



KERALA INFRASTRUCTURE INVESTMENT FUND BOARD

Newsletter

Vol 5

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Public Private Partnership





Approved Projects - Statistics

Department	KIIFB Approved Projects	
	No. of Projects Approved	Approved Amount (₹. in Crore)
PWD	419	22,820.06
Agriculture	1	21.43
Ayush	2	183.05
Backward Classes Development Department	1	17.73
Coastal Shipping & Inland Navigation	7	1,835.67
Culture	17	462.24
Devaswom	2	129.91
Fisheries and Ports	26	516.05
Forest	4	458.82
General Education	142	2,872.13
Health & Family Welfare	65	4,876.75
Higher Education	52	1,116.01
Home	6	220.14
Industries	1	62.16
Information Technology	3	1,412.86
Labour & Skills	5	84.92
Local Self Government	21	606.81
Power	18	5,200.00
Registration	6	88.65
Revenue	2	32.62
SC/ST Development	10	182.23
Sports & YA	38	778.24
Tourism	11	336.67
Transport	3	600.98
Water Resources	93	5,876.14
Total	955	50,792.26

Projects under Land Acquisition Pool of ₹ 20,000 Crore

PWD-NHAI	1	6,769.01
Industrial Parks - 3 projects - ₹13988.63 Cr	6	16,077.23
Taking over of land from HNL - ₹ 200.60 Cr		
Kochi - Bangalore Industrial Corridor & Gift City - ₹1888.00 Cr		
Total	7	22,846.24

KIIFB Approved Projects Grand Total

Infrastructure Projects	955	50,792.26
Projects under Land Acquisition Pool	7	20,000.00
Total	962	70,792.26

From the CEO's Desk

We as a nation are celebrating our 76th Independence Day on 15th August 2022. This is also the culmination of one-year long celebrations of the 75 years of India's Independence.

Good infrastructure – which is synonymous with easy access whether physical (roads, water, air) as well as digital (access to internet and cloud) infrastructure -- is vital to the continued progress of this nation. Without this, all talk about protecting our previously won independence and safeguarding it will be meaningless. Connecting people, empowering them to voice their opinions, providing them seamless opportunities to serve the Nation, and empowering the Nation to provide services to its citizens and all who visit this great land of ours is integral to preserving the integrity and vitality of our country. This issue of the newsletter features a very promising model of infrastructure development - Public Private Partnership (PPP). This model is relevant to the State's plans in infrastructure development given the fiscal stress in the post-pandemic scenario and resultant difficulties in finding funds for investing in infrastructure development.

In general, PPP is a long-term arrangement between a government and private sector institutions. It translates into a model where private investors finance public or government projects and services, and then realise revenues from taxpayers and/or users over the agreed upon term of the PPP contract. The term of the contract, the extent of revenue collection permissible will all be detailed in the contract. There are several successful PPP arrangements in all sub-sectors

of infrastructure development across the globe, like building, equipping, operating, maintaining educational institutions, healthcare institutions, transport systems, water and sewerage systems, to name a few.

An efficient PPP arrangement ensures optimum distribution of tasks, obligations, and risks among all the partners. The word optimum here means strategic allocation of the above components of PPP to the partners who are best equipped to manage them. Overall, this brings down the cost of the arrangement substantially, and enhances efficiency of use of both material and human resources. In depth analysis is highly essential for picking projects for PPP arrangement. Government agencies must justify why a project must go through the PPP route and not the conventional public investment/service model. For this, the financial strength of a government to invest funds, pros and cons of public investment, management competency gaps, availability of other critical resources with governments, degree of operational or managerial experience that Government or its agencies have, and related challenges etc. should be analysed carefully. Once a project is picked up for PPP mode of implementation, then the next critical steps should be to ensure the enabling policy, legal, regulatory, and general societal environments.

Next comes the onboarding of the most competent private partners. Governments have a variety of choices in the manner of implementation. Service contracts, management contracts, lease contracts, build-operate-transfer (BOT) and its variants, concessions, joint ventures are among the instruments



available while entering into agreements with the private partners. Selecting the most suitable type of agreement for the project in question is critical for its operational success. Evidently, the decision to take up a project on PPP mode must be preceded by careful analysis, due diligence and detailed examination of the legal, financial, and managerial arrangements that will be best for the success of the project.

Given the possibilities of using the PPP mode for financing and implementing in the infrastructure sector, many international and national funding agencies are very keen in promoting PPP models. KIIFB is also exploring the possibilities of financing viable PPP models in the state. The KIIF Act 1999 as amended in 2016,

gives KIIFB the mandate to conceptualise, design and finance KIIFB projects.

The articles in this issue approach this topic from various angles and discuss various models in detail. I hope these articles will help provide you with a better understanding of the prospects and potential of PPP in infrastructure.

KIIFB wishes all our readers a very happy Independence Day.

More in the next edition. Happy reading....

Chief Executive Officer, KIIFB

Neleswaram



Chief Editor's Page

Provision of public services and infrastructure has traditionally come under the domain of the Government. However, with increasing population pressures, urbanisation, and other developmental trends, the Government's ability to adequately address the public needs through traditional means has been severally constrained. This is primarily the reason that led the Governments across the world to increasingly look at the private sector to supplement public investments and provide public services through Public Private Partnerships (PPP).

The Government of India laid emphasis on Public Private Partnerships as an important tool in accelerating infrastructure development to achieve inclusive growth since the Tenth five-year Plan. It stays committed to the substantive role for PPPs as a means for harnessing private sector investment and operational efficiencies in the provision of public assets and services. Considering the inherent potential of the State, the line departments in Kerala can play a critical role in attracting appreciable investments under PPP.

KIIFB, like the Government of Kerala recognises that high levels of economic and industrial growth can be achieved only if infrastructure is developed at a commensurate pace. The infrastructure investment requirements in the State are enormous that it cannot be met from the public sector alone. The private sector can play a substantial role in infrastructure development, and that given the right policies and frameworks, adequate private investment can become available. Therefore, in Kerala, Public Private Partnerships are seen as an option to expedite the execution and operation of infrastructure development projects to achieve sustainable and inclusive growth.

PPPs offer a number of advantages in terms of enhancing the ability to take a larger shelf of infrastructure investments with specialized expertise, use of new

and innovative technology, financial innovation, and development of cost-effective solutions. It also brings in efficiencies in operation and maintenance, reducing time and cost over runs, supplements scarce resources and creates employment opportunities, especially in the infrastructure sector. The Government of Kerala intends to move in this direction and utilise the potential for attracting private investment for ensuring rapid expansion in infrastructure in the State and KIIFB is fully committed to this endeavour.

This edition of the KIIFB newsletter primarily follows the theme of PPP. The article titled "Sustainable Infrastructure Development in Public-Private Partnership" talks about how PPP is an efficient tool not just for financing big infrastructure projects but also for ensuring a sustainable framework for the project. The article on "PPP Project structuring – Best practices" presents a case study of the Vizhinjam International Seaport Project and the need for Private investments in Public Projects. There are also articles that focus on the critical areas and challenges that arise in PPP Projects. Apart from this, insight is also given on the significance of the proposed Coastal Highway in reinventing Kerala's beaches. The article submitted by AIW provides detail on the completed Projects under SC/ST Development Department. The TIW Insight in this edition highlights the Importance of Electro-Mechanical Services Coordination in Building Sector and the challenges in planning, design, and execution stages. The Project Focus this month is on the Construction of Cultural Complexes in Kollam, Palakkad, and Kasaragod.

From next edition on, there will be no specific themes. The upcoming editions will highlight matters keeping infrastructure as core. Stay tuned!

Happy reading!

Regards
Chief Editor



PPP Projects, an Overview

By Sajimon Lukose, Senior Project Advisor, TRC -KIIFB

Introduction

Governments worldwide are preferring PPP project implementation for efficiency in project delivery and operations. Public/Government sector funds for infrastructure projects are generally limited due to exceeding demands for projects. The participation of private investors in the infrastructure projects has revitalized the sector. The areas which were fund starved in the past has become implementable due to the participation of private investors.

KIIFB as a funding agency has got significant interest in implementing projects on PPP basis. As PPP mode of implementation has evolved over a period, KIIFB is anticipating a major portion of its projects to be implemented on PPP basis. For KIIFB, this can make more funds for investment in projects which are not viable in PPP mode and at the same essential for the public.



PPP Project Categories

The following project categories which KIIFB is currently funding or planning for funding in the future could be implemented on PPP basis.

- Transportation
- Water
- Power
- Telecom

The implementation of PPP projects could be on the following modes.

- Build Operate and Transfer (BOT)
- Design Build Finance Operate and Transfer (DBFOT)
- Build Operate Lease and Transfer (BOLT)

Projects that generate no direct revenue could be implemented on annuity mode or hybrid annuity mode based on the viability gap of the projects.

PPP Processes

The project development process needs to be followed



Capacity Building for Public and Private entities

The project implementation through PPP is relatively a new approach. As more and more projects are being implemented in this mode, the need for capacity building in public sector is essential to successfully develop projects that fit the PPP mode of implementation. Even private sector that is involved in project development will require capacity augmentation and skill enhancement to handle the increasing number of PPP projects being planned in the country.

If the public entity has not got enough resources for the project development, it is essential that a transaction advisor be appointed to advise the public entity on the process for the project development. In addition to the transaction advisor, consultants for conducting techno-economic feasibility studies, environmental and social impact assessment studies etc. are to be appointed, unless the transaction advisor has the resources to cover these studies.

Pros and Cons of PPP mode of implementation

By engaging the private entity as direct stake holder on infrastructure projects through

correctly in PPP projects as well. Depending on the type of PPP model selected for implementation, some of the stages of the project development could be shortened. As an example, for DBFOT projects, the design development will be done by the DBFOT investor, and this can shorten the time for project development.

The various project development stages are listed below

- Project Identification
- Technical feasibility
- Financial feasibility
- Project structuring
- Pre-procurement activities
- Bidding
- Financial Closure
- Project construction
- Operation and Maintenance
- Handover

Private Investment categories

Private sector invests in PPP projects mainly in three categories

- Investment as equity
- Investment as debt
- Investment as resources

An equity investor takes more risks than a debt investor, as the return for the equity investor will materialize only when the project turns profitable. Whereas the debt investor will get returns based on the operational efficiency of the completed project, but not necessarily on the profitability of the project. Investments as resources are normally done for the operation part of an existing infrastructure, which requires minimum or no further investments. The increased operational efficiency achieved would be the basis of the return for the investor.



PPP, a significant risk transfer takes place from public entity to the private entity. This in turn brings out the best efficiency in private sector due attractive returns commensurate with increased risk. The success of the PPP projects depends mainly on how accurately various stages of the PPP project developments are implemented. An incorrect and less accurate project development process could result in increased project implementation cost, extended project implementation timeline, regulatory approval issues, less revenue post implementation etc. Therefore, it is very essential for the correct identification of projects for PPP implementation and diligent implementation of various stages for project development.

Way forward

In a scenario where the public agency or the Government Department has been proposed through PPP, the Board shall examine the project with reference to the following factors:

The cost effectiveness

- The possibility of specifying project performance parameters
- The risk sharing possibilities with the participants
- The technological and managerial advantages due to participation



- The socio-economic factors which may affect
- Compliance with regulatory norms

The Board, shall cause a feasibility study of the proposed project and after satisfying itself as to its feasibility, may recommend the same to the Government, indicating specifically as to whether it may be implemented through public sector mode or through PPP.

PPP Workflow Overview

- Identification of PPP Opportunities
- Detailed Project Appraisal
- Bidding & Financial Closure
- Project Preparation & Structuring
- Implementation – Monitoring
- Operations - Monitoring

Significance of the proposed Coastal Highway in reinventing Kerala's Beaches

Shri. Sreeraj P, Assistant Project Manager

Shri. Rahul VT, Assistant Project Manager
Project Appraisal Division

Kerala is a state with unique geographical features as varied as a long shoreline, fertile plainland, and high mountain ranges. The wide variety of its terrain, the tropical monsoon climate, and the richness of its culture have created a blend instrumental in providing the state a top position among the tourist destinations of the Indian landscape.

Kerala's coast, 590 km long, lying North-Northwest to South-Southeast, is a critical element in the tourism landscape of the state. The nine coastal districts of Kerala with nearly 200 village panchayats, 11 municipalities, and four corporations have about 30% of Kerala's population engaged in economic activities such as agriculture, aquaculture, fishing, fish processing industry,



Muzhippilangadi Beach, Kannur

chemical industry, mining, and tourism. Beaches and backwaters are the major attraction for tourists in this area.

The coastal region of Kerala

which is densely populated needs good connectivity for its sustenance and contribution to the economy of the state and nation, at large. This awareness has culminated in a mega



project aiming at creation of an unbroken stretch of Highway along the coastline. The Coastal Highway, planned, has an approximate length of 629 km with a National Highway overlap of 45 km.

The proposed highway is expected to boost the social and economic development of the Coastal regions and would pave way for ribbon development, creating new opportunities for the local populace.

Beaches & Coasts in Tourism

Worldwide, beaches have been a great attraction for tourists. Nature's bounty as sun, sand, and surf coupled with amenities for relaxation, accommodation, and entertainment; water sports facilities and great accessibility to major airports and cities have been contributors in this regard.

India is blessed on this count with a coastline of almost 6,000 km, which nestles some of the finest beaches in the world.

Of this, Kerala has a Coastal frontage of 590 kilometres across nine of its districts, with popular leisure destinations as Kovalam and Varkala and Heritage sites as Fort Kochi and Bekal.

Kerala's Coastal highway would begin at Poovar in Thiruvananthapuram district and end at Kunjathoor in Kasaragod district, passing through 9 districts.



Kovalam Beach, Thiruvananthapuram



Proposed Coastal Highway

Linking beach tourism with the coastal highway

Construction of the Coastal highway is a golden opportunity to reinvent beach tourism in the state which, of late, reflects a state of fatigue due to lack of proper amenities, overcrowd-

ing, littering, haphazard development, and lack of proper visitor management practices. The Coastal Highway project could open up new avenues for exploration of lesser-known destinations, thus relieving the burden of currently acclaimed beach locales.



Proposed Coastal Highway Alignment

Unique Tourism-promotion components of the Coastal Highway project

As part of promoting destination-tourism and cycle tourism, the Coastal highway project has incorporated two metre-wide cycle tracks throughout its extent, which will be one of the longest of its kind in the country. This is envisaged to attract a new class of

travelers to the state.

The highway is planned with electric charging stations at every twelve-kilometer interval. Both the cycle track and EV charging points would hopefully promote the idea of low carbon transportation and would steer a change in the Tourism sector.

Provision of amenity centres at regular intervals along the Coastal Highway would

cater to travellers' needs and simultaneously generate employment for the local populace thus creating a beneficial cycle providing momentum to Tourism promotion.

Repositioning of lesser-known beaches

The coastal highway is expected to open new access to the less explored beach destinations, thus decongesting existing locales.

Classifying Kerala's beaches based on attraction quotient would also serve Tourism promotion well. For instance, beaches of leisure (Kovalam, Marari, Cherai, Snehatheeram etc.); heritage beaches (Anchuthengu, Thangasseri, Fort Kochi, Ponnani, Bepore, Kappad, Bekal etc.) and eco beaches (Kadalundi, Sand Banks, Azhithala etc.).

Development of new unexplored beaches

Development of new beach locations adhering to all sustainability elements and strictly adhering to Coastal Regulatory Zone (CRZ) guidelines would result in planned tourist destinations.

Integrated development of beach facilities can be planned at sites which are in close vicinity of the Coastal Highway alignment. The facilities would have to be planned according to a universal



Blue Flag



Kappad Beach, Kozhikode

design so that it could be fully experienced by senior citizens and people with disabilities.

Sustainability awards and certification

New beaches being developed can be planned by incorporating mandatory criteria for global sustainability ecolabels and certification standards including 'Blue Flag' and 'Quality Coast'.

Blue Flag is a certification by the Foundation for Environmental Education (FEE) ensuring that a beach, marina, or sustainable boating tourism operator meets prescribed standards. The Blue Flag is a trademark owned by FEE which is a not for profit non-governmental organization consisting of 65 organizations in 60 member countries.

FEE's Blue Flag criteria include standards for quality, safety, environmental education, and information, provision of services and general environmental management criteria. The Blue Flag is sought for beaches, marinas, and sustainable boating-tourism operators, as an indication of their high environmental and quality standards. Presently, only Kappad in Kozhikode in Northern Kerala has been awarded 'Blue Flag'. Two more beaches in Central and Southern Kerala are in the offing,

likely to be awarded with this coveted ecolabel.

'Quality Coast' (based in The Netherlands) follows more holistic and stringent criteria and is aligned to the Global Sustainable Tourism Council (GSTC) criteria which assess economic, socio-cultural and environmental indicators. Kerala, having adopted responsible tourism principles need certified beaches that can be developed as model destinations.

Benefits from tourism projects

Such manifold development would lead to inclusive development across the entire Coastal stretch of Kerala. A timely completion of the Coastal Highway project and regulated development of Coastal Tourist destinations would create a new North-South tourism circuit for the state.

Completed Projects under SC/ST Development Department

KIFB has funded 23 projects of the Scheduled Castes/Scheduled Tribes Development Department during the period from 2018 to 2022. Kerala State Construction Corporation Ltd (KSCCL) was the Special Purpose Vehicle (SPV) for the implementation of the 22 projects viz. Pre-Matric and Post Matric Hostels, Industrial Training Institutes, Model Residential Schools and Training Centers, etc. Out of the 22 projects assigned to KSCCL, 15 projects were completed and the rest are working in progress. The Administrative Inspection Wing (AIW) of KIFB in its field inspections has noted that out of the 15 numbers of com-

pleted projects, 5 projects only are opened to students and in the case of the remaining 10 projects, the facility is not opened due to various reasons.

Government ITI Attipra, Thiruvananthapuram, Government ITI Vettikkavala, Kollam, New Academic Block at VTC Nadukani, Idukki, Pre-matric Hostel for boys at Kuttikol, Kasaragod, Post Metric Hostel for Girls Bedadka, Kasaragod are the projects that put to service. The following projects are not yet functional: Pre-matric Hostel for Girls at Achankovil, Kollam, Post-matric Hostel for boys at Kodalippara, Idukki, Post-matric Hostel for girls at Kozhinjampara, Palak-

kad, Post-matric Hostel for boys at Aluva, Ernakulam, Post-matric hostel for boys at Thana, Kannur, Model Residential School at Perigome, Thaliparamba, Model Residential School at Aralam, Kannur, PETC at Azhikode, Kannur, New hostel building for boys at Nadukani, Idukki, New hostel building for Plus Two students at Vellachal, Kasaragod are not functional due to various reasons. Hence, the matter was brought to the attention of the Scheduled Caste Development Department for high-level intervention to utilize the facilities created for the welfare of the deserving community.

കേരള
വികസനത്തിന്റെ
ചാലകശക്തി



ഉറപ്പാക്കുന്നു

ധനലഭ്യത
ഗുണനിലവാരം
സമയക്രമം

Sustainable Infrastructure Development

in Public-Private Partnership (PPP) Projects

Dr. Subhash M, Sustainability Lead

Ms. Peggy Nepram, Sustainability Expert

Understanding Public Private Partnerships

PPP can be understood as a partnership between the public and private sectors to deliver a public service with the full or partial transfer of risks to the private sector. These may include Public Private Partnerships (Build Own Operate, Build Operate Transfer, Concessions), Privatization and Management, and lease contracts. This also helps allocate risk across the public and private sectors to where it can best be managed and ensure that resources are distributed in addressing the most urgent development needs. Concerning sustainable infrastructure, Public Private Partnership Project means a project based on a contract or concession agreement, between a government or statutory entity on the one side and a private sector company on the

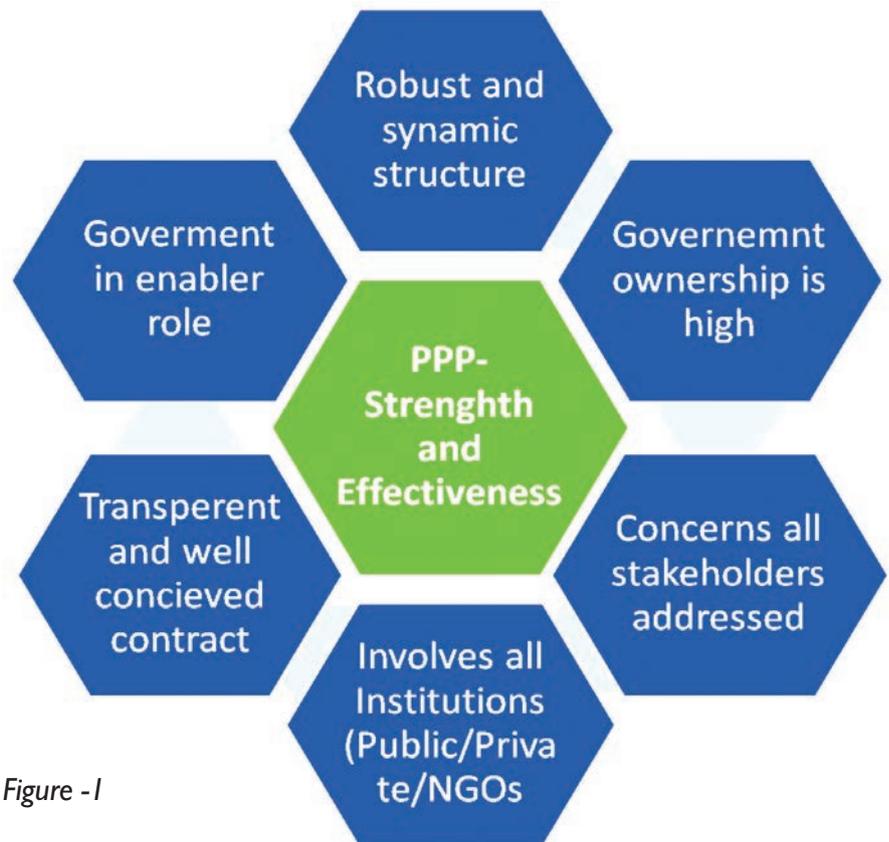


Figure - I

other side, for delivering a sustainable infrastructure service. The government remains actively involved throughout the life cycle

of the project. Under the PPP format, the government role gets redefined as one of facilitator and enabler, while the private partner



Figure -2

plays the role of financier, builder, or even operator of the service or facility depending on the agreed contract.

Key contemplations in PPP

PPPs often involve complex planning and sustained facilitation. Infrastructure projects such as roads and bridges, water supply, health, agriculture, sewerage, and drainage involve large investments, have a long gestation period, poor cost recovery, and entail construction, social, and environmental risks. When infrastructure is developed as PPP, the process is often character-

ized by detailed risk and cost appraisal, complex and long bidding procedures, difficult stakeholder management, and long-drawn negotiations to financial closure. This means that PPPs are critically dependent on sustained and explicit support from the sponsoring government.

The rationale for PPPs in Government Sector

Governments are challenged by the demands of increasing sprawl development, the rehabilitation of aging infrastructure, and providing services to those lacking or underserved. Therefore, Government looks to PPPs to:

Relevance of PPPs in India

Decent quality infrastructure has been the main enabler of higher economic growth in developed and developing countries like the USA, Russia, Malaysia, and China. India’s global competitiveness remains constrained and is adversely affected by a lack of infrastructure, which is critical for improved productivity across all sectors of the economy. Poor infrastructure is also a major barrier to Foreign Direct Investment (FDI). Recent surveys have shown that India’s poor infrastructure (road network, ports, distribution networks, and in particular power supply) is a cause for concern and a major barrier to investment. Upgradation of transport (roads, railways, airports, and ports), power, and urban infrastructure is therefore seen as critical for sustaining India’s economic growth, along with the improved quality of life, increase in employment opportunities, and progress towards the elimination of poverty. PPPs allow access to the substantial financial resources of the private sector. PPPs enable the public sector to benefit from private sector technical expertise, experience, and efficiency. PPPs enable the public sector to transfer project-related risks to the private sector. PPP of-



fers monetary and non-monetary advantages for the public sector. It addresses the limited funding resources for local infrastructure or development projects of the public sector thereby allowing the allocation of public funds for other local priorities. In this circumstance, India is striving to mobilize financial resources from international financial entities such as the World Bank, International Finance Corporation (IFC), Kreditanstalt für Wiederaufbau (KfW), Asian Infrastructure Investment Bank (AIIB), European Investment Bank (EIB), etc.

Significance of Sustainability Framework in PPP Projects

While devising the projects under infrastructure projects, such as roads, buildings, water supply, and other linear projects contributes to a large extent to climate change, infrastructure and its services may also become increasingly affected by climate change-related extreme weather events as well as by gradual, longer-term incremental changes. It is therefore essential to incentivize investment in low-carbon PPPs and to ensure that changing climate conditions, disaster risk and potential climate change mitigation and adaptation

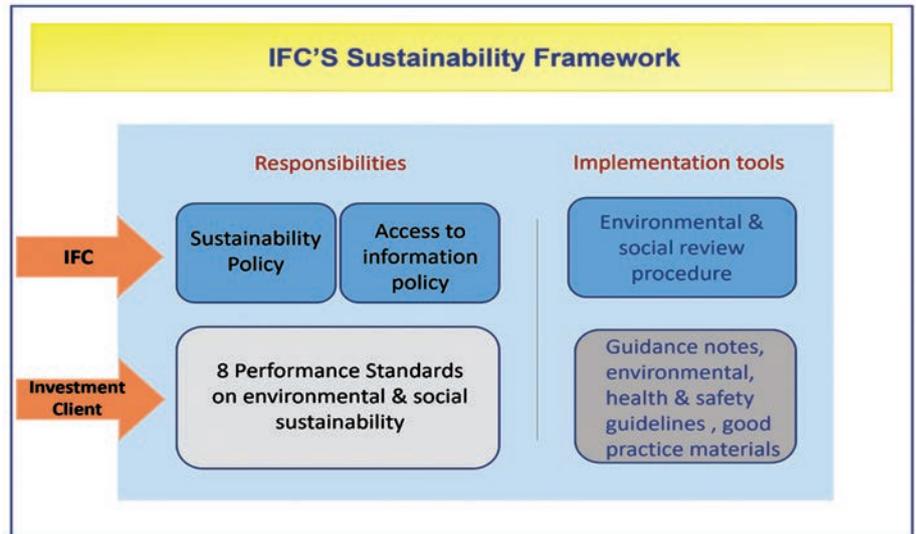


Figure -3

measures are identified and considered during the development, design, and implementation of each PPP project. At this juncture, the sustainability framework plays a pivotal role in enhancing due diligence with resilient infrastructure models.

International Best Practices for Sustainability Framework

International best practices and globally accepted methods for sustainable infrastructure are eminent for minimizing the risks and impacts during the development of PPP projects. The sustainability framework helps the clients (both private and public) devise activities sustainably. It promotes sound environmental

and social practices, encourages transparency and accountability, and contributes to positive development impacts.

IFC—a sister organization of the World Bank and member of the World Bank Group—is the largest global development institution focused exclusively on the private sector in developing countries. IFC is a lead advisor globally, for devising the PPP projects through an advisory on technical, legal, and regulatory requirements; building capacity; addressing social and sustainability issues; and formulating the strategies. IFC's Performance Standards, which are part of the Sustainability Framework, have become globally recognized as a benchmark for environmental and social risk management in PPPs

The Sustainability Framework comprises IFC's Policy and Performance Standards on Environmental and Social Sustainability, and IFC's Access to Information Policy. The Policy on Environmental and Social Sustainability describes IFC's commitments, roles, and responsibilities related to environmental and social sustainability. The Performance Standards are directed towards clients, guiding how to identify risks and impacts, and are designed to help avoid, mitigate, and manage risks and impacts as a way of doing business sustainably, including stakeholder engagement and disclosure obligations of the client in relation to project-level activities.

Performance Standards for Managing Projects Risks and Impacts

In the case of its direct investments (including project and corporate finance provided through financial intermediaries), IFC requires its clients to apply the Performance Standards to manage environmental and social risks and impacts so that development opportunities are enhanced. This is an international benchmark for identifying and managing environmental and social risk and has been adopted by many organiza-

tions as a key component of their environmental and social risk management.

Together, the eight Performance Standards establish standards that the client is to meet throughout the life of investment by IFC:

- Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts
- Performance Standard 2: Labour and Working Conditions
- Performance Standard 3: Resource Efficiency and Pollution Prevention
- Performance Standard 4: Community Health, Safety, and Security
- Performance Standard 5: Land Acquisition and Involuntary Resettlement
- Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources
- Performance Standard 7: Indigenous Peoples
- Performance Standard 8: Cultural Heritage

Apart from this, the World Bank Group Environmental, Health, and Safety Guidelines (EHS Guidelines) are technical reference documents with general and industry-specific examples of

good international industry practice. IFC uses the EHS Guidelines as a technical source of information during project appraisal. The EHS Guidelines contain the performance levels and measures that are normally acceptable to IFC, and that is generally considered to be achievable in new facilities at reasonable costs by existing technology. For IFC-financed projects, application of the EHS Guidelines to existing facilities may involve the establishment of site-specific targets with an appropriate timetable for achieving them. The environmental assessment process may recommend alternative (higher or lower) levels or measures, which, if acceptable to IFC, become project- or site-specific requirements.

Environment and Social Management Plan (ESMP)

An effective Environmental and Social Management System (ESMS) is a dynamic and continuous process initiated and supported by management and involves engagement between the client, its workers, local communities directly affected by the project (the Affected Communities), and, where appropriate, other stakeholders. ESG is in the process of preparing the Environment and Social

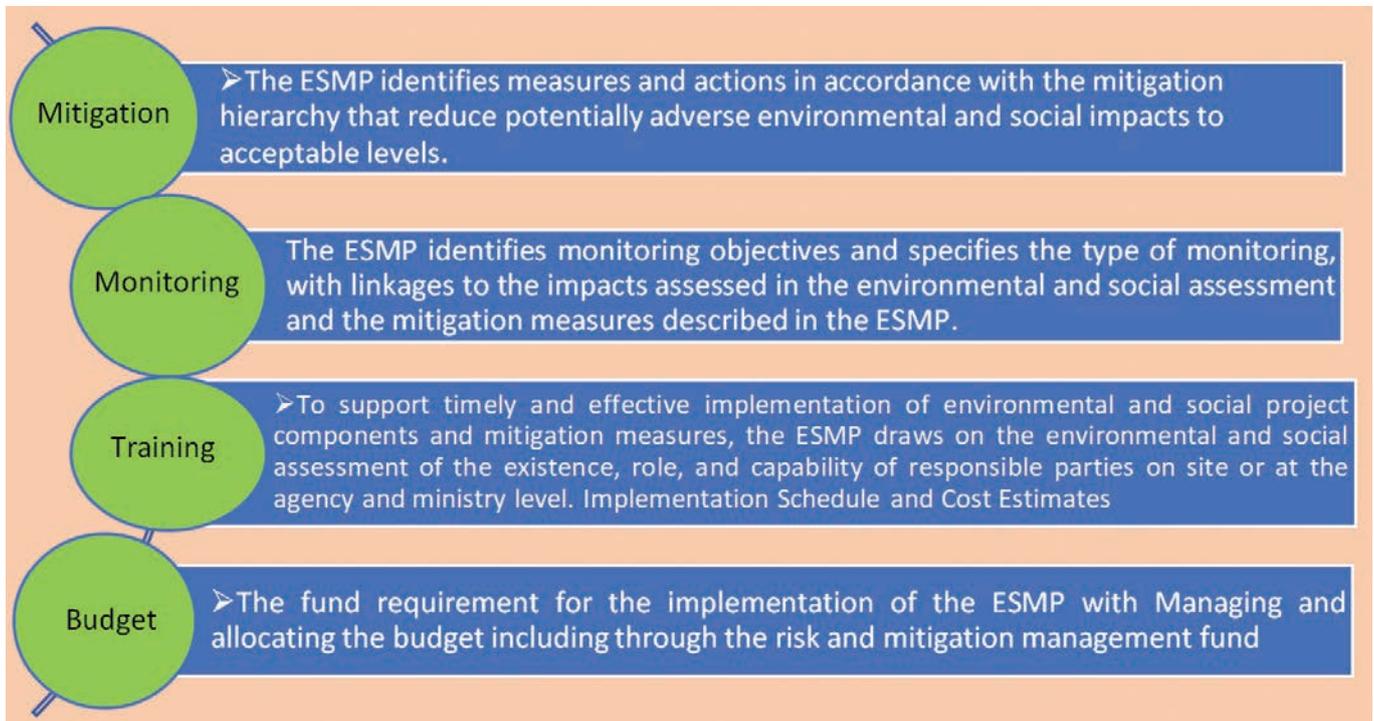


Figure -4

Management Plan (ESMP) for the above-mentioned four water supply projects as a part of IFC's effective Environmental and Social Management System (ESMS).

ESMP consists of the set of mitigation, monitoring, and institutional measures to be taken during the implementation and operation of a project to eliminate adverse environmental and social risks and impacts, offset them, or reduce them to acceptable levels. The ESMP also includes the measures and actions needed to implement these measures. The ESMP has extensively examined the International Financial Cooperation (IFC)'s Performance Standards on

Environmental and Social Sustainability (PS). These policies reflect the broad consensus to achieve environmental and social benefits and manage risks in all the activities that are undertaken.

The content of the ESMP includes the following:

Way Forward

Public Private Partnership is an efficient tool not just for financing big infrastructure projects but for ensuring a sustainable framework for the project as well. It offers new opportunities to develop public infrastructure, but also brings in substantial fiscal as well as management of Environmental

Social Governance (ESG) risks. By involving management and innovation from the private sector, PPPs offer the promise of greater efficiency, better quality, and lower-cost services than traditional public procurement. However, PPPs also involve new and significant risks and can be used to bypass spending controls and move public investment off budget and debt off the government balance sheet. KIIIFB strives to implement a sustainability framework in projects by adopting a sustainability infrastructure framework as a best practice followed by international financial entities for mitigating the risks and adverse impacts.

PPP Project Structuring – Best practices

A Case Study of Vizhinjam International Seaport Project

Ajit S, General Manager (ESG), KIIFB*

The need for Private investments in Public Projects

Continued shortfall in infrastructure could pose a significant constraint in realization of the development potential of the Indian economy. Since the required investment in infrastructure cannot be met through public sector resources alone, a significant inflow of private investment in public infrastructure projects is considered necessary in the form of Public-Private Partnerships (PPPs). The shift from public sector projects to PPPs requires not only significant change in governance but also the mindset of the public at large. It involves a shift from project construction, operation, and maintenance by the public sector to a 'hands off



Vizhinjam International Seaport Ltd. (2011-2018)

approach where the focus shifts to quality-of-service delivery at competitive costs. Instead of taking day-to-day decisions relating to implementation and operation, the PPP approach relies on

a comprehensive contract for the delivery of pre-determined outcomes. In effect, the quality of a PPP project is largely dependent on the PPP contract/concession that must be preceded by a fair,



transparent, and competitive selection of the project sponsor.

1. PPP Project Structuring:

The process of structuring PPP projects is complex, and the requisite expertise is not normally available within the government. Nor do project authorities have the time and staff resources that go into fine-tuning the documentation of PPPs. It is, therefore, necessary to rely on consultants for securing financial, legal, and technical advice in formulating project proposals and documents necessary for the award and implementation of PPP projects in an efficient, transparent, and fair manner.

A poorly structured PPP contract can compromise user interests by recovery of higher charges and provision of low-quality services. It can also compromise the public exchequer in the form of costlier or uncompetitive bids as well as subsequent claims for additional payments or compensation. Being long-term contracts, their adverse impact on users and the public exchequer would normally be far greater than in a typical construction contract. Moreover, the losses of a concessionaire often include foregone revenues over the concession

period, which implies very large claims against the public exchequer. For these reasons, it is critical to ensure that PPP projects are structured properly with the help of the best available expertise.

2. Concession Agreements:

With a view to enabling a smooth transition and the adoption of best practices, the Government of India has recognized the critical role of standardizing documents and processes to be adopted for the award of PPP concessions. For this purpose, several Model Concession Agreements (MCAs) have since been evolved and adopted for different sectors. The process of pre-qualification and selection of private sector participants for the award of concessions has also been standardized through the adoption of model documents for a two-stage selection comprising the Request for Qualification (RFQ) and Request for Proposals (RFP).

Though the aforesaid standard documents lay down the norms, principles, and parameters to be followed for PPP projects, they need to be suitably adapted for meeting the specific requirements of individual projects. The Central Ministries, State Governments, and statutory/autonomous enti-

ties owning such projects would, therefore, require the assistance of professional advisers/ consultants to award and implementation of such projects in an efficient, fair, and transparent manner.

3. Engaging consultants:

The General Financial Rules, 2005, and the Manual of Policies and Procedure for Employment of Consultants issued by the Department of Expenditure, Ministry of Finance constitute the framework that governs the selection and employment of consultants. Detailed procedures and processes to be followed in the selection of consultants have also been published in duly approved Model Request for Proposals (RFPs) for the selection and appointment of consultants (financial, legal, and technical) required for PPP project structuring. These documents are based on extant rules of the Department of Expenditure. All these documents provide useful guidance for engaging consultants. They have been drafted after extensive consultations with ministries, stakeholders, and experts.

The international best practices for the selection of consultants rely on the following four rules; viz: (i) Transparency (ii) Fairness (iii) Cost Effectiveness and (iv) Avoidance of conflict of interest.

3.1 Lead Consultants or Transaction Advisers:

Management consultancy companies and large financial services companies are normally able to constitute multi-disciplinary teams to manage the PPP process. This ensures consistency over time and components. In large and complex infrastructure projects where the Project Authority's experience in PPP is limited, lead consultants may be considered. They can also be engaged where the Project Authority has no experience in dealing with PPP projects. Lead consultants could assist in (i) deciding the appropriate policy framework and structure of a PPP project; (ii) undertaking pre-feasibility studies; (iii) designing the implementation process and schedule; and (iv) selection of technical, legal, and financial consultants for subsequent stages.

Lead consultants should have the relevant sector and project experience, both as an organization and in the deployment of personnel. This should include experience in successfully managing the bid process of PPP projects. Lead consultants can also function as "transaction advisers" for the project. However, they should not be regarded as substitutes for technical and legal consultants. Where necessary or

convenient, the aforesaid tasks of a Lead Consultant could be assigned to the financial consultants while separately engaging the legal and technical consultants for their respective areas of work. As a prudent practice, lead consultants or transaction advisers should be excluded from providing specialist consultancy advice (legal & technical) in relation to the project owing to a conflict of interest in ensuring their own selection and eliminating competent specialists.

3.2 Financial consultants:

They are required for undertaking financial analysis, evolving a revenue model, suggesting and/or vetting the financial parameters and structure of the project, and for assisting in the bid process. The key to selecting a competent firm is a thorough investigation of the financial skills and previous relevant experience. The role of financial consultants should be confined to providing commercial and financial expertise that is not available in-house. Where required, financial consultants may also function as lead consultants and transaction advisers.

3.3 Legal consultants: Since the success of a PPP project depends on a sound contract, the

role of legal consultants is critical. This includes adapting model documents and/or drafting contracts and bid documents. Legal firms also provide consultancy on matters ranging from regulatory review to executing and enforcing project contracts. They can draft contracts, concessions, lease agreements, and licenses and provide advice on the prequalification process, evaluation of bids, and execution of contracts. The firm and the individuals proposed to be deployed should have the necessary experience in dealing with such commercial contracts. An important aspect of good legal advice is that the consultant should clearly explain to the Project Authorities the implications of contract terms and contingent liabilities. However, in cases where standard documents are to be applied, such as the Model RFQ, RFP, and MCA, the role of legal consultants should largely be confined to adapting these documents to project-specific situations and providing legal counsel during the bid process and award, including the execution of the agreement and its coming into effect.

3.4 Technical consultants:

They may be required for preparing Feasibility Reports, evolving standards, and specifications,



setting performance standards, and determining the likely project costs. The preferred consultants should have specific and geographically wide-ranging experience in the sector. Depending on project-specific requirements, they can provide a range of skills and services including engineering design, architectural design, costing and quantity surveying, traffic studies, technical feasibility studies and reviews, performance standards, lifecycle costing and analysis, implementation schedule, and project monitoring and management

3.5 Impropriety of engaging the same firm for providing legal, financial, and technical advice: A consultant or any of its affiliates should not be hired for any assignment/job that, by its very nature, does not form part of its core competence. Combining multiple services in one firm reduces the scope for engaging qualified legal, financial, and technical consultants that are appropriate for the project. Only in situations where the Project Authority is of the view that the role to be played by a financial expert is limited, such as in the case of a Feasibility Report, the technical consultancy may include an element of financial advice.

3.6 Preferred form of contract for PPP-related consultancy: It is preferable to adopt the lump sum form of contract since the content, duration, and deliverables of PPP-related consultancies can be clearly defined. Moreover, these consultancies normally relate to pre-award activities and do not, therefore, suffer from the uncertainties associated with project implementation as such. The terms of reference of such consultancies can normally be precise and the consultant will, therefore, be clear about the time and effort likely to be involved in the entire effort, hence, it can quote a competitive lump sum price for the assignment.

Success fee-based contracts are not appropriate for PPP-related advisers since the success of PPP projects is mainly driven by the policy framework and not so much by the efforts of the consultants. Since infrastructure projects comprise public goods, the government is directly accountable for their costs, user charges, and performance standards. These aspects must be carefully addressed by the government with utmost caution and due diligence as they would directly determine the quality and success of the project. On the other hand, a consultancy assignment based on a success fee

could incentivize the consultant to cut corners and somehow award the project since its remuneration is mainly dependent on the “success” of the project award. In the process, the project structure and quality could be compromised exposing the government to legitimate criticism. Since success fee is typically linked to project costs, the consultant may have an incentive to increase project costs to the detriment of the public exchequer and the user. While the success fee concept may be useful for assignments such as disinvestment, it can be counter-productive in the case of PPP projects. However, if the Project Authority wishes to incentivize the consultant to deliver “success”, it can still do so by awarding a lump sum contract which can also include a pre-determined sum (not percentage based) that would be paid only if the project is successfully awarded.

3.7 Sequence of engaging consultants: In case of complex projects, a pre-feasibility report shall be considered. To begin with, it would be essential to engage technical consultants for the same. When the technical feasibility and financial viability of a project are established, it would be necessary to engage financial



consultants for developing a financial model for the project and for assisting the Project Authorities in conducting the bid process. It would also be necessary to engage legal consultants for adopting the model documents for individual projects. Such model documents include the RFQ, RFP, and MCAs. In the case of sectors where an MCA is not available, it would be necessary to engage qualified and reputed law firms who have experience in drafting such concession agreements and can draw upon the provisions of MCAs to the extent they can be applied.

4. PPP structuring of Vizhinjam International Seaport project

4.1 PPP models in Port Development

Based on the extent of the capital investments on land, external infrastructure, port infrastructure, and the mode of port operations, the basic port development and management models have been classified by World Bank as (i) Private Services Port Model, (ii) Public Private Partnership (PPP) Services Port Model and (iii) Public Services Port Model, as shown

in Table I below.

As we move down the table from the Private Services model to the Public Services model, the private investment reduces and public investment increases, whereas the operational efficiency decreases. In the Private Services port model, all the investments on infrastructure (except in some cases where land is provided by Government on a long-term lease) and operations are by private entities, whereas in the Public Services Port model, all investments and operations are by Government. The PPP Services

Table 1. Port Development Models

Development model	Land	External infrastructure ⁽¹⁾	Port infrastructure				Port labour/operations	Other functions	Operational Efficiency	
			Basic port infrastructure ⁽²⁾	Operational Port Infrastructure ⁽³⁾	Port superstructure ⁽⁴⁾	Port equipments ⁽⁵⁾				
1	2	3	4	5	6	7	8	9	10	
(i) Private Services port	Private	Private	Private	Private	Private	Private	Private	Majority Private	High	
	Public									
(ii) PPP port	(a) Land lord port	Public	Public	Public	Private	Private	Private	Private	Private	High/ Optimum
					Public				Public	
	(b) Tool port	Public	Public	Public	Public	Public	Public	Private	Private	Public
(iii) Public services port	Public	Public	Public	Public	Public	Public	Public	Public	Majority Public	Low

⁽¹⁾ External Infrastructure-Rail, Road, Power, Water etc. ⁽²⁾ Basic Port Infrastructure- Breakwater, shore protection etc.
⁽³⁾ Operational Port Infrastructure- Dredging &reclamation, berths, port basin, navigational aids, vessel traffic management etc.
⁽⁴⁾ Port superstructure- Pavements, terminal buildings, stacking area, sheds, warehouses, workshops etc
⁽⁵⁾ Port equipment's- Cranes, tugs, dredging equipment's etc.



model is positioned in between the other two models, with differing degrees of share of investments & risks. There are two types of development models under the PPP namely (a) Landlord Port Model and (b) Tool Port model. The Landlord Port model is normally adopted for Greenfield (new) port developments, wherein the private & public partners take an optimum share of investments and risks. Tool Port model is adopted normally for improving the operational efficiency of existing inefficient public services ports, where all infrastructure investments are made using public funds, whereas the private operator/partner must bring in the tools (equipment's) for operation. The public investment and risks are more in the Tool Port model, whereas it is balanced in a Landlord port model.

4.2 Different development models experimented at Vizhinjam port:

All the above port development models were experimented with as part of the development history of Vizhinjam Seaport project. The Public services port model was mooted in 1945 and 1960-62 by the then Travancore State & Kerala State respectively. The private services model was

attempted through a MoU with M/s Kumar Energy Corporation, Hyderabad in 1995 for the development of the port with a 400 MW naphtha-based thermal power plant and later in 1999 through a BOT (Build-Operate-Transfer) agreement with M/s Kumar Group. The PPP services model (BOT) with equity participation by State Government, bid out in 2004 led to the selection of a consortium led by Zoom Developers Private Ltd, Kaidi Electrical Power Company, China, and China Harbour Engineering Company. Similar PPP attempt in 2008 resulted in the selection of a consortium led by M/s Lanco Kondapalli Power Pvt.Ltd, with two other companies, namely Lanco Infratech Ltd., and Pembinaam Redzai Sdn, Bhd., Malaysia. None of the attempts were successful due to multiplicity of reasons.

In 2010, International Finance Corporation (IFC) was nominated as the PPP Transaction Advisors & Financial Consultants to the project. M/s Royal Haskonings, Netherlands, and M/s Trilegal were selected as the Technical and Legal Consultants respectively by IFC through Donor funds. The financial analysis revealed the stand-alone financial unviability of the project. But considering the economic viability, the pro-

ject was decided to be developed with government support. Accordingly, the project was structured, with (i) investments on the basic and operational port infrastructure (components under columns 4 & 5 of Table I) as government-funded works and (ii) investments in port superstructure and equipment's [components under columns 6 & 7 of Table I] under Public Private Partnership (PPP), with a grant from Government of Kerala in the form of Viability Gap Funding (VGF). VGF from the Government of India was not considered in this structure. The bids were invited in 2011. However, due to the higher VGF sought (49.44% of the Total Project Cost (TPC) of the PPP component) by the bidder M/s Welspun-Leighton Consortium, the bid was cancelled.

In 2013, the State Government decided to develop the port under the VGF route of the Government of India, following the Model Concession Agreements of State Ports published by the Planning Commission. M/s Earnst & Young, M/s HSA Advocates, and M/s AECOM were selected as the Transaction Advisors & Financial consultants, and Legal, Technical consultants respectively based on the extant guidelines for such selection process men-

Table-2

Vizhinjam Seaport- Comparison of 2010 model with 2015 model @ 2015 price level

Land Lord Port- 2015 model with 2015 estimates		PPP component with 39.96% public funding through VGF & 60.04% through Concessionnaire											0.3996	0.6004	Remarks	
Components	Funded work- Direct execution by GoK	Funded work- Execution through Concessionnaire	Project preliminaries & site development	Dredging & reclamation	Berths	Buildings	Container yard	Equipments	Utilities & others	Port craft & aids to navigation	Gate Complex & Road	Total for PPP	0.3996	0.6004	Remarks	
																Public investment
Total Amount		1463	14	945	559	37	286	1474	144	473	158	4089			5552	GoI-VGF (818 Cr) GoK-VGF (817 Cr) GoK-FW (1463 Cr) GoK-VGF+FW (2280 Cr)
Public investment	100%	1463	6	378	223	15	114	589	58	189	63	1635			3098	
Private investment	0%	0	8	567	336	22	172	885	86	284	95	2454			2454	Pvt investment (2454 Cr)
		39.96% public funding on PPP component through VGF with 50% share from GoI														
		60.04% Private funding on PPP component by concessionnaire														
		PPP component with 49.44% public funding through VGF & 50.56% through Concessionnaire														
Land Lord Port- 2010 model with 2015 estimates		Funded work-Execution through Concessionnaire with right of first refusal											0.4944	0.5056	Remarks	
Components	Funded work- Direct execution by GoK	Funded work- Execution through Concessionnaire	Project preliminaries & site development	Dredging & reclamation	Berths	Buildings	Container yard	Equipments	Utilities & others	Port craft & aids to navigation	Gate Complex & Road	Total for PPP	0.4944	0.5056	Remarks	
																Public investment
Total Amount		1463	14	945	559	37	286	1474	144	473	158	2414			5552	GoI-VGF (NIL) GoK-VGF (1193 Cr) GoK-FW (3139 Cr) GoK-VGF+FW (4332 Cr)
Public investment	100%	1463	14	945	559	18	141	729	71	234	158	1193			4332	
Private investment	0%	0	0	0	0	19	145	745	73	239	0	1220			1220	Pvt investment (1220 Cr)
		100% Public funding														
		49.44% Public funding on PPP component through grant from GoK														
		50.56% Private funding on PPP component by concessionnaire														

Compared with 2010 model, in the 2015 model the GoK investment is lesser by 2052 Cr (4332-2280). This saving is achieved by (i) more GoI investment of 818 Cr (818-0) & (ii) more private investment of 1234 Cr (2454-1220)

Abstract- Comparison of 2015 model with 2010 model @ 2015 estimate				
	2015 model at 2015 price level	% investment at 2015 price level	2010 model investment at 2010 model	% Savings - 2015 model- 2010 model
1 GoK-Funded work	1463		3139	
2 GoK-VGF	817		1193	
3 Total GOK investment	2280	41%	4332	78%
4 GoI- VGF	818	15%	0	37%
5 Private investment	2454	44%	1220	-15%
Total-(3)+(4)+(5)	5552	100%	5552	100%
			0	0%



tioned above. The project was structured with (i) lesser government investments by limiting the government-funded works to that of basic port infrastructure (component under column 4 of Table I) and (ii) investments in operational port infrastructure, port superstructure, and port equipment's (components under column 5, 6 & 7 of Table I) as part of the Public Private Partnership (PPP) with a grant in the form VGF from Government of India and Government of Kerala (maximum 20% of TPC each). The execution of the government-funded works (lump sum amount) was also made the responsibility of the PPP concessionaire to eliminate interface issues. It was also decided that the project shall be bid out only after obtaining all the statutory clearances including Environmental Clearance, and procurement of essential land, to avoid risks and to instil confidence in the prospective bidders. The bids were invited in 2014. M/s Adani Ports & SEZ Ltd., which quoted VGF of Rs. 1635 Crores (39.94% of TPC of the PPP component of Rs.4089 Crores) became the successful bidder. This was Rs.29 Crores lesser than the estimated VGF of Rs.1664 Crores and was within the maximum VGF bracket of 40% of TPC specified

by the Government of India. Subsequently, as required in the tender, a company named Adani Vizhinjam Ports Pvt. Ltd, was incorporated under the Companies Act,2013 and the agreement with the Government of Kerala was executed on 17.08.2015.

4.3 Comparison of the project structure between 2010 and 2015 development models

Table 2 gives a comparison of the project structure between 2010 and 2015 development models. For comparison, the 2010 price level has been brought to the bid due date price level of 2015. From Table 2, it is evident that the 2015 development model is a better structure compared to the 2010 development model. The split up of investments for the PPP part of the project in the 2015 model are (i) Rs. 817 Crores (GoK VGF); (ii) Rs.818 Crores (GoI VGF) and (iii) Rs. 2454 Crores (Private investment), totalling to Rs.4089 Crores. The Government of Kerala investments in 2015 model is lesser by Rs.2052 Crores, than in the 2010 model. This was achieved by more Government of India investment in the form of VGF of Rs. 818 Crores and more private investment of Rs.1234 Crores, compared to the 2010 model.

4.4 Conclusion

By proper structuring of the PPP model, the investments by the Government of Kerala could be minimized for the development of the Vizhinjam Seaport project. Moreover, private investment and expertise in large infrastructure project would bring out a state-of-the-art technology project for the State as well as for the Nation. This enabled the Government to invest such funds to other essential infrastructures in health, education, water supply, sanitation, roads etc. This points out the importance of proper structuring of the project, with appropriate sharing of risks and responsibilities, while attempting the development of PPP projects. The guidance given by Shri. Gajendra Haldea, then Advisor to Deputy Chairman, Planning Commission, Government of India to follow the principles of transparency, fairness, cost-effectiveness, and avoidance of conflict of interest throughout the project structuring and development cycle is worth mentioning.

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Critical Areas and Challenges in PPP Projects

Hemanth R S, Financial Assistant, F & A

An important and complex challenge that governments generally face today is implementing infrastructure development commensurate with the growing population and urbanization. Funding for larger infrastructure projects is often a challenge for governments, especially in developing nations like India. It is in these cases that governments turn to PPP model projects. In this way, efforts are being made to implement large-scale projects that will positively benefit the society by making appropriate use of the comparatively better efficiency, skills, and wealth of the private sector with the involvement of the Government. It is also a fact that the requirements of certain projects often force governments to turn to the PPP model due to the inherent capacity of the private sector in various aspects.

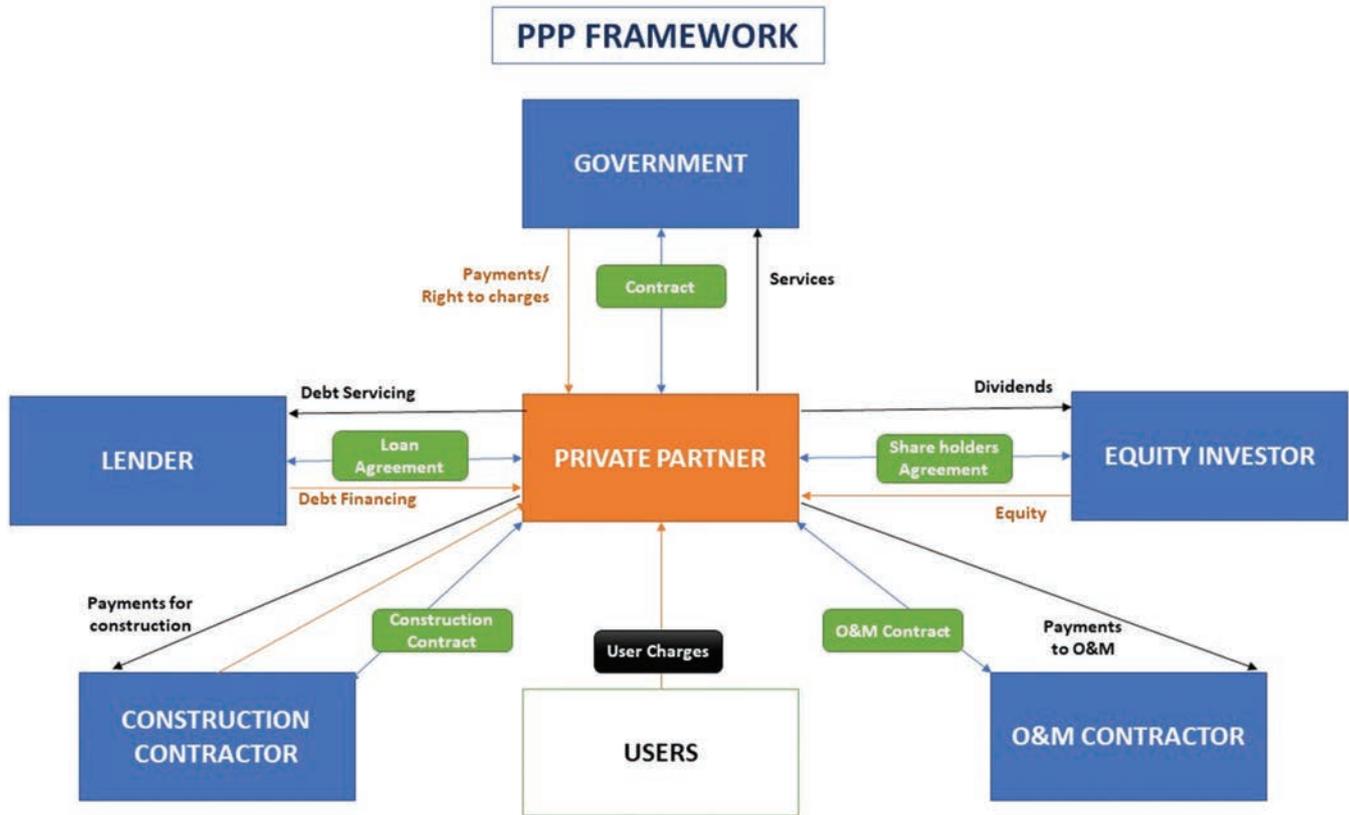
Many PPP projects are under construction in every corner of the world in various sectors such as roads, bridges, railway connectivity, urban transportation, water sanitation, energy and power, hospitals, telecommunications, etc. A robust PPP model brings benefits to the government, public and private individuals alike. Through this, the government can implement better public service projects outside of its limited financial capacity of the government. These types of projects provide better returns in human capital investment and stimulate GDP.

On the other hand, private players by using the skills and technology they possess, can implement commercially viable projects with the support of the government and find an appropriate return. These types of projects certain-

ly help in improving the quality of life of the public by providing them with faster access to better services and facilities.

It is very important in PPP projects to accurately identify the risks and rewards of the project and optimally divide it between the stakeholders, the private players, and the government. As there are different operating models in PPP depending on the type of implementation, ownership, and operation & maintenance; and the variables involved are very diverse, it is extremely challenging to structure a framework for identifying the risk involved in such projects. The success of PPP model projects lies in the proper division of responsibilities and risks between the government and the private partner.

The project needs to clearly identify the activities and risks that



the private player can undertake and execute. A private player can do many things in a better way like being able to quickly arrange a large amount of money needed for the project, finding the right technology and design for the project, conducting the necessary studies for the project, and mobilizing the necessary human resources for all this.

Similarly, there are certain risks and actions that the government could handle better. The government can take the initiative to find suitable land needed for the project, ensure compliance with related statutory norms, and mo-

bilize local knowledge and data which would help in improving the project design and risk assessment are a few examples.

Studies on PPP projects suggest that constructing a financial risk-averse model that harms neither the public interest nor the private partner is a critical challenge. If the underlying financial model fails at any stage of the project, it might come to a complete standstill. This necessitates adequate studies and detailed risk analyses before starting the project.

Disaster risk management and climate risk management are also important aspects of infrastruc-

ture project financing. Based on their detailed studies, the private partner should be able to find these at the design stage itself and make suitable mitigation plans. Government departments can find and provide comprehensive and reliable data needed for these studies. Local knowledge can be properly utilized for this through government mechanisms.

The government and the public partner should reach an understanding in advance that how it should be adequately managed if the project is delayed or gets damaged due to some natural disasters or any other unforeseen

circumstances during the construction phase. For this, an appropriate and commercially viable risk-sharing policy should be formulated. Its relevance is very high in states like Kerala based on the experience of recent floods and the Covid pandemic. It is also important that such PPP projects are insured appropriately which will go a long way in avoiding accidental losses due to natural calamities and any such force majeure situations.

It is also important to ensure that information sharing between the government and public partners is done properly. It should

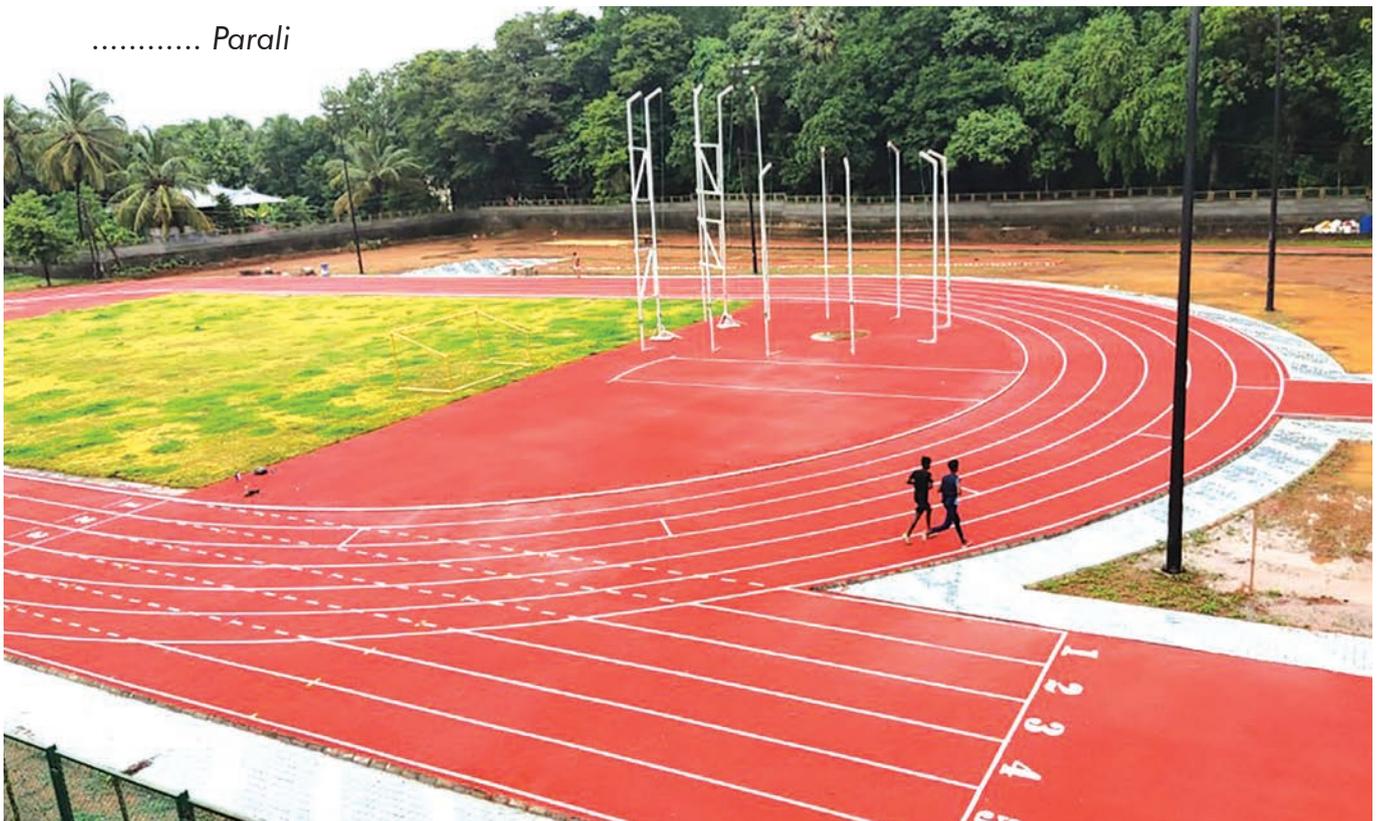
be ensured that this is done in a transparent manner at every stage of the project. Like in any other project, comprehensive fiscal accounting and reporting are essential in PPP projects since it involves more than one stakeholder and public money.

There should be a clear understanding and legal documentation on how the project is to be transferred and how the subsequent operational maintenance should be carried out after the project completion.

The PPP model is a necessity today to bring timely development in various sectors. There is

no doubt that the PPP model can help to achieve the project objectives better through cost reduction, operational efficiency, quality assurance, and shared risk management. A state like Kerala which follows innovative ideas in finance and project management needs to accommodate more projects in the PPP direction. This will be a stimulus for the rapid growth of the economy. These types of projects can be implemented if there is a suitable institutional framework consisting of a political commitment, good governance, and also a supportive legislature.

..... Parali



Project Focus

Construction of Cultural Complexes

Project Focus – Construction of Cultural Complexes

The Department of Cultural Affairs, Government of Kerala, is responsible for the conservation, development, and promotion of Kerala's rich and unique culture. Towards this, in 2017 the Government among other projects, announced the project "Development and construction of cultural complexes in all districts of Kerala", to support the State's cultural development with necessary physical infrastructure support, with KIIFB assistance. M/s Kerala State Film Development Corporation has been identified as the implementing agency for the projects. The cultural complexes have been named as tributary to the Renaissance leaders, social critics, and the leaders of the enlightenment movement in Kerala. KIIFB has approved a total of Rs.275.36 Cr so far for Cultural Complexes.



I. Sree Narayanaguru Cultural Complex, Kollam

Kollam district has a rich cultural history with festivals and related art forms being an integral part of the heritage of the region. Carnatic and Hindustani music performances throughout the year see considerable footfall in the region. Art forms such as drama and Kathaprasangam, dance forms like Ramanattam, Kathakali, Ottanthullal, and Bharatanatyam as well as craft festivals act as

crowd pullers in the region. Many regional festivals of Kollam are unique in nature.

The cultural complex in Kollam has been named after Sree Narayana Guru, who was a social reformer in Kerala and devoted his entire life to the uplifting of the socially disadvantaged sections of society. The complex would act as a centre for the community to experience and immerse in the Kollam district's heritage as well as celebrate the indigenous art and craft forms of the region. The



complex is envisaged as a facility for recreation, training, and education for the people living in the region.

The project site for Sree Narayanaguru Cultural Complex is on 3.82 acres near Ashramam ground, Kollam. The demand for proposed facilities in the cultural complex can be correlated with the other ongoing cultural activities in the Kollam district and tourist footfalls in the district.

The key components proposed in the centre are

(i) Entrance and cafeteria block (3602.14 Sq.m) – includes rehearsal hall, green room & toilet, toilet block, entrance porch, lobby & corridor, administration, memorial hall, staircase & lift lobby, cafeteria, kitchen, retail shops, craft museum, and art gallery

(ii) Exhibition block (2159.46 Sq.m) - includes reception, staircase & lift lobby, exhibition space, toilet block, MV panel room, temporary exhibition, Black box theatre, sound control room, and classrooms

(iii) Performance block (3643.81 Sq.m) – consists of entrance porch, staircase, waiting & lift lobby, toilet block, ticket counter, corridor, auditorium, greenroom & toilet, AV theatre, AV projection room, warehouse, VIP Box/PH challenged room, OAT projection room, sound control room, viewing gallery, rehearsal hall, performance studio, mixing studio, seminar hall, ante space.

(iv) Open Air theatre (Capacity 975 nos.)

The total area of the proposed complex is 9285 sq. m. with an estimated cost of Rs.57.33 Cr and 81% of the works have been completed.

2. V T Bhattathirippad Cultural Complex, Palakkad

Palakkad hosts a lot of cultural events which are celebrated in the form of festivals, fairs, and perfor-

mances throughout the year. The region has an illustrious history in terms of being the pioneers of Carnatic, Hindustani Music, and 'Kshetra Kala which are world-famous art forms and is also known to have played an important role in the emergence of Mridangam and Veena in the performance of pure classical dance forms of Kathakali and Mohiniyattam that are unique to the district's identity.

The cultural complex in Palakkad has been named after Shri. V.T. Bhattathiripad, a prominent freedom fighter, leader of the enlightenment movement in Kerala, and a social critic. The proposed arts and culture centre would serve the community as a venue for cultural events with a focus on recreation, training, and education. The facilities are derived primarily based on the important cultural traits of the districts and the need for state-of-the-art infrastructure for hosting events, exhibitions, workshops, performances, etc. The proposed cultural centre would provide domestic and international tourists an experience of the art and culture of Palakkad.

The project site is 5.76-acres of land located at Yakkara village area in Palakkad municipality, abutting NH 544, and is located at



a distance of approximately 8 km from Palakkad town.

The key components proposed in the cultural complex are:

- (i) **Performance block (5550.27 sqm)** - includes provisions for workshop, black box theatre, auditorium, rehearsal

hall, mixing lab, classrooms, seminar hall, AV theatre, projector room etc.

(ii) Exhibition block (5056.92 sqm.) - consists of lobby, front office, memorial hall, exhibition, cafe seating, kitchen, utility, store, art gallery, library, provisions for administration, exhibition, temporary exhibition, art gallery, folklore centre etc.

(iii) Accommodation block (2147.05 sqm) - includes parking space & services, dining area, guest rooms (8 Nos), dormitories (10 Nos) etc.

(iv) Open air theatre (capacity 1000 Nos)

The cultural complex would have a parking facility of 200 four wheelers including twin car parks in basement area of Accommodation Block. The estimated cost of the project is Rs.68.81 Cr and the works of Performance Block and OAT almost 85% completed.

3. Subramanyan Thirumunp Cultural Complex, Kasaragod

Kasaragod is rich in its varied cultural forms and offers a variety of patterns of arts which speaks



volumes about the rich cultural heritage of the region. The spectacular pageant of Theyyam deities raises Kasaragod into a land of fabulous fantasies. The symphonic melody created by Yakshgana, Kambala (buffalo race), Cock-

fight, etc. of the Thulanad culture, thrilling along with Poorakkali, Kolkali, Duff Mutt, Oppana, etc. enchants the visitors.

The cultural complex in Kasaragod has been named after Shri. T. Subramanyan Thirumunp,

a prominent freedom fighter, revolutionary poet, and leader of the agrarian movement in Kerala. The project is conceptualized as a centre with multiple facilities to encourage, preserve and disseminate art and culture. The facilities are derived primarily based on the important cultural traits of the districts and the need for state-of-the-art infrastructure for hosting events, exhibitions, workshops, performances, etc. The centre is envisioned to support and supplement local organisations, trusts, and groups that are involved in various activities related to art and culture.

The project site is 3.77 acres

of land located at Ampalathara village near Kanhangad town. The key components proposed in the cultural complex are:

- (i) Admin block (1542.75 sqm)** - includes memorial hall, souvenir shop, maintenance staff area, electrical room, conference room, administration, cabin, reception area etc.
- (ii) Auditorium block (982.8 sqm)** - seating capacity of 294
- (iii) Cafeteria block (1341.9 sqm)** - includes kitchen service, cafeteria, folklore centre, congregation area etc.

(iv) Exhibition block (2873.13 sqm) - includes three workshop space, exhibition space three classrooms, black box theatre, library, seminar hall, theatre etc.

(v) Open air theatre (1480.3 sqmw; Capacity 600 Nos.) - includes a store, shop, green room, stage and seating.

The estimated cost of the project is Rs.36.20 Cr and overall, 61% of the works completed, with the works of Open-Air Theatre, Auditorium, Exhibition block, Cafeteria block and other facilities nearing completion.

Thrithala





Importance of Electro-Mechanical Services Coordination in Building Sector – The challenges in planning, design, and execution stages

Resmi R Pillai, Sr. Consultant EMS

Jithin Jose, Consultant EMS

Sruthinkumar, Inspection Engineer EMS

Electro-Mechanical engineering plays a major role in Building sector. It includes planning, designing, and managing the Electrical, ELV & Mechanical systems of a building. The role of electrical, mechanical and ELV engineering is important in all stages of the construction process. The Electro-Mechanical team works with Architects, Civil / Structural team in decision making, cost estimation, construction administration, documentation, building management, and building maintenance in the building sector.

Electro-Mechanical systems are responsible for the “creature comfort” features of a building structure. It makes a building live-

able and pleasant, no matter if it is a single-storey home or a 50-storey skyscraper. Electrical and mechanical systems form a very important part of any building. It provides lighting, fans, air conditioning, heating and ventilations, networking, public addressing systems, security systems, lightning protections, fire protections, heaters, control systems, building managements systems, elevators, lifts etc.

Over time, changes were observed in electrical and mechanical requirements because of the advancement in technology. The current requirement is not comparable with the building structures

built 20 years ago. The designs of the electrical and mechanical systems vary from one building to another, depending on the design and purpose of the building and based on the requirements. Equally, the future buildings will have more advanced and sophisticated designs. Presently the design is based on new and innovative technologies and considering sustainability as well as renewable energy. The design differs in terms of types of building namely an industrial building design differs from both the residential and commercial.

Architects, Civil, Structural and MEP engineers should work together to meet the required stand-



ards and requirements for the building projects. While constructing a building or any structure both civil and electromechanical department should hand hold for a better outcome. Without electrical, mechanical and ELV services no projects can be made functional. Here the term “COORDINATION” plays an important role. There must be a coordination among different engineering disciplines. It is applicable in planning, design, and execution stages.

The major challenges generally observed in KIIFB projects is the lack of coordination. It is observed in the planning and design stages which is in turn affecting during the execution stage. It was observed that during the layout finalization the electromechanical inputs were not considered. Certain issues related to the sizing of electrical and mechanical rooms, position of shafts, routing of services etc shows lack of coordination in planning and design stages which in turn lead to lack of better and optimal design. MEP should be considered as major service during the planning stage of building project otherwise a lot of challenges need to be faced during the execution.

The involvement of multiple parties involved in the design process could lead to a communica-

tion gap. It could delay the process of decision-making and completion of design. Ineffective collaboration and limited understanding of the complexity and uncertainty, in addition to the interdisciplinary nature of the design process, contributed to this problem. The lack of coordination among building designers is a major problem in the construction industry. It has contributed to the lack of integration of design information, which leads to unnecessary time variations and design changes in the construction projects. Complete and accurate design information is crucial for the Engineers to produce complete and error-free drawings. To overcome this problem, a greater amount of design information must be processed to achieve an acceptable performance level. More coordination among the team members is needed to improve the speed and accuracy of design information. Coordination in the design process might be viewed as an activity to handle the uncertainty and to synchronise the flow of design information which could be done through direct contact, meetings, discussions.

Now-a -days the coordination can be done easily using Common Data Environment platforms. Also using three-dimensional model-

ling techniques, the same can be achieved. Building Information Modelling (BIM) is a process of creating and managing information for a built asset throughout its lifecycle—from planning and design to construction and operations. BIM is an intelligent 3D model-based process that gives architecture, engineering, and construction (AEC) professionals the insight and tools to more efficiently plan, design, construct, and manage buildings and infrastructure.

The next challenge observed in the projects is the lack of required construction and coordination drawings. Most of the KIIFB projects are having multi services. In multiservice system HVAC ducting, ELV services, security systems, public addressing system, drainages, civil structures, water lines, firefighting lines, electrical cables, fixtures etc. must be coordinated together. Lack of coordination drawing may lead to clashes between services during execution and it affects the time duration and quality of projects, and it may lead to delayed completion or termination of the project itself. Improving the coordination process in complex buildings and industrial projects will enhance the project performance.

The least priority in planning

and design stages and lack of construction and coordination drawings can affect the entire project system and its stakeholders. Primarily it affects the SPV, the executing agency by making the execution much difficult and will lead to have challenges in project management. In the same way KIIFB will also face difficulty in maintaining the project quality and providing technical assistance to the stakeholders during design, execution, and maintenance stages. Last but not the least the

admin department and end users may not be able to get the quality output. The end-product of the project may become disappointing and may face difficulty in operation and maintenance as well. The lack of proper design and lack of construction drawings will affect the Electro-Mechanical services in a building, and this may lead to failure of the project.

In view of the above it is clear that Electro-Mechanical coordination plays a major role in the planning, design, and execution stages.

Non coordination will affect the project performance, quality, delivery and output. To improve the project performance of complex buildings and high-tech plants an increased integration among design teams of multiple disciplines and effective coordination process is essential.

It is concluded that major factors that runs and complete the project depends on the Planning, Design, Accurate Estimate & Good For Construction Drawings including Coordination Drawings.



Parali

sistently above 50 since August 2021, indicating growth/ expansion. During the period under consideration, the index had hit a low of 41.2 in June 2021.

Bank commercial sector credit growth on a year-on-year basis hit a 12-month high of around 13.16% YoY in June 2022, compared to 11.2% YoY in March 2022. During the period of study, the growth of credit to commercial sector was lowest in June 2021 at 5.88% YoY.

Regarding India’s Industrial growth, basis provisional estimates of IIP for May 2022, Industrial growth improved to a 12-month high of 19.6% YoY in May (supported by a lower base)

compared to 6.7% in April 2022. The improvement in IIP growth in May was primarily on account of growth in sectors such as electricity, manufacturing, and mining. During the period of study, IIP growth had hit a low of 1.02% YoY in December 2021.

MSCI India Index which is designed to measure the performance of the large and mid-cap segments of the Indian stock market was at 1824.29 on 27th July 2022 compared to last year’s close of 2036.53, indicating a moderate fall YTD for the calendar year 2022. During the period of study, MSCI India Index had hit a low of 1821.16 on 30th June 2021 and had hit a high of

2042.26 on 30th September 2021

India’s headline inflation rate based on the Consumer Price Index (CPI) YoY came down marginally to 7.01% in June 2022, compared to 7.04 % in May 2022. During the period under consideration, CPI YoY had hit a high of 7.79% in April 2022 (8 year high) and a low of 4.35% in September 2021. India inflation has consistently remained above the upper tolerance level of Monetary Policy Committee (MPC) of 6 % since January 2022 and as per the June MPC Statement, “inflation is likely to remain above the upper tolerance level of 6 per cent through the first three quarters of 2022-23”.



PRAVASI Chitty Statistics as of 31th JULY 2022

Total number of customers	147254
Total number of subscribers	43557
Total amount collected	INR 1667.10 Cr
KIIFB Deposit bond subscribed	INR 632.00 Cr
KIIFB Security bond subscribed	INR 119.76 Cr



PRAVASI Dividend Scheme

Total number of registrations	47588
Total no. of depositors	3897
Total amount deposited	INR 304.63 Cr

