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ORIGINAL ARTICLE

From national vision to implementation: governance challenges in sustainable agriculture transitions in the Vietnamese Mekong Delta region

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Abstract

This study identifies how the governance of the transition to sustainable agriculture in the Vietnamese Mekong Delta is constrained by a lack of leadership, coordination, and funding. The Vietnamese Mekong Delta region is an important agricultural region yet highly vulnerable to climate change. In 2017, the Government of Vietnam issued Resolution 120, which calls for a transition towards sustainable development and climate change resilient agriculture in the delta. We evaluated the governance of implementing this resolution using an established transition governance framework, based on policy document analysis, ethnographic observations and interviews with national government agencies and ten departments in the delta provinces An Giang and Ben Tre. The analysis indicates that delays are caused by fragmented central government leadership and that friction exists between top-down plans and bottom-up action taken by the provinces in the delta. The transition is further constrained by the absence of inter-provincial coordination and funding mechanisms. Overall, this study shows that the required governance structure exists on paper but highlights how an insufficient governance process constrains climate change adaptation in Vietnam.

Keywords Agriculture transformation · Climate resilience · Sustainable development · Transition governance · Vietnamese Mekong Delta

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Introduction: climate change and policy change in the Vietnamese Mekong Delta

Vietnam requires strong and comprehensive and robust policy actions to adapt to climate change because of the urgency and scale of the potential impact on the Vietnamese economy (MDP 2013; Seijger et al. 2019). The Vietnamese Mekong Delta (VMD) region in southern Vietnam is home to 20 million people and is essential for domestic food security and international export (Dang 2020). However, Vietnam in general and the VMD in particular is vulnerable to climate change and—on top of that—to transboundary impacts of hydropower development upstream and side effects of local structural measures (Hoang et al. 2019; Tran et al. 2020a). The rice-dominated agriculture in the VMD is threatened by changing rainfall patterns, flooding and saline intrusion following sea-level rise as well as heat stress following rising temperatures (Barros et al. 2014). Climate change adaptation is therefore on top of the political agenda.

Structural changes in existing institutions and governance processes are required in response to climate change and hydropower development as drivers for fundamental changes in the physical, social and economic system. In most places across the world though, ambitions exceed what has been achieved (UN Water 2020; GCA 2019). Recent studies showed that climate change adaptation in the VMD concentrates on mitigating short-term effects (Bastakoti et al. 2014), while implementation of a long-term strategic plan for the VMD has been limited due to the major adjustments required (Seijger et al. 2019). In other words, when responding to a changing environment, (a part of) society needs to change the way it operates (Rotmans et al. 2001). This means that the VMD needs to undergo a transition, i.e., "a process of structural societal change from one relatively stable system state to another via a co-evolution of markets, networks, institutions, technologies, policies, individual behaviour and autonomous trends" (Loorbach 2007:18). Transitions are typically long-term (i.e. spanning multiple generations), non-linear and highly uncertain. As a result, there are certain conditions to effective governance of such a transition. We aim to evaluate how the transition in the VMD is managed. We will do so by answering the following research question: "What characterizes and explains the progress of the transition taking place in the Vietnamese Mekong Delta regarding climate change adaptation?"

This study concentrates on the governance of implementing resolution R120/NQ-CP on Sustainable and Climate-Resilient Development in the VMD (from here onwards: R120) that was issued by the Government of Vietnam (Prime Minister 2017). To date, there is no (scientific) evaluation on how the Vietnamese government gives a follow-up to R120 as well as on how the implementation is progressing. We will evaluate what follow-up has been given to R120 since 2017, using the transition governance framework developed by Farrelly et al. (2012). The "Theoretical framework: governance capacity in transitions" section introduces governance transitions, while the "Method" section outlines how we used documents, interviews and ethnographic observations for our analysis. The results are presented in the "Results" section and reflected upon in the "Discussion" section. In the "Conclusion" section, we conclude that the ambitions of R120 are poorly reflected in practice, mainly due to the absence of leadership, coordination and resources.

Theoretical framework: governance capacity in transitions

In this study, we embrace the concept of transition, as this places more emphasis on governance than related concepts to describe structural societal change like transformation, adaptation or resilience (see, e.g. Pelling 2011; Geels and Schot 2007). Studies into transition governance aim to capture the shift from one relatively stable system to the other (Loorbach 2007:18) by focussing on the governance of this transition. Although we acknowledge that transitions concern the whole network of public and private actors, we will focus on the ability of government actors to steer system functionalities in the long run (Foxon et al. 2009).

Although no two transitions are the same, two indicators can be used to characterize transitions: the trigger type and the response type. Changes in the environment in which the system exists trigger transitions, which are then shaped by actors' responses in that system. Scholars distinguish trigger types that differ in frequency, degree of deviation, rate of change and the number of dimensions that are affected by the change (Suarez and Oliva 2005). In addition, multiple typologies exist to distinguish response types. Berkhout et al. (2004), for example distinguish between four types of responses, depending on the origin of the resources used (internal or external) and the degree to which change is coordinated (Fig. 1). When combining the trigger and the response, certain patterns in the outcome of a transition process emerges. For example, Geels and Schot (2007) outline four potential transition pathways in which different actors play a role and with different patterns of interaction. This typology is furthered by De Haan and Rotmans (2011), who have worked out twelve patterns that together form different transition pathways. Transitions can range from incremental adjustments to radical change. They may include both bottom-up initiatives in specific geographical regions as well as top-down "management" of the processes of change

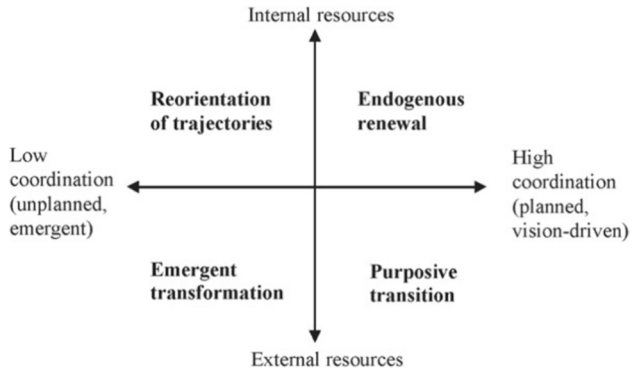

Fig. 1 Typology of responses (Berkhout et al. 2004, p. 67)

(Loorbach 2007; Pelling 2011). The ability of the governance network to understand and respond to systemic change is therewith a critical determinant for the dynamics and outcome of transitions.

In line with the specificities of transitions (including their long time span and high uncertainty), transition governance has distinct features too. Transition triggers—including the three pressing issues in the Mekong Delta that were outlined in the introduction—have in common that they span multiple sectors and involve numerous actors at different policy levels. These actors may include both policy and private sector actors as well as actors at local, community or regime level (Pelling 2011). These actors in the governance network may formulate "governance principles, methods and tools to deal with these processes" (Loorbach 2007:17). To do so, actors should be able "to observe wicked problems and to act accordingly, and the ability of the governance system to enable such observing and acting" (Termeer et al. 2015:4). The governance of transitions thus relies on structural factors as well as process-related factors. In this article, governance structures are considered "rules and resources, recursively implicated in the reproduction of social systems" (Giddens 1984). These governance structures are considered relatively stable over time. However, in reality, external triggers can induce abrupt or incremental adjustment of institutions (referring to the set of social rules and organizations). Societal actors respond to these systemic changes and the introduction of new actors, policy goals, programmes, policy sectors and/or policy arenas causes a discrepancy between institutions as designed and in practice (Streeck and Thelen 2005). Actors can then either modify, replace or terminate existing structures, institutions, culture and practices to accommodate change (Rotmans et al. 2001; Loorbach 2007) or act to resist regime change (Pelling 2011). Governance processes can be adapted more readily to changing circumstances, while adjusting governance structures takes more time. It is important to note that governance structures are re-interpreted through the process factors and vice versa; the structural attributes provide the context for the processes. As such, there is an interplay between both process and structural factors and they should not be considered in isolation. Previous research has further shown that governing a transition requires a balance between formal and informal approaches and centralized and decentralized steering (Rijke et al. 2013). Hence, the outcome of transitional actions may vary alongside the equally different intentions of actors.

Method

In this paper, we use the transition governance framework to analyse the governance of a sustainability transition in the Vietnamese Mekong Delta (VMD).

The governance transition framework

Several analytical frameworks have been proposed to evaluate institutional change (e.g. Halbe and Pahl-Wostl 2019; Pahl-Wostl et al. 2010; Ferguson et al. 2013). We adopt the transition governance framework proposed by Farrelly et al. (2012), see Table 1) as this diagnostic tool captures both structure and process. Based on cases of urban water management in Australia and China as well as river management in the Netherlands (see Rijke et al. 2012a, b; Dai et al. 2018), we consider the transition governance framework suitable to identify potential "missing links" in transition governance approaches (Rijke 2014). In this study, we add a new application of this framework.

Resolution 120 as a case study

This study focuses on a recent policy response to climate change adaptation in Vietnam through R120. Vietnam approved the Kyoto Protocol in 1994, and since then, the Government of Vietnam (GoV) has developed multiple policy frameworks and launched programmes to respond to climate change in Vietnam.[1] As Vietnam is hierarchically governed, these national policies provide directions for climate actions at the provincial level (World Bank and MPI 2016). Following severe drought and saline intrusions in the VDM in 2016, the Prime Minister (PM) chaired a national

[1] Including the national Targeted Program to Respond to Climate Change (NTP-RCC) in 2008, the Supporting Program to Respond to Climate Change (SP-RCC) in 2009, the National Strategy for Climate Change (NSCC) in December 2011, the National Strategy for Green Growth (NSGG) in 2012, and the Party's Resolution (No. 24/NQ-TW) to active response to climate change, improvement of natural resource management and environmental protection, in June 2013.

Table 1 The governance transition framework (adapted from Farrelly et al. 2012)

Factors	Sub-components
Structure	
1) Narrative, metaphor and image	1.1) Storyline that invokes a need for change
	1.2) Visual connection to problems and potential solutions
2) Regulatory and compliance agenda	2.1) Objectives and mechanisms (markets, legislative rules and education)
	2.2) Performance targets
	2.3) Monitoring, enforcement and evaluation
3) Economic justification	3.1) Demonstrated business case
	3.2) Appropriate allocation/evaluation of all social and environmental costs and benefits (monetary and non-monetary)
4) Policy and planning frameworks + institutional design	4.1) Define the scope of the policy
	4.2) Highlight the distribution and trade-offs of costs and benefits
	4.3) Legislation, administrative organizational arrangements
	4.4) Dedicated funding streams
Process	
5) Leadership	5.1) Distributed network leadership (policy, operational, private sector, science, community and political)
	5.2) Organizational leadership
	5.3) Positional and personal leadership characteristics
6) Capacity building and demonstration	6.1) Creating awareness about problems and solutions
	6.2) Build confidence in approach, technology and practice
	6.3) Develop new skills and competencies across the sector
	6.4) Creating informal incentives to apply and replicate learnings
7) Public engagement + behaviour change	7.1) Understanding existing community drivers
	7.2) Informing and engaging with the community
	7.3) Encouraging behaviour change among community members
8) Research and partnerships with policy/practice	8.1) Science partnerships: co-constructing science, policy and practice agendas for evidence-based decision-making

forum in 2017 with central government agencies, localities, private sector, donors and experts to discuss strategic measures on climate change adaptation and upstream developments. This Forum identified three threats to the VMD (the aforementioned climate change, upstream development and unsustainable domestic economic activities) and concluded that urgent action was needed. Within two months, R120 was drafted by the Ministry of Natural Resources and Environment (MoNRE) and approved and issued by the national government. Like other resolutions in Vietnam[2], R120 outlines mandates and responsibilities of national-level ministries and of the 13 provinces in the VMD. We consider this a clear case of a directed adaptation, whereby first a vision is developed (in this case in R120), followed by policies to shape the transition, which ultimately leads to adjusted practice.

[2] Resolutions in Vietnam at National levels, either the Government of Vietnam, National Assembly or the Communist Party of Vietnam can issue those.

Data collection and analysis

Given the multi-level nature of governance transitions, both the national and provincial levels are considered. At the national level, we concentrate on the central government, through documents issued by the Prime Minister and the ministries MoNRE (Ministry of Natural Resources and Environment) and MARD (Ministry of Agriculture and Rural Development). In preparation for R120, three ministries provided background information. MoNRE mapped opportunities and challenges in economic growth transformation, while MARD reviewed agricultural production, irrigation and disaster prevention infrastructure. Finally, MPI analysed resource mobilization in the VMD (MoNRE 2017). After issuing R120, MoNRE was tasked with coordinating the implementation of this resolution. As a result, the central government issued an action plan for R120 in April 2019 and detailed implementation instructions in September 2019. MoNRE, MARD and some other line ministries developed action plans to implement R120, see Fig. 2 for an overview. We could not find any documents issued by other

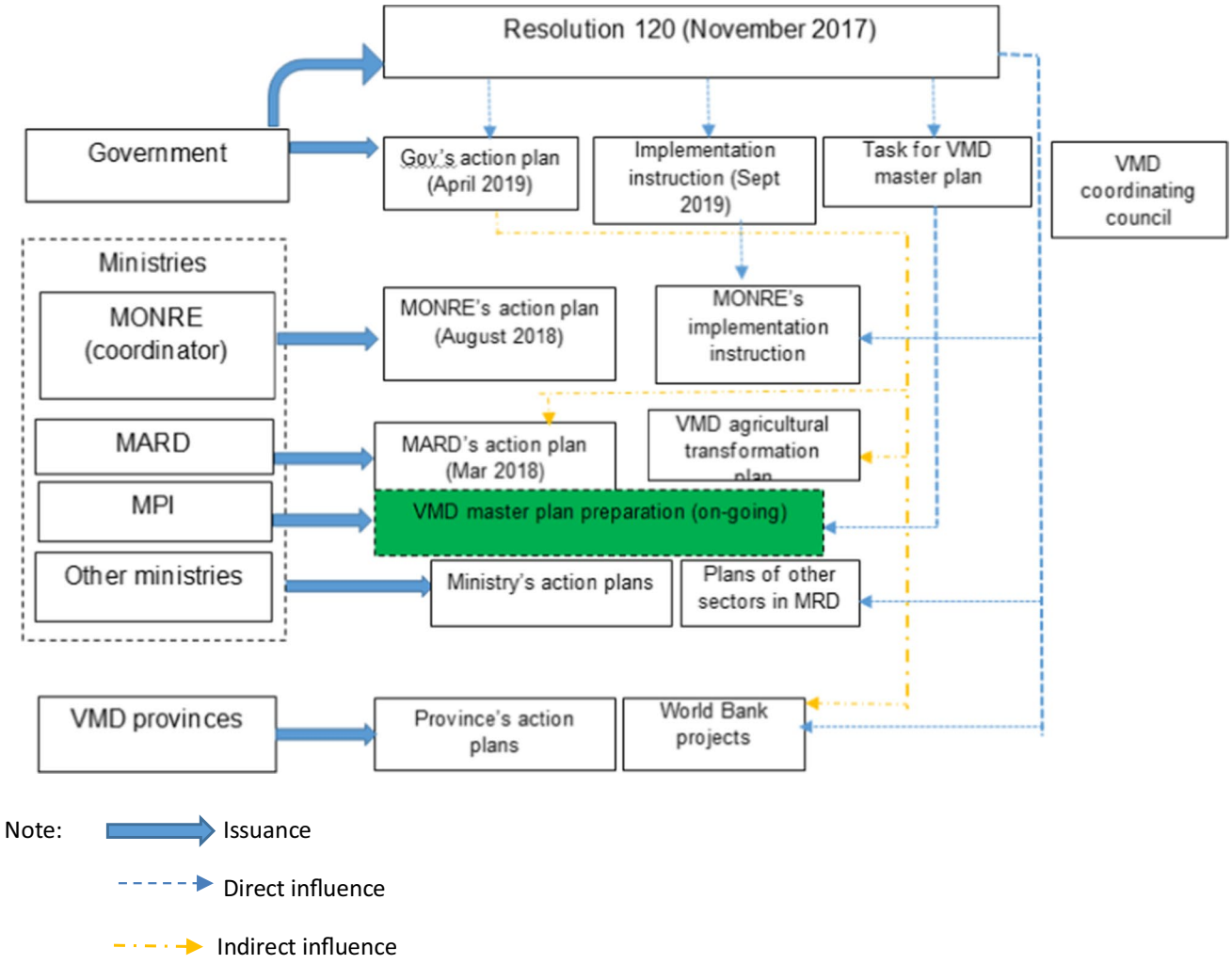

Fig. 2 Implementation of Resolution 120 in 2017–2020

line ministries or MPI regarding R120 and thus excluded these ministries from our analysis[3]. To assess the progress of the transition at the provincial level, we have selected two provinces where R120 is already explicitly on the agenda, namely An Giang and Ben Tre province. Moreover, this maximizes variation on the physical problems encountered as An Giang is located upstream in the VMD, while Ben Tre is located at the coast.[4]

We focus on efforts to realize the ambitions explicated in R120, by analysing documents issued as a follow-up to this resolution. We used national-level policy documents and action plans of the two selected provinces to develop an in-depth understanding of the progress, challenges and opportunities for implementation at both the national and provincial levels (see Table 2). In addition to this paper reality, we mapped progress in practice. Observations were collected by two authors working at the ministries MoNRE and MARD and we held interviews with 11 provincial departments in An Giang[5] and Ben Tre[6] about experiences with implementing R120. An

[3] Recently, MPI started drafting a master plan for the Vietnam's Mekong Delta. Since this master plan was just initiated at the time of data collection, it was left out of scope. In July 2020 though, the government of Vietnam agreed on the principles and contents of the VMD master plan proposed by the MPI. The master plan was presented as a final draft in December 2020.

[4] Depending on classifications, the VMD can be divided into three regions namely Upper Region (deep flood), Middle Regions, and Coastal Region or six sub-regions including Plain of Reeds, Long Xuyen Rectangular (LXQ), Mid-Tien and Hau River, West-Hau River Ca Mau Peninsular, and Eastern Coast.

[5] Department of Planning and Investment (DPI), Department of Natural Resources and Environment (DoNRE), Department of Agriculture and Rural Development (DARD)

[6] Department of Planning and Investment (DPI), Department of Natural Resources and Environment (DoNRE), Department of Agriculture and Rural Development (DARD), Water Infrastructure Company Rural Water Supply Center, Agricultural Extension Center, AMD project office, Provincial Project management Unit

Table 2 Overview of documents reviewed. A description of the different types of documents is provided in Electronic Supplement 2

Document ID	Date	Description	Issued by
Resolution 120	17 November 2017	Resolution outlining the vision for sustainable development in the Mekong Delta.	Prime Minister
Decision 816/QD-BNN-KH	09 March 2018	Manual for monitoring and evaluation agriculture restructuring to 2020	MARD
Decision 2678/QD-BTNMT	28 August 2018	On issuing Action plan to implement R120/NQ-CP about sustainable development of Mekong River Delta to adapt with climate change	MoNRE
Decision No. 1330	25 March. 2019	On implementing R120 for Ben Tre province	Ben Tre People's Committee
Decision 417/QĐ-TTg	13 April 2019	On issuing General Action Plan to implement R120/NQ-CP about sustainable development of Mekong River Delta to adapt with climate change.	Prime Minister
Decision 1864/QD-BNN-KH	22 May 2019	On issuing Action plan to implement Decision 417/QD-TTg on 13 April 2019 of Prime Minister on implementing R120/NQ-CP about sustainable development of Mekong River Delta to adapt with climate change.	MARD
Directive 23/CT-TTg	05 September. 2019	Directive on implementing R120/NQ-CP about sustainable development of Mekong River Delta to adapt to climate change	Prime Minister
Decision No. 3110	25 December 2019	On implementing R120 for An Giang province	An Giang People's Committee
Decision 825/QD-TTG	12 June 2020	Establishment and operational regulation of Mekong River Delta Coordinating Council in the 2021–2025 period	Prime Minister
Decision 324/QD-TTG	02 March 2020	About "Overall Mekong Delta agricultural transformation development program up to 2030 with the vision of 2045" by the Prime Minister on 02/03/2020.	Prime Minister
Decision 1163/QD-TTg	31 July 2020	On approving the task of developing Mekong River Delta Master Plan during 2021-2030 and the vision up to 2050	Prime Minister

additional interview was held with a member of the former South-West Steering Committee, which previously functioned as an intermediary between the national and provincial levels.

Multiple authors applied the framework to the part of the dataset that he/she was most acquainted with. This approach naturally risks inconsistency in applying the framework. To ensure uniform application by all authors, we have operationalized the framework in detail by providing a description, key indicators and an example for each sub-factor (as presented in Electronic Supplement 1). Moreover, all authors assessed available information for each sub-factor and labelled its quality as weak, medium, or robust. Finally, the second author reviewed and aligned these separate analyses into a coherent entity to prevent skewness in applying the framework and interpretation of the data. Inconsistencies between this review and the original analyses were discussed among the authors. This way, we ensured the uniform application of the framework and a critical reflection on the quality of the dataset.

Results

We present a narrative account of the transition, using the factors of the transition governance framework to structure this section and based on the complete overview of the documents and interviews.

Structure

1) Narrative, metaphor and image (e.g. a clear vision)

Having a clear image of the desired end state is essential to the governance of transitions. For the Mekong Delta, this vision is presented in R120 and most other documents simply refer to both R120 and Decision 417 for the envisioned future of the delta. The need for change is explicated in background reports prepared by the involved ministries. This confirms the finding of Seijger et al. (2019) that a change of thinking is taking place in the delta regarding problems and the transformation needed.

This shared understanding of the problems in the delta was found at the provincial level too. The narratives presented by the respondents in An Giang and Ben Tre were highly similar and describe issues with saline intrusion in the coastal provinces as well as issues with the high-dike triple rice farming system. However, these narratives remained very general and most departments were still working on action plans towards a sustainable future. In addition, neither the provincial nor central-level governments used metaphors or images that link the problems in the VMD to the envisioned solutions.

2) Regulatory and compliance agenda

Objectives, mechanisms and performance targets, as well as monitoring, enforcement and evaluation are needed to organize the transition. For the case of the VMD, responsibilities and reporting are organized hierarchically. Despite coherence regarding the need for identifying missions and policy solutions to support R120, priorities differ between the hierarchical levels. While the ministries describe specific targets to ensure commitment and build shared databases, objectives at the provincial level are limited to a call for sustainable development. Especially the objectives in Ben Tre province are brief and rather generic. Respondents point to the hierarchical governance system, in which provincial governments had to await instruction from the central government. These instructions for implementation eventually came in the form of Decision 417 that provided a roadmap for each sub-sector. Interestingly though, Document 1330 in Ben Tre province (where administrators pushed for a provincial action plan) had to be revised in 2019 as the final version of Decision 417 differed significantly from the draft version[7]. Despite this, action plans are specified at both national and provincial levels. Various documents from MoNRE and MARD list missions with detailed information on content, involved organizations, types of projects and timeframes. Decision 3110 of An Giang Province also lists 15 missions with this information. In Ben Tre province, the targets of the 81 projects and plans are listed in Decision 1330 for two periods. Results from the period 2019–2020 will be used here to shape the implementation in 2021–2030.

Monitoring and evaluation also differ between the hierarchical levels. Decision 816, Decision 1864 and Decision 2678 specify that relevant national-level agencies should report their progress, achievements and problems twice a year to MARD and MoNRE, who in turn report to the government and Prime Minister. The provincial government should report on the progress with implementing R120 in quarterly and annual reports. Any adjustment (an improvement or proposal) needs to be reported to the Provincial People's Committee (PPC) via the Department of Planning and Investment (DPI). Although not specified in An Giang province's action plan, respondents from DoNRE indicate that they are responsible for all monitoring and evaluation related to R120. By contrast, in Ben Tre province, heads of relevant sectors and districts are responsible for implementing this plan and reporting to DPI monthly. DPI reports to the PPC that in turn reports to the Prime Minister. In June 2019, a workshop was organized to evaluate progress with representatives of the ministries and provincial governments.

3) Economic justification

Economic justification entails a demonstrated business case as well as a social and environmental cost-benefit analysis. At the central level though, only Decision 324 provides an estimate of the cost: VND 17,500 billion (US$ 752 million), of which 5500 billion originating from the government and 12,000 billion from the private sector. This Decision also describes some key principles to mobilize and combine funds from the central government, provincial governments and private sector. However, these principles are not stated clearly and specific enough to serve as a guideline for integrating ongoing and potential resources. When reading between the lines, it seems that budgets are mobilized from ongoing sources, including the recurrent public expenditure of MARD and MoNRE for key projects[8] through the World Bank (contributing roughly US$600 million). The National Assembly therefore criticizes the absence of an effective financial mobilization mechanism (Government 2019b)[9].

In An Giang though, a dedicated budget is clearly stated through a list of the government bodies that fund projects or programmes (see annex 1 of Decision 3110).) The interview with DoNRE also confirms that funding is available for regional collaboration projects under the flag of R120. Overall, financial resources are limited and not discussed in detail, while private funding is limited to agro-business and less than expected. As a result, respondents in Ben Tre province express their concern that the lack of budget delays implementation; despite having a vision and plans, the lack of budget delays implementation. In fact, several ministers denounced the lack of an effective financial mobilization mechanism when the National Assembly members enquired about the slow delivery of tangible outcomes of Resolution

[7] In July 2020, the national government furthermore agreed to the principles of a master plan for the VMD as proposed by MPI.

[8] Mekong Delta Integrated Climate Resilience and Sustainable Livelihoods Project (2018-2022), Vietnam - Sustainable Agriculture Transformation Project (2016-2020)

[9] The New Rural Development National Target Program 2021-2025 for the Mekong Delta provinces (the largest source of the state budget) does not reserve funds for implementing R120.

120 (Government 2019b; MoNRE 2019; National Assembly 2019; National Assembly 2020).

Evidence for the allocation or evaluation of social and environmental costs and benefits is not provided in any reviewed documents or interviews. In An Giang, respondents of DoNRE mentioned how legal frameworks triggered the organization of pilots but it remains unclear whether a full-fledged social-environmental impact assessment has taken place. Hence, we identified some financial resources at both hierarchical levels but not of a complete business case, and environmental or social cost-benefit analyses seem to be non-existent.

4) Policy and planning frameworks and institutional design

The institutional design is somewhat ambiguous. There is criticism on the slow progress in policy development by the ministries in general (Ministry of Finance 2019) and remains unclear who is in charge. Policy documents describe the administrative arrangement to implement R120, but fail to specify how the mission should be integrated with existing programmes and ongoing activities like the currently developed Master Plan of the Mekong Delta by MPI. Moreover, while MARD is responsible on paper for most missions—including developing an economic structure for implementing R120—MoNRE is developing and coordinating them.

The institutional embedding further differs between the two studied provinces. In An Giang province, DoNRE is responsible for the implementation and for monitoring and evaluation (including reporting to the provincial People's Committee) and communication to other departments. The Department of Information and Communication (DIC) communicates with the other stakeholders, while DPI will include climate change in their socio-economic plans. On the other hand, in Ben Tre province, DPI is leading the implementation of R120 with multiple tasks, including collecting proposals and suggestions from the lower hierarchical levels and consulting PPC to report to the prime minister. Interestingly, two inter-provincial collaborations exist now: a high-level collaboration (MoU) between the coastal provinces (which is an implementation of Decision 593 to pilot inter-provincial collaboration) and a private sector collaboration between the "ABCD"-provinces (An Giang, Ben Tre, Can Tho and Dong Thap). Nevertheless, further inter-provincial coordination mechanisms are needed (Government 2019a).

Despite this institutional embedding, there is no additional budget available from the central ministries and at Ben Tre province. At the central level, the dedicated budget for the missions and measures in the projects is not clearly stated. Nevertheless—as outlined earlier—budgets seem to be mobilized from ongoing sources including the recurrent public expenditure of MARD and MoNRE for key projects funded by the World Bank (such as MDICRS and VNSAT for MARD, and MDICRS for MoNRE, see World Bank 2020a, b).

Process

5) Leadership

On the national level, MPI is appointed as coordinator for developing a Master Plan on sustainable development in the VMD while MoNRE is appointed to coordinate activities between the National Committee on Climate Change, other ministries and the provinces. However, so far, activities related to R120 are done by different ministries with limited coordination and cooperation. The absence of a steering committee to coordinate activities between the ministries and provinces has been criticized at the national level (National Assembly 2019; Government 2019a).

A similar pattern is observed at the provincial level. Although Decisions 1330 and 3110 of respectively Ben Tre and An Giang appointed the Department of Natural Resources and Environment as responsible for the coordination of activities and reporting progress to the Provincial People's Committee of the Vietnamese Communist Party, no apparent progress is made. Interestingly, we observed provincial leadership. Provinces initiated collaboration among upstream provinces (An Giang, Can Tho, Hau Giang and Kien Giang) and coastal provinces (Dong Thap, Long An and Tien Giang). Respondents at the provincial level indicated that they decided to act out of a sense of urgency due to climate change and the absence of national-level guidance. However, several provincial initiatives had to be revised in 2019 when the central government issued guidelines on the interpretation and implementation of the resolution.

6) Capacity building and demonstration

At the national level, MoNRE points to the importance of capacity building by training government officials. Ben Tre's People Committee has also prioritized this, as they called for "improving awareness of strengthening the capacity of human resources for different subjects such as governmental officials, local communities, private sectors, etc." in their Decision No. 3110 (section 1.6 and 2.7). However, we found no plans and activities for building capacity and confidence in the approach at the central level. Although MARD calls for raising awareness among farmers, there are no concrete plans to do so. This has been taken up to some degree at the provincial level. The provincial civil servants observed a limited understanding of problems and solutions among local farmers. Ben Tre's Departments have organized training and established a piloting village to showcase alternative farming livelihood models. In An Giang province, technical support

is available for farmers. In sum, demonstrating new approaches to build confidence and capacity is considered essential but happens rarely in practice. This observation is confirmed by recent evidence that farmers continue to learn about climate change adaptation through informal networks, as government training programmes focus on agricultural production rather than climate change adaptation techniques (see Tran et al. 2020a, b).

7) Public engagement and behavioural change

MARD lists "increasing the awareness for farmers in the [V]MD about the rationale of R120" as a condition for the implementation of this policy, but without specifying how this shall be achieved. Similarly, involving farmers and creating awareness is indicated as a requirement in implementing R120 but without further specification in both provincial Decisions. Nevertheless, farmers are encouraged to shift their livelihood models in both provinces to align with the vision outlined in R120. For example, stakeholder meetings were organized to raise awareness and reach a consensus on the future construction of dikes in An Giang. Also, DARD and Agricultural Extension Centre offer training on different livelihood models (e.g., shrimp-rice model) to farmers in Ben Tre. Although no formal evaluation took place, respondents have the impression that only a minority of farmers are willing and able to change behaviour. Respondents point to farmers' concerns about changing agricultural practice (in particular inability to invest, uncertainty about harvests and the poor infrastructure to transport crops to markets) and stress that provincial governments lack the resources, mandate and capacity to address these concerns on their own (Pham et. al. 2022; Ngo et. al. 2022).

8) Research and partnerships with policy/practice

Finally, developing scientific knowledge is a focal point at both central and provincial government levels. For example, MARD calls for applying science and technology when implementing R120 (see Decision 1864, mission 6) and to create a scientific foundation for the required agricultural transformation in the VMD. MoNRE further specifies this in eight different objectives, including nature-based solutions based on studies on climate change, rainwater harvesting, the integration between environments, resources and energy production (see Decision 2678). Despite the emphasis on climate change research, the government relies on private co-funding and no institutional change was observed. The budget for climate change research remains limited and the available budget primarily originates from state sources for researching infrastructure, facilities and regular operation. A limited part of research funding originates from national and international programmes for research focussed on implementation. Both provincial decisions that were studied touch upon the relevance of research and technology, which was further specified during interviews. One example that was brought up concerns a study on biodiversity with a foreign research partner in Ben Tre.

Discussion

Implication for the transition in the Vietnamese Mekong Delta (VMD)

Taking Resolution 120 (R120) as a starting point, this study used the governance transition framework by Farrelly et al. (2012) to evaluate the transition towards sustainable development in the Vietnamese Mekong Delta. Government bodies at both the national and provincial levels have given follow-up to R120. Our analysis highlights modifications in the governance structures and processes to facilitate this transition. On the one hand, hierarchical steering is the dominant governance mode in the transition, through a top-down, directed process whereby the vision is translated into ministerial action plans and instructions for provincial governments. At the same time, we observed bottom-up modifications, in particular through pilots and experimentation at the provincial level (as was also shown by Nguyen et al. 2020). Although some of the bottom-up adjustments are in line with the top-down process, there is also friction between these levels. One example of such friction between the proposed top-down change and the actual bottom-up adjustments is found in the construction of small dikes in the upstream part of the VMD. In addition, delays in issuing national-level directions manifest at the provincial level. These observations are supported by criticism in the Vietnamese National Assembly on the slow and unsystematic progress of implementing R120 (MoNRE 2019; National Assembly 2019, 2020).

While the vision for sustainable development in the Mekong Delta is ambitious (Nguyen et al. 2020), implementation proves to be challenging. Based on the transition framework, we find that several governance elements are inadequate to support the transition. In particular, leadership and resources are insufficient to guide and implement the transition in the period 2017–2020. As a result, we observed limited capacity building. The provincial governments that were included in the study are struggling to integrate the R120's philosophy, i.e. "climate-resilient and sustainable development" in their actions plans. Proposed activities and projects have hardly changed, and no changes were observed

in institutional or legislation to support the implementation of R120.

Recommendations and outlook

Climate change seems to be progressing faster than the implementation of R120 in the Mekong Delta. Nevertheless, and despite the constraints in implementing the R120 as discussed above, R120 has significantly impacted society. For the first time, a number of "green" concepts like climate change resilience, nature-based solutions and sustainable development have been addressed at such a high level and through a holistic approach. The ambitions are considered as the most innovative features of agriculture transformation and socio-economic development of Vietnam.

Nevertheless, these ambitions are constrained by practical challenges. Financial resources (both public and private) are limited and less than expected or needed. Provincial governments and ministries have not allocated a budget to implement R120 and funded activities regarding socio-economic development have not significantly changed. As a result, plans to support the vision cannot be implemented due to a lack of budget. In addition, given that Vietnam is relying mostly on hierarchical governance modes, whereby the central government sets out the policy lines, there is a need for more specific top-down guidance. Even though provincial departments have already deployed several local initiatives to train farmers, initiated pilots and establish partnerships in practice, they are formally awaiting guidance from the national government before capturing their actions on paper. For example, programmes to inform and facilitate farmers in shifting livelihood models and science-policy partnerships remain limited to pilots without a framework at a larger scale to connect to. Responsibilities have been formally assigned to MoNRE, MARD and MPI, but in practice their leadership in guiding the transition remains limited and is not specific enough to guide the provinces in achieving the resolution's objectives. As such, we argue that central-level leadership is indispensable to ensure follow-up and speed up the transition in practice.

At the same time, we should not neglect recent development that may strengthen these aspects of the transition. The ambitions of R120 are supported by international development organizations and international financial institutions (including the World Bank, GIZ, the Dutch government and AusAID) and integration of R120 is a condition in recent loans from the World Bank of 300 million US$ to Vietnamese provinces (World Bank 2020a). In June 2020, Decision 825 furthermore establishes a Coordination Council of the Vietnamese Mekong Delta to support the transitioning progress in the VMD. The council is chaired by the Vice-Prime Minister and consists of the other national-level ministers and representatives from the VMD provinces, the private sector and academia.

Contributions and limitations of this study

This study looked at the governance aspects of the current documents related to the R120 at the central and provincial government levels. Although governance is a critical enabling factor to support the sociotechnical transition progress, Vietnamese literature and international studies on Vietnam rarely address governance questions (with notable exceptions such as Adger (2000) and Seijger et al. (2019) who evaluated respectively institutional adaptation in northern Vietnam and the change induced by the Mekong Delta Plan). This study can be considered as a frontrunner in governance studies in Vietnam.

This study also has broader implications, as it relates to aspects that recently have received considerable attention in the literature about sustainability transitions. It connects to scholarly attention to agency and spatiality/geography of transitions, and more attention to agro-food sustainability transitions in the Global South, as pointed out by a recent systematic review (El Bilali 2019). For example, it complements the study by Pitt and Jones (2016), who conclude that continuous involvement of at least one transfer agent across the process is crucial for the success of policy transfer through scaling up and out in food systems transitions. Vice versa, the results of this study suggest that scaling down requires many transfer agents to achieve on-ground implementation across decentralized jurisdictions. Secondly, while bottom-up local innovation and strategic niche management are deemed more effective than top-down policy transfer (Wieczorek 2018; Ramos-Mejia et al. 2018), this study provides indications of how such approaches could address the shortcomings of a hierarchical institutional context, such as in the Vietnamese Mekong Delta: e.g. through the local development of narratives, business cases, implementation capacity, confidence and, above all, behavioural change. To this end, the transition governance framework appears a useful tool to evaluate the availability of the required enabling factors across multiple levels of transition governance.

Furthermore, the combination of a document analysis at national and provincial levels and interviews provided a detailed account of the transition. Had we limited our study to a desk study, then we would have overlooked not yet documented programmes and initiatives on the ground, and we would probably have concluded the transition has still to take off. Similarly, our assessment of the progress in the structural factors would have been more negative when relying solely on the interviews.

Nevertheless, there are some limitations to our analysis. First of all, our evaluation adopts a governance perspective and is limited to activities directly related to R120, thereby excluding other policy documents or activities that may contribute indirectly to the transition in the VMD. For example, R120 is a guiding policy document with limited enforceability, meaning that Vietnamese laws will be the primary enablers of implementation. In addition to policy documents, the new Law on Planning, Law on Environmental Protection, Law on Water Resources and the Law on Natural Disaster Prevention and Control are worth attention.[10] Extending our analysis to legal documents may help assess the progress of the implementation of R120 beyond the governance perspective chosen in this study.

Secondly, our analysis is limited to the Prime Minister and two sectoral ministries at the national level and only two out of 13 provinces in the VMD. Although other ministries (such as the Ministry of Transportation, the Ministry of Labour, Invalids and Social Affairs and the Ministry of Construction) also play a part in the governance transition, we excluded them from our analysis. We deliberately decided to focus on the ministries that were explicitly mentioned in R120 as playing a pivotal role in its implementation. Surprisingly, the Ministry of Planning and Investment had not issued any documents on R120 until 2020, even though it was mentioned as a third ministry playing a central role. MPI's current role seems to remain limited to developing a master plan for the Mekong Delta, which was issued in 2020 (Royal HaskoningDHV 2020). Also, we included only two provinces in our analysis. Even though these provinces were considered typical upstream and downstream provinces, they are not representative of all VMD provinces.

Thirdly, barriers to implementation at the provincial level were mentioned, especially during the interviews, which this study does not explore in any depth. They can be summarized as insufficient infrastructure, a short-term perspective of farmers and a mandate for the provincial government to "force" farmers to shift their livelihood model.

Our ambition was to explore the progress of the transition and we were able to identify critical facilitating and limiting factors in governing this transition. Future research could further explore these barriers in the delta and ways to overcome them. In doing so, expanding the empirical focus to all ministries and provinces would be worthwhile.

[10] For instance, the Law on Planning promulgated in 2017 establishes a national planning system, particularly unifying the planning period and integrating cross-sectoral and cross-provincial planning. The ministries and provincial governments involved in implementing R120 are required to integrate their relevant planning work. Also, several laws, such as the Law on Environmental Protection (Chapter IV), Law on Water Resources (Article 60.3) and the Law on Natural Disaster Prevention and Control (Article 4.6), which include provisions regarding climate change responses, provide the legal basis for the implementation of R120 from their scope of mandates respectively.

Conclusion

In this study, we have evaluated the progress of the transition in the Vietnamese Mekong Delta (VMD) following the central government's R120 regarding sustainable development. We have combined a document analysis of the central government and in two different provinces in the Mekong (An Giang and Ben Tre) with interviews with several departments in these provinces. The analysis along the lines of the governance transition framework (by Farrelly et al. 2012) showed that not all structural and process factors necessary for such a transition are met yet. Based on this analysis, we further draw a number of key conclusions.

First of all, the results showed how the "soul" or "spirit" (*tinh thần*) of the Resolution is not well reflected in practice. While the central government and the studied provinces are highly aware of the consequences of climate change and agree that a transition towards sustainable agricultural practice is needed, existing policy interventions remain oriented towards hard infrastructural measures like dykes and sluice gates. Although change at the provincial level remains limited (as was previously concluded by Seijger et al. 2019), our results show that this is caused mainly by the dominance of hierarchical governance modes in Vietnam. Provincial governments are ready to deploy several local initiatives but need to wait for central-level coordination before acting. Stagnation in the governance transition reflected in the documents does not automatically equal stagnation in practice and vice versa, thereby showing the value of combining documents and interviews in studying policy implementation in the Mekong Delta.

Secondly, we conclude that there is a need for, and room to, accelerate the transition. The transition is lagging behind the rate in which the consequences of climate change manifest themselves. Not all governance aspects needed for the transition are covered in the VMD. The analysis shows that some factors are priorities on paper rather than action taken in practice. Other factors have not been covered at all by the central and provincial government bodies studied here. While we identified formal arrangements regarding most structural indicators, process-related factors were evaluated rather poorly in our analysis and thus can be considered bottlenecks in the transition.

Thirdly, the case of the agricultural transition in the Vietnamese Mekong Delta region highlights the importance for more scholarly attention to the themes of agency and spatiality/geography in the context of sustainability transitions, particularly in the Global South. In this regard, this study suggests that the transition governance framework is a useful

diagnostic tool to identify shortcomings across multiple levels of transition governance.

Overall, we conclude that the governance transition to adapt to climate change in the Vietnamese Mekong Delta is ongoing but not at full speed yet. We observed a 2-year time gap between the issuing of Resolution 120 and Decision 417 that provided details to this resolution. At the same time, we noticed initiatives and energy to change at the provincial level. This research confirms the importance of balancing formal and informal approaches as well as centralized and decentralized steering outlined by previous studies (e.g. Rijke et al. 2013). We therefore see room to accelerate the transition by dedicating more attention to mainly the process-related factors and integration of top-down and bottom-up initiatives. Future research may concentrate on how these bottom-up pilots and partnerships at the provincial level (e.g., Nguyen et al. 2019, 2020) can be combined with the development of top-down vision and guidelines from the central government in Vietnam.

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