

Article

Key Issues for Implementation of Environmental Planning Policy: Construction Management Practice

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Abstract: A plethora of regulatory environmental planning policies constrain on-site construction operations, to theoretically minimise negative environmental impact and create sustainable practice. However, it is widely acknowledged that the construction sector continues to remain a significant cause of environmental degradation, even in contexts where policies and regulations exist. In this manner, a disparity exists between policy intent and policy outcome. The purpose of this study is to explore how policy implementation may influence the disparity between policy intent and policy outcome in the context of regulatory environmental planning policy and on-site construction environmental management operations. Importantly, the study moves beyond State authorities responsible for, inter alia, policy formulation and ratification, as it concentrates upon policy users: ground level implementation actors (government and non-government) and activities. Understanding key issues associated with policy implementation from the literature, a two-stage qualitative research design was adopted to explore policy implementation. In addition to key issues with policy implementation identified in the literature, the findings identified four context-specific conditions that impact upon successful implementation: policy operationalisation, organisational position, professional belief, and specialist knowledge and understanding. The implications demonstrate cultural change across the sector as fundamental for successful policy outcomes, and ultimately, environmental protection.

Keywords: sustainability; regulatory policy; environmental planning policy; urban planning; environmental management; construction management

1. Introduction

Globally, the detrimental environmental impacts from the construction sector have been well acknowledged [1,2]. Shen and Tam [3] aptly explain that “construction is not by nature an environmentally friendly activity” (p. 535). Due to the negative impacts of construction, various government hierarchies have attempted to address the situation through the use of regulatory policy: regulation of on-site activities and promotion of sustainable practice. Yet, with such a plethora of policy and strategies internationally (i.e., Agenda 21, Local Agenda 21, UN Sustainable Development Goals), nationally (i.e., Australian National Strategy for Ecologically Sustainable Development, Environmental Protection and Biodiversity Conservation Act, Intergovernmental Agreement on the Environment, Commonwealth State of the Environment Reporting), and on a state level (i.e., NSW Environmental Planning and Assessment Act (EP&AAct), NSW Protection of the Environment Operations Act, over 120 Local Environmental Plans), construction sector operations continue to have negative environmental consequences. The United Nations has identified that the sector is responsible for

around “40% of global energy use, 30% of energy-related greenhouse gas emissions, approximately 12% of water use, nearly 40% of waste” [1].

Gunningham and Sinclair [4] argue that “most existing approaches to regulation are seriously sub-optimal . . . they are not effective in delivering their purported policy goals, or efficient, in doing so at least cost, nor do they perform well in terms of other criteria such as equity or political acceptability” (p. 1). Internationally, failure of environmental policies has been well acknowledged, and this extends to sustainable development policy (see for example, [5,6]). A similar situation is presented in Australia with the New South Wales (NSW) Department of Planning describing the environmental planning system as full of unnecessary and complicated red tape, with a confusing web of conflicting and complicated plans and instruments [7].

More recently, in a review of the EP&AAct—the primary policy governing development in NSW—the Government identified the unnecessary complexity of the policy and its system, stating they need to strengthen and streamline processes associated with local development [8]. While the review of the Environmental Planning and Assessment Regulations—the administrative policy supporting the EP&AAct—highlighted the policy has created a “hard to use” system [9] (p. 2) and there is a need to “reduce administrative burden and increase procedural efficiency, reduce complexity and establish a simpler . . . planning system” [9] (p. 4).

Importantly, the failure of policy to achieve its objectives has been attributed to poor policy implementation practices [10]. Therefore, policy implementation research may provide the mechanism by which to understand failure within the policy process [11] and the challenges associated with achieving successful outcomes, as implementation may, itself, act to change policy causing disparity [11–14]. The intent of this study was to explore policy implementation in the context of environmental planning and assessment policy against on-site construction environmental management operations to understand the influences that drive disparity between policy intent and outcome. Consideration of the policy implementation process may assist with identification of systemic issues that impact upon successful environmental outcomes from on-site construction operations.

1.1. Policy Implementation

The discipline of policy analysis evolved during the 1950s, whereby the foci related to the challenge of solving government problems [14,15]. Over the proceeding decades, policy was considered a linear process: objectives were well defined, and implementation simplistic [16]. However, the ability of policy to achieve its objectives was continuously questioned [17], and around the 1970s, a focus upon implementation as a field of enquiry emerged.

Pressman and Wildavsky [18] identified that poor implementation was due to inability of policy formulators to comprehend the difficulties associated with implementation: including multiple agents, multiple agendas, and partnership needs. Importantly, their work identified the significance the implementation phase plays in policy outcomes [19,20]. Furthermore, it highlighted that government policy objectives and ground level reality often conflict [17]. Nilsen, Stahl, Roback, and Cairney [21] explicate that the discipline of policy implementation research came to fruition as “a desire to understand, explain and address problems associated with translating explicit and implicit intentions into desired changes”. Consequently, the discipline of policy implementation research rapidly evolved in an attempt to understand how to achieve successful policy outcomes.

1.2. Benefits of Implementation Research

Implementation research has the ability to aid future implementation activities [11], as there is a wide range of areas that can be examined through this stage of the policy lifecycle: from macro and micro analysis, an examination of multiple agents, policy ambiguity and irresolution, through to outcomes and risk [20]. Schofield [20] identified benefits of implementation to include:

- “The framing of policy advice . . .
- The reformation of policy goals and policy re-design . . .

- The role and importance of technical detail and procedural information . . .
- Attention towards lower level actors . . .
- Practical issues based on the day-to-day effects of policy at street-level and how these impact on bureaucrats' work" [20] (p. 258).

Subsequently, research into this domain is considered valuable to assist learning, ultimately make change and promote successful policy outcomes.

1.3. Issues That Impact Implementation

Within the academic literature, various issues have been identified that impact upon successful policy implementation, that Howes et al. [6] define as either a structural cause (i.e., economic, political), an implementation trap (i.e., communication failure, conflicting objectives), or a scoping problem (i.e., inability to comprehend the policy issue). The reality is that many issues have the potential to impact policy implementation success from inappropriate timeframes, neglect, misunderstanding [22], poor execution, ineffective collaboration [14], insufficient funding and support [10], along with differing viewpoints and objectives between formulators and implementers [23]. However, the research by Hogwood and Gunn [24] provides an interesting perspective given the primary focus upon implementation from a defect perspective: highlighting areas that, if imperfect or affected, will negatively impact upon the success of implementation [17,25]. The model: ten preconditions to perfect policy implementation (refer to Table 1), theoretically requires that to attain perfect policy implementation, the requirements of each precondition must be achieved [17,26]. Although acknowledging that perfect implementation is not reality, their viewpoint asserts that without consideration of the preconditions, the policy implementation phase will be challenged [24,27].

The Hogwood and Gunn [24] framework has been acknowledged as a theoretical lens by which policy implementation can be explored [17], and the challenges to implementation identified: strengths and weaknesses [28]. It provides the identification of deficits and a deeper understanding when determining why there is a misalignment between intent and outcome [25], highlighting barriers to assist in strategy development to improve outcomes [28]. Importantly, it presents an association with the top-down theories: prescriptive [29] and hierarchical approaches, where government bureaucrats distribute power and authority by which they control implementation [14], which is relevant to this study, given the international environmental agenda that has filtered down to the local level through policy change. In this manner, it acknowledges the regulatory and hierarchal processes of implementation: the identification of challenges and a focus upon implementation deficits to determine why policy objectives have not been achieved, enabling an evaluation of barriers and enablers to disparity [27]. The model has been considered appropriate for the analysis of local level policy implementation [28] that aligns with the intent of this research examining local actors and activities; however, this has not been fully explored within the construction and environmental policy context.

Table 1. Summary of the Hogwood and Gunn (1984) ten preconditions to perfect policy implementation [24].

Precondition	Explanation
Precondition 1	External constraints do not impact the implementing agency
Precondition 2	Time and sufficient resources are available
Precondition 3	Combination of resources is available
Precondition 4	Policy is based upon a valid theory of cause and effect
Precondition 5	Cause and effect relationship is direct with minimal intervening links
Precondition 6	There are minimal dependency relationships
Precondition 7	Objectives are understood and agreed upon
Precondition 8	Tasks are specified in correct sequence
Precondition 9	Communication and co-ordination is perfect
Precondition 10	Authorities are able to obtain perfect compliance

2. Materials and Methods

Conteh [30] reviewed three generations of policy implementation research approaches. He indicated that as the "result of transitions towards complex and multi-actor policy processes,

the focus of research on implementation shifted from trying to build meta-theory towards explaining concerted action across institutional boundaries” (p. 124). Thus, one notices the broadening of the approach to research on policy implementation into a multi-focus perspective that looks at a multiplicity of actors, loci, and levels. In this context, the constructivism paradigm enables an exploration of the multiple perspectives and meanings held by different stakeholders in relation to the policy implementation phenomenon [31]. In this respect, application of a sociological lens, using an in-depth qualitative exploratory research design, was considered appropriate to policy implementation.

The research design explored the “policy implementation” phenomenon in the context of environmental planning policy and construction management operations through extracting the lived experiences of participants [31] at a local level. The research design comprised two stages to develop an understanding of policy implementation through the lived experiences of practitioners. Stage 1 explored selected practitioners experiences of the policy implementation in a non-project-specific context and a generalised manner. Stage 2 explored case project-specific specialist practitioner experiences through a multi-perspective approach.

Stage 1: interviews were semi-structured in nature, and concerned key stakeholders who held a regulatory role or were employed within private sector organisations familiar with policy. A total of 12 participants were interviewed with selection based upon a purposeful sampling approach: often employed “for the identification and selection of information-rich cases” [32] (p. 533), given their knowledge of a particular phenomenon [31]. Participants were sourced from local government agencies who approved the most developments, private firms with category A1 certifiers, and building firms associated with the peak construction industry body. Demographic questions were posed in addition to questions around six key themes, as summarised in Table 2, that were based upon stages of the construction cycle.

Table 2. Summary of Stage 1 question themes with example triggers.

Question Themes	Probes/Triggers (Sub-Level)
Environmental Performance	Environmental scientist/officer Training (environmental management, regulations/on-site operations)
Design/Approval processes	Environmental performance Statement of Environmental Effects Construction environmental management plans
Site Operations	Notification of on-site requirements Standard on-site practices
Monitoring and Compliance	Monitoring on-site operations (regulatory, audit/reporting) Audits/reporting frequency (consent, statements, on-site operations)
Information Sources/Advice	Government agencies/sources Professional institutes/Industry networks
Policy	Extent to which policy impacts performance (degree of control, regulatory interpretation, environmental plans)

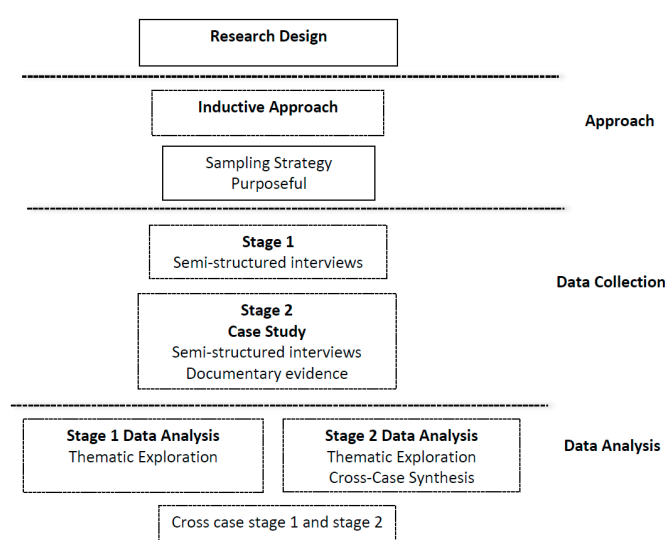
Stage 2: four case study projects were examined involving semi-structured interviews with key stakeholders involved with the projects. The projects covered a range of development types: aged-care, residential, commercial, and educational, to examine different contexts. Using a purposeful sampling approach, a total of 25 key stakeholder interviews were conducted with participants who had association with at least one project (not involved in Stage 1). Following demographic questions, a series of questions around key themes were presented as illustrated in Table 3, developed from the thematic analysis of Stage 1 data. In addition, analysis of documentary evidence (i.e., development consent and subsequent conditions) was also undertaken to assess whether consideration had been given to environment impacts at the design and consent stages of each project. Many policies were used in the assessment and approval phase, including the NSW EP&AA Act and Regulations, State Environmental Planning Policies, Local Environmental Plans, and Development Control Plans. However, for the purpose of this study, the focus was upon the approval documentation released by the consent authority (local government) following assessment: interpretation of policy for implementation.

Table 3. Summary of Stage 2 question themes with example triggers.

Question Themes	Probes/Triggers	Sub-Level
Information transfer	On-site paperwork Paperwork assessment	Development application/Consent Statement/Environmental Effects
Roles and responsibilities	On-site operations Implementation methods	Practitioner Internal auditing/External auditing
Training and education	Training Project specific training	Planning/Environmental policy On-site operations
Regulatory interpretations	Penalties Local/State government advice	Consent documentation Experience/Outcome
Compliance	Auditing/Incidents External agency involvement	Internal programme External programme
Organisation	Environmental system Additional controls	Purpose/Intent Implementation

Stage 1 and Stage 2 analysis of interview data adopted a three-stage coding approach to develop themes involving open, axial, and selective coding using NVivo: a software application to assist with storing and organising qualitative data [33]. Through NVivo, the thematic analysis involved data being placed into concepts and categories that were stored as nodes. The nodes were further explored, and where appropriate, linked with other associated nodes. Codes were reviewed to ensure they were both suitable and representative, to avoid a surplus of codes or insufficient codes.

Documentary analysis followed a four-tier process: review, interrogate, reflect/refine, and thematic analysis [34], to identify issues to support interview data analysis. A cross case synthesis was undertaken using Stage 1 and Stage 2 codes, and a detailed list of codes developed that enabled a view of themes that emerged across the four case studies, to develop a coding table of final themes (refer Figure 1). The themes were aligned with the Hogwood and Gunn (1984) ten preconditions to enable an understanding of implementation operations, to identify whether differences exist within the classes of participants, determine influences impacting upon successful policy implementation, and identify any outliers to the ten preconditions. All subjects gave their informed consent for inclusion before they participated in the study. The study was conducted in accordance with the Declaration of Helsinki, and the protocol was approved by the Ethics Committee of the University of Newcastle H-2012-0262 and H-2013-0348.

**Figure 1.** Methodological approach employed.

3. Results and Discussion

The following discussion is structured to present the findings in relation to the Hogwood and Gunn preconditions, and the additional four themes that were identified through this research (refer Figure 2).

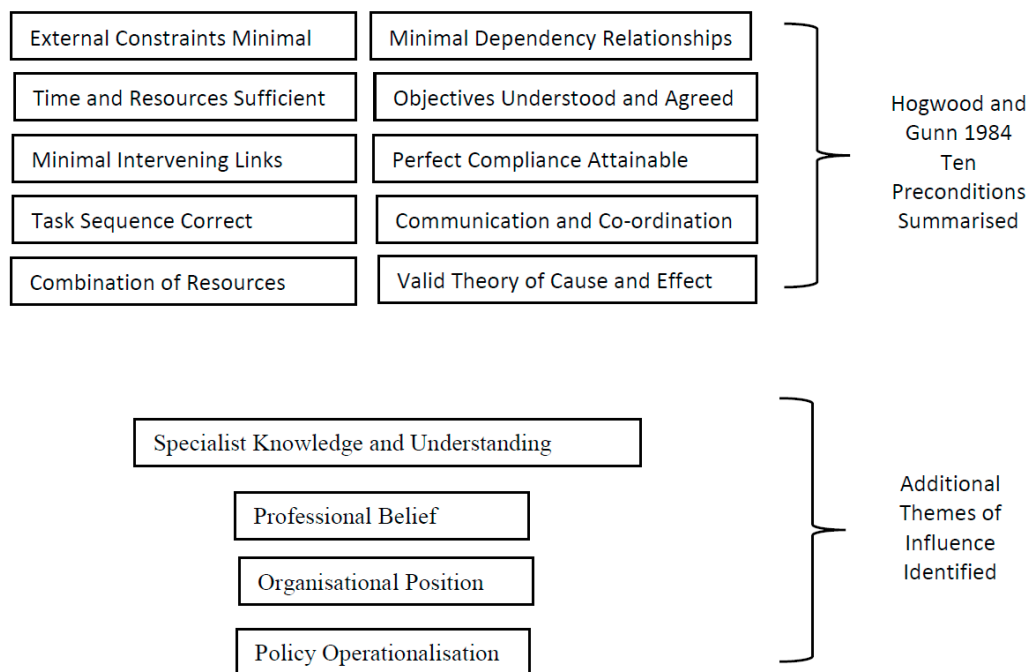


Figure 2. Additional themes influencing policy implementation.

3.1. External Constraints

External sources of constraint were identified and included accreditation and community involvement. Construction practitioners working for commercial organisations believed that organisational accreditation meant that environmental protocols and operations were well understood and practiced through a checklist system. Thus, distracting from sound practices given a need to comply with accreditation standards alone, rather than context-specific application of policy. Auditing, although not identified as a constraint by any participant group, may also impact successful environmental management operations in the same manner. Often government and non-government practitioners viewed auditing as a mechanism by which to confirm compliance only against the regulatory development consent conditions: policy compliance required for regulatory project completion. Hence, there is the potential to direct attention away from other possible environmental areas. Community involvement, an external source of constraint, was present in the form of complaints. They were considered an entity with an ability to provoke a regulatory response, subsequently resulting in project delays.

3.2. Time and Resources

Time and resources presented a division between the regulatory and non-regulatory sectors. Government practitioners considered their organisations as under-resourced, effectively rendering a reactive practice of regulation. Construction practitioners and consultants identified no such impediment to their implementation operations. Aligned to this precondition were the themes of development assessment and auditing. For both government and non-government practitioners, time and resources were often focused around obtaining and complying with the development consent. Consent documents made reference to a number of environmental conditions, and many construction

practitioners and consultants expressed the opinion that these reflected all-important environmental concerns, and subsequently became the sole focus of environmental management. Alternatively, given the need for consent compliance to obtain building completion approval, work centred around this document for these professionals, and in some cases, the government and quasi-government regulators (building surveyors accredited to practice as building certifiers). Analysis of documentary evidence identified that the government consent does not provide full coverage of environmental issues, rather, there was a focus on a small number of areas that often relate to community complaints: dust emissions, sedimentation and erosion control, and noise impacts.

3.3. Relationships and Links

Cause and effect within the context of this research does not present itself as a linear relationship, as there are multiple intervening links whereby inconsistency and ineffective practice is often introduced via multiple hierarchies, practitioners, and organisations: across and between the government and non-government practitioners. The subjective nature of the assessment process often serves to adversely impact policy interpretation, and ultimately, implementation. Inconsistency, misunderstanding, inadequate understanding, and prejudiced processes at the early stages in assessment contribute to a flawed policy cycle and implementation process. The cause and effect relationship is validated, to an extent, by the introduction of the policy as a result of higher order policy systems. However, a gap was identified at the local level in terms of policy and knowledge: what constitutes an environmental issue, mitigation, and compliance operations, and again, this was evident across both government and non-government practitioners. Multiple participants, particularly local government town planners, considered policies to be generalised and ambiguous, involving subjectivity with a reliance upon standard checklists, rather than the policy itself. The significant number of local level policies developed from higher order regulations posed a threat. Similarly, for government practitioners, internal assessments, referrals to external bodies and change of consent authorities introduced a range of departments, organisations, and collaborations acting as interfering links, particularly where policy or professionals conflict (e.g., government bushfire versus ecology practitioners).

3.4. Dependency Relationships

Multiple dependency relationships were evident across the various stages of planning and environmental control with a reliance upon other stakeholders: high dependency relationships involving approval and consent operations from other government agencies to industry hierarchies that may impact policy implementation success. Sources of advice and the development assessment process were areas that depicted high levels of dependency. Advice, whether general, guiding, or instructional in nature, reflected extremely poor relationship structures, as practitioners were often reliant upon colleagues to assist with policy interpretation and methods of action. Interestingly, a division existed between the various governmental sectors, as advice was often not forthcoming from State government to local government agencies, potentially due to the existing regulatory system with litigation and/or insufficient knowledge or experience to render assistance. The development assessment process depicted a similar situation. Typically, at the development application stage, there is a dependency relationship between the local government authority, consulting planners, and other professional practitioners, in addition to external State government agencies involved with concurrence and permits. A similar situation is presented across stages of development whereby dependency relationships equate to more agents (e.g., construction practitioners and building certifiers), ultimately impacting upon policy implementation.

3.5. Objectives

Understanding objectives and concurrence by agents is vital to policy implementation success [16]. However, in the context of this research, for government practitioners, particularly town planners

and building surveyors, a lack of understanding of policy objectives and intent was apparent. Yet, town planners assess and condition applications, and certifiers are responsible for on-site regulation. Environmental awareness, the development assessment process, and regulatory reliance all demonstrated discrepancies which do not align. Although environmental awareness was apparent amongst all government and non-government practitioners, there was disparity in terms of the degree and understanding of what constitutes an environmental impact. Through the regulatory process, it was evident that tangible community compliant issues (e.g., sedimentation and erosion control) reflected the degree of understanding and focus of both regulatory and industry practitioners. Subsequently, standardised checklists and consent conditions, and the need for compliance against these factors, highlighted a system in turmoil. Significant areas of environmental impact were, on occasion, identified, but eventuating plans were often suboptimal (e.g., a town planning condition requiring the implementation of a waste management plan, but requiring only the retention of disposal site receipts for monitoring). There remained minimal understanding of all environmental issues resulting from construction operations across the sector, or those with such knowledge and experience (i.e., local government environmental officers) were often not involved with the assessment process that remained at the discretion of the local government town planner. Local government standard conditions of consent were often ambiguous, or enabled choice of practice documentation, creating further disparity and impacting policy outcomes.

3.6. Task Sequence

In the context of environmental planning and construction management, sequencing required fluidity as compliance to a sequencing structure was often not aligned with activities. For example, on-site operations, such as client changes or unexpected site conditions, often required approval, and the reassessment process recommenced. An initial stage of the assessment process often involved local government regulatory duty counter staff and pre-development application meetings, to assist identification of a range of requirements needed to achieve regulatory compliance (i.e., planning restrictions, building requirements). However, there remained a disparity with regulatory officers (generally town planners or building surveyors), often due to subjectivity, which impacted upon sequencing activities. During assessment, frequent external referrals (from local to state government) or requests for further information (from local government town planners to non-government consultants), altered sequencing. Organisational hierarchies presented a scenario contrary to the precondition requirements. Local government town planners commonly controlled development assessment processes, often at the expense of internal environmental practitioners. Therefore, situations arose on-site where local government environmental practitioners (not previously involved in the assessment process) identified issues, requesting further information or changes to activities altering the sequence of tasks. Even with construction management plans, many neglected the mechanism for monitoring or auditing: often plans were not requested by the town planners in the conditions of consent.

3.7. Communication and Coordination

Communication and co-ordination produced a negative impact, both internally and externally, across government and non-government sectors, and communication was often ineffective in achieving good implementation practices. Many regulatory systems, divisions, and multiple interests and agendas contributed to communication failure. Information dissemination and organisational hierarchy were amongst the areas identified as contributing to poor communication and coordination. Often, changing local government administrators, each with subjective interpretations, caused communication conflict internally, and also, for construction practitioners. Local government town planners identified blocks with interpretation advice from higher level state government agencies, impacting upon implementation actions. External practitioners—construction and consultants—often identified conditions of consent as ambiguous or conflicting, in contraindication to

the precondition requirements. Additionally, there was reluctance amongst some local government administrators to work with external professionals, contributing to communication divergence. Across the sector, policy advice was forthcoming from colleagues, specialist practitioners and the like: only one town planning consulting practitioner identified a need to refer to the actual policy for complete understanding, rather than reliance upon the aforementioned sources. A division was identified between those associated with assessment and implementation processes: regulatory and non-regulatory. Although the consent was available to all practitioners, complete documentation was often not disseminated to ground-level actors (i.e., on-site construction practitioners); a dearth of understanding of policy was evident, with often no communication between assessment and implementation actors.

3.8. Compliance

The ability to obtain perfect compliance within the development assessment and on-site construction management realm is not a reality within the existing framework: whether as a need for quick action for problem resolution or a straightforward inability to desire compliance. With consent compliance being the primary objective of many practitioners, construction practitioners and auditors—regulatory and non-regulatory—tend to focus upon this document, neglecting additional environmental impacts. Given the environmental responsibilities that may be thrust upon such practitioners (e.g., building certifiers and work, health and safety specialists), they may not be appropriately informed to demand and achieve compliance. Their ability to implement compliance resided upon their subjectivity in interpretation of what they believe compliance to be.

Through the assessment conditions, the local government regulatory authority provides conditions which must be complied with. However, it was identified that for local government environmental practitioners, there is limited opportunity to be involved with post assessment processes, unless the project is one considered to be of significant environmental impact. As an authority, the regulator can demand perfect compliance; however, in reality, they are often unable to confirm such, particularly as they may not be involved with on-site activities.

3.9. Theme: Policy Operationalisation

The first additional theme concerns policy operationalisation: that those involved with policy understand not only the objectives, but the policy intent and how it functions. Operationalisation moves beyond the objectives and considers the need for an understanding of policy intent and operation: to the critical link between policy, the regulatory environment, intent, and functionality. Achieving policy objectives requires an understanding of the drivers of policy development and key outcomes of implementation. The research disclosed a strong reliance upon the consent conditions to achieve compliance; yet, practitioners associated with implementation were not necessarily informed of, or trained in policy, rather relying upon existing cultural practices for implementation. Many town planners, as well as building surveyors/certifiers and construction practitioners, identified they had not reviewed the primary policy, relying upon organisational practice. Policy attempts to manage all potential contexts. In that sense, the objectives may present a broad discourse in that they may not provide direction to achieve successful outcomes. The reality of implementation highlighted that most practitioners were cognisant that policy implementation had a primary focus around environmental protection; however, the intricacies and full comprehension was lacking, which impacts upon understanding of intent and successful implementation.

The system currently places the local government town planning practitioner as the authority of policy, and in many cases, this also encompasses the role of environmental specialist, regardless of education and training. Amongst such professionals, it was acknowledged that they did not frequently source the policy for review nor seek advice from internal environmental specialists. Traditional practice dominated operations, resulting in poor implementation and outcomes. Reliance upon consent conditions from construction practitioners and building certifiers issued forth a belief that all

environmental impacts had been duly considered, and therefore, strict compliance with this document was needed. Review of development documentation identified environmental areas often highlighted through community-compliant processes, including dust emissions, sedimentation, and erosion control. The reliance upon one document in the implementation process creates a false environment, and policy implementation becomes questionable.

3.10. Theme: Organisational Position

The next additional theme concerns professionalism between and amongst departments and organisations involved with implementation operations: collaborative partnerships that must occur within and between departments and organisations not captured through the existing framework. The collaborative partnership in existence between local government departments was often ineffective, and depicted a fragmented system. Internal professional referrals were conducted on a subjective and ad hoc basis: no mandatory requirement for specialist internal input during assessment, resulting in a lack of clarity and inconsistency in assessment processes.

External referrals to state government agencies presented a similar scenario: although generally mandated through policy for specific types of development, conflicting requirements and conditions were evident, contributing to assessment complexity and ineffective processes. The requirements from bushfire practitioners and ecologists illustrates this issue, with one considering life safety and associated bushland removal, and the other in support of minimal vegetation removal. Furthermore, organisational position contributed to implementation complexity: scenarios existed where conditions and/or permits were required from a State Government authority, however, local government were not authorised to view these, subsequently, were only able to make generic statements requiring compliance with State requirements, which has the potential to result in conflict. There was obvious conflict between all organisations potentially from a dearth of understanding of various institution roles within implementation operations. In effect, an acknowledgement of professional positions and collaborative relationships across government and non-government agencies is required, in order to reduce fragmentation and conflict. Ultimately, this will assist in achieving sound environmental management practices and policy intent.

3.11. Theme: Professional Belief

The professional belief theme concerns practitioner professionalism in terms of individual values and perspectives of a professional in their consideration of colleagues. Collaborative partnerships and professional respect are essential elements for successful implementation; yet, in this research, it was evident that issues existed amongst the professionals. The greatest rift developed between the local government town planners and private building certifiers (quasi-government regulatory role). Loss of power from government agencies to the private sector through building certification impacted highly upon implementation activities. Personal conflict and a lack of respect were evident amongst participants in relation to this topic. There was often hostility and much discontent from local government towards private building certification practitioners. Often, this focused attention away from environmental issues, and towards certifier consent compliance, to try and negatively impact the private professionals. In addition, local government often commented on private building certifiers and construction operators as solely in favour of economic gains.

Within the existing framework, the local government town planner is bestowed with the authority responsible for development assessment: holding power, their subjective belief systems dictate whether involvement of other professionals is necessary. Yes, the policy does require referrals for certain development types, but outside those restrictions, the discretion remains with the authority of the town planner. In this manner, the town planner also serves as the conduit for policy intent to policy outcomes: the implementation phase and its success. Through the interviews, it was apparent that internally, officers were not often sought for their expertise at the initial stages of assessment and

approval. Rather, they became involved when on-site issues arose, and ultimately, played a reactive role, causing disparity with, often, the need for new documentation or conditions.

Questioning local government was seen as a concern to construction and consultant practitioners, as it could evoke further assessment and conditioning with different assessing officers, depending upon allocation of tasks. Ultimately, the professionals showed significant fragmentation, and professional beliefs often negatively impacted implementation activities.

3.12. Theme: Specialist Knowledge and Understanding

The final precondition involved practitioners who are responsible for regulatory activities obtaining and maintaining specialist knowledge and understanding of the policy related issues: primarily town planners and building certifiers. Education relates to an understanding and involvement with policy, to ensure duties are undertaken accordingly.

In many cases, the local government town planners did not possess an educational qualification or professional exercise to warrant judgments of environmental issues; however, in the context of the current system, they were the authority delegated such tasks. They led the development assessment and approval process. The decision of whether to seek advice remains with them (unless policy regulated)—without necessary education and experience, decisions are questionable. Building certifiers were responsible for compliance with the consent, and again, like their counterparts, may not have the expertise to make all necessary determinations when considering environmental issues.

The overall perception is that those responsible for policy implementation are competent to do so. Yet, training and development were not raised as important. Job experience dominated as the requirement to both understanding policy intent and being capable of implementation activities. There was a discernible lack of environmental awareness and policy intent by many professionals across the government and non-government sectors. Most local government agencies employed generic style conditions aimed toward the standardised environmental impacts: again many related to community complaints, such as dust emissions, sedimentation and erosion control. There was a void of understanding of all environmental measures needed to achieve policy intent.

4. Conclusions

Using the Hogwood and Gunn's ten preconditions [24] as a lens to explore policy implementation, indicators demonstrate that practitioners in the construction sector are attempting to achieve good environmental policy outcomes. The findings suggest that more attention to the areas of communication, coordination, relationships, and understanding, is required to improve policy implementation. However, there are four critical cultural issues: policy operationalisation, organisational positions, professional belief, and specialist knowledge and understanding that need to be addressed, as they significantly impact upon the implementation process, and ultimately, protection of the environment.

The construction sector practitioners, through existing practice, were unable to fully understand policy intent and operation. Understanding will provide clarity to policy formulators to guide implementation actors to a deeper understanding of intent and how to approach activities. The findings also suggested system fragmentation between and amongst departments and organisations. Furthermore, different stakeholders presented diverse context specific agendas; only true collaboration can build relationships that will provide an overarching context in which policy intent will be achieved.

There were evident discipline-specific ideological differences amongst construction sector practitioners, leading to fragmentation in implementation. Individual practitioners neglected to consider their belief systems and impact upon policy decisions. Practitioner conflict-driven adversarial approach and lack of respect was evident within or across sectors, impacting upon policy intent and outcome. Therefore, a more collaborative and respectful culture is necessary for true policy intent to be realised. The limited practice of seeking internal or external advice by decision makers, when they lacked environmental knowledge and understanding, led to further disparity between policy intent

and outcome. Ultimately, with the existing degree of fragmentation evident amongst construction sector practitioners and agencies, a change in culture is required for addressing the disparity between policy intent and outcome.

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