Toronto. The Canadian government has developed standardized PPP frameworks and has seen success in leveraging private sector expertise and funding for infrastructure projects.

Colombia has been recognized for its successful implementation of PPPs, particularly in the transportation sector. The country's 4G Highway Program involves the development of over 8,000 kilometers of roads through PPPs, attracting significant private sector investment. Colombia has implemented transparent procurement processes and has established a regulatory framework conducive to PPPs. Singapore has utilized PPPs to develop and maintain critical infrastructure. Notable projects include the Marina Coastal Expressway and the Downtown Line Mass Rapid Transit (MRT) extension. The country has a well-developed legal and regulatory framework for PPPs and has effectively attracted private sector participation in infrastructure projects.

Successful implementation of PPPs is not only in developed countries, but rather in African countries as well. South Africa has been at the forefront of PPP implementation in Africa. Notable projects include the Gautrain Rapid Rail Link, a high-speed rail network connecting Johannesburg, Pretoria, and the OR Tambo International Airport. South Africa has also utilized PPPs in the energy sector, such as the Renewable Energy Independent Power Producer Procurement

(REIPPP) program, which has attracted private investment in renewable energy projects.

Morocco has embraced PPPs as a means to develop its infrastructure. The country has successfully implemented PPPs in sectors such as energy, transportation, and water. Notable projects include the Noor Solar Power Station, one of the largest concentrated solar power plants in the world, and the Casablanca Tramway, a modern urban transit system. Kenya has made significant progress in implementing PPPs, particularly in the transportation sector. The Nairobi-Mombasa Standard Gauge Railway, a major railway project, was developed through a PPP model. Additionally, Kenya has utilized PPPs in the energy sector, such as the Lake Turkana Wind Power Project, which is one of the largest wind farms in Africa.

Rwanda has emerged as a leader in PPP implementation in East Africa. The country has successfully utilized PPPs in sectors including energy, transportation, and water. Notable projects include the Kigali Convention Centre and the Bugesera International Airport, both developed through PPPs with private sector involvement. Senegal has demonstrated its commitment to PPPs in infrastructure development. The Dakar-Diamniadio Toll Highway, a modern expressway connecting the capital city of Dakar to Diamniadio, was developed through a PPP model. Senegal has also utilized PPPs in the energy sector, such as the Taiba Ndiaye Wind Farm, which is set to become the largest wind farm in West Africa. Senegal drew lessons from the Kenyan Lake Turkana Wind Power Project which allowed the country to establish a big power project.

These examples highlight the successful implementation of PPPs in African countries. The emphasis that has been given to all these projects is the importance of a supportive legal and regulatory framework, transparent procurement processes, and effective risk allocation. African countries have recognized the potential of PPPs to attract private sector investment, drive infrastructure development, and contribute to sustainable economic growth. However, it is important to note that while these countries have had successful experiences, the overall landscape of PPP implementation in Africa varies, and challenges such as governance, capacity, and access to financing still exist in many regions.

3.3.1 Example of the Gautrain Rapid Rail Link (transport sector)

The Gautrain Rapid Rail Link is a modern, high-speed rail network located in Gauteng, a prov-

ince in South Africa that includes the cities of Johannesburg and Pretoria. It is one of the most significant infrastructure projects in South Africa and serves as an important transportation system connecting various key destinations in the Gauteng region. The Gautrain system consists of an electrified rail network with both underground and elevated sections. It offers a fast, reliable, and comfortable mode of transportation for commuters and travellers, reducing traffic congestion and travel times in the densely populated Gauteng area.

The project was implemented as a public-private partnership between the Gauteng Provincial Government and the Bombela Concession Company, a consortium of local and international investors and contractors (Thomas, 2013). The PPP involved the design, construction, finance, operation and maintenance of an 80 km long track, with 96 cars of rolling stock to transport passengers. According to the Gautrain Management Agency (2015), the projected costed around ZAR 24.5 billion (USD \$3.4 Billion – 2007 exchange rate) and had a contract duration of 19 years and 6 months.

The project has been considered a success for several reasons, such as:

- The project delivered on its goal of providing a rail-based commuter service in the Johannesburg-Pretoria corridor and providing relief to the road network, as well as providing a link between Sandton and O.R. Tambo International Airport.
- The project achieved socio-economic development (SED) outcomes, such as creating jobs, stimulating investment, attracting businesses, enhancing skills and empowering disadvantaged groups in the region.
- The project used advanced technology and features, such as driverless trains, platform screen doors, air-conditioning, CCTV cameras and continuous mobile phone coverage, to enhance the safety, comfort and convenience of the passengers.
- The project used prefabricated elements, such as precast concrete and steel for the station canopies and tunnel components, to reduce the construction time, cost and environmental impact of the project.
- The project used a collaborative and innovative design approach, which involved a consortium of local and international contractors, engineers and architects, to create distinctive and sustainable stations that reflect the context and identity of the region.

However, just like any other project, the Gautrain projects also faced some challenges and issues

which include:

- The project experienced some difficulties in land acquisition that led to delays during construction. Some landowners refused to sell their properties or demanded higher compensation than offered by the government.
- The project encountered some disputes between the public and private partners over various aspects of the contract, such as changes in scope, costs, quality and performance. Some of these disputes went to arbitration but were eventually settled by negotiation.
- The project had some problems with data and information management systems, which were not compatible or adequate for the needs of both parties. This caused some difficulties in monitoring and reporting on the progress and performance of the project.
- The project had some issues with environmental impact assessments (EIAs), which were not completed in time or did not cover all aspects of the project. This caused some delays in obtaining approvals and permits from the authorities.

The Gautrain Rapid Rail Link is a landmark project that has transformed the transport landscape of Gauteng and set a new standard for metro rail delivery in South Africa. It is a testament to the vision, collaboration and innovation of all the stakeholders involved in its planning, design and construction.

3.3.2 Lessons learnt from the Gautrain Rapid Rail Link project (transport sector)

The government of Zimbabwe can learn from the Gautrain project in its bid to improve its transport sector particularly the railway transport system. Firstly, the model adopted was Concession which the government can also consider whether it enters into a partnership with private investors who will contribute to the development of the selected railway and trains projects. The private partners as in the case of South Africa should be granted the right to finance, operate, and maintain the infrastructure for an agreed defined period and for South Africa it was 19 years. This model is recommendable because it allows the investor to make upfront investments and recovering costs through user fees or other revenue streams. The model can also be adopted in the expansion of roads across the country.

Secondly, the government of Zimbabwe in its bid to improve infrastructure has to consider local investors to be part of the team which should constitute of local and international contractors, engineers and architects. This will help in creating distinctive and sustainable infrastructure that

reflect the context and identity of the country. Moreso, a collaborative will facilitate skills transfer which will enable the country in the future to have local skilled contractors who can expand the projects across the country.

Also learning from the challenges that were faced during the construction of the project, the government of Zimbabwe can improve on these challenges. Land acquisition is one of the key steps to be acted upon diligently because some of the infrastructure such as roads and railways pass through some land that may belong to private owners. In the case of South Africa, there were delays which arose as a result of some landowners who could not accept the offer given by the government as it was lower than the market price. Thus, there is need for proper negotiations in the purchase of the land in using competitive market prices.

Successful projects also rest upon solid agreements on costs, quality and performance. The conditions set on the contract must be clear to avoid disputes which can lead to nagging and compromise on quality of the project. The government also need to ensure data availability which improves on information management systems. As in the case of South Africa, challenges with data availability also led to challenges in monitoring of the project. Hence, availability of data makes the management easy and the more transparency and accountability.

Development of infrastructure is also accompanied with environmental impact assessments which ensures in establishment of potential environmental, social, and economic impacts of the project, and provides recommendations for mitigation measures to minimize or offset negative effects.

Big projects require adequate planning, as in the case of the Gautrain project which was prepared 3 years before the project started. There is need to set up a Support Team that consists of special consultants, and engineers that assisting in the planning and during the feasibility phase. The deviation of the final project from the feasibility study should be very minimal.

3.3.3 The Noor Solar Power Station (Morocco)-energy sector

The Noor Solar Power Station, also known as the Ouarzazate Solar Power Complex, is a large-scale solar energy project located in Ouarzazate, Morocco. It is an excellent example of a project that has utilized Public-Private Partnerships (PPPs) for its implementation. The project was

developed through a PPP model, with the Moroccan government collaborating with private sector entities to design, finance, construct, and operate the solar power complex (Aqachma et al., 2019). The government initiated the project and sought private sector participation to leverage their expertise, technical know-how, and financial resources.

Private sector involvement in the project was in form of a consortium of private sector companies, including international energy firms and financial institutions who were involved in the development and operation of the Noor Solar Power Station (Aqachma et al., 2019). These companies brought their expertise in solar energy technologies, project management, and financial investments. The private sector entities played a crucial role in the design, engineering, and construction of the solar power complex. PPPs often involve a sharing of financial risks and responsibilities between the public and private sectors. In the case of the Noor Solar Power Station, the private sector consortium contributed significant financial investments to the project. Additionally, international financial institutions provided loans and financial support to ensure the successful implementation of the project.

In terms of operation and maintenance, PPPs typically involve long-term contracts that outline the roles and responsibilities of the public and private sector entities throughout the project's lifecycle. In the case of the Noor Solar Power Station, the private sector consortium operates and maintains the facility under a long-term agreement. The private sector brings operational expertise to ensure efficient and effective power generation and maintenance of the solar power complex. Through the use of PPPs, the Noor Solar Power Station project successfully combined the strengths of the public and private sectors. The Moroccan government provided the necessary regulatory framework, land allocation, and policy support, while private sector companies brought technical expertise, funding, and operational capabilities. This collaboration allowed for the development of a significant renewable energy project that contributes to Morocco's energy transition goals and helps reduce greenhouse gas emissions.

3.3.4 Lessons from Morocco

In the case of investments in the energy sector, the government of Zimbabwe can learn on its responsibilities in the success of PPP projects. The Moroccan government provided the necessary regulatory framework, land allocation, and policy support. Thus, it is the role of the government of Zimbabwe to design investment attractive

regulatory frameworks and policy support. The government also play a role in land allocation since huge investment in solar energy require huge land for solar panels installation.

The successful implementation of the Noor Solar Power Station provides several valuable lessons that can be applied to other renewable energy projects. The project exhibits strong government commitment. The Moroccan government demonstrated strong commitment to renewable energy and sustainable development by initiating and supporting the Noor Solar Power Station. Political will and clear policy frameworks are crucial for the success of large-scale renewable energy projects and the government of Zimbabwe can learn on that which can help improve the power crisis that we have in the country. Collaboration is key in success of PPP projects. The Noor Solar Power Station utilized a PPP model, leveraging the expertise and resources of private sector entities. The collaboration between the public and private sectors allowed for the sharing of risks, knowledge, and financing capabilities, leading to a successful outcome. Effective partnerships can help combine the strengths of both sectors and accelerate project implementation. Also, the Noor Solar Power Station was part of Morocco's long-term vision for renewable energy development. The project was strategically planned to align with the country's energy goals and reduce dependence on fossil fuels. Having a clear vision and long-term planning are crucial for the successful implementation of large-scale projects.

Conducting a thorough Environmental Impact Assessment is also critical to identify and mitigate potential environmental and social impacts. The Environmental Impact Assessment for the Noor Solar Power Station ensured that the project aligned with sustainability principles and minimized adverse effects on the environment and local communities. This also concurred with the case of the Gautrain project in South Africa which considered Environmental Impact Assessment as important to determine the impact of the project to the country at large. In addition, engaging and involving stakeholders throughout the project lifecycle is essential. The Noor Solar Power Station project incorporated public participation, allowing stakeholders to provide input, express concerns, and contribute to decision-making. Open and transparent communication builds trust, fosters support, and helps address potential challenges. The government of Zimbabwe can enhance stakeholder participation in ensuring that the projects are beneficial to the community, and the country at large.

Technological Innovation and Knowledge Shar-

ing is at the centre of successful projects particularly in this fourth industrial revolution. The Noor Solar Power Station implemented advanced solar technologies, including concentrated solar power (CSP) and thermal energy storage. Embracing technological innovation and facilitating knowledge sharing can drive progress in renewable energy projects, leading to improved efficiency and cost-effectiveness. PPPs projects in Zimbabwe should resemble innovation, and this can be applied in road construction which can help reduce congestion, in the energy sector to overcome power challenges.

3.3.5 Sehat Telemedicine Services in India (Health Sector)

One telemedicine initiative in India that operates under a Public-Private Partnership (PPP) model is the "Sehat" Telemedicine Services. Sehat is a project initiated by the Apollo Hospitals Group in collaboration with the Government of India. It aims to provide telemedicine services to patients in rural and underserved areas through a network of telemedicine centers (Naik, 2020). Under the Sehat initiative, the Apollo Hospitals Group partners with government agencies and local healthcare providers to establish telemedicine centers in remote locations. These centers are equipped with video conferencing facilities and medical devices necessary for remote consultations. The project involves collaboration between the private sector, represented by Apollo Hospitals, and the government, which supports the initiative through funding and policy frameworks.

Through the Sehat Telemedicine Services, patients in rural areas can connect with specialists from Apollo Hospitals via video calls. They can receive medical advice, consultation, and referrals without the need for extensive travel and at affordable costs. The partnership between Apollo Hospitals and the government helps leverage technology, medical expertise, and infrastructure to extend quality healthcare services to underserved communities. Sehat is an example of a successful PPP in the telemedicine sector, demonstrating how public and private sector collaboration can address healthcare disparities and improve access to medical care in remote areas of India. The model can also be adopted in Zimbabwe if the government is able to secure interested investors in funding health sector infrastructure.

3.3.6 Lessons from India health sector

PPPs have been instrumental in setting up telemedicine infrastructure across India, particularly in rural and underserved areas. Thus, the private sector entities can partner with the government

of Zimbabwe to establish telemedicine centers, which include facilities such as teleconsultation rooms, video conferencing equipment, and medical devices necessary for remote examinations. This also requires collaboration between technology providers and healthcare organizations. Private companies contribute their expertise in developing and deploying telemedicine platforms and software solutions. These technologies enable remote consultations, patient data management, and connectivity between healthcare providers and patients.

Telemedicine initiatives require trained healthcare professionals who can effectively use the technology and provide remote healthcare services. PPPs in India's telemedicine sector involve partnerships with training institutions, medical colleges, and private healthcare providers to deliver training programs to healthcare professionals which can be adopted if it is in the interest of the government of Zimbabwe to make such investments. These programs enhance their skills in teleconsultation, remote diagnostics, and patient management. The private sector partners can collaborate with government agencies in establishing networks of telemedicine centers and mobile health units. These facilities facilitate remote consultations, diagnosis, and treatment, allowing patients to access healthcare services without the need for extensive travel.

Monitoring and evaluation for the project was between private technology providers, healthcare organizations, and government agencies help in collection of data, analyse outcomes, and refine the telemedicine programs for better effectiveness. In terms of funding, the private sector companies contributed investment capital, while government agencies provided support through funding and policy frameworks. The sustainability of telemedicine initiatives is a crucial consideration, and PPPs help ensure the long-term viability of the projects. These PPP models have been successful in expanding access to healthcare services, especially in remote and underserved areas of India. They have leveraged private sector expertise, technology, and financial resources to bridge gaps in healthcare delivery and improve healthcare outcomes. The collaborations between the public and private sectors have played a crucial role in the successful implementation and scaling of telemedicine initiatives in India.

4. Summary of Key success factors for implementation of PPPs in infrastructure financing

What has been observed in successful PPP projects is that there are certain key factors that should be considered by every government as inter-

national best practices.

Clear and enabling legal and regulatory framework: A well-defined legal and regulatory framework that outlines the rights, responsibilities, and risk allocation of all parties involved is crucial. It should provide a stable and transparent environment for PPP implementation, ensuring fair competition, contract enforcement, and dispute resolution mechanisms.

Robust project preparation and feasibility studies: Thorough project preparation and feasibility studies are essential to assess the viability of the project, including financial, technical, social, and environmental aspects. Proper due diligence can help identify potential risks and develop mitigation strategies, ensuring the project's long-term sustainability.

Effective risk allocation: A key success factor is the appropriate allocation of risks between the public and private sectors. Risks related to construction, operation, demand, and financing should be allocated to the party best equipped to manage them. Clear risk-sharing mechanisms and contractual provisions can help create a balanced risk profile for all stakeholders.

Adequate financial viability: PPP projects must demonstrate financial viability to attract private sector investment. This requires robust financial modeling, realistic revenue projections, and an assessment of the project's ability to generate sufficient cash flows. The financial structure should be designed to align the project's revenue streams with the repayment obligations of the private partner.

Stakeholder engagement and transparency: Involving key stakeholders, such as local communities, affected parties, and civil society, is crucial for successful PPP implementation. Transparent and inclusive processes help build trust, address concerns, and ensure social and environmental sustainability. Communication and transparency throughout the project lifecycle are essential for maintaining public confidence.

Effective Governance and Oversight: Strong governance mechanisms, including monitoring and evaluation frameworks, are necessary to ensure compliance, accountability, and performance of all parties involved. Effective oversight mechanisms help prevent corruption, ensure adherence to contractual obligations, and address any issues that may arise during project implementation.

Long-term planning and commitment: PPP projects often have long gestation periods and re-

quire a long-term commitment from all stakeholders. Political stability, continuity of policies, and a shared vision for infrastructure development are critical. Adequate planning, including clear project objectives and realistic timelines, helps ensure project success.

These key success factors can contribute to the successful implementation of PPPs in infrastructure financing, promoting efficient project delivery, attracting private investment, and achieving the desired infrastructure outcomes. However, each project is unique, and it is important to carefully assess the specific context and tailor the approach accordingly.

6. Recommendations for Zimbabwe

This study makes the following recommendations based on experiences in other countries as well as the Zimbabwean experience in PPPs.

- There is need for prioritization on the allocation of resources where critical and productive infrastructure should be prioritized first. The study recommends the government to prioritize the rehabilitation of the Zimbabwe national railways in order to easy transportation of goods across the country while at the same time saving from heavy trucks.
- PPPs require action where with the available resources, the government need to engage partnerships for the development of infrastructure.
- Since PPPs are viable for infrastructure development, there is needs for increased efforts in investment promotion with focus given to domestic investors as well. ZIDA, Ministry of Finance, Economic Development and Investment Promotion have to enhance their efforts to attract private investors to engage in PPPs. ZIDA may further simplify the regulatory framework governing PPPs with greater clarity on provisions concerning the responsibilities and obligations for both partners in a PPP agreement.
- The government should also enhance the capacity of government agencies and relevant stakeholders to effectively manage PPP projects. This includes training programs, knowledge sharing platforms, and collaboration with international institutions and experienced partners to transfer expertise and best practices.
- There is need to ensure data availability on the costs of the projects, the incomes generat-

ed to allow the assessment of financial viability and affordability.

- Ensure transparency and fairness in the procurement process for PPP projects. Adopt internationally recognized best practices, such as real competitive bidding, to attract qualified private sector participants. Publishing of clear guidelines and criteria for project selection and award which is monitored by an independent oversight body.
- The inclusion of local content in PPP projects makes infrastructure financing better. PPPs projects should involve local suppliers, con-

tractors, and labour, thereby creating employment opportunities and facilitating skills transfer. Local content policies also attract local private partners to engage in PPPs.

- There is need for the establishment of a mechanism for continuous evaluation and learning from PPP experiences. This includes regularly review and update policies, regulations, and institutional frameworks based on lessons learned from previous projects to improve future project outcomes. This instils confidence to prospective investors who then engage in PPPs for the development of infrastructure in different sectors of the economy.

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