Houses of cards and concrete: (In)stability configurations and seeds of destabilisation of Phnom Penh's building regime

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ABSTRACT

Scholars widely agree that cities and their built environments play a decisive role for a global transformation towards sustainability. This necessitates a shift away from unsustainable practices and constellations in cities towards more sustainable ones – particularly in contexts of the Global South, as they see the strongest current and projected urban growth and related construction activities. Research on urban sustainability transitions has however largely been biased conceptually towards innovation and new technologies, and geographically towards the Global North. While more research recently emerged that addresses the destabilization of dominant orders, it still predominantly considers Northern cases, and those with discernible transition processes. This paper seeks to address these biases and studies factors that contribute to the (in)stability of socio-technical regimes. We argue that (de)stabilizing factors and the particular *(in)stability configurations* they form, must be scrutinised regardless of transition phase as they are ingrained in regime structures before transition processes become apparent. Identifying and characterizing (in)stability configurations and the seeds of destabilization can then support the development of contextualised transition governance strategies. Employing the building sector of Phnom Penh, Cambodia, as an empirical case, this study differentiates sources of (in)stability from economic, socio-cultural and political-institutional dimensions. Our analysis suggests an ambiguous (in)stability configuration with tensions primarily within the socio-cultural and economic dimensions, and a dominance of stabilizing effects from the political-institutional dimension. The paper closes with implications for transition governance strategies and general arguments on the heterogeneity of transition contexts and regime constellations, particularly in countries of the Global South.

1. Introduction

Despite ambitious sustainability goals at national and global levels, humanity is continuing on unsustainable pathways. Cities and urban growth significantly shape these developments as they account for about 75% of global resource consumption and 60–80% of global greenhouse gas emissions (Nagendra et al., 2018). Urbanization, urban population growth, increasing incomes and shrinking household sizes and their associated demand for residential and commercial space have been fuelling significant building activities and will do so in the future. Since these dynamics are particularly stark in the Global South, it is projected that 85% of growth in building energy use demand will be from urban areas and 70% from cities in "developing countries" alone (Ürge-Vorsatz et al., 2015, p. 87). Investments in buildings and associated

infrastructures have long-term effects as they bind resources, social practices and financial capital. At the same time, current and projected building dynamics in cities of the Global South offer a window of opportunity for a transition to long-term urban sustainability. Due to rapid urbanisation processes and the dominance of conventional, resource- and emission-intensive construction activities and their implicated lock-ins, this window is however closing quickly.

Therefore, the ways buildings are designed, constructed and operated need to be urgently transformed. Much promising research in this direction has been conducted in the field of sustainability transitions research. Here, scholars have been studying how societal functions like the provision of shelter through buildings are fulfilled and change over time in *transitions*. Transitions are understood as radical changes of socio-technical systems that involve the re-configuration of system

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elements such as user practices, markets, industry structures, infrastructures, technologies and policies (Rip and Kemp, 1998; Geels, 2002). Within transitions research, the "Multi-Level Perspective" conceives transitions as the result of dynamics between three levels of structuration: (1) The regime (the locus of established practices and the associated rule-set), (2) niches (loci for radical and experimental innovations and alternative solutions), (3) the landscape (the exogenous and structural backdrop) (Geels, 2002). In an idealised way, such transition processes unfold along successive phases such as pre-development, acceleration and stabilisation. Despite increasing insights and practical experiences with the governance of such transitions in the Global North, the contexts and dynamics of urban sustainability transitions in the Global South are less well understood. In contrast to early transition concepts, the transitions research community is meanwhile putting increasing emphasis on the significance of space, scale, place-specific factors and regional differences for transition processes (Hansen and Coenen, 2015; Truffer et al., 2015; Binz et al., 2020).

This is particularly relevant for countries in the Global South which are characterised by an often much more heterogeneous make-up of socio-technical regimes, comprising dominant technologies, materials, actors, industry structures, economic and power relations, regulatory practices and policies, and not least different socio-cultural contexts, governance regimes, building traditions and social practices of collaboration. These conditions influence how building regimes are internally structured and respond to pressures for change. Regime characteristics include constellations which are particularly stable and difficult to change, while other regime elements are characterised by tensions and potential instabilities. Such constellations open up or close down particular pathways of change towards a more sustainable building regime. Moreover, socio-political conditions and regime structures in the Global North which have served as a template in the development of transition studies, appear to be more homogenous than regimes in the Global South which vary significantly across spatio-institutional contexts (Wieczorek, 2018). A profound understanding of the particularities of such regimes is thus necessary to develop context-specific interventions to support transformative change in the building sector.

The consideration of regime destabilisation processes for the understanding of transition dynamics has generally increased, as scholars have become more critical about purely niche-driven concepts of change with their focus on the emergence of alternative solutions. Instead, regime-internal processes such as the destabilisation of established institutions and practices due to external pressures or internal reconfigurations are highlighted (Turnheim and Sovacool, 2020). However, this destabilisation perspective has been mostly applied to more advanced transition phases and the phasing out of unsustainable institutions and technologies, while regime instabilities and their effects in early transition phases ("pre-development") have been much less considered – even though seeds of destabilization are arguably present in any form of incumbency at any time, and probably even more so in more heterogeneous regimes of the Global South which have not gone through the same prolonged period of technological, institutional and economic stability as systems in the Global North. As different forms and sources of regime (in)stability exist, we argue that (de)stabilizing factors, the particular *(in)stability configurations* they form, and the openings they create for intervention and change should be scrutinised even in early transition phases, in order to better understand regime dynamics and potential pathways of change in the Global South and elsewhere.

Our empirical case will be the building sector in Phnom Penh. In line with many other cities of the Global South, the Cambodian capital is characterised by rapid urban growth, high demand for building space and struggles to live up to ambitions of urban sustainability (Baker et al., 2017). However, our analysis is not bound to urban building regimes. Instead, given the fluid, permeable, and multi-scalar relations we find in the building system, the local level serves as a starting point in the search for the heterogeneity of regimes and their spatiality (Affolderbach et al., 2018; Binz et al., 2020). When discussing *sustainable building,* we do not

understand it as a monolithic sector but as a bundle of diverse approaches. While it is highly disputed what exactly falls in the category of sustainable building, we follow ONeill and Gibbs (2014) in treating it as a relative concept. The heterogeneity of sustainable building can then be conceptualized as a series of nested niches within an overarching sustainable building niche (ONeill and Gibbs, 2014). In contrast to ONeill and Gibbs (2014) we do however not only consider the reduction of environmental impacts of building planning, operation and construction but also their negative social impacts in our understanding of sustainable building.

This article seeks to make three contributions: Firstly, it analyses the problem of sustainability transition under very specific and so far understudied spatial and sectoral conditions: Phnom Penh's building sector is a prime example of a rapidly expanding sector in a context of population growth, urban expansion and low levels of regulation in an illiberal setting in the Global South. In the building sectors of the Global North, in contrast, most of the future building stock already exists, urban population growth is relatively limited, regulation is rather high and building energy demand is projected to stagnate (Ürge-Vorsatz et al., 2015). While transitions research has largely focussed on the latter, the majority of future building energy demand growth and other sustainability impacts of buildings will stem from the Global South. Whereas building sector transitions in Northern contexts primarily require a shift from quantity (growth and comfort) to quality (sustainability and liveability) (Loorbach, 2017), a transition like the one in Phnom Penh with high levels of growth in population and floor space demand require a shift to a system that can offer both quantity *and* quality.

Secondly, the article contributes to the literature on destabilization and regime (in)stabilities in sustainability transitions and their geographic specificity. This is achieved by introducing the framework of *(in)stability configurations*. The approach allows to dissect present regime configurations and (de)stabilizing processes in order to gain a deeper understanding of possible dynamics of change in a particular regime. (De)stabilizing processes are considered as socio-spatial dynamics that are multi-scalar, place-specific and translocal.

Adding, thirdly, to the literature on the governance of sustainability transitions, the paper suggests to link the analysis of (in)stability configurations to targeted transition governance strategies that address ingrained seeds of destabilization as levers of change. Accordingly, we review the existing literature on regime (in)stability in the following section (2.1) before developing our *(in)stability configuration* framework (2.2). We then discuss our methods (Section 3), and apply the framework to our case study, the building sector of Phnom Penh (Section 4). Lastly, we discuss the results and possible transition strategies in Section 5 before concluding in Section 6.

2. Analytical framework

2.1. Regime (in)stabilities

Transitions, understood as processes of structural change of societal systems, involve both processes of emergence and institutionalization of new socio-technical orders as well as processes of decline and deinstitutionalization (Köhler et al., 2019). While regimes and regime-like phenomena of incumbency (Stirling, 2019) are associated with temporal stability, this stability is not an automatism. Researchers have hence started to discuss the previously neglected partial instability of regimes and the diversity of dynamics that cause instability. This includes the persistent pressure on regimes from alternative formations and regime internal tensions and incoherencies between actors, technologies and institutions, that result in resistance, or repair and reproduction work of regime actors (Jørgensen, 2012; Geels, 2014). This work highlights the role of regime level dynamics and incumbents as important actors for transition processes. Transition scholars hence started to address regime-level dynamics and processes of destabilization and the decline of dominant orders as the "flipside" of transitions

(Turnheim and Geels, 2012; Turnheim and Sovacool, 2020; Mori, 2021). Most studies of destabilization processes however focus on those transition phases in which change is deliberatively sought, or "change has been most destabilizing" (Martínez Arranz, 2017, p. 127) even though it is argued that "seeds for destabilization are sown long before they take effect" (Turnheim and Geels, 2012, p. 44). Thus, despite the shift towards the study of destabilization processes and their governance (van Oers et al., 2021) – little concern is paid to the preceding destabilizing factors, or the way instabilities are already ingrained into regimes before a transition "takes off" (Rotmans et al., 2001).

Furthermore, within the literature on geographies of sustainability transitions, scholars have been discussing the diversity and place-specificity of regimes (Späth and Rohracher, 2012; Hansen and Coenen, 2015). In this context, greater instability and heterogeneity of regimes in the Global South has been highlighted by some (Hansen et al., 2018; Wieczorek, 2018). While such instabilities might be expected to be supportive for niche development and regime change, previous studies found that actors are actually too fragmented to coordinate niche activities and that such instabilities can therefore rather impede niche development (Hansen et al., 2018). The authors connect higher regime instability to less stable political and economic conditions, weaker and less efficient state institutions, low enforcement of state regulation, etc. (Ramos-Mejía et al., 2018; Feola, 2019). Meanwhile, Berkhout et al. argue that in the Global South, less "economic and political commitments to incumbent socio-technical regimes" must be overcome (2009, p. 223). Noboa et al. (2018) however claim that characteristics of illiberal contexts including authoritarianism, state capture, oligopolies, etc. – that are particularly prevalent in the Global South (Murakami Wood, 2017; Lawreniuk, 2020) – may actually increase the stability of the status quo. Here, they argue, incumbents can address potentially threatening processes "with a severe response" (Noboa et al., 2018, p. 3).

Instead of reproducing mutually exclusive categories and hereby supporting a liberal/illiberal dichotomy that orientalises the Global South as an illiberal space (Luger, 2020), we suggest contextual assemblages where diverse political-institutional characteristics overlap, interact, and hereby form "institutional pockets" (Ramos-Mejía et al., 2018), while being in conflict with liberal-democratic assumptions of the transitions literature. In the case of Cambodia, this includes discussions on the role of the Cambodian State as a developmental state (Hughes and Un, 2011), (neo-)patrimonialism (Un and So, 2011), illiberalism (Bafoil, 2014; McCarthy and Un, 2017), authoritarianism (Lawreniuk, 2020), or the post-conflict and post-socialist context (Hughes and Un, 2011).

With these contrasting views on regime (in)stabilities in the Global South and a limited understanding of the seeds of destabilization in early transition phases, it seems vital to learn how stability and instability are intertwined in regimes, particularly those outside of the Global North. To address the interlocking of (de)stabilizing factors and overcome the dualist conceptualization of „stability and change as mutually exclusive" (Strambach and Pflitsch, 2020, pp. 1–2), we introduce *(in)stability configurations* in the following part.

2.2. Seeds of destabilization and (in)stability configurations

Instead of understanding regimes as homogeneous and "flat", we propose a more differentiated analysis of regimes through their *(in)stability configurations*. We argue that regimes are not (de)stabilised as monolithic entities but that regardless of transition phase, heterogeneous regime elements (in terms of incumbent firms, social practices or technologies) are under varying (de)stabilizing pressure and equally vary in their responses. Increasing use of social media, for example, can have a stronger destabilizing effect on the norms of everyday practices than on other aspects, like building technology (Kuokkanen et al., 2018). Equally, regime elements cannot be assumed to be homogeneously stabilized: Some regime elements, actors and rules are more aligned

than others, and are therefore more stable; regime rules are however always only semi-coherent, never entirely aligned (Geels and Schot, 2007; Ghosh and Schot, 2019). This implies contradictions, conflicts, weaker linkages (Geels, 2002) and *seeds of destabilization* (Fuenfschilling and Binz, 2018). A multitude of inter-related (lock-in) mechanisms stabilizes regimes elements in unequal ways: Sunk investments in machines, for example, may lock-in production processes, but not as much user preferences (Geels, 2011). Furthermore, regime actors have different capacities and strategies to react to destabilizing pressures and therefore vary in their responses (Turnheim and Sovacool, 2020). Despite their interconnectedness, individual regime elements and their relations are thus *unevenly (in)stable*.

To better comprehend this unevenness, we introduce *(in)stability configurations* of regimes as time, place and context-specific constellations of stabilizing and destabilizing factors that are intertwined and affect the reproduction and alignment of regime elements. Destabilizing factors are those that weaken or threaten the reproduction of regime elements and their compatibility, while stabilizing factors support these (Turnheim and Geels, 2012). (De)stabilizing factors can (de)stabilise (multiple) regime elements in ambiguous and heterogeneous ways, potentially opening up particular trajectories for change while inhibiting others. (De)stabilizing effects therefore have their own latent directionality. Moreover, (de)stabilizing effects also come with their respective temporality, some affecting regime elements as ruptures, like sudden landscape shocks (wars) while others, like demographic changes, are following the longue dureé of centenary change (Raven et al., 2012). Other scholars, such as Pel and Boons (2010), highlight the contrasting time frames of regime elements themselves, such as long-lasting road infrastructure in contrast to short-term traffic management.

While seeds of destabilization can offer cracks or openings towards particular trajectories, the way transition processes actually play out is also dependent on an array of other pressures, interventions and contingencies. Considering the (de)stabilising effects, we can differentiate sources of (in)stability based on different dimensions of the respective socio-technical system. (De)stabilizing effects can be connected to socio-cultural, economic, or political-institutional sources across the system (Fastenrath and Braun, 2018). These three broad dimensions allow the inductive development of sub-categories for each dimension based on the empirical material at hand. While other, more conventional regime-level framings have their merit, our approach allows us to work closely with the empirics of the respective case and to integrate sources from different levels of the socio-technical system. The categories shown in Fig. 1 are the result for our particular case study. Different categories might come up in other cases. Still, numerous categories within the three dimensions relate closely to the conventional analysis developed by Geels (2002). System elements that are grouped into the seven dimensions of Geels are integrated into our three-dimensional framework, too. The "user practices" dimension of Geels, for example, is partially associated with the socio-cultural dimension (user preferences) while effective demand is associated with the economic dimension. Unlike Geels, we do not refer to individual sub-regimes that form around particular actor groups (suppliers, research networks, user groups), but to different dimensions of socio-technical systems, - including its niche and landscape levels – that can be the source of (in)stability. Following the multi-level perspective we therefore differentiate between regime-internal sources of (de)stabilising factors based on frictions, conflicts and incompatibilities, and (in)stabilities that are induced by landscape pressures or by emerging alternatives or niches.

Furthermore, our framework considers (de)stabilizing processes as socio-spatial dynamics that are locally embedded, yet translocal and multi-scalar: While regimes (just like niches) are themselves multi-scalar and translocal (Truffer et al., 2015; Fuenfschilling and Binz, 2018; Binz et al., 2020), their constituting elements can be (de)stabilized from various but interconnected geographical scales, as well as across places and space. This also involves (re-scaling) dynamics between territorially embedded regimes and regime structures that are institutionalized at the
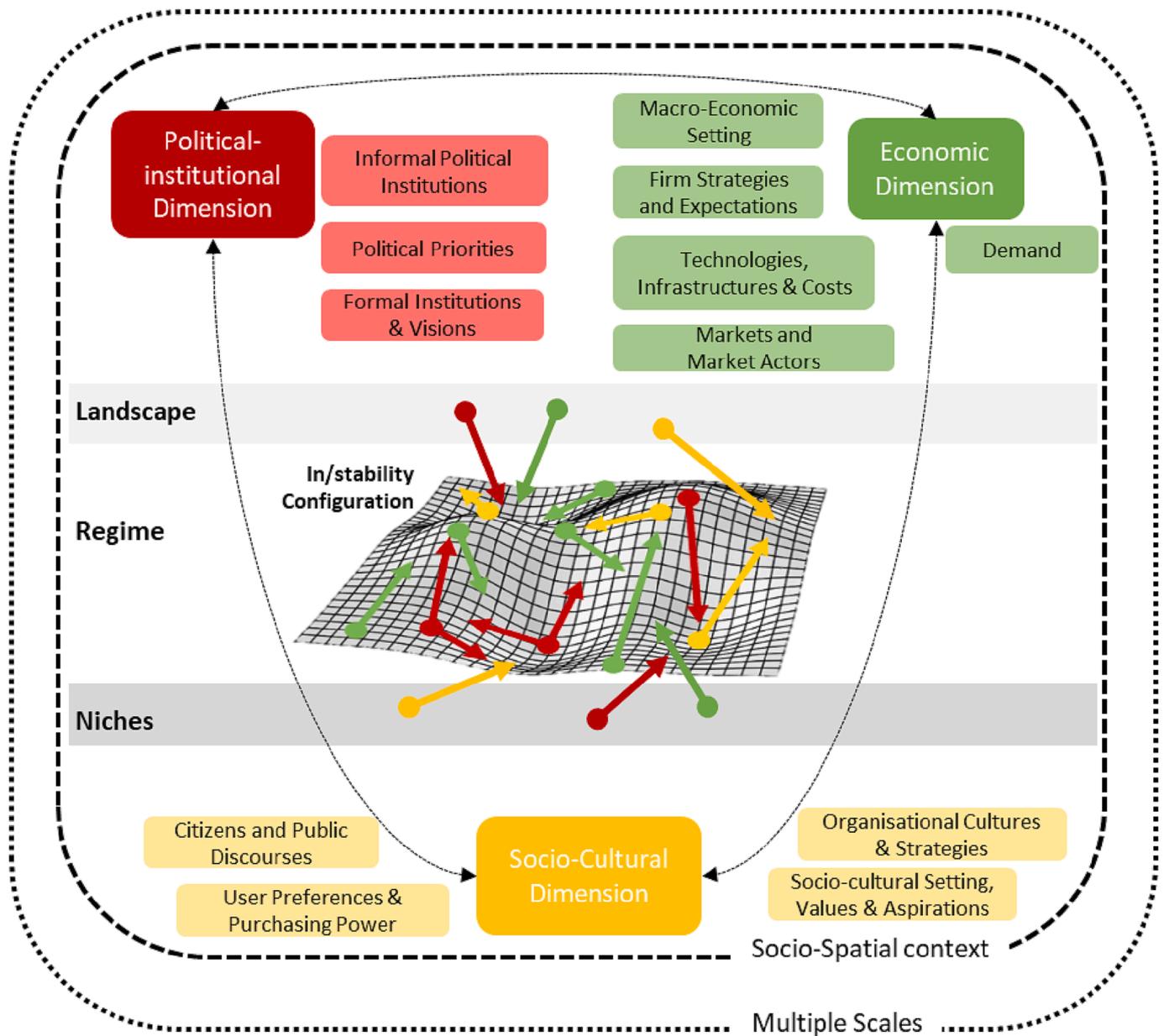
Fig. 1. (In)stability configuration Framework (own illustration, building on Geels, 2002, Fastenrath and Braun, 2018).

global level (Fuenfschilling and Binz, 2018; Miörner and Binz, 2021). The (in)stability configuration is thus both characterised by (local) place-specific factors, including informal institutions, particular demand (Hansen and Coenen, 2015) and spatially diverse relations across space and scales and their interaction. These relationships and interdependencies of processes of (de)stabilization within and between localities, spaces and scales significantly shape the (in)stability configuration and call for the socio-spatial characterisation of (de)stabilization dynamics. Accordingly, we differentiate between (de)stabilizing factors on different scales and localities; to keep it simple, we consider local/translocal factors and local, national, global scales of (de)stabilizing factors.

Fig. 1 illustrates our framework: Different parts of the surface represent regime elements, including actors, institutions, and technologies. These are subject to (de)stabilizing dynamics (differentiated by dimension, structuration level, scale and locality) that mould the surface into a three-dimensional shape, the (in)stability configuration. The more compatible and secured the reproduction of particular regime elements,

the flatter the (in)stability configuration in that part of the surface.

We claim that the analysis of regimes through their (in)stability configuration is helpful to add nuance to regime understandings in the South and beyond. The identification and characterisation of (in)stability configurations and the seeds of destabilization – how sources of instability are already ingrained in the regime – can support the development of contextualised transition strategies. Based on the (in)stability configuration, different consequences for transition interventions are imaginable: Some regime elements might be stabilised by complementary factors, others subject to destabilizing pressures with ambiguous outcomes, while others lean towards more sustainable ones. Others then might be stabilized locally, while facing destabilizing pressures from factors at other scales. Therefore, depending on the (in)stability configuration, actors can select intervention target(s), specify the means, and potentially the combination with other interventions in order to strengthen destabilizing dynamics and weaken stabilizing ones in ways that support a transition towards sustainability.

3. Methods

The study follows a qualitative case study approach to identify and characterise sources of (in)stability and their effects. It is based on semi-structured interviews with 21 stakeholders from the building and urban development sector in Phnom Penh, a document analysis as well as from informal exchanges with stakeholders during several stays in Phnom Penh from 2019 till 2022.

Interviewees were predominantly recruited from the network of an ongoing research project and subsequent snowball sampling. The selection of interviewees was based on their knowledge of Phnom Penh's building and urban development sector and aimed at the inclusion of diverse actors' perspectives. Since many actor roles are blurred or fluid (Kranke and Quitsch, 2021) and individuals are active beyond singular actor roles, pinpointing definite affiliations is difficult. Nevertheless, Table 1 gives the primary affiliation for the interviewees, including architectural firms, developers, consultancies, investment firms, academia, NGOs, and state officials. Interview transcripts are referenced with abbreviations of actor categories and the interview number within that category (see Table 1). For direct quotes the paragraph number within the transcript is stated.

Interviews were undertaken in person in Phnom Penh during 2020 on the condition of anonymity. Interviewee affiliation is kept general to avoid identification. While generally important, this is of even larger relevance in the Cambodian context, where critical research is particularly sensitive, leading to some researchers publishing under pseudonyms and sensitive research being primarily driven by NGOs, development agencies and their agendas (Schoenberger and Beban, 2017). The interviews were conducted at a location of the interviewee's choice and lasted an hour on average (from 15 min to two hours). The questions focused on change-enabling and inhibiting factors and the role of key actors. The interviews were generally conducted in English; an interview with a German native speaker had some passages in German, which were translated for quotation by the lead author.

Following the interviewee's consent, the interviews were recorded, transcribed, and shared with the interviewees for corrections. MaxQDA qualitative data analysis software was used for subsequent thematic coding. The data was subjected to a qualitative content analysis (Kuckartz, 2018) and two iterative rounds of coding, which followed a deductive-inductive development of the categorization system. Having taken the three socio-technical dimensions and some initial categories from the literature, the category system was then inductively adapted based on the empirical material.

Table 1
Cited interviews and interviewee affiliation.

Code	Primary Affiliation of Interviewee
A1	Architect, International Office & Independent
A2	Architect, Founder of Local Architecture Firm
A3	Architect, Founder of Local Architecture Firm
C1	Consultant, Public Sector & Industry: Construction & Energy Efficiency
C2	Consultant, Public Sector: Urban Development & Construction
C3	Consultant, Public Sector: Urban Development, Sustainability
C4	Consultant, Public Sector: Urban Development, Sustainability
C5	Consultant, Industry: Engineering & Construction
CA1	City Administration Official, Urban Development & Planning
CA2	City Administration Official, Urban Development & Planning
CA3	City Administration Official, Urban Development & Planning
CA4	City Administration Official, Urban Development & Planning
D1	Developer, Local Real Estate Developer
I1	Investor, Owner of Real Estate Investment Firm
N1	International NGO with a Focus on Urban Affairs
N2	International NGO with a Focus on Urban Affairs
NS1	National State Official, National Council for Sustainable Development
R1	Urban Development Researcher at Local University
R2	Governance Researcher at Local Think Tank
RE1	Real Estate Industry (Consultancy & research)
RE2	Real Estate Industry (Contractor)

4. Analysis

4.1. Phnom Penh's building system

Like many cities in the Global South, Phnom Penh has seen rapid growth of its population and built environment in the past decades: Its built-up and development areas increased six fold since 1990 (Mialhe et al., 2019). The building sector has rapidly grown since the early 2000 s and became the main driver of national GDP growth and the main recipient of FDIs (World Bank Group, 2020). These developments have been discussed as a "construction boom", or a "vertical drive for global city status" (Jamieson et al., 2021) and reportedly caused Phnom Penh to have the strongest land price increase in Southeast Asia since 2000 (Nam, 2017). Diverse factors have spurred these developments, including increasing housing demand for low-income migrant workers and high-end residential units for Cambodian and foreign elites, inflow of investment seeking financial capital, housing financialization, possibilities for economic development, money laundering and personal enrichment based on land and real estate speculation (Nam, 2017; Brickell et al., 2018; Mialhe et al., 2019; Fauveaud, 2020). With more than 50% of building projects under construction in Phnom Penh being housing projects, the sector is predominantly residential (CBRE, 2022; MLMUPC, 2022).

Phnom Penh's building sector can be traced back to the repopulation processes after the Khmer Rouge *urbicide* in the 1970 s: Occupying, or erecting buildings was based on informal links between public and private sectors. With the commodification of real estate in 1989, political elites could distribute land and real estate through "social and clannish networks" in exchange for political support and hereby „cement their power" (Fauveaud, 2014; Flower, 2019, p. 2419). This furthered the highly hierarchical structure of the sector in a context that is generally discussed as (neo-)patrimonial: Here, rent seeking opportunities (land, building permits, etc.) are offered in exchange for political support and loyalty in networks of patrons and clients, while blurring with legal-rational systems (Eng, 2014). Some argue that this has placed informal patron-client networks over formal accountability systems, leading to what some consider a "shadow state", or a "conflation of the CPP [ruling party] and the state" (Springer, 2017, p. 238). Urban growth and the remaking of the cityscape – primarily through high-rises in the centre, and enclosed and private residential compounds (boreys) and satellite cities at the fringe – have thus been driven by private investment and followed informal and privatised planning logics (Percival, 2017). The state however still plays a significant role by creating a conducive setting for investments and supporting private actors with the appropriation of land, etc. in a "state facilitated land development" (Shatkin, 2017, p. 25).

As building systems in other rapidly growing cities, construction is dominated by major resource demand for emission-intensive building materials such as cement, bricks, steel and sand as well as energy. Given the projected future household increases and current levels of sustainability impacts, Phnom Penh's building regime requires a transition from a quantity-orientation (growth and comfort) to a system state that is able to build quantities, *and* quality in terms of sustainability and liveability (Loorbach, 2017). While no research from a sustainability transitions perspective has been conducted on the building sector, a previous study has shown low levels of awareness of sustainability aspects amongst building sector practitioners in Cambodia (Durdyev et al., 2018). The authors observed "poor" adoption of sustainable construction practices and consider its future implementation to "not look promising" (Durdyev et al., 2018, p. 14). Nevertheless, both a government-led body (*Technical Working Group on Sustainable Building*) and a private sector-led body (*Cambodian Green Building Council*) were established to foster green building practices. Their emergence and institutionalisation will be further discussed in the next section. Furthermore, multiple buildings, primarily with office and industrial usages, have been certified as green or sustainable in Phnom Penh (USGBC, 2022).

We will now turn to the analysis of our empirical material to better understand the (in)stability configuration of Phnom Penh's building regime and to look for seeds of destabilization and possible trajectories towards urban sustainability.

4.2. Sources of (in)stability in Phnom Penh's building regime

As argued before, the analysis of (in)stability sources and their (de)stabilizing effects is useful to understand the (in)stability configuration and identify seeds of destabilization. Our analysis follows the three system dimensions according to Fastenrath and Braun (2018), namely the economic, political-institutional and socio-cultural dimensions. In the analysis of our empirical material such as interviews with representatives of the building sector and public administrations, we use these three dimensions as high-level codes within which we then group empirical insights about the building sector in Phnom Penh and its change dynamic, frictions and lock-ins into deductive-inductively developed subcategories (see Table 2). In the following, we discuss the characteristics of the Cambodian building sector as well as the (in)stability configurations of its constitutive elements along these categories developed in the coding process.

4.2.1. Economic dimension of (in)stability

Being a key pillar of the political-economic setting in Cambodia, Phnom Penh's building regime is closely connected with and dependent on wider economic developments. As these often lie beyond regime boundaries, incumbents have closely aligned the regime with these parameters. Still, economic tensions emerge from within and beyond the regime.

Macro-Economic Setting: Phnom Penh's "building boom" is a manifestation of the inflow of foreign, primarily Asian, capital, which is part of the multi-faceted integration of the building regime into and dependency on international markets and networks. The inflow depends on attractive investment conditions, thus influencing national policy makers. In a fragmented market, where FDIs flow unequally into different market segments, (de)stabilizing pressures affect segments heterogeneously: The dependence on external finance can be a source of destabilization – especially for those market segments and building typologies such as condominiums that currently see the largest FDIs. The COVID pandemic showed that market segments that are stronger integrated into global networks in terms of funding or sales (e.g. high-end segment), were strongly affected by the interruptions of the international circulation of people, goods and capital than "local projects" (N2; Pisei, 2022). This points to the fragmentation of the regime, where segments can have different – but interlinked – (in)stability characteristics.

Firm Strategies and Expectations: Attracting profit-seeking FDIs requires firms to follow and reproduce profit maximising and cost, risk and turnover minimizing strategies. In a competitive and cost-driven market, assumed increases of production costs stabilise current and impede sustainable building practices. As an interviewed investor

however noted, it is *expected* cost increases that reproduce current practices, while sustainable ones might in fact be cheaper (I1). Changes in the perception of cost structures can therefore influence and destabilise firms' strategies. In fact, some interviewees already consider sustainable practices that are developed in niches, such as the use of compressed earth blocks to be competitive for larger projects in the local market (A1).

Besides cost increases, incumbent firms associate unfamiliar or more experimental sustainable building practices with project complications and prolongations (I1). Given high sales prices and a volatile market, firms follow risk-averse and quick turnover strategies to feed buildings as quickly into the market as possible. These largely prohibit experimental projects and stabilize current practices on the regime level. Interviewees believe that sustainable building practices would increase the import requirements due to limited local resource availability, including materials and capacities for their use. This makes sustainable building projects potentially more costly, lengthy, and furthermore risky, as dependencies on external actors and the uninterrupted international flow of goods further increase.

Technologies, Infrastructures and Costs: While most demand for basic building materials for the dominant concrete, steel, brick construction projects can currently be sourced domestically, higher value-added building materials are primarily imported. Compared to expected future demand, production capacities are small, even for basic materials (Bodach, 2019; Pisei, 2021, 2022). At the same time, an architect shared that production sites for more sustainable materials such as compressed earth blocks can be installed specifically for projects and be financially amortised within a single large project (A1). In contrast to other industries and contexts, the relevance of sunk costs in fixed material infrastructures can thus be considered to be rather low. Relatively little stability therefore stems from investments in these. Meanwhile, small-scale change towards sustainability reportedly occurs driven by efficiency-induced cost-reductions: Interviewees highlighted a change from individual air-condition units to centralised systems with smart controls (R1). These might lower emissions and costs through increased efficiency and destabilise the predominant use of individual AC-units. Yet, it stabilises and further normalises the large-scale use of air-conditioned indoor space. This destabilization might therefore *win the battle* against inefficient single-unit AC units, while *losing the war* against large-scale air-conditioning. As such, this might be understood as an incumbent-led reconfiguration process that is based on savings and small technological change.

Demand: Meanwhile, local demand slightly increased for (certified) sustainable buildings and supported the emergence of sustainability-oriented market actors. Demand is reportedly driven by some local pioneers, but predominantly by international organisations and TNCs that moved into green certified offices. Many of these do so to follow their headquarters' sustainability requirements. An industry actor accordingly shared: "[A]wareness is now solely coming from the multinationals" (RE1_2, p. 176). Global-level regime actors of different socio-technical systems, including, Daimler, or Coca Cola have hereby been supporting the emergence of niche actors within the building system in Phnom Penh. Almost all sustainability certified buildings are therefore offices or industrial buildings (USGBC, 2022). This demand can cause regime internal tensions as sustainability aspects must be integrated into these projects.

Markets and Market Actors: The FDI-led "building boom" caused an oversupply in high-end segments of the residential market in Phnom Penh (N2; CBRE, 2022). This increases the need for market differentiation and – according to an architect – could "open the door" for actors interested in experimental and more sustainable practices with lower profit margins, with certified green units being a key option (A1, p. 170). Meanwhile, local actors – both niche and incumbents – have implemented small-scale experiments with sustainable building practices and materials, including prefabricated wooden construction units, bamboo elements, compressed earth blocks, etc. Also, on a small level,

Table 2
Structure of the Analysis.

Economic Dimension	Political-Institutional Dimension	Socio-Cultural Dimension
Macro-Economic Setting	Political Priorities	Socio-Cultural Setting, Values & Aspirations
Firms' Strategies and Expectations	Formal Institutions & Visions	Citizens and Public Discourses
Technologies, Infrastructures & Costs	Informal Political Institutions	User Preferences & Purchasing Power
Demand		Organisational Cultures & Strategies
Markets and Market Actors		

sustainable building consultancies and certification firms have been established, either as local branches of global firms, or as local start-ups. Interviewees accordingly argued that "you start to have some real actors" (A1, p. 138), even though they "don't have a platform" for exchange, yet (A3, p. 138). As niche actors, these firms have identified business opportunities, or cracks in the status quo, and aim to use these to strategically further sustainable building practices – amongst others through experimentation, and institutional work (as discussed below). Still, destabilizing effects from the emerging actors and experiments that can be associated with niche-level activities, might still be considered relatively weak, as multiple interviewees voiced that the "market is not mature enough" (C5, p. 21), or that green building "is too early for this country" (R2, p. 35). Nevertheless, developers have marketed a number of recent projects in Phnom Penh as "eco" or "green", including "Eco-Collection", & "Eco-Village"; however, as the green or ecological dimensions are neither explained, nor recognizable, interviewees consider these processes as "greenwashing" (I1, p. 124). Still, they can be understood as regime responses to socio-cultural changes to which we turn below.

In summary, the economic dimension indicates both (de)stabilizing effects, the emergence of sustainability-oriented market actors, small-scale demand and emerging sustainable building practices, but at the same time very stable regime constellations, including risk-averse and quick turnover strategies, speculative and volume building activities and a dominance of international investment structures. Still, low levels of sunk costs in dominant technologies, ongoing experiments and eco-marketing, partial oversupply and the possibility of competitive sustainable building practices indicate threats to the reproduction of the regime.

4.2.2. Political-institutional dimension of (in)stability

Besides – and closely connected to – these economic sources of (in)stability are those associated with the political-institutional dimension, including political priorities, formal(ised) institutions and visions, and informal political institutions.

Political Priorities: With GDP growth being a key development priority and a cornerstone of political legitimacy in Cambodia, and the urban building sector a key pillar for GDP growth, building projects are closely connected to notions of economic growth, profitability, and the attraction of FDIs (R2), thus stabilizing practices along these lines. National development priorities therefore manifest in Phnom Penh's urban built environment. Following decades of conflict and the post-socialist transition in the early 1990 s, building sustainability has not been a governmental priority: "[I]f you look at where this country was 20 years ago, [...] it was basically a war zone, [...] it's just not the first thing that springs to mind" (C3_4, p. 86). A key dimension of the stabilising factors thus relates to the post-conflict and post-socialist setting where developmental and FDI-attracting priorities have been dominating political agendas, thus stabilizing an investor-friendly policy space.

Formal Institutions & Visions: Despite the dominant political priorities, several formalised institutions emerged in Cambodia within the field of urban and building sustainability, including the Cambodian Green Building Council (CamGBC) and two inter-ministerial Technical Working Groups on "Green Buildings" and "Sustainable Cities", both led by the National Council for Sustainable Development (NCSD). NCSD and CamGBC currently both develop national guideline and certification schemes for green buildings (CamGCGB & CAMEEL). In contrast to the inter-ministerial working groups that are supported by Korean development finance, CamGBC was founded by individuals from the sector that are engaged with green building consultancies and contracting on a niche level. An interviewed state official shares, that the CamGBC proposed a private-led certification system to the government, but "of course we could not agree to that" (NS1, p. 29). Potentially destabilizing, private-led and niche-level momentum is hereby contained by the state. These formalised and still formalizing institutions and their emerging certification systems are subject of institutional work and

struggle between actors, with both niche and regime associations. Still, both aim to create spaces of experimentation for sustainable building practices. Formally, the state has controlling influence over the private CamGBC, as in Cambodia the latter needs clearance from public bodies for any formalization step (RE1_2). Interviewees also note inter-ministerial struggles: The Ministry of Land Management, Urban Planning and Construction (MLMUPC) generally oversees building activities, while the Ministry of Environment (MOE) and the associated NCSD are driving green building programmes (N2). This indicates intra-state differences in terms of their association of status quo and stability (i.e. regime, MLMUPC) and innovation, destabilization and change (niche level, NCSD/MOE).

Meanwhile, a consultant argues that institutional overlapping and the fragmentation of state agencies slow regulatory impulses (C2). Thus, a „silo" setting (R1, p. 60) coexists with numerous "ineffectual" inter-ministerial working groups: "[T]here are a dime a dozen, they exist on paper. [...] No one makes a decision and so nothing gets progressed" (C2, p. 75). Therefore, interviewees are generally rather sceptical that significant destabilization effects can be realised on the basis of laws and regulations in the near future, arguing that "Cambodia is not in a good place to do a lot of regulation" (A2, p. 93). Interviewees are equally reserved on the actually-existing pressures based on laws and regulations –stating that generally little regulation exists (A2; C1), or that existing ones are not operational or enforced (A3; CA3_4). While regulations might theoretically exert strong pressures, their articulation by enforcement would be necessary to initiate real world effects and potentially destabilise current practices. However, low levels of formalized rules also leave room for experimentation and potential destabilization: Developers can choose and follow a building code out of the global pool of existing rules, leading most international developers to use their "home" code (C5).

Still, several formalised and government-endorsed normative visions on urban and building sustainability have been passed. This includes the "Phnom Penh Green City Strategic Plan" (GGGI et al., 2019), or other strategic or vision documents passed by the government that touch on urbanization but not specifically on sustainable building. Instead of supporting niche-level activity, these documents directly target the regime. The driving force behind such processes and sustainability discourses are reportedly international development institutions in Cambodia. Some visions or plans propose sustainability-themed ideas that partially question the status quo, but interviewees are rather sceptical regarding the actual destabilizing effects, due to very limited buy-in from political elites and the absence of dedicated funds (C3_4; N2).

Informal Political Institutions: The limited impact of formal regulations can be directly linked to the building regime's embeddedness into a (neo-)patrimonial setting at the landscape level where personal and unequal relationships of mutual help and obligations form patron-client networks. A consultant argues: "Patrimonial influences, nepotism and all that drives everything here. If you do not have a powerful supporter, things do not happen" (C2, p. 87). A lack of buy-in from powerful individuals within the patrimonial networks, can thus inhibit deliberatively sought processes of change. An investor therefore argued, that when drawing up sustainable building mechanisms, "you have to keep in mind that there's a certain amount of money the government makes" (I1, p. 286). In this context a clear disentanglement of private and state actors is often difficult, as a NGO representative argues: "[G]overnment and private sector is the same in this country" (N2, p. 221). Here, close inter-personal and inter-firm relationships stabilise current practices. Discussing the introduction of new materials in the building sector, an investor argued that actors would rather stick to their existing materials due to the existing relationships with the supplier: "I can help my buddy that owns the concrete plant or tree farm versus help this foreign guy bringing in his material" (I1, p. 122). Stabilizing effects of socio-political commitments thus also spill over into material dimensions.

To establish good relations with key government and party actors, industry actors implement projects as corporate social responsibility projects or *Sang Song* (Khmer: "doing construction"). It involves the construction of buildings such as schools by private actors that are officially opened by and then associated with party elites or the governing party in exchange for preferential access or protection (Craig and Kimchoeun, 2011). These practices – though aligned with the prevalent agenda, and potentially used as fig leafs – offer some room for unorthodox and experimental activities, as they do not necessarily have to abide to the regular guiding principles (including profit maximisation, etc.). *Sang Song* and CSR practices thus exhibit ambivalent (de)stabilizing effects. Still, while the introduction of the affordable housing policy (RGC, 2017) brought pilot affordable housing projects closer to the political agenda and initiated A*ffordability Sang Song*, green building regulation might offer the opportunity for *Sustainability Sang Song* – potentially demonstrating the feasibility of such practices in the local context.

The (neo-)patrimonial setting allows powerful incumbents to stabilise current practices in a number of ways: Firstly, incumbents reportedly actively seek and negotiate the selective enforcement of regulation. Negotiations are based on political power, and how actors are "connected with local politics" (N2, p. 34). Some see lax enforcement also as a result of a lack of finances and capacities at the sub-national level (CA1), or a response to the FDI-dependency, to make investments in Cambodia's real estate more attractive (I1). Secondly, resourceful actors can reportedly influence the development of new rules in their interest, perpetuate the process or affect its enforceability at the outset (C2). Interviewees question whether the unenforceable character of much policy is accidental or planned (CA3_4, p. 2) and referred to the "backfiring" of regulation and that additional regulation can further disadvantage "honest" actors, as in the case of anti-corruption reforms (A2). Thirdly, incumbents employ non-transparency and information hoarding strategies to restrict market access. These stabilise current configurations in the interest of well-informed incumbents. Lastly, interviewees argue that the reinforcive power of political elites allows them to render a number of themes around governance, or law enforcement "politically off the paper", as "no-go[s]", or "off topic[s]" (I1, p. 290; R1, p. 108; RE1_2, p. 122).

To summarise, within the political-institutional dimension, current practices are strongly stabilised along the interests of patrons and their networks. The embeddedness of the building regime in this setting (dis) empowers regime actors unevenly. Our analysis thus shows strong stabilizing landscape effects within the political-institutional system dimension. Here, it is primarily the embeddedness in patrimonial networks, their influence over processes of regulatory enforcement and development, the limited buy-in to passed laws and visions, and the prevalence of political priorities of economic growth by real estate developments that stabilise the reproduction of the regime. Meanwhile, ongoing institutional work by niche actors, emerging formal green building institutions and the support of international development institutions initiate some destabilizing momentum.

4.2.3. Socio-cultural dimension of (in)stability

Finally, socio-cultural sources of (in)stability can relate to ways of thinking, beliefs and knowledge that are shared by larger groups. In the case of Cambodia, the influences of different periods and (colonial) regimes have shaped the societal functioning in diverse ways (Springer, 2009; Berkvens, 2017).

Socio-cultural Setting, Values & Aspirations: Socio-culturally, interviewees argue, Cambodia is a "dynamic context" and "in a position where things can shift quickly", as people are "extremely concerned with what is cool, what is the latest […] less worried about conserving but rather worrying about getting stuck" (A2, pp. 117–119). According to the interviewees some urban groups, particularly the young generations, are „picking up everything green" (RE1_2, p. 30), want to „be more responsible", (A2, p. 117), or develop an explicit interest in sustainable housing (C5, p. 128), while „demanding the latest instead of conserving previous consumption practices" (A2, p. 117). With increased levels of awareness and interest in sustainability and more critical consumption practices, these groups question and threaten the reproduction of dominant configurations, or how Phnom Penh is built and developed. Interviewees connect these destabilizing dynamics to increased exposure to global discourses and higher education – aspects that are arguably more pronounced in Phnom Penh than elsewhere in the country (A2; C5).

Interviewees, meanwhile, see Cambodian households to be significantly influenced in their decisions by „big players, those big VIPs" (A1, p. 130). These are important role models that can communicate guidance, desirability and trustworthiness for status-seeking households that might be directed towards sustainability:"[E]veryone wants to look like the top […] we are in Cambodia, people lack of education, lack of models, lack of rules, lack of policies, so they need to have drivers, something that represents trust, confidence, prosperity" (A1, pp. 130–134). While their practices currently stabilise the status quo, multiple interviewees see destabilising potential through a trickle-down environmentalism led by the "big players", and yet a researcher argues: "someone has to trigger the gun" (R2, p. 106). While the hierarchical character of Cambodia's society might suggest top-down processes of change, emerging mixed belief systems and the experimentation on the niche-level render this more ambiguous.

Citizens and Public Discourses: A series of deadly building collapses across the country raised national awareness on building safety, regulation and quality (Narin, 2019). Following these incidents, interviewees expect incumbents to face more societal scrutiny and potentially a "turning point" for the sector (C3_4, p. 74). Whether this will venture beyond safety to also encompass broader sustainability concerns remains open, however. So far, civil society actors and the media have had other (sustainability) priorities, including waste management, traffic, or air pollution (C3_4). Nevertheless, interviewees indicated destabilizing effects linked to the emergence of the group of young, highly educated and globally connected, urbanites with higher incomes, as they become more "demanding" than previous generations. Referring to inter-urban competition, an industry consultant claimed that these groups would even leave Phnom Penh if liveability is not increased (C5, p. 169). These "more demanding" and sustainability-interested groups question dominant practices and together with the building collapse-induced increase of public scrutiny, increase the legitimization needs of incumbents within the political-institutional dimension: As these groups are reportedly less satisfied with political legitimacy based on GDP growth and political stability alone, political legitimacy might be diversified and include aspects of quality of life, or sustainability. This is supported by Verver and Wieczorek (2007), who argue that post-Khmer Rouge generations are less likely to accept the status quo in exchange for political stability. Considering these changes, more vocal civil society activities, and a stronger questioning of current practices of incumbents become more feasible and partially already visible.

User Preferences & Purchasing Power: Meanwhile, financial planning horizons and income levels of many households have increased. This landscape level factor destabilises those housing decisions that have been based on short-term calculations, and opens up possibilities for (sustainable) building practices with higher upfront costs for households, including renewable energy sources (A2). A more ambiguous role is played by the diverse connotations of building materials in Cambodia: According to an architect, wood and nature-based solutions that are propagated by some niche actors, are associated by some with luxury and status, by many however with rurality, the past, and poverty (A3). Stronger destabilising effects and a shift towards sustainable materials are imaginable if such solutions become discursively decoupled from the latter and more aligned with aspirational attributes. Still, for the previously discussed household groups of young, educated urbanites, interviewees note a nascent shift towards more

sustainable (or sustainability-branded) projects. The aforementioned eco-marketing practices can be understood as a strategic response of incumbents to these dynamics.

Organisational Cultures and Strategies: While priorities, ideas and demands shift – at least in some groups – interviewees shared that many firms are "very, very old school" and thus, as previously discussed, follow risk averse strategies and reproduce prevailing practices (A1, p. 38). Socio-cultural orthodoxies of incumbents concern market perceptions, value considerations, and calculatory practices that stabilise the status quo. Thus, for example, incumbent developers maximise indoor space and the number of rooms within a unit because these parameters are the main orientation due to their standardised marketability. In contrast, marketing a larger share of high quality outdoor space is not standard practice in a comparable way (A2). While incumbents largely follow "old-school" and conservative strategies, some advertise units in the language of environmentalism to indicate a cultural shift following sustainability discourses, values and demand of some building users as discussed above. Others, including niche actors

and also some incumbents meanwhile experiment with new ideas, including building materials and designs (A1; A3; D1).

To summarise, we see that socio-cultural factors are fluid and primarily have destabilizing effects on the regime – that is, destabilizing effects towards practices that are considered more aspirational by these groups. These could then in turn be potentially more sustainable. While some aspects such as the emergence of globally-oriented, sustainability-interested groups of educated urban youth and more vocal citizen groups, extended financial planning horizons, and the discursive effects of the building collapses indicate destabilizing effects, the dominance of conservative organisational cultures supports the reproduction of the status quo. Meanwhile, the effects of other elements such as the diverse connotations of building materials or the hierarchical setting are rather ambiguous. A summary of the identified (de)stabilizing factors across the socio-technical dimensions is shown in Table 3. We will turn to their discussion in the next session.

Table 3
Summary of (de)stabilizing effects (xx indicates stronger effects than x).

De/stabilising Factor	Destabilising Effect	Stabilising Effect	Directionality of Destabilisation	MLP-Locus	Scale
Economic					
Oversupply in some housing market segments	x		Potentially sustainable	Regime	Local
COVID-induced slump in building activities and funding	x		Potentially sustainable	Landscape	Local/Global
Emerging market demand for sustainable practices	xx		Sustainable	Regime/Landscape	Global/Local
Small-scale experiments with sustainable practices	xx		Sustainable	Regime/Niche	Local/Global
Cost-reducing technologies	x	x	Potentially sustainable	Regime	Local/National/Global
Relatively low-levels of sunk costs	xx		Potentially sustainable	Regime	Local/National
Fast amortization of production investments due to large project size	x		Potentially sustainable	Niche/Regime	Local/National
Firms' strategies of profit maximization and cost minimization	x	xx	Potentially sustainable	Regime	Local/National/Global
Risk-averse and quick turnover strategies of firms		xx	Rather unsustainable	Regime	Local/National/Global
Integration in international networks (markets, finance)	x	x	Potentially sustainable	Regime	Global
Eco-Marketing/Greenwashing	x	x	Potentially sustainable	Regime	Local/National
Political-Institutional					
Establishment of formal green building institutions	xx		Sustainable	Regime/Niche	National /Global
Passing of state-endorsed sustainable building & city visions	x		Sustainable	Regime/Landscape	National/Global
Building activities & urban development as key pillar for GDP growth and political legitimacy	x	xx	Rather unsustainable	Landscape	National
Other developmental priorities		xx	Rather unsustainable	Landscape	National
Overall limited regulation	x	xx	Potentially sustainable	Regime/Landscape	National
Weak enforcement capacities of municipalities		xx	Rather unsustainable	Regime/Landscape	Local/National
Overlap & fragmentation of state agencies		xx	Rather unsustainable	Landscape	National
Industry embeddedness in patron-client networks	x	xx	Potentially sustainable	Regime/Landscape	National
Perpetuation and influence over policy process		xx	Rather unsustainable	Regime	National
Limited enforcement of existing regulations		xx	Rather unsustainable	Regime	Local/National
Green *Sang Song* or CSR Activities	x	x	Potentially sustainable	Regime	National
Information hoarding & intransparency		xx	Rather unsustainable	Regime	National
Establishment of discursive "no go's"		xx	Rather unsustainable	Regime/Landscape	National
Need to diversify political legitimacy	x		Potentially sustainable	Landscape	Local/National
Socio-Cultural					
Fluid and dynamic socio-cultural setting with changing user demands and a global trend orientation of building users	xx		Potentially sustainable	Regime/Landscape	National
Emergence of a *critical* group of building users (higher income, educated, globalized)	xx	x	Potentially sustainable	Regime/Landscape	Local/National
Hierarchical and "VIP-driven" socio-cultural setting	x	x	Potentially sustainable	Regime/Landscape	National
Ambiguous connotations of alternative building materials	x	x	Potentially sustainable	Regime/Landscape	National
Longer financial planning horizons of households	xx		Potentially sustainable	Landscape	Urban/National
Building collapses & public awareness	xx		Sustainable	Regime/Landscape	Local/National
Socio-cultural orthodoxy of Industry actors		xx	Rather unsustainable	Regime	National
Other foci of civil society groups		xx	Rather unsustainable	Landscape	National

5. Discussion: (In)stability configurations & seeds of destabilization

Our results indicate a heterogeneous (in)stability configuration with a number of ingrained seeds of destabilization. The configuration is characterised by diverse and ambiguous (de)stabilizing dynamics across system dimensions, scales, space and levels of structuration. We note the relative alignment of destabilizing effects including emerging belief systems and groups of globally-oriented, sustainability-interested urban youth, extended financial planning horizons of households, discursive effects of building collapses (socio-cultural), ongoing institutional work by niche actors and emerging formal green building institutions (political-institutional), as well as the emergence of sustainability-oriented market actors, experimental projects, small-scale demand, and destabilizing market effects of oversupply (economic dimension). Other factors such as the diverse connotations of wood and nature based solutions meanwhile have ambiguous (de)stabilizing effects. While Turnheim and Geels (2012) argue that it is primarily economic drivers that generally cause transitions that are mediated by socio-political factors, our findings suggest that in the case of Phnom Penh's building regime, destabilizing effects are concentrated within socio-cultural and economic dimensions, whereas the strongest stabilizing effects can be associated with political-institutional factors. While noting stabilising and destabilising effects across all dimensions, no major transition processes are yet observable that would indicate a "take-off" or acceleration phase.

Modifying earlier claims (Hansen et al., 2018; Wieczorek, 2018), our study shows that regimes in the Global South are not per se less stable than in the North, but what differs is the profile of (in)stability constellations across different regime dimensions. Political-institutional system characteristics that stabilize the building regime – namely its embeddedness into a (neo-)patrimonial system, authoritarian and illiberal tendencies, low regulatory enforcement, a strong shadow state and weaker and less efficient state institutions – are system characteristics that are discussed for Global South contexts by others. However, in contrast to previous findings (Hansen et al., 2018), these factors may *stabilize* incumbent configurations rather than *destabilizing* them. Here, they can be associated with strategies of regime resistance, an "informality from above" (Roy, 2009), "state capture" (Loehr, 2012) or "gray spacing" (Avni and Yiftachel, 2014). The findings strongly resonate with Noboa and Upham's argument that regimes in illiberal contexts can be stabilised by "state capture" (2018). This suggests that socio-technical systems in contexts with a comparable political-institutional setting, or similar "institutional pockets" (Ramos-Mejía et al., 2018), in or outside the Global South might see similar stabilization dynamics. Considering the strong stabilization through networks of patronage and their domination over state agencies (state capture), practices of rent seeking and asset-stripping (Springer, 2017), the existence of a "benevolent state" - as conventionally assumed in transitions studies – can no longer be taken for granted (Rock et al., 2009; Lawhon and Murphy, 2012). Consequentially, this should be reflected in transition governance approaches in such contexts, possibly involving a de-centring of the state in transitions strategies. Even Larbi et al. (2021) who found that in the context of a "repressive dictatorship" in Curitiba, progress towards an urban sustainability transition was made due to "enlightened leadership", consider this approach to be "fraught with risk". While the stabilising effects of political–institutional factors prevail in our case, they still bring some destabilizing potential, too: The relative absence of regulation creates space for change-inclined actors to experiment; developers can draw on regulation or guidelines of their choice, and experimental actors and their innovative ideas are less limited by regulations – which is rather common in more mature systems (Smith, 2007). Regarding Hansen et al.'s (2018) observation that Southern regimes are in a "state of flux", our case indicates unequal fluidity: While many factors such as socio-cultural ones are dynamic, political elites and incumbents have been able to reproduce political structures. Phnom Penh's building regime and its local context thus are

not characterised by less, but rather high levels of political and economic stability compared to the Global North (Un and So, 2009; Hughes and Un, 2011). This stability is however "bought" in exchange for democracy and equity, as argued by Ear (2013). In a fragmented market, meanwhile, different market segments are subject to different, or splintered (de)stabilizing dynamics, as we saw in the case of the more globally exposed high-end condominium segment. While our findings support Berkhout et al.'s (2009) assertion that economic commitments might be less relevant in Asian contexts, our study indicates that *different*, and not necessarily less, commitments are prevalent: Here, it is primarily the socio-political commitments to patrons, clients or wider social networks that must be overcome and much less those commitments to particular technologies or material infrastructures – less stable regime dimensions thus coexist with dimensions that are more resistant to change in the (in) stability configuration of Phnom Penh's building regime.

A reason for the relatively low levels of economic commitments is the integration of parts of the building regime in translocal, international economic structures: Our study shows a high regime reliance on foreign sources, including knowledge, building materials, technology and even regulation; adding to Rip and Kemp (1998, p. 369) we could identify an exogenous "science, technology, finance and regulatory base". Relatively little regime stability thus relates to local sunk costs, investments in technologies, production facilities and other economic commitments. The exogenous base highlights the translocal, relational and multi-scalar characteristic of the "local" building regime. Consequently, several destabilizing factors go beyond local or national scales. This includes donor-support, sustainability discourses, socio-cultural effects of globalized media consumption, or TNCs that follow global sustainability standards in their local buildings. TNC activities showed that even global regime actors of other socio-technical systems can support local niche-formation within the building system, as exemplified by firms such as Daimler or Coca Cola. This also explains the fact that most existing certified sustainable buildings are either office or industry buildings. Other translocal actors involve international development organisations and emerging local branches of international (engineering) consulting firms that can both mobilise knowledge through their "inter-office knowledge communities" (Faulconbridge, 2013, p. 339). This highlights the crucial role of the relations between global niches and territorially embedded niches, and even global regimes of other socio-technical systems and local niches and associated re-scaling processes (Miörner and Binz, 2021). This indicated that a practice (such as compulsory green building certification for some TNCs) can be associated with a higher level of structuration globally (global regime), while simultaneously being part of a niche locally.

While the geographies of transitions literature postulates that the proximity of the urban level translates into social proximity of transition agents, this was rather negated by interviewees in our case: Despite the spatial proximity, frontrunners are reportedly not connected through any (in)formal platforms. This fragmentation of actors has been discussed as an impediment of niche development in other contexts of the Global South, too (Hansen et al., 2018). Our case suggests a multidimensional marginalisation of niche actors that goes beyond the structural marginalisation vis-à-vis regime actors: In an illiberal, authoritarian setting, destabilising innovations might be read as opposition and can be met with a "severe response" (Noboa and Upham, 2018). Livelihoods, meanwhile, are not as secure as in Northern settings, innovators cannot fall back on a welfare state if experimentation is unsuccessful; and they can draw on much less funding for experimentation and innovation than their Northern counterparts.

While some short-term shocks (building collapses) were noted to affect the (in)stability configuration, most destabilising factors have been affecting the regime over extended periods (households' extended financial planning horizons). Meanwhile, the regime temporality of accelerated urban development in Phnom Penh and quick turnover strategies is however at odds with the expected deceleration through sustainable building practices. The directionality that was noted for

some of the (de)stabilising effects should be understood as latent, as the trajectories are subject to multiple pressures, including the politics of transition processes and deliberate forms of destabilisation (van Oers et al., 2021).

Without disputing that the multiplication and persistence of desta-bilizing effects is useful for a transition to take off (Turnheim and Geels, 2012; Martínez Arranz, 2017), we argue that a closer look into the destabilizing effects as part of (in)stability configurations is useful: It can address the multiplicity of transition processes (Hodson et al., 2017), shed light on potential cracks and trajectories towards sustainability and can be a baseline for the development of targeted transition governance strategies, i.e. *contextualised fertiliser for the seeds of destabilization.* Without naively targeting the management or planning of transitions (Block and Paredis, 2019), our study indicates promising entry points that might support destabilization processes and a sustainability tran-sition for Phnom Penh's building regime: These involve the furthering of the socio-cultural sources of instability, showcasing the economic feasibility of sustainable practices and supporting the emerging sustainability-oriented innovators. The emergence of niche actors (and experimental regime actors) might be supported by strategic activities of coalition building and co-development of visions and strategies to counter their fragmentation and enhance transformative capacities and knowledge – for example through transition arenas (Wolfram, 2016; Noboa et al., 2018; Jayaweera et al., 2022). The combination of local and translocal networks that might be useful in general, would be of particular importance in our case, where local niche actors might "jump scale" and collaborate with global niche and regime actors, including donor organisations, in order to counter the political-institutional sta-bilizing mechanisms on the national-level (Avelino et al., 2020). Such coalitions, that could equally include Cambodian "VIPs", might develop strong narratives and alternatives that further question the stabilizing practices of "the core alliance" at the national regime level (Geels, 2014, p. 26). As Hansen and Nygaard (2013) warn that short-term project horizons of local niche-global donor organisation cooperation can limit benefits, cooperation should involve institutionalised forms that tran-scend project timeframes. Discursive strategies could involve the linking of dominant "modernity" and "progress" narratives with "liveability" and "sustainability" and hereby support the diversification of the legit-imization base for ruling factions, or the alignment of natural building materials and sustainable vernacular design with aspirational cate-gories. Sustainability education and awareness raising on building-related sustainability themes can further the socio-cultural destabiliza-tion processes. The operationalization of "Sustainability Sang Song" might be another strategy to address the place-specific institutions by using the particular room for experimentation while showcasing the economic feasibility of sustainable practices. Strategies can thus simul-taneously address multiple stabilizing and destabilizing factors. As destabilization pressures do not automatically imply a move towards increased levels of sustainability, strategies could furthermore involve targeting destabilizing pressures with ambiguous directionalities and steering them towards higher levels of sustainability. The regime's embeddedness in a (neo-)patrimonial setting and the observed political-institutional stabilization dynamics render overly policy- or state-focussed approaches less promising and suggest a de-centring of the state in local transition strategies. However, carefully negotiated co-alitions with change-inclined individuals within state agencies might still be worthwhile.

6. Conclusion

This paper has sought to contribute to research that aims to open up transitions studies to the diversity of incumbencies beyond the Global North and cases where transitions have already accelerated or "taken off". Doing so, we proposed an analysis of *(in)stability configurations* to better understand the intertwinement of stability and change in early transition phases. We have argued that *seeds of destabilization* are already

ingrained in regime structures before transition processes become apparent and that the identification and characterization of these seeds and the cracks and trajectories towards urban sustainability that they potentially open up can support the development of contextualised transition strategies.

Employing the building sector of Phnom Penh as a case, we studied the sources of (in)stability across economic, socio-cultural and political-institutional regime dimensions. Our findings suggest an ambiguous (in) stability configuration with tensions primarily across socio-cultural and economic dimensions, and political-institutional forms of stabilization. Instead of technological or economic commitments that must be over-come, it is here primarily the normative, or social commitments to pa-trons, clients and the individual networks. Applying our (in)stability configuration framework also allowed us to identify openings, or seeds of destabilization that can be the basis for transition interventions. These openings shall not be understood as deterministic, but as informing the contours of potential transition trajectories towards sustainability. Further studies might apply and extend our framework for other cases to identify (in)stability configurations and develop contextualised transi-tion interventions. Different typologies of (in)stability configurations might then be developed across transition contexts. Meanwhile, the "de-centring" of transitions research to and within "southern regimes" and the analysis of heterogeneous transition contexts including the Global South, illiberal democracies, etc. remains critical (Preuß et al., 2021): The majority of transitions that are required to realise sustainability globally, are arguably embedded in contexts unlike the classical liberal-democratic transition contexts. As it is these cases that are actually rather exceptional, one might paraphrase Jennifer Robinson (2013) and argue that a shift towards "ordinary transitions" in diverse and hetero-geneous contexts still remains highly desirable in transition studies.

CRediT authorship contribution statement

Ravi Jayaweera: Conceptualization, Methodology, Visualization, Investigation, Data curation, Formal analysis, Writing – original draft. **Harald Rohracher:** Supervision, Writing – review & editing. **Annalena Becker:** Formal analysis, Writing – review & editing. **Michael Waibel:** Supervision, Writing – review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

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