# Negotiating power and constructing the nation : engineering in Sri Lanka

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# Conclusion

> "And our celebrated duty of memory is proclaimed in the form of an exhortation not to forget. But at the same time and in the same fell swoop, we shun the spectre of a memory that would never forget anything. We can even consider it to be monstrous"
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> *Memory, History, Forgetting* – Paul Ricoeur

This study is conducted at the crossroads of two disciplines; the material study of engineering and technology and the social study of nations and nationalism. While focusing on the popular claim by the Sinhalese as a nation of engineering excellence, this dissertation looks at how and why this perception by the Sinhalese has been constructed, modified and revised over time, and examines the people and projects that have been included and excluded in the process.

**The narrative of engineering and the narrative of the Sinhala nation**

The construction of a narrative of the Sinhalese as a great engineering nation rests upon a belief shared in general by the members of the Sinhala nation and is a continuous process that is fashioned on a day today basis. The basic features of this narrative, however, were established in the nineteenth and early twentieth centuries and during British colonial rule, when ruins of a technologically advanced civilization were excavated and restored using the principles and practices of modern engineering. Grandiose monuments – giant stupas, reservoirs, multi-storey structures that were restored by engineers of colonial times, provided evidentiary proof for this narrative of a grand hydraulic civilization built by the Sinhalese. The restoration of ruins and massive structures of engineering played a central role, along with two other important occurrences – the translation of the *Mahavamsa*, the Great Chronicle, from Pali to English and the spread of the theory of an Aryan race, as other scholars have argued, in defining what I would call the 'nineteenth century moment' of Sinhala nationalism. The *Mahavamsa* provided the story line to position the restored ruins in a chronological order and in turn, the ruins provided

credibility to the narrative of the *Mahavamsa*. Aryan status elevated the community of Sinhalese to sit as equals with their colonial masters and above other ethnicities who shared with them the same land on the island. It was the 'moment' at which the nation of Sinhalese emerged, as it is understood today. The narrative of Sri Lankan engineering and the narrative of the Sinhala nation seem to go hand in hand, while feeding off each other.

This thesis has shown however, that the case is more complex than described above. On the one hand, there is no single narrative that portrays the Sinhalese as a great engineering nation, but many. Even though they communicate a single message of engineering excellence of the Sinhalese, they differ when it comes to details. As one sifts through the narratives in circulation among different segments of the Sinhalese community, what appears is a variety of narratives that differ according to the sources that are being used to construct them. While grand works of engineering, mostly monuments such as tall stupas, large reservoirs and multi-storey structures, are showcased prominently in all narratives, other items in the list of marvels vary. The wind driven iron smelting industry, for example is a relatively recent addition to the list and highlighted only by some. The trade of ancient shipbuilding is another case which appears occasionally. On the other hand these narratives of engineering excellence of the Sinhalese have exercised 'violence' of various kinds when faced with challenges: things have been tolerated, included and highlighted if they follow the accepted line or neutralised and excluded through silencing or suppression if they counter or threaten them. I argue that it is the close relationship maintained between the narrative of engineering and Sinhala nationalism that triggers these responses of a violent nature. The intimate connection between the two automatically makes an anomaly, a challenge or a threat to the narrative of engineering, also a challenge to the narrative of Sinhala nation and hence forcing the first to initiate a negotiation for a settlement with the anomaly or the threat concerned. All major sites of engineering that were built after the introduction of modern engineering remain potential threats to the narrative of engineering described above, until they are discursively mediated and settled. The three sites I use to illustrate this complex process of negotiation, settlement and mediation: the "Aberdeen-Laxapana Hydro Electric Scheme", the "Accelerated Mahaweli Development Project" and "Ravana the engineer and his technological dynasty", show the various forms in which this happens. For instance, the narrative of the developmental nation of Ceylon that was built around the Hydro Electric Scheme and which provided an alternative line of imagination for the Ceylonese during the early parts of the twentieth century, is rarely mentioned in the narrative of the Sinhalese as a nation of engineering excellence and hence, excludes both the scheme and the engineer responsible for the project - Wimalasurendra. The narrative of Ravana as the leading engineer of the Hela nation, the site of mythical

engineering in contrast, seems to survive along with the hegemonic narrative of engineering, even though it is edging towards dislodging the narrative of the Sinhala nation itself in the popular sphere. It is a case of tolerance where the narrative of engineering coexists with the new narrative of Ravana - both stories of engineering excellence of the Sinhalese but differing vastly one from the other in their content. The site of the Accelerated Mahaweli Development Project - the other site of modern engineering that was examined in this study, showcased strategies of negotiation that are different to the two other cases - the Hydro Electric Scheme and Ravana and his technological dynasty. Metamorphosis seems to be the name of the game. On the one hand the Accelerated Mahaweli, a project that sought to establish the material conditions of modernity, is presented discursively, as an attempt to reignite the past glory of the ancient hydraulic civilisation built by the Sinhalese - a case of forced positioning of the Project in a narrative of Sinhala nationalism. The Accelerated Mahaweli Project also provides an example on the other hand, of the construction of a neutral narrative of dry zone development to counter the risk of being seen as a project of the Sinhalese colonising land claimed by the Tamils as their traditional homeland (e.g. the settlement of Sinhalese in Yaan Oya, Malwathu Oya and Madhuru Oya as a secret operation). Interestingly, in the case of "Yaan Oya - Malwathu Oya - Madhuru Oya Operation", the late extension to the Accelerated Mahaweli Project, the narrative of engineering maintained silence as it became an embarrassment even within the Sinhala nationalist opinion, as I have shown in Chapter 3.

Therefore, the narrative of engineering excellence of the Sinhalese is one that is being reconstructed, modified and revised whenever it encounters a new site of engineering, whether it is a site of modern engineering or mythical in nature, as is the case with the story of Ravana. These reconstructions, modifications and revisions of the narrative aim to negotiate settlements between possible inconsistencies, frictions and contradictions generated by new engineering works and the existing script of Sinhala nationalism. Negotiations, as this thesis indicates, are done not just by using the simple functions of inclusion and exclusion of people and projects, but also by using a range of subtle strategies as described above. They vary from exclusion, by maintaining silence (e.g. silence on the Hydro Electric Scheme and on the “Yaan Oya – Malwathu Oya – Madhuru Oya Operation”), inclusion through a process of forced metamorphosis, either to place the site comfortably in line with the nationalist narrative (e.g. dressing up the Accelerated Mahaweli Development Project as an attempt to retrieve past glory), or to hide its real intentions (e.g. to cover up state sponsored colonisation done under Accelerated Mahaweli Development), to tolerance, as long as the new site doesn’t serve the ‘enemy’ (e.g. the narrative of Ravana and his technological dynasty). As I discuss in Chapter 4, the narrative of Ravana - an alternative

reading of the Sinhala past, differs from the hegemonic narrative of the Sinhala nation, yet it still competes with the second for the sake of a common cause, which is the greatness of the nation of Sinhalese.

The way the meaning of an engineering project (e.g. the Hydro Electric Scheme, the Accelerated Mahaweli Development Project, etc.) emerges through a process of negotiation with the existing narrative of nationalism and is incorporated thereafter in the popular narrative of engineering, depends mainly on two general factors – the socio-political and economic contexts at the time and the interests of different influential actors from the level of government to the level of individuals. While there can be several individual explanations as to why an engineering project and persons involved were included or excluded in a narrative of engineering in the long run, a better strategy for understanding the process is not to select a single explanation and to ignore the rest but to hold all of them more or less to be valid, unless they remain in total opposition to each other. The absence of the Aberdeen-Laxapana Hydro Electric Scheme and D. J. Wimalasurendra in the popular narrative of Sri Lankan engineering can be addressed within several lines of discussions, such as the class interests of the Ceylonese bourgeoisie and Sinhala nationalism, caste politics and its relationship with Sinhala nationalism, and as a discussion on the relationship between Wimalasurendra and the Sinhala political elite of the early twentieth century. While no single explanation provides a complete understanding, all of them together seem to bring some clarity to the question regarding the silence surrounding Wimalasurendra. Similarly, the need to package modern development in an acceptable form for the consumption of a Sinhala constituency, the wish for a long term UNP rule in the country by President Jayawardene, the ambition of Minister Dissanayake to emerge as the next leader of the party and the effort by the government in the South to counter Tamil militancy in the North and the East, taken together, provided the context under which the Accelerated Mahaweli Development Project was incorporated in the narrative of engineering, allowing for these multiple interpretations. The victory in the war between the Southern government against the Tamil militants, the Sinhalese' historical uneasiness with living in the shadow of India and the need to provide a better response to the theory of a traditional homeland of the Tamils in combination, created conditions for the narrative of the powerful, technologically superior Hela dynasty of Ravana, to spread in quick time and to coexist with the existing narrative of the Sinhala nation.

By focusing on engineering sites that are very diverse in nature, this dissertation manages to expand understanding on the role of engineering in relation to nationalism. The dissertation suggests to the multiple functions engineering can play in serving the interests of the nation, to the different directions

technology facilitates a nation to consider when mobilising the imagination of its members, and to the different forms engineering can take, on a platform of nationalism.

**Functions of engineering in serving the nation**

Literature investigating the relationship between engineering and nationalism is biased in general towards the narrative-generating role of technology. Technological artefacts and systems are discussed as objects around which the narratives of nations are constructed. As this study emphasises, technology, as material objects, performs another important nationalistic function - action. The site of the Accelerated Mahaweli Development shows how the material structure, itself, becomes nationalistic. The Yaan Oya - Malwathu Oya - Madhuru Oya Operation which was a modification to the hydraulic map of the Accelerated Mahaweli Development Project and ended as a failed attempt, was incorporated lately to breach the continuity of the traditional homeland claimed by the Tamils. The idea was to physically violate the ground of the traditional homeland, based on which the struggle for a separate Tamil state, Eelam, was conducted by Tamil militants, by installing pockets of Sinhala settlements. The secrecy maintained at the designing stages of the operation and the silence maintained by the mainstream media when Sinhalese were settled on a mass scale on the West Bank of Maduru Oya, point to the fact that rather than the construction of a narrative, the ultimate object was the act of engagement with the Tamil 'other'. The exclusion of the North-Central Province Canal from the Mahaweli development map is another example. By removing (or de-prioritising) the Canal from the map, Tamils living in the North were prevented from accessing water diverted from the River Mahaweli. Both the Yaan Oya - Malwathu Oya - Madhuru Oya Operation and the North-Central Province Canal - late amendments to the original plan of Mahaweli development, exhibit how technical designs of technological systems can themselves be nationalistic and perform functions of nationalism on their own. The entire Accelerated Mahaweli Development Project can also be treated as an act of Sinhala nationalism. If positioned in a narrative of colonisation, the Project is primarily a scheme to establish Sinhala colonies in the lands of the North and the East, the two Tamil dominant provinces of the island.

**Engineering and the direction of national gaze**

In addition to the functions performed, either narrative or physical, the involvement of engineering in relation to nationalism is also about the directions that a nation looks at when mobilising her members to come together. Even though they are not categorised as such, the literature on the role of engineering in nationalism points to some nations that look forward and others that look backward in

the construction of identities. Technology tends to facilitate members of nations, as imagined communities, either to look forward and visualise their own common future or to look backward and remind themselves of a shared past. Sri Lanka is widely considered to be a place where communities, the Sinhalese and Tamils for example, look backward in search of their identities. The Accelerated Mahaweli Development Project shows how, as a modern engineering site, it is used as a ground to remobilise Sinhala nationalism by reviving memories of a glorious past. Positioned as a narrative for reviving the glory of ancient times, the Accelerated Mahaweli Development was used to take the Sinhalese on a journey towards the past. A chronicle that was authored recently on the history of the Mahaweli Valley, the *Mahaweli Vansaya*, accompanied by a collection of rituals introduced as invented tradition and celebrated in public, helps the narrative to organise this journey. The case of Ravana and his technological dynasty provide further proof for this inclination towards the past, and mobilise the imagination of the Sinhala nation even further into the past.

As a condition for and as a product of modernity, the role of technology, however, is not really about coordinating journeys into the past but to the future. Engineering provided the physical infrastructure upon which the modern nation state was built and is also a narrative for members of the nation to imagine a technologically superior future. Even though it went unnoticed and does not appear in the narrative of Sri Lankan engineering and in the text of mainstream history, the Aberdeen-Laxapana Hydro Electric Scheme, as this thesis shows, facilitated the vision for a Ceylonese developmental nation. It survived at least for a few decades in the early twentieth century as an alternative model based on which the future independent state of Ceylon could be designed. Hence by going against the widely held opinion that the people of the island always looked towards the past in forming identities, there were attempts at times to look both ways, to look backward as well as to look forward. By adding another dimension to this discussion on how the sites of engineering are used in mobilising nationalism, this study argues that nations not only stare along the time axis towards the future or the past, but looks also at space and beyond the boundary of self and towards 'others', Tamils in the case of Sinhalese. The presence of the enemy, the 'other', helps in mobilising a feeling of belonging among its members and pushes the nation towards action. The cases of "Yaan Oya - Malwathu Oya - Madhuru Oya Operation" and the "North-Central Province Canal", serve as examples. Both cases can be regarded as engineering responses which, address concerns generated by the 'other': one by trying to confront the enemy (i.e. by creating Sinhala settlements in Yaan Oya, Malwathu Oya and Madhuru Oya) and the other by hurting the enemy (i.e. by dropping the proposal to supply water to the north through the North-Central Province Canal).

**Situating engineering within nationalism**

Even though the understanding of technology has evolved to mean something with overlapping categories such as technical, economic, political and social, in general it is still the understanding in the discourse of engineering and nationalism, that engineering or technology is a terrain of materiality. Discussions on engineering in relation to nationalism, treat technology as objects, artefacts and systems. Within the narrative of heritage, engineering is represented by grand material structures made from soil, wood and stones. Mines, cities, railroads, ports, communication networks, air and space craft, etc., all forms of material artefacts, symbolise modern nation states. The role of the engineering profession and engineering education in relation to nationalism and nation building is discussed also on a platform of materiality. Engineering and technology, however, take different shapes within the context of this study - both material and non-material. When positioned within a discourse of nationalism, engineering can be broadly defined. This thesis argues that engineering is not just an object, an artefact or a programme, but also a condition, a myth, a symbol, a tool, an actor, a worksite, a conceptual space or a community. Whether engineering remains a tool, an actor or a worksite, for example, is dependent on how one prefers or is forced to look at it. This possibility of multiple readings allows a technological object or a system to have multiple identities with respect to the role it plays on the soil of nationalism. As mentioned above, engineering, as a grand myth of technologically advanced Ravana dynasty that provided leadership to the entire world, acts as a condition for the 'twenty first century moment' of redefining the Sinhala nation. The expertise of Sinhalese people - the descendants of King Ravana, in irrigation, building construction, navigation, aviation and nuclear energy, provides the ideal turf for the Sinhalese to shift with pride to a grander narrative of Sinhala nation, one that is demanded after the victory in the war against the Tamil Tigers. Engineering also means a symbol, a tool or an agent under diverse conditions. Engineering can become a symbol around which the imagination of a nation can be mobilised. The imagination that is being mobilised can be for a nation that is to be built in the future as it is the case with the Hydro Electric Scheme, or for a nation that is already in existence as the cases of the Accelerated Mahaweli Development Project and Ravana the engineer illustrate. The narrative constructed around the symbol plays the key role of mobilising the imagination. The technical structure, taken in isolation, remains 'neutral' while the narrative performs the political act. Instead of becoming a tool to serve a function on behalf of the nation, the technological object itself, can become the political act, as shown by the "Yaan Oya - Malwathu Oya - Madhuru Oya Operation" and the "North-Central Province Canal". The hydraulic map of the Accelerated Mahaweli Development Scheme is itself biased

towards the Sinhala nation. It is a case where engineering as an object is no longer 'neutral' but becomes inherently political and nationalist.

Engineering can also be defined as a site within the context of nationalism. It provides the ground on which the nation is produced, reproduced and re-established, both narratively as well as in physical terms. All three cases – the Hydro Electric Scheme, the Accelerated Mahaweli Development Project and Ravana's dynasty, are sites in this sense. The Hydro Electric Scheme is the site on which the vision of a new Ceylonese nation emerged in the early twentieth century. The Accelerated Mahaweli Development Project is a site that was used for a range of functions that served the nation. The *Mahaweli Vansaya*, the chronicle of Mahaweli, revisited the past to reconstruct and re-establish the identity of the Sinhalese by locating Mahaweli valley as the heartland of Sinhala nation. The "Yaan Oya - Malwathu Oya - Madhuru Oya Operation" and the "North-Central Province Canal" were attempts to re-establish the territory of the Sinhala nation through expansion in the first case, by reclaiming land and through exclusion in the second, and hence reinforcing the territory of the nation by restricting the resources claimed by the nation to be consumed by its members within its own boundaries. The Ravana dynasty is a mythical site and a conceptual space, and it is here that the redefinition of the Sinhala nation is attempted, at present. At times, engineering also means a community. From Wimalasurendra to Ravana and from engineers at the Central Engineering Consultancy Bureau to the technically skilled community of *Yakkas*, engineers were at the forefront of constructing, reconstructing, modifying and revising the Sinhala nation.

By using a popular narrative of Sri Lankan engineering and three specific case studies, this dissertation brings different lines of discussions - on the meaning of technology and engineering, heritage and grandiose monuments, developmental states, invented traditions, myths, politics of artefacts, the role of other in identity construction, the role of technology in nation building and community of engineers – that have until now been conducted by scholars as distinct fields of inquiry to a single table. It brings discussions on the technological sites that mobilised nationalism with a forward and a backward gaze, to a common space and then proposes to introduce a third direction of gaze, towards the other, for a better understanding. It creates a space to situate these diverse lines of arguments next to each other, to compare, combine and formulate a reasonable framework as discussed above, to discuss engineering and technology in relation to nationalism.

Engineering remains a dominant theme in the Sinhalese political discourse in particular because the popular narrative of the advancement of Sinhalese engineering elevates the nation to a level that is

above ‘others’ and on par with powerful nations in the world. A nation with a backward gaze desperately needs achievements to be proud of and when it comes to the Sinhalese, the popular narrative of engineering caters to that need. As a condition and a product of modernity, engineering carries the glamour that is required to generate a sense of pride from a 'modern' perspective.