

Megaprojects – Pluralism and Governance

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Abstract

Introduction: Megaprojects are virtually large enterprises that operate within technically, socially and institutionally complex environments. Institutional complexity - interlocks between regulative, normative and cultural-cognitive impositions - shifts the focus from the 'Yes'-'No' of megaproject decision-making to the negotiation of plural-institutional interactions which subsequently shape and legitimate the megaprojects.

Objectives: This article attempts to illuminate empirically using a single case study how these often understated, pluralistic interactions can make or break a megaproject.

Methods: Using triangulated secondary data sources, the case conducts an autopsy of the failed Thiruvavur-Thanjavur Coal Bed Methane Gas Project in Tamil Nadu. While other oil and gas majors have been able to carry out exploration and exploitation projects in this same region bereft of major hassles, the case examines the failed attempt of the Great Eastern Energy Corporation Limited in managing pluralism in this megaproject.

Results: Observations from the case emphasize the role of project governance structures in internally resolving the incongruence rather than looking for overarching and permanent fixes during the shaping of pluralistic megaprojects.

Conclusions: The findings call for promoters to devise project governance structures that (i) account for porosity in the project-stakeholder boundaries and (ii) ephemerally bridge the incongruences between regulative, normative and cultural-cognitive impositions that emerge due to this porosity.

Keywords: Megaprojects, governance, pluralism, institutions and incongruence.

1. Introduction

“Successful megaprojects are not selected but shaped”
– Miller & Olleros (2001)

In the light of rapid globalization and development, routine projects are being replaced by more complex, heterogeneous and pluralistic projects, which challenge the capabilities of project promoters (Ahern et al., 2014). Megaprojects, in particular, are a different breed of infrastructure projects which carry elevated aspirations of economic growth, technology, aesthetics and political mileage (Flyvbjerg, 2014). The innate characteristics of these large engineering projects amplify the technical, social and institutional complexities associated with their delivery (Gransberg et al, 2012).

Megaproject scholarship has observed governance structures as “decision-making and oversight arrangements” (Balasubramani et al., 2019) which articulate these technical, social and institutional complexities. For instance, Davies and Mackenzie (2014) presented a systems-based perspective of the

uncertainties in technical interfaces of the infrastructure projects pertaining to London 2012 Olympics and Paralympics. The authors posited the role of hierarchical governance structures that tended to sub-system-to-sub-system as well as meta-system integration in handling technical complexities. Gil (2017) noted that social complexity accrues in megaprojects by virtue of misalignment in the core-periphery landscape of stakeholder networks. He underlines that impasses can be avoided and consensus can be forged by project structures that (i) relax performance targets (ii) build organizational slack (iii) create flexible designs and (iv) incorporate nested umpires. Biesenthal et al. (2018) explicated how megaprojects host institutional incongruences owing to differences in work practices between different project and non-project-based organizations. Pluralistic settings in megaprojects are forged by diverse interests of various stakeholders attempting to stage various strategic games in order to advance or protect their stakes amidst a myriad of formal-informal impositions (Gil, 2016). Authority and power of making strategic choices are distributed among a diverse network of

actors directly and indirectly connected to the project (Scott, 2012). Eweje et al. (2012) argue that megaproject architects need to understand this institutional landscape of the megaprojects and correspondingly incorporate or exclude the critical stakeholders in order to move grounds phase by phase. Early project evangelists, service regulators, network externalities and institutional brokers have been observed to reinforce pre-existing institutional frameworks in the initial stages of megaproject governance. Fault lines tend to develop later as the stakeholder network grows and pluralism sets in - leaving the incongruent megaproject field open for intermediation (Mahalingam, 2022). Consequently, megaprojects tend to host intense decision-making fields wherein traits are made rather than being taken from pre-existing nor contesting institutional frameworks in project decisions (Fellows & Liu, 2018).

Governance structures that mitigate the effects of such institutional pluralism have been scantily studied (barring exceptions like Mahalingam (2022) and Balasubramani et al. (2019)). Shaping of megaprojects right tends to be as essential as selecting the right megaprojects in achieving the broader pursuits. To this end, there is a need to understand how events unfolding with the due course of time by the virtue of pluralistic settings can make or break megaprojects.

2. Objectives

Amidst the private entities' strategic pursuit of short-term economic returns and governmental push to economic and politically important agendas, pluralistic challenges are often ignored or underestimated during the selection, planning and shaping of megaprojects (Henisz et al., 2011). By virtue of pluralism, the goals of stakeholders may not be aligned with the overarching strategic direction of a megaproject enterprise, either for the profit of the private entities or the welfare notion of megaproject end users/benefitters (Jarzabkowski, 2003). The institutional structure of megaprojects which encompasses a centralized project owner making decisions in the interest of the project on the grounds of technical rationality is evidently misaligned with the social structure of megaprojects which encompasses a multitude of stakeholders possessing socially embedded stakes in the megaprojects.

Project governance provides a framework that articulates the various direct and indirect stakeholders

of the project, their goals and the means of achieving their goals (Turner & Müller, 2004). Unlike corporate governance, the prime challenge of megaproject governance lies is the duration available to build and operate such arrangements (Gil, 2015). Governance structures based on transaction costs are grounded purely on economic rationality (Williamson, 1991) and can't account for societal values generated by megaprojects to various stakeholders. On the other hand, political governance structures based on democracy and governmentality imbibe the technical, social, political and economic values generated by megaprojects (Sturup, 2009). These governance structures acknowledge the need to create arenas of collective action where the actors engage in communities of practice so as to negotiate and coordinate by the virtue of common will of mutual interest (Gil, 2017).

Drawing from Scott (2012), we gather that governance structures are constituted by the overarching, pre-existing institutional logics of the organizational fields that projects negotiate. Similarly, we also gather that entrant logics are constituted by the plural stakeholders who enter the projects at subsequent stages and intend to advance their interests in projects. Consequent to these arguments, the shaping of governance structures in megaprojects amidst the pre-existing and entrant logics reflects the accurate theorization of this paper's focus.

While initial theorizations on institutional logics accounted for multiple logics being constituted by the virtue of the respective social and institutional fields, researchers gradually began to realize that multiple institutional orders can co-exist within the same field. The co-existence of two or more logics within a particular field is referred as institutional heterogeneity or complexity (Battilana & Dorado, 2010). Extant accounts advocate that such co-existing logics are not inert and their prescriptions are not always compatible with each other (Greenwood et al., 2011). These institutional incompatibilities lead to internal contradictions which produce an unstable tension in a given field. Here, a permanent change perspective presents co-existing logics only as a temporary phenomenon that paves way for contradictions to get resolved over time through institutional change (For instance, Wright and Zammuto, 2013). However, a broad institutional change may not be feasible for the cause of one major project. On the other hand, another

perspective acknowledges permanent co-existence of institutional logics and appraises the structural, strategic and innovative organizational responses to the institutional pressures. Scholars those who support this perspective conceptualize institutional logics as supra-organizational symbols and patterns and describe how organizations work these logics in their fields and within their context using strategic responses. For instance, Christiansen & Lounsbury (2013) observed how a responsible drinking guide book was created to mediate between the marketing logic that favoured selling beer to under-aged customers and the CSR logic that contested the former tactic. These strategic manoeuvres tend to be passive improvisations in response to the institutional pressures from pre-existing and entrant logics. Passive improvisations can settle disputes within internal organizational teams but fail to do so with external stakeholders (Biesenthal et al., 2017). The megaproject promoters need to actively (i) align with selective pre-existing and/or entrant logics and (ii) build their logic dominantly over other contesting logics. In this context, passive responses seldom negotiate institutional pressures in megaprojects whose field boundaries encapsulates not just the teams of the promoting organization but several other organizations as well. Thereby, extant literature is handicapped in explaining how project promoters actively shape the institutional environment of a megaproject around their logics while negotiating the contesting institutional logics within the context of the megaproject.

3. Methods

A single case study methodology was adopted to illustrate the role of governance structures in actively addressing the pluralistic interests in megaprojects. On contrary to the traditional methodology of illustrating the best practices, a worst-case business research methodology was employed for providing particular and selective insight for improvement (Marcoulides, 1997). The case study was developed by conducting an autopsy analysis of the Thiruvapur-Thanjavur Coal Bed Methane Project (in Tamil Nadu, India) which failed by not addressing pluralistic interests. The key investigation points of the autopsy analysis comprised of the chronological events that unfolded by virtue of pluralism. The case captured how this megaproject spiralled down to a long impasse following widespread social revolts from farmers and other NGOs and was subsequently aborted before kick-off. The author had

to rely on primary data sources from 38 interviews with 36 personnel involved in the project spanning over 45 hours and secondary data sources spanning over 1100 pages such as newspaper articles, magazine articles, online archives and other editorials to collectively comment on the topic as such. However, multiple sources were used for triangulation of the data and thereby for validation and bias removal. Selective, open and axial coding of the data provided valuable insights for shaping, structuring, positioning, launching and governing infrastructure megaprojects in the future.

Coal Bed Methane (CBM) is a natural gas occurring under coal bed reserves. CBM extraction involves a process called "hydraulic fracturing" in which a modest size rig is used to drill wells to fracture the containing rocks and release the captured methane. The process not only provides a mean to extract a resource that is too deep to mine but also improves safety of coal mining and decreases methane vented to the atmosphere.

The Cauvery Delta Region (Thanjavur, Thiruvapur and Nagappatinam Districts) accounts for 36 per cent of the Tamil Nadu's and 7 per cent of India's total rice output. Farming provides livelihood to the millions of those residing in the region. Subsequent to the estimation of CBM potential of the Cauvery Delta Region in 2008, the Ministry of Petroleum and Natural Gas stamped the region as second largest ever CBM reserve in India. Subsequently, the Ministry decided to explore and exploit CBM in the Mannargudi Block of Cauvery Delta Region (spanning over Thiruvapur and Thanjavur districts). Great Eastern Energy Corporation Limited (GEECL) won the bid for exploration, testing of wells, and commercial exploitation of Mannargudi CBM block in 2010. The total estimated cost for exploration and extraction was USD 487.72 million. The chronology of events pertaining to the Thiruvapur-Thanjavur Coal Bed Methane Gas Project is detailed in Table 1.

-----Insert Table 1 about here-----

In spite of the project having the potential to revolutionize the Indian power/fuel industry and to serve as an important milestone in partially bridging the power/fuel deficit of the country, the project spiralled down to a grinding halt and was subsequently aborted. Between the selection to the termination of the project, as the project network grew, numerous pluralistic interests came into effect. Table 2 details the

different actors connected to the Thiruvuru-Thanjavur CBM project and their vested interests in the project.

-----Insert Table 2 about here-----

4. Results

While the Mannargudi CBM project has been in existence from 2009, the first opposition encountered against the project began not before 2012. The number of stakeholders involved in the project were minimal during the initial stages of the project which involved CBM potential establishment, bidding, award of contract and award of state permits. In particular, all these stakeholders in the initial stages of the project belonged to the public sector portfolio or the government who were in majority in favour of the project. The aspect which adds to the social complexity in such a project is the interests of the pluralistic stakeholders. Ministry of Coal, Ministry of Power, Ministry of Petroleum & Natural Gas and Gas Authority of India Limited have their own vested interests in lobbying for the project. Though concerns over social and environmental impact and corresponding mitigation plans were shared by most of the public entities associated with the project, the same may not be a priority among the various pluralistic interests of a same party. The ability to make rational decisions is heavily influenced by pluralistic interests in arenas of collective action (Fellows & Liu, 2018). As the project network of actors grew by the end of 2011, a multitude of tightly coupled pluralistic interests came into play. Synonymous with Gil (2017), we observe that network growth results in pluralism and puts consensus-oriented developments to jeopardy.

The important lesson from the case pertains to the front-end aspect of robust institutional mechanisms and project shaping. Institutional settings permit interests such as future prospects of lignite mining in the Mannargudi region, addressing of power/fuel deficit and reduction in the volume of methane imports take an upper hand with respect to social and environmental impacts of projects. Being a private entity, the agency of GEECL was not structured using appropriate institutional climate so as to generate value by social and environmental impact mitigation. Social stakeholders of the project were completely ignored during the selection of the project. Understanding the techno-social landscape of megaprojects and engagement of social actors early in the project are prime facets of aligning the interests of

incumbent and challenger actors in the dynamic strategic action fields created by these megaprojects (Mahalingam & Delhi, 2012). There were practically no efforts taken by GEECL to change the orientation of the contesting actors or incorporate their interests as a part of the project agenda. On the other hand, the Ministry of Petroleum and Natural Gas simply left GEECL deserted and abandoned after the award of the project. The megaproject was formulated just as a technical project without any project shaping efforts. The Ministry behaved in a manner so as to be immune from liability by interfering in the issue only if GEECL did not follow norms or the State Government prevented exploration without genuine reasons. The Ministry shrugged off the Mannargudi CBM project impasse on the grounds that pollution control in CBM projects was a State matter (after the provision of environmental clearance by Ministry of Environment and Finance). However, this is not the first time that pluralistic interests impeded the progress of infrastructure megaprojects. In the case of Kudankulam Nuclear Power Project, while social activists were staging confrontations, the Department of Atomic Energy and the Central Government were constantly trying to engage the protesting parties, held consultations on a door to door basis and tirelessly kept addressing the concerns raised in numerous sittings. Dr.A.P.J.Abdul Kalam himself came down to Kanyakumari, explained the benefits of the project and assured the people from adverse effects, the confrontations softened. An environment of trust, coordination and cooperation ceased to exist as the Mannargudi CBM project network grew. GEECL exercised diplomatic actions and did not embrace transparent and open engagement and consultations. The Ministry chose to remain behind the curtains and did not voluntarily step into the issue.

While we tried to make sense of the Mannargudi CBM project case, it was puzzling to note that IOCL, BPCL & ONGC have been carrying out petroleum exploration and production activities in the Cauvery Delta region without any hassles. Ministry of Coal has been carrying out exploration activities for lignite and coal in the region. Natural gas pipelines of GAIL and ONGC continue to traverse across Thanjavur and Thiruvuru. It would be worthwhile to study how these socially and environmentally sensitive projects mitigated pluralistic influences and came into being. The study also showed the detrimental effects of pluralistic interests which make situations difficult to control. Claims of contestants were over-exaggerated and sometimes

were wrong. These unrealistic claims traversed down to the lowermost rung and influenced the general public to a great extent. To point out an example, certain sections of the protest were in fact claiming that methane leakage could lead to ozone depletion. The Chief Minister of Tamil Nadu commented that the CBM project would be harmful to the physical health of the people in the region. On the contrary, the fracturing technology used to extract methane is actually leak-proof and harmless to the health of people in the region¹. The study also threw light on the nature of stakeholders one would expect to be a part of socially and environmentally sensitive infrastructure projects. The political parties protesting against the project wanted to gain political mileage by criticizing the earlier regime. Governmental actors can become incumbent actors by the virtue of bureaucratic actions that show great concern for public reaction which may actually camouflage political motives and lethargy. A majority of stakeholders belonged to Tamil Nadu and national & international level NGOs were distinctly absent. No one would have anticipated the participation of Tamil Nadu Artists and Writers Association and Tamil Nadu Consumers Council during the public hearing on the project. All the actors present for the public hearing did not share the same concerns. There were entities in the public hearing which just insisted for an open and transparent process. The actor who was concerned about sulphur pollution was not concerned about the sea water intrusion risks. Only one organization was concerned about the affected Vadavur Bird Sanctuary in the public hearing. Whether relevant to the matter or not, it can be observed that contestants always attempt to thrust a perspective that might be in their own interest. GEECL could have also addressed the concerns of the entities neutral to the project in order to reduce the strength of the contestations.

The promoters propel their logic that these megaprojects symbolize significant social upgradation. In response, the (i) politicians extend their muscle to support the frame considering the political mileage prospects, (ii) the administrators offer support for the sake of economic benefits embodied (iii) benefactors lobby the decisions enacted by the concerned agents for their personal benefits. The promoters' logics create or reinforce symbols and practices which constitute the logics that these megaprojects embody great benefits which outsize the cost of changing the prevailing logics (here, that farming is foremost) in the field. The logics favouring the megaproject development initially

interact and remain misaligned with the prevailing logics in the field (Greenwood et al., 2011). These incongruences invoke the standard and prevailing protocols institutionalized in the wider context (on most occasions) for subsequent resolution (Jarzabkowski, 2004). When standard and prevailing protocols lead to impasses as in this case, incongruences need to be worked through alternative mechanisms – in the form of governance structures - to enable the development of the megaprojects or enact the strategic decisions. Two types of alignments are possible through these governance structures. The first type of alignment accrues as a result of straightforward conceding to the symbols and practices of contesting logics. This may not always be possible owing to detrimental impacts on the project. The second type of alignment accrues as a result of middle ground or eccentric solutions which propel the challenger logics while conserving the symbols and practices of legitimized logics.

However, middle ground or eccentric solutions involve the challenging task of transforming the prevailing or entrant logics within the field. As a first and foremost step, the governance structures need to decouple the megaproject field from the wider context in an attempt not to disturb the wider institutions and subsequently invoke wider contempt. As a second step, the maneuvers engage the symbols and practices of the contesting logics. As a result of the negotiation, in the third step, the symbols and practices of contesting logics are mended and bent within the field so as to enable an alignment. At the end of the third stage, the settlement of the field is observed to be exceptionally different in comparison with the settlement in the wider context. As a result, these governance structures neither make the regulative institutions of the government bodies void nor change the wider institutional context.

While this empirical single case study only demonstrates how pluralistic influences have the capability to make new infrastructure projects when required or break existing or upcoming infrastructure projects when not wanted. In the context of megaprojects, few researchers have observed a variety of governance strategies employed to address pluralism. Mahalingam and Delhi (2012) argue that alignment of normative, regulative and cognitive-cultural logics between the challenger and incumbent

actors of strategic action fields created by infrastructure megaprojects can result in dynamic equilibrium states so as to resolve conflicts and move forward with infrastructure project. Gil (2016) demonstrates how control of network growth of resource rich actors in megaprojects can resolve long impasses over strategic decision-making conflicts and makes the case for development of strategic capabilities of megaprojects architects in matters of technical landscape of systems and system of systems. Gil (2017) also calls for polycentric governance structures oriented on building consensus among the stakeholders by relaxing targets, flexible designs and nested umpiring. The body of literature addressing megaproject management under pluralistic interests has been slowly growing.

5. Discussion

Infrastructure is the backbone of any country but the same can't thrive on the cost of socio-economic and environmental disturbances. Socially and environmentally sensitive megaprojects are unavoidable in the economic progress of countries. These projects are never purely grounded on technical rationality as software projects. In megaprojects that are embedded in pluralistic environments, centralized decision making may not lead to coercive behaviour. Pluralistic influences have the capability to make new infrastructure projects when required or break existing or upcoming or proposed infrastructure projects when not wanted. The institutional environment of megaprojects needs to shape appropriate governance structures to incorporate and address the concerns of all stakeholders connected to the project. The case study on Mannargudi CBM project empirically showed how pluralistic interests, when not addressed, spiral down to conflicts and confrontations which are detrimental to the very existence of the megaprojects. Behaviour of stakeholders are always oriented in a direction which advances their interests. Consensus building developments need to focus on changing and aligning the normative, regulative and cognitive-cultural orientation of actors so as to resolve conflicts and move forward with infrastructure projects. Being the privileged particles of the development process, the findings show that megaprojects require local, ephemeral governance structures that enable this institutional alignment without impacting the wider environment.

The conference paper has quite a few limitations. The study falls short in explaining the mechanisms of how eccentric governance structures actually negotiate institutional incongruences. Further, the study does not elaborate on the evolution of the divergent governance structures. A single case study approach also holds disadvantages pertaining to generalization of findings. Nevertheless, the intent of this conference paper was to highlight an understudied phenomenon in megaprojects and operationalize a theoretical lens for an in-depth study of the phenomenon.

References

- [1] Ahern, T., Leavy, B., and Byrne, P. J. (2014). Complex project management as complex problem solving: A distributed knowledge management perspective. *International Journal of Project Management*, 32(8), 1371-1381.
- [2] Battilana, J., & Dorado, S. (2010). Building sustainable hybrid organizations: The case of commercial microfinance organizations. *Academy of Management Journal*, 53(6), 1419-1440.
- [3] Balasubramani, M., Mahalingam, A., & Scott, W. R. (2020). Imitation and adaptation: lessons from a case study of a metro rail project in India. *Construction Management and Economics*, 38(4), 364-382.
- [4] Biesenthal, C., Clegg, S., Mahalingam, A., & Sankaran, S. (2018). Applying institutional theories to managing megaprojects. *International Journal of Project Management*, 36(1), 43-54.
- [5] Christiansen, L. H., & Lounsbury, M. (2013). Strange brew: Bridging logics via institutional bricolage and the reconstitution of organizational identity. In *Institutional Logics in Action, Part B*. Emerald Group Publishing Limited.
- [6] Davies, A., & Mackenzie, I. (2014). Project complexity and systems integration: Constructing the London 2012 Olympics and Paralympics Games. *International Journal of Project management*, 32(5), 773-790.
- [7] Eweje, J., Turner, R., and Müller, R. (2012). Maximizing strategic value from megaprojects: The influence of information-feed on decision-making by the project manager. *International Journal of Project Management*, 30(6), 639-651.
- [8] Fellows, R. F., & Liu, A. M. (2018). Where do I go from here? Motivated reasoning in construction

- decisions. *Construction Management and Economics*, 36(11), 623-634.
- [9] Flyvbjerg, B. (2014). What you should know about megaprojects and why: An overview. *Project Management Journal*, 45(2), 6-19.
- [10] Gil, N. A. (2015). Capabilities and performance of polycentric governance: A study of planning large infrastructure projects in the UK. *Working Paper*.
- [11] Gil, N. A. (2016). Governing Strategic Planning in Pluralistic Projects: A Polycentric Commons Approach. *Working Paper*.
- [12] Gil, N. (2017). A collective-action perspective on the planning of megaprojects. In *The Oxford Handbook of Megaproject Management*. Flyvbjerg, B. (Ed.). Oxford University Press.
- [13] Greenwood, R., Raynard, M., Kodeih, F., Micelotta, E. R., & Lounsbury, M. (2011). Institutional complexity and organizational responses. *Academy of Management Annals*, 5(1), 317-371.
- [14] Gransberg, D. D., Shane, J. S., Strong, K., and del Puerto, C. L. (2012). Project complexity mapping in five dimensions for complex transportation projects. *Journal of Management in Engineering*, 29(4), 316-326.
- [15] Henisz, W. J., Dorobantu, S., and Nartey, L. (2011). Spinning Gold: The financial returns to external stakeholder engagement. *Academy of Management Proceedings*, 1, 1-6.
- [16] Jarzabkowski, P. (2003). Strategic practices: An activity theory perspective on continuity and change. *Journal of Management Studies*, 40(1), 23-55.
- [17] Mahalingam, A. (2022). How institutional intermediaries handle institutional complexity in vanguard megaproject settings. *International Journal of Project Management*, 40(4), 320-331.
- [18] Mahalingam, A. & Delhi, V.S. K. (2012). A contested organizational field perspective of the diffusion of public-private partnership regimes: evidence from India. *The Engineering Project Organization Journal*, 2(3), 171-186
- [19] Marcoulides, G. A. (1998). *Modern Methods for Business Research*. Psychology Press.
- [20] Miller, R. & Olleros, X. (2001). Project shaping as a competitive advantage. In Miller, R., Lessard, D. R., Michaud, P., and Floricel, S. (Eds.). *The Strategic Management of Large Engineering Projects: Shaping Institutions, Risks, and Governance*. MIT press.
- [21] Scott, W. R. (2012). The institutional environment of global project organizations. *Engineering Project Organization Journal*, 2(1-2), 27-35.
- [22] Sturup, S. (2009). Mega Projects and Governmentality. World Academy of Science, Engineering and Technology, *International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering*, 3(6), 862-871.
- [23] Turner, J.R., and Müller, R. (2004). Communication and cooperation on projects between the project owner as principal and the project manager as agent. *European Management Journal*, 22 (3), 327-336.
- [24] Williamson O. E., (1991), Comparing economic organizations: The analysis of discrete structural analysis. *Administrative Science Quarterly*, 36(2), 269-296
- [25] Wright, A. L., & Zammuto, R. F. (2013). Wielding the willow: Processes of institutional change in English county cricket. *Academy of Management Journal*, 56(1), 308-330.