

# National Public Projects Implementation System for India

**Theme:** Delivering Excellence through Project Management

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**Abstract**

Public projects are indispensable for successful development of every country. Central institutions like governments and parliaments have deciding role in establishing environment conducive for their success. Such environment is called National Public Project Implementation System (NPPIS) – this is a set of processes, institutions and other components engaged in public projects implementation.

Public projects are selected to achieve strategic goals according to portfolio management processes. They are managed according to PM methodologies. Such environment includes also processes dealing with project managers and vendors performing public projects. The next area of management is stakeholder engagement especially important just for public projects. The key role in NPPIS is played by Public PMOs, which are located at different hierarchical levels, ranging from the government to the local public institution level.

This system works according to governance rules established by governments. The system should be continuously developed according to guidelines issued by proper advisory bodies.

The lecture presents a model of NPPIS based upon best practices identified in over 70 countries and states, verified by a survey and interviews with selected actors of NPPIS in these countries.

The lecture directly refers to the conference theme: Project Management Indispensable for Vision India, as it proposes a general framework which may be applied for improving performance of Indian public projects.

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## Introduction

The public project management in India has been of interest to government and scientists for many years. As far back as in 1965, V. P. Duggal wrote that project management processes in India are not performed properly, and that the government should set up institutions managing capital projects, which should work in accordance with market principles (Duggal, 1965).

In recent years, the volume of projects in India has reached huge figures. In the 12<sup>th</sup> Five-Year Plan the expenses on infrastructure investments alone will amount to 1 trillion USD. But the question whether the Indian project implementation system is effective and efficient remains valid 51 years after Duggal's paper. An independent expert estimated in 2011 that India might lose up to 10% of its GDP in 2017 if it does not implement the best practices of project management (Mohapatra, 2011).

Assumptions for the 12<sup>th</sup> Five-Year Plan promised to create a system to implement public projects: "An effective implementation directory system is not limited to the success of a single initiative. It builds broadbased capabilities across several industries" (Planning Commission, 2013). The question whether such system was implemented in India is valid up to date. This article attempts to sketch the answer to this question, taking as reference base the concept of National Public Projects Implementation System (NPPIS) (Gasik, 2014, Gasik, 2016). The article may be used as the basis for a full assessment of the Indian public projects implementation system, similar to the assessment done previously for Poland (Gasik et al., 2014).

The general model of NPPIS was developed on the basis of extensive research initiated by the literature and Internet resources review of public project implementation solutions in over 70 countries. Afterwards, a survey was carried out, collecting responses from public projects professionals from over 60 countries. Finally detailed interviews were performed with 37 people in five countries (USA, Canada, Australia, Argentina, and Brazil).

This paper maps the Indian public projects management practices to components of NPPIS. First we briefly present NPPIS, and in the following sections we describe Indian public projects practices from the central government level.

## What is National Public Projects Implementation System

The National Public Projects Implementation System (NPPIS) is a set of regulations, processes, methodologies, practices, institutions, vendors, project managers, and other elements in a given country defining, shaping or influencing the ways of projects implementation by public institutions. The main components of NPPIS are: public portfolio management, organizations engaged in public projects management, processes of public projects management, knowledge and stakeholders management, actors, and the area of NPPIS development.

## Portfolio Management

Public project portfolio management (PPPM) covers the processes of selecting, initiating and maintaining the set of public projects in a given country (Gasik, 2014).

In India, there are several schemes and processes whose aim is to initiate public projects. One of the main objectives of the operation of the Planning Commission (recently transformed into NITI Aayog), was the centralization of decision-making about running public projects, or deciding on the composition of the portfolio of public projects. There are three main ways to initiate projects: defined separately for standard projects, for MPLADS projects and for unplanned projects.

The standard initiating process consists of multiple steps and involves different central institutions (MoF, 2003, Planning Commission, 2010, Planning Commission, 2013a, MoSPI, 2013). The process begins with the development of the Feasibility Report by the relevant Ministry. Then the Planning Commission approves the proposal "in principle" to qualify the project into the Ministry / Department plan. Preparing a Detailed Project Report (DPR), sent through the PIB / EFC to PAMD in the Planning Commission, which performs the appraisal of proposals, is the next step of the process. PAMD, in cooperation with other departments, evaluates various aspects of the project, like its justification, linking with the plan, technical feasibility, and reliability of the cost estimates. The result of the appraisal is sent back to PIB / EFC. Then the decision to launch the project is undertaken by the Ministry or by the Government (for the biggest projects).

In India, it is also possible to run not planned projects. In order to launch them the Committee on Non-Plan Expenditure (CNE) is set up. It discusses all unplanned projects with a budget of more than 300 crores. Decisions to launch smaller projects may be made by Standing Finance Committee and the relevant Minister (MoF, 2014).

A special way of starting the projects is the Members of Parliament Local Area Development Scheme (MPLADS), launched in 1993 (MoSPI, 2015). These initiatives are passed for implementation to relevant local agencies. There is a division responsible for this scheme within MoSPI (MoSPI, 2014). In each state / UT there is also a department responsible for MPLADS (MoSPI, 2015).

But managing a portfolio of projects is not only decisions about their start - it is also making the decision to kill projects that have lost their business case or viability. The Coal Ministry prioritization of projects has led to the abandonment of implementation of 6 projects (MOSPI, 2005).

## Organizations

Implementation of organizational functions is impossible without embedding them in organizational structures. The area of Organizations deals with units engaged in public projects management. The basic types of organizational units engaged in public project management are Public Project

Management Offices (PPMO), actively involved in public project implementation and PM Advisory Groups, who advise on public project implementation systems. PPMOs may be involved in public projects implementation in a variety of ways, ranging from full responsibility for project implementation to providing specialized services (i.e. communications management or risk identification). Another sub-area of this area is Organizational Public Project Management Maturity – assessing organizational capabilities of public institutions (Gasik, 2014).

In India, many institutions and organizations are actively involved in the implementation of public programs and projects and may be treated as specific types of Public Project Management Offices. The most important of them are the Planning Commission (currently NITI Aayog), Ministry of Statistics and Programme Implementation (MoSPI) and the Cabinet Secretariat.

The Project Appraisal & Management Division (PAMD) is an organizational unit of the Planning Commission. It is responsible for the appraisals of the major projects of Rs.500 crores and above.

The Infrastructure and Project Monitoring Division (IPMD) works within MoSPI. It collects in one place information about the central projects with the budget exceeding 150 crores. IPMD monitors the progress of these projects and publishes monthly and quarterly reports. MoSPI is responsible for streamlining the process of project implementation, including the determination of the causes of delays and responsibility for these delays. MoSPI also supports performing project reviews. In MoSPI there are also divisions responsible for MPLADS scheme and for the Twenty Point Programme.

The Project Monitoring Group (PMG) was established within the Cabinet Secretariat, which supports the removal of problems in stalled projects, both from private and public sectors (Cabinet Secretariat, 2014). Any problems hindering the implementation of projects may be submitted to PMG. PMG itself does not remove the problems, but directs them to the relevant Ministries. PMG can be considered as an example of the partnership approach to the implementation of all projects, not only from the public sector.

Independent Evaluation Office has been established in India for an independent evaluation of programs, especially those of flagship status, in terms of their effectiveness, relevance and impact. IEO can deal with any independent evaluations of programs that have access to public funds or have the government guarantees (IEO, 2016).

Examples of other institutions involved in the implementation of public projects, are CPWD and NPIU. Central Public Works Department (CPWD) leads major projects in the area of construction and infrastructure. CPWD provides services from project conception to its completion (CPWD, 2016). National Project Implementation Unit (NPIU) was established to support projects financed by the World Bank (NPIU 2016).

But there is no institution playing the role of central Advisory Group for projects in India – there is no body with accountability of improving the whole Indian National Public Projects Implementation System. There is also no process of systemic appraisal and improvement of project management maturity of Indian public institutions.

### Processes

The Processes area consists of several types of processes: project management processes, governance processes and national public projects implementation systems. There may be also dedicated public projects / program legal regulations describing the full NPPIIS. The sub-area of project classification is also included here, as variants of PM methodologies are usually chosen basing on some project classification (project budget is usually the main project attribute deciding on its classification) (Gasik 2014).

There are several processes defined for public projects in India. MOSPI defined procedures for the formulation, implementation and monitoring of projects (MOSPI, 2005). Projects are classified according to their budget The structure of project processes, especially of project appraisals and monitoring usually depends on project budget with limits of 20, 50, 100 and 500 Rs crores (NITI, 2015).

In the preparation phase of the project, amongst others the following should be described: a strategy being a result of the analysis of alternatives, agencies' responsibility for the management and implementation of the project, the organizational structure, the arrangements for monitoring and coordination, a risk analysis, the financial funds, and the project budget (MoF, 2003). For projects financed by Multilateral Development Banks the following components should be added: project components, activities, coordination mechanism, elements of finance, lessons learnt from other projects, monthly milestones, the description of the project management team, the Project Management Unit and Project Implementation Unit, contracts plan, TOR for consultants contracts, including PM consultants, RFP for most the most important consultants, the budget, the Project Implementation Plan, Administration Manual, financial management systems, auditing processes, monitoring arrangements (DoEA, 2011). The EPC / PIB Memorandum (DoEA, 2012) instructs to describe, among others, the commissioning date, the main constraints, the cost of the project by years and by the structure of the project; product maintenance costs; salaries; grants for the project, human resources (by years). It is recommended to not create new structures. The PERT diagram and the CPA may, but do not have to, be supplied, too, as well as the main constraints. The dates of the main products delivery by years may (but do not have to) be included. Project implementation processes should follow the above described arrangements.



For change management in the ministries, there exist Standing Committees evaluating the changes in the schedule and project costs (Planning Commission, 2013a). The content of Revised Cost Estimate (RCE) or cost change request form is determined (cost variation, the new estimates and reasons, scope change, the impact on profitability). The Standing Committee reports define responsibilities for cost overruns and schedule delays, and dictates appropriate actions to be taken. Exceeding costs and schedules can be divided into two types: independent of the project (their evaluation is not required) and dependent on the project (e.g. bad estimation, exceeded cost). In the latter case the detailed analysis is required (MoF, 2014).

MoSPI is the central organization for monitoring the government projects with a budget of over 20 crores (MOSPI, 2005). After project initiation IPMD monitors on monthly basis the major government projects from 11 economy sectors with cost over 1 billion rupees. In case of problems with cost and time it analyzes the reasons, and determines the responsibility for repair (MoSPI, 2013). The TPP Division monitors all TPP projects, and the MPLADS Division monitors MPLADS projects.

The problem solving process is carried out primarily by the Project Monitoring Group (PMG). PMG is working with ministries, states, and investors via e-PMS (electronic platform supporting the Cabinet Committee on Investment, CCI). PMG is the single point of contact between the project teams and the state institutions that can help in acceleration of the implementation of stalled projects. PMD itself does not solve problems, but directs them to the appropriate ministries and monitors the problem-solving process, which may take the form meetings of CCI staff, ministries and projects representatives.

A particularly important area of project management, to which a substantial weight in India is applied, is the project cost management. The first public project management methodology, dated 1989, was mainly devoted just to project cost management. According to this methodology the budget manual must be prepared for each project (MoPI, 1989). The cost management processes has since been repeatedly modified. For example, PAMD has developed recommendations for cost estimation (Planning Commission, 2010).

Regardless of the definition of a number of processes, PM practices are not used or are not of the highest quality (PMI, 2011). Lack of examples of project management success hinders the implementation of best practices (PMI, 2011). Project management is considered to be an intuitive process, for which the required knowledge and formal training are not needed (PMI, FICCI, 2011). There is no formally defined project governance process, nor requirement to define it for each public project. Also, public projects regulations have not been enacted in India.

#### Knowledge Management and Stakeholders

Knowledge is the basic resource necessary for the implementation of public projects. The area of Knowledge Management for public projects includes informing about project, knowledge creation and

exchange, and national project management standards (as they are mainly the sources of PM knowledge). Stakeholder Management is also included here, as information and knowledge exchange with stakeholders is the main tool for stakeholder involvement and engagement (Gasik, 2014).

Information on the progress of programs and projects are collected by MoSPI. The reports collect information on the status of budget and schedule. The reports also include a brief description of the statuses of the whole projects, explaining any deviations from the schedule and budget (MoSPI, 2009). A general description of projects is also presented in the reports by the State Bank of India (SBol, 2016).

Information, in order to be used, must be transformed into knowledge (Gasik, 2011). The implementation of projects requires adequate knowledge (Planning Commission, 2011). However, the lack of knowledge management, especially not documenting the good practices, causes problems in projects and programs (PMI, 2011). This is true regardless of the fact that IPMD evaluates projects in order to document the acquired knowledge and documents this knowledge, as well as organizes PM trainings for the public sector (MoSPI, 2013). Scientific analyses of programs are performed by the Programme Evaluation Organization (Planning Commission, 2010). Additionally, the foreign knowledge of programs evaluation is acquired by IEO (IEO, 2016).

Different people, organizations and companies analyzed the status of the projects and programs of the public sector in order to obtain knowledge which could facilitate the implementation of projects and programs. Mohapatra says, for example, that cost overruns and scheduling are results of inadequate project planning (Mohapatra, 2011). State Bank of India states that the cause of problems with time and budget are the delays of clearances, lack of supporting infrastructure facilities, delays in obtaining municipal permissions, and delays in shifting utilities (SBol, 2016). MoSPI considered causes of the problems to be, among others, law and order problems, delay in land acquisition, rehabilitation and resettlement problems, fund constraints, delay in forest and environment clearances, right of way / right of use issues, delay in supply of material, contractual issues (PIB, 2014). It is worth noting that neither the State Bank of India nor MoSPI indicate improper implementation of project management processes as a cause of problematic projects. On the other hand, the independent bodies report that significant lack of qualified project management personnel may be the reason of problems with projects (KPMG, PMI, 2012).

Stakeholder involvement and engagement is absent from numerous major public project documents. The process of application for projects financed by MDB makes an exception here. Stakeholder inclusion and involvement for implementation must be described when reporting the project for evaluation by the Planning Commission (DoEA, 2011).



## Actors

The main actors involved in public projects implementation, in addition to the Public Projects Management Offices, are project managers and external companies implementing projects. Public institutions incorporate such entities into projects in various ways. Contract Management is the main tool for involving both vendors and external staff into public project, so this sub-area is also a components of the Actors area (Gasik, 2014).

In India, the Public Procurement Bill of 2012 (Lokh Sabha, 2012) is currently effective. Its aim is to ensure transparency, accountability and integrity, and also the equal and transparent treatment of bidders, promoting competitiveness, and ensuring efficiency. Competition rules are well described in PPB 2012. PPB prefers domestic suppliers - which is not recommended by WTO GPA. Additionally, PPB requires the creation of a central procurement portal (CUTS, 2012).

In the area of construction projects, CPWD maintains a list of certified project suppliers, authorized to perform public contracts. The rules for enlistment to this list and forms for application to this list are publicly available (CPWD, 2015). However, in general it is estimated that the skills of contractors of public procurement in India are weak (Gupta et al., 2009).

In recent years, increased emphasis on the training of project managers has been exercised. In 2003, the Department of Personnel and Training was asked to develop trainings to prepare staff for the operation, required to do so by the Ministry of Finance (MoF, 2003). More PM courses are conducted (PMI, 2011). IPMD enables the development of the profession of project managers (MoSPI, 2013). Trainings and seminars are conducted by IPMD (MOSPI, 2013a). One of the objectives of NSSTA (a unit of MoSPI) is the training of manpower in the monitoring and evaluation of large programs and projects (NSSTA, 2016).

Despite these actions, PMI and KPMG concluded that "Dearth of skilled project managers has the greatest influence on project delivery." In India there is the shortage of qualified forces in project management (PMI, FICCI, 2011). In 2022 India will have a shortage of 3 million project management professionals (KPMG, PMI, 2012).

### Development of NPPIS

There may be several types of goals for development of public project management systems, like general goals, managerial goals, operational goals, and knowledge-oriented goals (Gasik, 2014).

According to the 12<sup>th</sup> Five Year Plan, "A nation-wide drive to improve project management must be an integral part of the Twelfth Five Year Plan" (Planning Commission, 2011). The Five Year Plan is perceived as a set of programs designed to achieve one or more objectives. However, the very 12<sup>th</sup> Five-Year Plan does not require improvement of the management of projects and programs. This plan

talks about troubleshooting by the Cabinet Committee on Investment (and the creation of National Investment Approval Board), headed by the Prime Minister, with the main ministers in the composition (Planning Commission, 2013).

The independent experts and organizations see the development of project management differently. India should have a National Policy on Project Management (PMI, FICCI, 2011) or should build a strategy for Brand India in project management (Korgaonker, 2011).

According to Korgaonker, in order to improve Indian NPPIS, PM leaders must be educated, project management systems (sets of processes) should be developed, as should ways to measure the project success for customers and contractors, the core competencies for project management should be developed and evaluated, national approaches to education, training, testing and certification of project managers should be developed, and finally Indian institute of project management and research as a central government institution should be established (Korgaonker, 2011). The biggest programs should be subject to supervision by independent institutions (Gupta et al., 2009).

Reduction of the number of unsuccessful projects (due to timeout and because of excess costs) is among the goals of Indian NPPIS development. The number of states exhibiting superior performance of Twenty Point Programme should be increased (PMD, 2012).

PMI along with FICCI proposes to establish a 3-level structure of public PMO, the institutionalization of project management maturity framework and training in project management mandatory for people holding positions requiring knowledge of project management (PMI, FICCI, 2011).

NPPIS improvement is not required by the most important Indian document – the 12<sup>th</sup> Five Year Plan. The initiatives of its systemic improvement are defined mainly by independent specialists.

## Conclusions

The paper attempts to match public project implementation practices of the central Government of India to components of the general model of National Public Project Implementation Systems. We have shown that there exist practices of public project implementation in each of six NPPIS areas. But, from the other side, some practices are not implemented in India. PM Advisory Group, clearly documented project governance processes, a nation-wide system of PM curriculae and trainings should be noted here. The processes of public project management focus on project initiation and reactive monitoring. Proactive risk management, stakeholder management, quality management or human resources practices can hardly be found in documents shaping Indian NPPIS.

This paper may initiate a comprehensive work on profound analysis of Indian NPPIS and defining ways of its further improvement.

From the methodological point of view this paper makes another evidence that the model of National Public Projects Implementation System, as described by Gasik (Gasik, 2014), is a relevant tool for analysis all practices of public project implementation at the country level.

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