

Testing and improving the 8R framework of responsible land management to assess major land interventions

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Key words: land management, responsible land management, land interventions, 8R framework for responsible land management

SUMMARY

Integrated land and water management often requires land and water interventions, which can have different, mostly contextual, justifications. In order to both highlight the specific nature of contextual characteristics but also provide a general framework to assess the interventions, the 8R framework of responsible land management was designed. The 8R framework of responsible land management can assess both the extent to which potential land interventions are responsible and the variations in degrees to which past interventions are developing towards a situation whereby both stakeholders and beneficiaries acknowledged that it is sufficiently and appropriately responsible. The 8R framework contains 8 aspects which collectively represent responsible land management (responsiveness, robustness, respectedness, recognizability, resilience, reliability, reflexiveness, and retraceability) and 3 assessment components which represent operational executions of interventions (structure, processes and outcomes). The framework can derive both quantitative and qualitative indicators on where, how, when and to which extent land interventions are responsible or not. This article reviews three types of major interventions that change land rights, land use and land values, and tests how and under which conditions the 8R framework could be beneficial. The types of interventions include the development of new airports, the construction of bridges and the design of new capital cities. The experiences with these different types of interventions show that the framework is useful to generate an overall picture of the degree to which any land intervention is responsible which is more land-specific than other frameworks, as it presents a multidimensional assessment. Still there is room for improvement. Despite the systematic prompts designed to qualify and quantify the respective aspects, the use of some of the aspects still appear ambiguous or confusing for practitioners. Furthermore, in the evaluation of components there is a need to differentiate between outcomes and impacts. Finally yet importantly, the overall metric of the 8R framework still needs a better and more direct coupling with policy interventions. Further research in this direction is therefore underway.

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1 INTRODUCTION

Interventions in land are diverse and often interlinked with institutional and organizational structures and processes on the one hand and intended societal and economic outcomes on the other hand. They can be systematic or sporadic, planned and unplanned, regulated or unregulated, and they can alter the formality and security of land tenure, land rights, land use, land claims, land interests, land shapes, land sizes, land value and land development opportunities. Alongside and because of interventions in land typically socio-economic as well as biophysical changes occur. Stakeholders can decide to invest in land or take credits in relation to land, tenants may need to relocate, be relocated or evicted, landscape and soil characteristics may change, or certain rights, restrictions and responsibilities may emerge affecting and changing existing power and dependency relations.

There are various frameworks available to assess land interventions, and qualify whether the intervention is good or bad, sustainable or unsustainable, tenure responsive or not tenure responsive, for example. These frameworks tend to focus on specific aspects related to current or future land interventions. They focus for example whether the current structures for interventions are relevant, whether the operational processes to alter land use allocations are appropriate, or whether impacts are desirable or not. The Land Governance Assessment (LGOV) Framework is a ‘diagnostic instrument to assess the state of land governance at the national or sub-national level’¹. Azadi (2020) introduces a framework to understand the differences between strong and weak land governance, thereby including its causes and effects. The property rights index (Prindex) is an assessment framework regarding the tenants perception about political (and legal) rights, physical property, intellectual property and access to loans by land owners or users. The tenure responsive land use planning framework provides an operational guideline for action to better alleviate tenure insecurity as compared to conventional land use planning (Chigbu et al. 2017). Life cycle assessment (LCA) is for example typically popular for assessing environmental impacts of certain land use choices (Souza et al. 2015; Mattila et al. 2012; Islam et al. 2020). All of these frameworks are relevant, suitable and explicit for particular aspects, norms and epistemic values of land management, but tend to be less explicit on the connections between these aspects. There is therefore a scope to develop such an integrative descriptive and prescriptive framework, which bridges the institutional, and operational context within land management takes place to the intended and unintended outcomes and impacts. This article aims at describing,

¹ <https://www.worldbank.org/en/programs/land-governance-assessment-framework>

evaluating and improving the framework of responsible land management. The central research question is therefore how to improve the operational, analytical and conceptual aspects of the 8R framework of responsible land management, introduced by de Vries and Chigbu (2017).

This article first introduces the so-called 8R framework of responsible land management and then explains in the next section how this framework can be tested, validated and improved. The subsequent section addresses the case and project studies through which this testing process took place. After this follows a critical discussion section, which details how and where improvements to the framework are required.

2 8R FRAMEWORK OF RESPONSIBLE LAND MANAGEMENT

Responsible land management is a specific type of land management. Many authors and projects refer to the term ‘responsible’ and often equate it with ‘sustainable’. However, this normative term does not only refer to the anticipated outcomes but also to pre-existing conditions, which include the set of responsibilities, and to the processes, which include elements of responsibilities and accountabilities. Whatever activity takes place can also be traced back to an actor who carries the responsibility to execute a particular task and who can also be held accountable for the action. ‘Responsible’ is therefore both a normative political adverb as well as a public administrative and operational one. In the context of land administration, land governance and land management, the dual meaning of the term relates to multiple issues: the technical, institutional and executive authorities of actors collecting and providing land information (Zevenbergen et al. 2018); the operational and organizational systems and processes generating the preparation and allocations of land use (Amekwa et al. 2018); and, the normative values with which actors influence and change the status quo in land matters (de Vries et al. 2015). Responsible land matters thus encompasses more than just preparing and executing land use planning or cadastral surveying and registration for example.

Building on earlier tests and publications (such as (FAO 2012; Zevenbergen et al. 2015; Bourgon 2007)), de Vries and Chigbu (2017) presented in 2017 the first outline of the 8R framework of responsible land management. The 8R framework of responsible land management had as primary objective to assess both the extent to which potential land interventions are responsible and the variations in degrees to which past interventions are developing towards a situation whereby both stakeholders and beneficiaries acknowledged that it is sufficiently and appropriately responsible. The aim of the framework was furthermore to generate a multi-dimensional system which could derive and highlight specific elements where the degree of responsibility could be improved. The basis for the 8R framework contains 8 aspects, which collectively represent responsible land management (responsiveness, robustness, respectedness, recognizability, resilience, reliability, reflexiveness, and retraceability) and 3 assessment components which represent operational executions of interventions (structure, processes and outcomes).

2.1 Detailing the 8R ASPECTS

Tables 1 and 2 list the type of questions, which are relevant for each of the 8 R aspects.

	Looking at questions such as...
Responsive	Including needs, requests, long-term views of stakeholders Addressing urgency of need
Resilient	Ensuring or creating the sustenance of societal structures Avoiding major disruptions
Robust	Based on solid mechanisms Not leading to fundamental change or disruptions
Reliable	Decisions are trusted or are based on trust or creating trust
Respected	Decisions and actions are valued positively Decision makers are seen as appropriate leaders or managers
Retraceable	All steps are documented, so history can be reconstructed At all times it is possible to see which steps have been taken by whom, and what still needs to occur
Recognizable	People can identify with the decisions; there is ownership of the project or intervention
Reflexive	At regular points in time there are moments at which the rightfulness or appropriateness is re-evaluated or re-assessed

Table 1. 8 R aspects of the 8R framework of responsible land management

2.2 Detailing the 3 assessment components

The 3 assessment aspects include structures, processes, outcomes and impacts (Table 3). These assessment aspects relate to all above 8 R aspects, so that a complete 8R assessment derive a set of qualitative and/or quantitative values connecting the two (Table 3).

	Looking at questions such as...
Structures	Validity and functionality of institutional structures to manage the project or intervention Validity and functionality of technical structures needed for the interventions
Processes	Logic of process sequence Appropriateness of individual steps Need for parallel processes / steps
Outcomes and impacts	Appropriateness of results, changes Visibility and proof of results, changes

Table 2. The aspects against which the 8Rs are reflected.

	Structures	Processes	Outcomes and impacts
Responsive			
Resilient			
Robust			
Reliable			
Respected			
Retraceable			
Recognizable			
Reflexive			

Table 3. The 8R assessment matrix

3 METHODOLOGY

Testing, assessing and improving a framework requires an evaluative research methodology. According to (Trochim 2020) evaluation is *‘the systematic acquisition and assessment of information to provide useful feedback about some object’ (...)* evaluation work involves *collecting and sifting through data, making judgements about the validity of the information and of inferences we derive from it, whether or not an assessment of worth or merit results.* In this case, the object of evaluation is the 8R framework of responsible land management. The information concerns the feedback from authors and papers, which have used the 8R framework for different types of cases. This information is largely textual and discursive. Therefore, the analysis could only rely on assembling and interpreting the documented evidence against the specific characteristics of the cases.

Swaffield and Deming (2011) argue furthermore that evaluative research methods are appropriate when one can assume that the theoretical grounding is appropriate for the choice of normative assessment parameters. In this case, the evaluation assumes that the 8R framework is a useful methods given that various authors have already applied it, but the evaluation questions is than to which extent the method is sufficiently accurate and how, where and for which application domains the framework needs improvement.

4 CASES OF LAND INTERVENTIONS

The role of the cases in this study is to verify how specific elements of an environment can influence the 8R framework assessments and to evaluate if there are additional requirements in the assessment of each of the aspects (such as additional questions, use of proxies, use of indicators and qualitative/quantitative value of indicators).

4.1 Case airports

Major infrastructural works, such as roads, railways, dams, multi-functional large buildings have an impact on both the land (use) rights and the landscape in which these are located. Airports are one type of such large infrastructural constructions. Often they have specific

constructional requirements, need specific types of spaces (e.g. runways), and are associated with specific environmental concerns (air pollution, noise, additional transport, etc.). The volume of air travel and hence the construction and planning of new airports is rapidly increasing globally, especially in developing countries². According to the Airports Council International (ACI), globally the airport industry represents a revenue of \$161.3 Billion³. Environmental and land right concerns may suffer from this power of financial capital. The use of Environmental impact assessment (EIAs) for airports is partially addressed in literature (Franssen et al. 2002; Soneryd 2004; Partidário and Coutinho 2011; Vogiatzis 2012; Hilbrandt 2017; Beria and Scholz 2010). A famous example of where building and environmental concerns have prevented the actual employment of the airport constitutes Berlin Brandenburg International Airport (Fiedler and Wendler 2016; Neumann 2015; Luke et al. 2017). EIAs often disregard however the specific implications for land management of such monumental endeavors. Hence, the 8R framework could shed some more light on the specificities of land aspects. Ogunmuyiwa (2019) applied the 8R framework in order to test and validate how the 8R would work and could be improved. This included amongst other a review of 5 major airports: New Berlin Brandenburg Airport, New Istanbul Airport (İstanbul Yeni Havalimanı), New Jakarta airport (Terminal 3 of Soekarno-Hatta),

4.2 Case bridges

Bridges are natural connections to two pieces of land, often with different land characteristics. Major bridges include The Hong Kong–Zhuhai–Macau Bridge (HKZMB), Temburong Bridge (Brunei), The Pelješac Bridge (Croatia), New Yalu River bridge (China, North-Korea), Padma Multipurpose Bridge Project (PMBP), Bangladesh Development of the Foreshore Freeway Precinct (Cape Town, South Africa), Fourth Mainland Bridge Project (Lagos Lagoon, Nigeria) and the Rio Antirion Bridge (Greece). Their construction may be however disputed for different reasons. The use of (environmental) impact assessment methodologies for bridges is partially addressed in literature (Harvey 1996; Nedeia 2010; Kamijo 2016; Büyükyoran and Gündes 2018). How specifically land related concerns are address in (E) IA's is not always evident. A recent example of where land related concerns have prevented the actual employment of the bridge constitutes the road and bridge project in South Baldwin County (USA). Hence, there is a need to study this aspect. Nwankwo (2020) investigated land tenure impacts from the construction of new bridges, and used thereby the 8R framework for responsible land management. Changing land rights and land expropriation are common in such projects, but are not always transparent from the start of the projects. Land acquisition, improper compensation and unwanted resettlement are therefore bottlenecks and land tenure

²(a nice map is at <https://myfun-1292.appspot.com/worldairports> ; a complete list is available at <https://airports-list.com/>

³ (http://www.aci.aero/media/95781ea2-57a1-4e9b-b65e-b43f74254a98/FM_L0A/News/Releases/2018/10%20April%202018/ACI_World_KeyPerformanceIndicators2018_Infographic.pdf .

insecurity can be a direct effect. This can in turn lead to improper resettlement, illegal acquisition of land, non-monetary compensation and forceful eviction.

4.3 Case design of new capitals

Capital cities come in different forms, shapes and size. Yet, often they share the same characteristics and functions. Rossman (2018) argues that a capital city is different from other cities in the sense that it represents the ideal image of the country and country's history. The evidence of that a number of capital city names are the same as the country names (e.g. Brasilia, Tunis, Mexico City, Panama City). Other evidence is that different from other major cities capital cities usually host diplomatic representatives, head offices of ministries, lobby groups and political party administrations and different types of scientific advisory institutions (Hackbarth and de Vries 2021). In addition, there are some specific social-demographic statistics in capital cities: on average higher-graduated population, higher incomes, higher degree of national and international representatives and officials, more extensive human security services. Last, but not least, given the symbolic function of capital cities, usually they state more rallies, demonstrations and political events. Relocating capital cities may occur for different reasons. In some cases, it occurs after a major regime change (for example Berlin to Bonn, and later Bonn to Berlin), but more frequently it occurs to establish a new post-colonial or post-independence identity, connected to new national symbols and representation. Such justifications are most prominent in developing countries and countries in transition. Brazil established their new capital Brasilia on the one hand to expand the settlements and occupy sparsely populated locations in the entire national territory, but on the other hand also to construct a new town based on the ideas of independence, national pride, and shaping a new future for the entire country (Rawat 2005; Rossman 2018). Similar justifications exist in other countries who also decided to relocate their capital cities. Most recently, Indonesia aims to relocate their capital to East Kalimantan (instead of Jakarta), but also Pakistan shifted from Karachi to Islamabad, Nigeria from Lagos to Abuja, Tanzania from Dar Es Salaam to Dodoma, and South Korea from Seoul to Sejong. To which degree such a relocation is responsible was the key question of the paper of (Hackbarth and de Vries 2021), which also relied on the use of the 8R framework.

5 DISCUSSION

The discussion relates to each of the aspects.

Responsiveness. In all three types of cases, the degree to which the construction itself and the necessity to acquire or expropriate land for the construction raised questions concerning the actual need. The way to assess this more specifically could be looking for the presence of specific institutional structures related to the intervention including 'responses' from citizens, firms, various levels of State, and for the presence of a place or forum where stakeholders can express their voices and check whether there has been a response. In most cases, these

artefacts did not exist and lead to a negative assessment in terms of robustness. For responsive processes, the main challenge was to find formal artefacts (such as continuously online forums, polls, and monitoring surveys), which actively collected needs, checked opinions and collected feedback on actions or decisions. Finally, regarding the outcomes, the cases were not always clear whether the interventions eventually responded to certain needs, and whether there was a monitoring system in place to check if and to which extent services providers and responsible agencies responded to needs and requests. In short, assessing responsiveness requires seeking clear artefacts which (pro-) actively, regularly and/or continuously make the feedback connection between expressed or changing needs and actions.

Resilient. Both the airport and bridges cases have shown to exhibit major problems for former landowners and tenants resulting from involuntary expropriation and relocation. In some cases this resulted in continued resistance and protests which were not directly part of the land intervention itself. Given that reported documentation is mostly dealing with both preparation and execution the major challenge is to evaluate the outcomes and impacts using the 8R framework. Hence, there is a need to substantiate the outcome resilience aspect by seeking artefacts which justify whether institutional and organisational structures are sufficiently and appropriately capable of handling major (short-term, ad-hoc) problems, crises, unforeseen circumstances which may arise from land interventions. This implies investigating for the resilience processes whether in the execution of the interventions appropriate steps or measures are built in to check whether certain risks are dealt with and/or whether different decisions need to be taken at a given time, and if there any plan B's considered or possible during the execution.

Robustness. Ogunmuyiwa (2019) reflects on various findings to derive a judgement on each of the 8 Rs for airport constructions. He highlights for example that when reflecting on the robustness of the structures and processes one needs to make a clear distinction between the preparation and the execution. For example, in the evaluation of the Berlin Brandenburg Airport it was clear that there were complexities and bottlenecks in managing and completing the construction, based on both problems in design and problems in execution. First, there were various design and construction problems, which delayed the anticipated opening date of the airport. For example, the fire detection systems failed during tests, and when the constructors tried to address these problems, other problems – with electricity and cabling – emerged. More related to land management and spatial planning, the residence of Schoenefeld objected to the airport project for fear of noise pollution. Despite the fact that the Federal Administrative Court eventually dismissed the subsequent lawsuit, the willingness to file a complaint clearly shows that not all stakeholders agreed to the plans. There were however clear structures to deal with the complaints. The German building code provides the possibility that civil society and public administrative bodies have to right to comment on the land use plan and the associated EIA. The implication for the assessment framework is that for the robustness structures one needs to specify and measure to which extent institutional, organisational and technical structures withstand and can remain intact after (long-term) pressure from outside. In turn, the robustness of processes relies on assessing whether the

execution occurs in such a way that they can always be followed and not change or collapse completely.

Reliability. This aspect primarily assesses whether affected parties and other citizens can sufficiently trust the decision for any (mega-) project. During the 8R assessment of capital cities Hackbarth and de Vries (2021) discovered that the justifications for the relocation were often biased and lacking certain facts in the reasoning and argumentation. In other words, the justifications were not complete lies, but were also not complete truths because in the execution of the interventions often new facts (on suitability, impacts, size and location of project, changes or effects in old capital) arose. The reliability assessment needs therefore to be very accurate on checking whether the facts on which decisions rely as sufficiently bias-free, and whether the decisions include regular checking mechanisms on facts and/or proper evaluation of facts. In addition, the assessment take a closer look on the existence of monitoring and evaluation systems, which check if, and how the intervention indeed resulted in what it promised.

Respect. The issue of respect has to do with the degree to which affected stakeholders and beneficiaries accept and adopt the intervention as a new reality, or whether they aim to the old status quo prior to the intervention. More formally, one could also frame it as whether they abide by set the rules or are more likely to free-ride outside of the rules. Additionally, do they relate and trust the decision makers or politician more or less blindly, so that they do not resist, reject or research the intervention first by themselves. The respect aspect is clearly visible once it comes to interventions which carry a high degree of symbolic value, such as new capital cities, or occasionally also with new national airports which are supposed to reflect the national identity. In the case of large bridges, it is especially visible when the politician is able to bring the entire nation behind his or her idea. This is for example the case with the Temburong bridge in Brunei, which connects two parts of the country. The bridge itself is a large achievement for this very small and sparsely populated country, and as such creates respect. At the same time, measuring respect within the 8R framework is not obvious as it is not directly visible or observable. One has to derive the degree of respect in structures from support in independent media, in processes from low levels of documented complaints or litigation. Assessing the degree of respect in outcomes requires seeking artefacts where the projects generate more symbolic meanings beyond the key ambitions of the project itself.

Retraceability. Retraceability in structures is visible if laws and regulations clearly and unambiguously state where and how decisions are taken and who or which organisation or person ultimately takes a decision, and if subsequent decisions carefully documented and are these open for all stakeholders. In the observed cases, this information was not always findable. Project details for bridges and for large airports often remain concealed, and the relocation of capital cities is often a political decision, which on the one hand would require parliamentary support (and thus represent transparency) but on the other hand often remains obscured in its execution. One way to deal with these problems in the assessment is to seek information on the degree to which accountabilities and liabilities for disputed decisions be traced back.

Recognition. Recognition is similar to respect and responsiveness in the sense that it measures the degree to which stakeholders feel represented in the decision making structures and processes, but it goes further. Recognition is especially geared at seeking the degree to which stakeholders feel ownership of the intervention and can identify themselves with the achievements, goals, aims of the project / the land interventions. This implies an active involvement in the execution, intermediary decision making steps, having some sort of discretionary space for co-decision making. The 8R assessment revealed that in most mega-projects the degree of recognition by an individual is by definition rather small, as the projects are beyond the imagination of the individual contribution. So, assessing recognition through individuals is likely to score low in most cases. Instead, one can opt to seek indirect artefacts. The artefacts on the basis of which one can derive an assessment include the number of working groups or associations with stakeholders related to the interventions, the positive statements and sharing of information in (social) media, and the similarities in the framing of different kinds of stakeholders in the project. If this is consistently positive or negative it is an indicator of positive or negative recognition.

Reflexivity. Reflexivity fundamentally reflects the degree to which formal procedures include the possibility to change or convert previous decisions if there are new insights related to the intervention. The 8R assessment in different cases revealed that such information is present once the process steps systematically or regularly build in a moment at which the executors and managers re-think whether they are doing the right thing before, during and after the land intervention. Furthermore, one can look whether there are any measures in place to monitor the progress of achievements, goals, aims, and to reflect on whether achievements, goals, aims have been met. Ultimately, the objective of such a synthesis needs to answer whether the main goals of the intervention always remain in line with expectations, needs, opinions, views and perceptions. Similar to other mega-project all of the observed cases were indeed regularly adapted in both structures, processes and intended outcomes, but often these adaptations were not systematically reported. Hence, the 8R should seek whether these adaptations are systematically included.

6 CONCLUSION

Given the central objective on deriving how to improve the operational, analytical and conceptual aspects of the 8R framework of responsible land management, introduced by de Vries and Chigbu (2017), the application of this framework in different contexts and application areas revealed a number of directions and specific suggestions for improving the framework. The assessments of the respective 8 Rs require a more extensive search for facts, artefacts and evidence to substantiate a meaningful assessment outcome. The experience of applying the framework in different types of case studies has also shown that especially impacts and outcomes are often difficult to assess immediately, as some impacts may actually only emerge long after the project interventions. The attribution is then difficult to establish given certain observations and documented evidence in direct relation to the intervention. One

could therefore pose that the 8R assessment is more reliable for assessing short-term and directly observable impacts, such as expropriation, eviction or relocation, but more difficult for long-term effects such as unplanned spatial expansion, unforeseen environmental pollution, and negative socio-economic externalities. Last but not least, what the 8R assessments have shown is that often the degree of responsiveness and reflexivity is limited and thus requires more direct long-term participation and involvement of stakeholders both before, during and after the intervention.

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BIOGRAPHICAL NOTES

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