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Responsibilities for just transition to low-carbon societies: a role-based framework

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ABSTRACT
Low-carbon transitions in industrialised societies will have significant social, economic and environmental impacts, raising concerns of justice. Calls for urgent transitions evoke a question about the roles of different actors in advancing transitions and ensuring they are just. While the responsibilities for emission mitigation have been long discussed, responsibilities for making a just transition have not. The question about responsibilities is particularly pressing because of the diverse constellation of actors involved in climate action, including diverse forms of non-state actors from city-level and business alliances to grassroots activists. We examine the responsibilities of state and non-state actors in the decarbonisation process, asking: what role do different actors play regarding the justice impacts of climate action? We combine sustainability transition studies and political philosophy on roles and responsibilities to create a role-based framework for just transition-related responsibilities of different actors at different spatial scales.

1 Introduction

Calls for urgent and effective low-carbon transitions in industrialised societies evoke a question about the role of different actors in climate change mitigation and adaptation. Despite public pressure, states and the EU have been slow to establish ambitious climate policies. At least partly due to this slowness, there has been a rise in non-state climate action that varies from youth-led climate strikes to city-level coalitions ('C40 Cities') and private sector emission reduction initiatives. The multiplicity of actors is typical for the present-day polycentric governance characteristic of green transitions and/or transformations (Cole 2015, Eckersley 2021). While polycentric governance has advantages for the effectiveness and costs of governance, it also risks obscuring the responsibilities for ensuring justice in low-carbon transition (Bäckstrand *et al.* 2018).

Since low-carbon transitions will imply significant structural changes with extensive social, economic, and environmental impacts, it is important to attend to these impacts from the viewpoint of social justice as equality and fairness (Evans and Phelan 2016). This question is nowadays captured by the just transition research that addresses the justice impacts of decarbonisation on different social groups and on different regions, industrial sectors, and other human activities. Initially, labour unions introduced just transition in the 1970s, related to their worry about joblosses caused by the tightening of environmental regulations, while also acknowledging the need for such regulations (Morena, Krause and Stevis 2020). Since then, the scope of just transition research has widened considerably (Williams and Doyon 2019). Basically, just transition raises questions about how the impacts of decarbonisation can be made as fair as possible (while ensuring the effectiveness of emission reductions), avoiding unjust harms or increased inequalities, and how harmful climate policy side-effects can be minimised or compensated. It should be acknowledged that just transition as an issue of justice has a particular, narrow scope. Even though it takes into account many injustices that exist prior to the transition, just transition excludes some important aspects of climate justice. These relate to the responsibility of helping countries and people suffering from climate change and partially also to the responsibility of mitigation actions.[1]

Just transition-related claims for justice are often targeted at state actors, following the canon of theorising that has located justice primarily in the basic structures of a nation state. However, attention to global inequalities, wicked problems, and deeply rooted patterns of oppression have led to the questioning of state-based framings of justice (Fraser 2010) and related responsibilities (Young 2011). Justice has come to involve myriad actors. This also brings attention to non-state actors who can powerfully influence the public discourse, public opinion, and narratives of sustainability and just transition. Given the increasing involvement of non-state actors in climate mitigation, it is important to understand *who* are the actors in sustainability transitions, and what roles they play in promoting or hindering transitions (Avelino and Wittmayer 2016). *Just* transition calls for asking which actors can and should bear responsibilities for justice in transitions, to make sense of often contradicting claims for such responsibilities.

The answer cannot be found in the established climate justice and mitigation responsibilities literature (e.g., Caney 2010, Cripps 2013) that examines actors' responsibilities for mitigation. While the *transition* itself is a response to the demands made for actors to take their share of mitigation burdens, the focus on mitigation burdens says little about who should address and alleviate the injustices that might follow. For example, the food-related climate actions of individual consumers may result in (aggregately) significant emission reductions but also agglomerate dis/advantages if the already

advantaged companies are more capable of quickly responding to new consumer demands. Little is in a consumer's own hands to ensure that their climate actions would not create injustices. Therefore, calls for climate action fall short in terms of justice unless complemented with just transition reasoning. Who is responsible for preventing, alleviating, and compensating the potential harms from climate action, such as the risk of energy, food, or material poverty, social exclusion, and job losses? Contemplating this question differs from contemplating mitigation responsibilities. However, it should be noted that *just* transitions cannot exist without the transition (mitigation) happening in the first place: speaking of just transition only becomes meaningful when there is a transition. This way, responsibilities for climate action are included in the idea of just transition but as the background rather than the focal point.

Despite an active stream of academic contributions, just transition research has not yet considered justice-related *responsibilities* of different actors and the roles occupied by actors from a normative viewpoint. Roles are a resource and vehicle for agency: they enable role occupiers' access to various forms of capital, enable altering structures, and both structure and facilitate joint action (Callero 1994). Hence, thinking through roles provides a good starting point for thinking about responsibilities for just transition.

In this paper, we examine theoretically the roles and related responsibilities of state and non-state actors for just transition. By responsibility, we refer here to an idea of responsibility that is (primarily but not solely) political, as contrasted to moral responsibility.[2] Our work is grounded in sustainability and just transition literature and political theory on responsibilities for justice in complex problems. We propose a model for understanding the responsibilities for just transition through the idea of the *roles* of individual and collective actors. We do this with a novel theoretical frame by combining Iris Marion Young's responsibility parameters with the three-dimensional framework of environmental justice (Schlosberg 2007) that has become the 'standard' in just transition research. We also address the lacunae in just transition and sustainability transition literature (Eckersley 2021, p. 13) regarding the states' roles and state-non-state actor relations in ensuring that low-carbon transitions are just. In the following section we introduce sustainability transitions and related actor roles. We continue by constructing the framework for addressing responsibilities in just transitions and examine responsibility allocation based on our framework.

2 Sustainability transition, actors, and roles

Socio-technical sustainability transition studies focus on understanding how transitions happen and can be facilitated. The literature has been criticized for inadequate attention to agency, actors and their roles in transitions, but

recent contributions have addressed this gap (e.g. Avelino and Wittmayer 2016, Geels 2020, Huttunen *et al.* 2021). From the socio-technical perspective, transition is understood as a change in the prevailing socio-technical regime comprising markets, industry, science, policy, culture and technology. Regime change is caused by the interplay of different mechanisms, including wider 'landscape level' developments (e.g., climate change) and niche-level innovations (e.g., electric cars) (Geels and Schot 2007). The most simplistic perspective on actors sees transition actors as comprised of regime actors trying to maintain the existing regime, niche and landscape actors challenging the regime, and intermediary actors trying to facilitate and nurture the emergence of niches (Fischer and Newig 2016). At a more detailed level, transition involves such actor groups as policy-makers, public authorities, firms, consumers, users, social movements, experts and researchers, who take on different positions in the niche-regime-landscape dynamics (Farla *et al.* 2012). The transition governance perspective further categorizes actors as state, private sector and civil society actors, who can act at different levels of governance (local, regional, national and global) (Fischer and Newig 2016). Transition studies focus mainly on collective actors: the breadth of transitions would make a focus on individuals practically unworkable (Geels 2020). The concept of role helps overcome the multiplicity of individuals without having to address them only as collectives (Avelino and Wittmayer 2016).

A multi-actor perspective on transitions presents a role-based categorization of transition actors (Avelino and Wittmayer 2016). It distinguishes between non-profit and for-profit actors, formal and informal actors as well as public and private actors and uses these distinctions to classify both individual and community actors according to four types: state, market, third sector and community. While this categorization clarifies the multiplicity of roles within society, nuancing is needed to grasp relevant roles in the transitions context. Transitions are complex, long-term processes, where the roles of actors can change over time and be multifaceted. For example, incumbent companies can take dual roles and act both to maintain and change the regime (e.g. Berggren *et al.* 2015), and policy makers can simultaneously encourage and hinder transitions (Huttunen 2015). From the perspective of transition, let alone just transition, the conceptualisation of a general role, such as an incumbent energy company, a consumer or a policy maker, does not lead very far. What the actor is capable of doing in this role and how that relates to maintaining or transforming the unsustainable regime matters. Transitions imply institutional changes that can also change typical roles as new rules and routines are created (Wittmayer *et al.* 2017). Consequently, Wittmayer *et al.* (2017) propose an analytical distinction between transition-related and other societal roles, highlighting the need to examine the interlinkages and dynamics of these roles.

The transition literature enables us to identify several ways of examining and categorising actor roles in transitions (Table 1) and, consequently, in influencing their justness. Just transition roles depend highly on the stage of the transition process. When clarifying responsibilities related to different roles, we pay attention to the different categories and their intersections with a particular focus on distinguishing between various spheres and levels of action. This enables accounting for some role-related dynamics.

Roles are identifiable positions in social structures (Callero 1994). Actors (individuals and collectives who represent different actor categories) occupy multiple roles in different societal spheres: for example, the same person can be a teacher, an NGO president and a small-scale urban farmer. Different actors may occupy the same roles (such as 'customers'). Actors can gain or lose access to roles over time by, for example, being employed, retiring, migrating, or joining organisations. Roles come with behavioural expectations associated with the role's position in social structures: role-related 'performance images' or 'role-ideals' guide role-related action and responsibilities (Callero 1994, Zheng 2018). Roles can constrain agency and control action by limiting what is appropriate in a given role, yet they also have agency-enabling aspects (Zheng 2018). Roles facilitate agency by impacting on the social positions of different actors and on their access to cultural, social, and material capital (Callero 1994). Constraining and enabling aspects link roles closely to the responsibility attribution parameters we discuss in the next section: actors occupying different roles are endowed with different opportunities and resources to promote (or hamper) just transition. Different roles also bring the likelihood of different benefits and burdens related to transition. Role ideals and role-related benefits are re-negotiated across time and place: the varying ideals, expectations, and the status associated with teacher-roles exemplify this point.

Attending to roles shows promise for addressing just transition responsibilities for several reasons. First, looking solely at main actor categories tends to reproduce the dominant logics, power imbalances, and disempowerments. Avelino and Wittmayer (2016, p. 632) exemplify how the construction of individuals mainly as 'consumers' or 'users' implicitly reproduces the dominant market logic, draining individuals of their agency in acting as voters, activists, and so on. Looking at the roles helps diversify and question the dominant thinking about the agency of actors. Second, the focus on roles clarifies how actors occupy several roles and related functions in their lives

Table 1. Intersecting categorizations for actor roles in transitions.

1.	Transition level	niche, regime, landscape, intermediary
2.	Sphere of action	state, market, third sector, community
3.	Level of action	global, national, regional/city, community
4.	Type of actor	individual, collective

(cf. Avelino and Wittmayer 2016, Zheng 2018). Third, sustainability transitions management is by nature forward-looking, constituted by visioning, reflecting, and deliberating about futures (e.g. Loorbach and Rotmans 2010), which aligns well with the way in which role-related responsibilities are intuitively considered. Finally, we believe that thinking through roles could motivate action by helping people see their responsibilities and capacities in socially connected communities. An approach that allocates responsibilities without attaching liability or blame might provide a way forward in a topic that is sensitive to actors' experiences of being blamed (as wrongdoers) (Young 2011; Kortetmäki 2019). This would also help overcome over-individualistic approaches that either downplay one's individual actions or over-individualise responsibilities for environmental problems.

3 Responsibilities for just transition

Next we will construct a framework for addressing the *roles and related responsibilities for just transition*. We begin by grounding the link between roles, responsibilities, and the allocation of differentiated responsibilities for actors in different positions. To be able to address the responsibilities in the framework, we create a typology of different functions that can promote the different aspects of justice in transition and discuss the capacities and positions that are required for performing the identified functions, which links the typology to roles and responsibility-determining parameters.

Clarifying forward-looking responsibilities with roles

Complex, wicked and global problems create *structural injustices*. These are systematically emerging, perpetuating inequalities that arise in complex interactions between various social processes and structures: wrongs cannot be easily traced back to single identifiable wrongdoings or the blameful action of particular agents who could correct the situation (Young 2011; cf. also Correa 2015). Activities may comply with the existing norms yet aggregately contribute to structural injustices (Young 2011). If nobody (or, alternatively, almost everyone) is to blame, then who is responsible for remedying the situation? The structural injustice approach proposes that social connection-based, forward-looking responsibilities can be used to allocate responsibilities concerning wicked problems like global trade injustices (Young 2011) and climate change (Martinsen and Seibt 2013, Kortetmäki 2019). While responsibilities for *mitigation* cannot be primarily or solely grounded in forward-looking reasoning (Eckersley 2016), it is important to note how transition-related justice differs from that. Injustices that emerge or aggravate due to mitigation arise from numerous factors that also maintain present structural injustices and other, non-environmental inequalities.

This makes it difficult or impossible to identify liability for harms brought about by climate mitigation that in the first place aims to prevent significant harms. Moreover, many harmful impacts of mitigation result from brute luck. For example, the burden a farmer faces from mitigation policies may depend on the type of farm one has inherited, local geographical conditions, and path-dependency creating choices made in the earlier history of the farm. Nor is it policymakers' fault that, if they take effective action on climate change, some level of harm from climate policies might be an unavoidable cost that is needed to avoid even greater harms.

A forward-looking approach to responsibility shifts the attention from liability questions to political and pragmatic reasoning about who should do what (Young 2006, 2011). Responsibilities arise from social connections: participation in social-structural processes that produce structural injustices. In her initial example, Young (2006, p. 372) refers to how buying cheap clothes connects the consumer to related (unjust) supply chain activities and structures enabling them (Young 2006, p. 372). In the just transition context, an example could be the purchase and use of low-carbon technology. It connects the user to global supply chains with potentially manifold justice problems: indecent working conditions in the mining of critical raw materials, the concentration of power and wealth, systems of innovation-related inequalities, and livelihood insecurity when transnational corporations migrate their operations to new regions to benefit from looser regulations. Being socially connected to problematic structures and processes invokes the responsibility for doing something about them. However, individuals can hardly change structures alone; hence, responsibility is typically discharged through collective action where efforts can be coordinated (Young 2006, p. 123; 2011, 111–112).[3] Different actor types – individuals, public and private actors – can bear responsibilities based on the social connection model; Section 4 addresses this question in more detail.

Despite its merits, Young's account has also been criticised as unclear about who has to do what and why, and how responsibility is to be distributed (Neuhäuser 2014).[4] To clarify the responsibility attribution, Zheng (2018) developed Young's ideas and introduced the social role-based model for responsibility attribution. Social roles create predictive and normative expectations that apply to a particular agent in virtue of the agent's relations (social connections) with others: people in the same role face similar expectations that are commonly acknowledged in the community and often maintained through sanctions (Zheng 2018, p. 873). For example, occupational roles involve expectations and responsibilities related to each particular occupation. In the context of just transition, we suggest that some of the social roles people occupy are associated with the particular functions that people can and should enact in the processes of low-carbon transition to

make the transition just. In the following sections, we elaborate the relationship between the roles, responsibilities for just transition, and the attributes linking these two.

Parameters for determining differentiated responsibilities

Young suggests that the individual differences in capacities to act and in social positions evoke differentiated responsibilities for acting upon structural injustices. This accords with the 'common but differentiated responsibilities' idea articulated in the UNFCCC agreements as well as with climate responsibilities literature suggesting that responsibility allocation also requires paying attention to the capacities of actors (Caney 2010). Young (2011, pp. 142–147) provides four parameters for reasoning about the amount of individual responsibility for addressing global structural injustices. We take Young's reflections as a starting point yet expand them further to fit within our scope, which goes beyond individual actors, and to incorporate elements that have been addressed elsewhere in the responsibility- and power-related literature we draw on (Caney 2010, Cripps 2013, Deveaux 2015, Zheng 2018; Archer et al. 2020, Kortetmäki 2019). They also help to address the actual allocation of responsibilities, which Young has been criticised for not doing (Neuhäuser 2014).

We suggest that determining the differentiated responsibilities in different social roles in the context of just transition should consider the following parameters (including but expanding beyond Young's suggestion).

1) *Power*. This includes different and partially overlapping aspects of power: a) legislative institutional power (regulation and financial redistribution); b) political power (the relative influence on public decision-making); c) economic power and wealth;, and d) epistemic (or discursive) power (Archer et al. 2020) to influence what others believe, think, or know, and to enable/disable such influence on others.[5]

2) *Privilege*: those who are privileged by present structures, i.e. the fossil-based economic development, and those who will likely be privileged by the transition, such as renewable energy companies, have greater responsibilities to take action (cf. Caney 2010).[6]

3) *Interest* refers to anyone with an interest in correcting injustice, which implies that 'victims' of injustice also have responsibilities and relevant agency (Deveaux 2015). In just transition, this includes actors who are the most influenced by climate policies or are particularly vulnerable to policy impacts due to lesser adaptive capacities.

4) *Social capital*: the social resources and networks of individual and collective actors (Portes 2000).[7] Increased social capital tends to increase opportunities and capacities, and therefore also responsibilities, for undertaking or nurturing collective action for justice.

5) *Epistemic abilities*: the relative amount of the actor's knowledge about the problem and how to act on it, including abilities to gather and process research information about the problem (see also Jugov and Ypi 2019).[8]

Functions for promoting just transition

A certain configuration of the above-listed responsibility parameters corresponds to a particular role, yet this says nothing about just transition-related, more particular responsibilities. Connecting just transition responsibilities to social roles first necessitates identifying what sorts of functions actors may in general perform to promote just transition. To identify those functions, we rely on just transition research and the three-dimensional framework of justice. Just transition research is conceptually grounded in environmental justice and energy justice (e.g., Evans and Phelan 2016, McCauley and Heffron 2018; Williams and Doyon 2019) where the main approach is nowadays the three-dimensional framework of justice that comprises three interrelated dimensions (Schlosberg 2007, Williams and Doyon 2019): distribution, recognition, and procedural justice. Just transition literature has also pointed out the importance of developing the capacities of actors to reduce their vulnerability to low-carbon transitions (Silveira and Pritchard 2018, Harrahill and Douglas 2019; Morena, Krause and Stevis 2020, Kortetmäki and Järvelä 2021) and of compensating for significant harms that are hardly avoidable, such as sector-specific job losses, via redistributive measures (McCauley and Heffron 2018; Morena, Krause and Stevis 2020).

We next create a typology of the functions that are central in promoting just transition. Because various aspects of justice are irreducible to each other, the three-dimensional framework (enhanced with transition-relevant aspects noted above) acts as a foundation for ensuring that diverse aspects of justice are considered in identifying functions. Moreover, functions relate to roles, which enable or restrict the performance of various functions and give access to resources and positions that may be crucial for performing certain functions. To create the link between functions and roles, we link the typology with the parameters for attributing responsibility in the social connection-based approach to alleviating structural injustices (Young 2011, Neuhäuser 2014, Zheng 2018, Kortetmäki 2019), which was discussed in the previous section. In addition to the aforementioned literature, we draw on responsibility literature in the contexts of climate justice (Caney 2010, Cripps 2013), private sector and human rights (Karp 2015, Mills and Karp 2015), and on the roles and capacities of non-state actors to influence governance and societal relations (Albin 1999; Archer et al., 2020). The typology does not create sharp boundaries but illustrates how different functions for enacting just transition relate to particular parameters for attributing responsibilities. Delineating different functions helps in two respects: in normative terms, it

determines which actors can be expected to perform which types of functions and, in political-pragmatic terms, it helps the society to see how collaboration can help actors discharge their responsibilities for just transition.

Distributive justice concerns the distribution of benefits and burdens in the transition, including economic (employment, livelihood, and affordability) and environmental impacts (Williams and Doyon 2019). It requires, in the first place, *transition guarantors* who take action for transition. There cannot be just transition unless there is transition: sufficiently effective emissions reduction and climate adaptation measures to help avoid climate change-related harms. This is needed as a specific function, or else the transition itself is jeopardised. After that, distributive justice in the transition itself can be considered.

While justice requires encouraging mitigation activities that are either neutral or beneficial to disadvantaged or vulnerable groups in distributive terms, existing inequalities generate an unavoidable risk of distributive inequalities. Correcting them requires the functioning of *distribution balancers*, grounded in the possession of institutional, political, and economic power: addressing distributive impacts requires policy establishment power, or capacities for reallocating resources or rearranging the rules for resource distribution in society (cf. Eckersley 2021). Distribution balancing also includes most measures that are often labelled restorative justice albeit perhaps incorrectly. Actions to prevent job loss-related harms, for example, help keep impacted people over the minimum threshold of justice *before* falling below that threshold. This is different from, for example, the case of compensatory (or restorative) justice for climate change-induced loss and damage (Wallimann-Helmer 2015). Rights are a matter of equal entitlements. Respecting rights concerns all moral actors and is thus excluded from our framework. Additionally, just transition requires protecting and fulfilling rights and possibly establishing new judicial rights to protect certain subjects. The function of *rights protectors* is therefore central. Legislation-setting requires the possession of particular institutional power. The protection or fulfilment of rights by providing individuals with access to rights if they are at the risk of being deprived of them can also be enacted by actors lacking legislative but possessing significant political and economic power and privilege, including corporations (Mills and Karp 2015).

Procedural justice means equal opportunities to have a say in decision-making. In addition to formal inclusion, it requires promoting equal participatory opportunities and facilitating critical and inclusive problem-solving to find transition steps in the unjust world (Eckersley 2021). Socio-cultural equality (recognition) is needed to ensure different voices are listened to (e.g. Schlosberg 2007, Fraser 2010, Loo 2019). This invokes the function of *decision preparers*. It concerns, for example, officials preparing policies to establish and facilitate inclusive and effective decision-making processes and foster critical problem solving (Harrahill and Douglas 2019) and to implement inclusive

processes in practice. This necessitates institutional power and social capital in facilitation. Epistemic abilities are also required to identify potentially marginalized groups. Social capital is needed especially for actors who facilitate participatory equality and inclusiveness in practice: they can encourage inclusion, collaboration and respectful problem-solving for tension-raising issues.

Recognition justice means socio-cultural equality in the transition, respect for cultural distinctiveness, and vulnerabilities arising from them, to dismantle misrecognitive value hierarchies and cultural hegemonies (Fraser 2010, Evans and Phelan 2016). It is interlinked with other dimensions: injustices often remain neglected and unaddressed due to nonrecognition. Making the invisibilities visible and revealing socio-cultural hierarchies requires *claim-makers*. Currently misrecognised groups have an interest in this (Young 2011), and disadvantaged groups should be acknowledged as active agents of justice (Deveaux 2015). Claim-makers may need support because their disadvantaged position often implies reduced capacities to advance their cause, causing epistemic opacity that influences the nature of related responsibilities (Jugov and Ypi 2019). Hence, recognition in just transition also invokes the function of *awareness raisers* that help deliver the voice of marginalized groups. Recognition may also require formal institutional practices, supported by the *rights protectors'* functions.

Moreover, the adaptive capacities of actors significantly determine the likelihood of being harmed by climate measures in ways that are relevant for justice (Kortetmäki and Järvelä 2021). Increasing actors' capacities to respond to transformation demands and societal changes reduces the likelihood of injustices. This makes the function of *capacity builders* central. It is best enacted in roles that entail the possession of power, social capital, epistemic abilities, or privilege. Further clarification of the forms of capacity building is needed in transition studies; here it suffices to note that capacities are built via many means, such as education (including worker retraining), research outputs, and participatory activities.

The framework

To demonstrate the overall combination of different just transition-related functions, parameters for allocating responsibilities, and different levels and spheres of action, we present a general framework for assessing role-based responsibilities for justice in transitions (Figure 1). The framework is applicable to both cross-sectoral and sector-specific considerations.

Next, we demonstrate the application of the framework in relation to some roles that are pivotal for enacting just transition at different levels. We do not discuss roles exhaustively but illustrate how the framework helps identify just transition-related responsibilities for different actors and with relation to their different capacities. This may help induce action in the
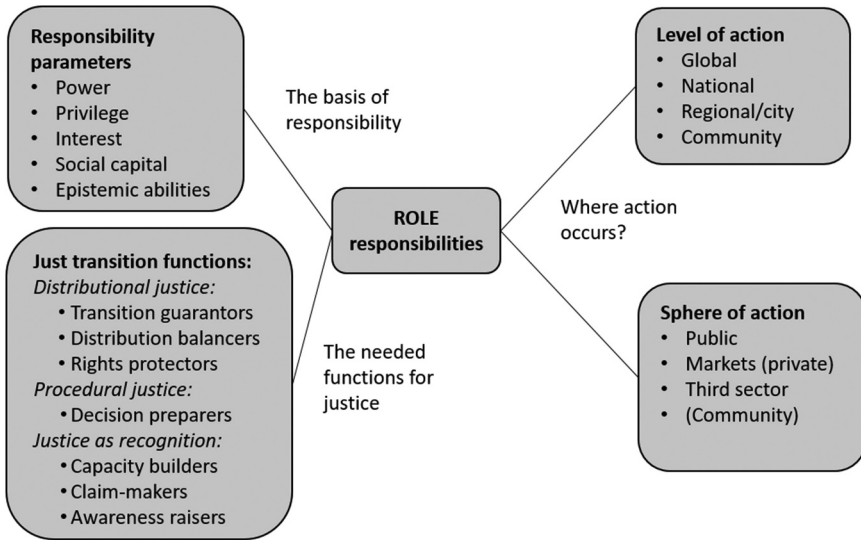
Figure 1. The framework for assessing responsibility of different roles for justice in transitions.

appropriate places, diversely across the actor categories. We shed light on how responsibilities are distributed across sectors and actors, and how transition evokes new expectations for existing roles. Identifying relevant roles is always subject to problem framing: the consideration of sector-specific roles in energy, food and mobility transitions is beyond the scope of our work yet important in the future.

4 Roles and responsibilities for just transition

Public sphere

In public sphere, responsibilities at different levels comprise an important network. Global institutions and their key actors should function as *transition guarantors* because they coordinate global mitigation efforts and accountability. Although attributing responsibilities to global institutions is restricted by their lacking institutional power to create binding agreements, the UNFCCC Parties comprise a global collective with significant non-judicial power, social capital, and epistemic abilities. This highlights functioning as *decision preparers* to integrate just transition alongside other climate actions. The COP24 meeting in 2018 yielded the Silesia Declaration on just transition, although operationalising it at the UNFCCC level is a challenging imperative (Jenkins *et al.* 2020). International collectives are also able to coordinate international resource reallocation and thereby

function as *distribution balancers* to correct global inequalities. For example, the EU has established the Just Transition Fund that (among other aims) supports fossil industry dependent member states and regions in transition.

Nation states have unique 'resources and financial transfer mechanisms to provide social welfare and address inequalities and injustices [in transitions] on the scale of states' (Eckersley 2021, p. 4). States are equipped with institutional, political, and economic power for functioning as *distribution balancers* and *rights protectors*, assigning them and essentially their governments a key role in enacting just transition (Harrahill and Douglas 2019, Eckersley 2021). They are also responsible for functioning as *transition guarantors* since the global agreements cannot have binding force over them (and nation-states comprise global negotiating collectives). Following the idea of a strong state role, Eckersley (2021) argues that nation states should actively orchestrate and facilitate just transition (Eckersley 2021). Welfare state roles also emphasise *capacity building* (Kortetmäki and Järvelä 2021), including adjustment programmes to facilitate re-training, job seeking, and community investments for workers in sectors impacted by decarbonisation (Harrahill and Douglas 2019). Relevant state-level actors with power and social capital ought to help resolve tensions between equality and effectiveness goals and concerning the discharging of responsibilities; this resolution should also support the effective transition itself, otherwise it fails in discharging responsibilities for just transition (e.g Reitzenstein *et al.* 2020).

Cities and municipalities have local political power and greater interest in regional matters and social capital in engaging local communities: they have the best perspective to identify local factors influencing transition and articulate local justice concerns of climate policy impacts (Schlosberg *et al.* 2017). Regions also witness the employment impacts of energy transitions (for coal, see Evans and Phelan 2016; Morena, Krause and Stevis 2020). These attributes assign sub-state public actors responsibilities to function as *awareness raisers* about regional concerns and as *capacity builders*: regional actors are more capable of knowing the regional strengths and challenges for worker retraining and re-employment, job creation, as well as the specific vulnerabilities in the given region. Public sector responsibilities would require further assessment from the viewpoint of individual responsibilities of officials and policymakers working for the public sector: they can possess significant power, social capital, and epistemic abilities through their established networks and information sources.

Market sphere

Corporations participate in maintaining harmful institutional arrangements in conditions where they cannot be held liable for particular harmful impacts (Correa 2015). It is thus important to address their responsibilities also via role-based, rather than only liability-based, approaches. Transnational corporations surpass smaller nation states in economic and political power, social capital, and epistemic abilities: resources for information gathering and processing, and lobbying (influencing their regulation). Owing to these parameters, corporations and people responsible for their operation enact responsibilities for just transition. As an example here, we take the relationship between intra-corporation roles and responsibility. What is the relative responsibility of the CEO, a product or marketing designer, or 'an ordinary worker'? A similar exercise could be made above in relation to the different level public actors and their different employees.

Top managers respond for a company's key financial and strategic decisions. Their mind-sets influence the shaping of corporate sustainability actions and whether other managerial actors can implement sustainability in practice (Mountfield *et al.* 2021). Great power and privilege come with corresponding responsibilities. Persons in charge of investment decisions, for example, significantly determine whether just transition promoting actors and actions get support for taking off. Corporate climate and responsibility strategies (including tacit codes of conduct) influence whether corporations act for transition guaranteeing and promoting its fairness. Leading companies are also role models for others. Middle managers are typically responsible for implementing sustainability strategies. They function both as implementers of sustainability strategies and as influencers who actually shape the strategic decisions of top managers (Birollo *et al.* 2021): their role entails access to resources for carrying out such functions. Thus, at the middle-managerial level, ensuring that companies discharge their function as *rights protectors* (Mills and Karp 2015) is pivotal for just transition, especially for workers' and subcontractors' rights (and promoting fairness even if that implies slight profitability costs). Middle-level decisions support or prevent *distribution balancing* by influencing the distribution of the economic, environmental, and social impacts of business transformations. Executives do not make decisions alone, yet their capacity to present information and argumentation for or against particular decisions (in boards) attributes to them special responsibility.

Employment impacts of transitions endow HR managers with responsibilities in companies where the privilege and wealth result from carbon-intensive operations that must change and the status as HR manager implies particular epistemic abilities. HR managers in coal companies, for example, likely have the highest epistemic abilities to reason how

workers can be supported in the transition in the given regional and organisational circumstances. Thus, HR personnel are key agents in enacting regionally or nationally supported (cf. Harrahill and Douglas 2019) *capacity building*, including retraining and work-seeking programmes, and facilitating both material and mental support for the transition.

Ordinary employees influence less on strategic decisions but more on the organisational culture. Can workers contribute to just transition by promoting required changes in their own work and by providing their ideas about changing, for example, product development and sustainability training? Are sustainability-concerned workers more frequently ignored or listened to? Employees comprise the 'democratic mass' in companies and thus have the responsibility for organising collective support for action and *awareness raising* by providing and asking for more information. Employees may also have a special role when industries influence on local communities they operate within (e.g., Evans and Phelan 2016): 'ordinary employees' may function as intermediary *claim-makers* more successfully than managers and executives. Finally, if company operations perpetuate injustices and calls for change are constantly neglected, discharging one's responsibilities adequately might even require making misconduct visible by revealing wrongdoings to the public.

Third sector and community sphere

Role-based responsibilities help make sense of what individuals are responsible for. Individuals can only partly discharge their responsibilities via 'responsible consumerism', although it contributes to *transition guaranteeing*. Consumption choices have fairly limited impact on correcting social-structural processes that perpetuate injustices. Structures also limit the possibility of individuals to make justice-promoting choices: 'doing justice' by consumption is often the opportunity of the privileged (who then may have this responsibility). Consumption-led transition might also aggravate existing injustices by agglomerating dis/advantages amongst business actors. Responsibility parameters show that consumers are not responsible for finding out whether production responsibility claims really hold true: they usually lack sufficient epistemic abilities and power to access concealed information.

However, individuals occupy various other roles in the public and private sectors and are also citizens and members of collectives. Individuals' responsibilities for justice in complex problems are best understood as responsibilities for collective action (Young 2011, Cripps 2013). Discharging responsibilities for collective action for climate mitigation (e.g., Cripps 2013) contribute to functioning as *transition guarantors* via collectively demanding and supporting climate policies. In a just transition context,

other ways to discharge responsibilities collectively depends on the roles one occupies, or is able to occupy: responsibility parameters reflect this and capture differentiated life situations.

For some, work provides the best opportunities to promote just transition. For example, researchers belong to research communities whose responsibility as *capacity builders* and *awareness raisers* is grounded in their social and epistemic capital (Loo 2019). Just transition necessitates information about emission mitigation impacts and their distribution, vulnerabilities, participatory decision-making methods, and principles and ways of monitoring justice in transitions. Researchers can address such questions. Yet, their possibilities depend on funding and the institutional environment they work in, including collegial and managerial support. The relevance of one's research for just transition, a factor related to *interest*, also counts. Research can also relate to many other important issues and come with other responsibilities.

For some, work enables discharging just transition responsibilities sufficiently but not for all. Others may discharge just transition-related responsibilities by, for example, participating in public discussions and engaging in or supporting NGO campaigning (Kortetmäki 2019, p. 59).[9] NGOs and their actors have interest, social capital, and epistemic abilities. NGOs are also important in strengthening the epistemic abilities of oppressed groups who suffer from structural injustice and epistemic opacity that prevents them from fully articulating and reflecting on their concerns (Jugov and Ypi 2019) despite of their important role as agents of justice (Deveaux 2015). Consequently, individuals can function via NGOs as *capacity builders, awareness raisers*, and *claim-makers* for justice (see also Albin 1999). Local communities can function as *claim-makers* and *awareness raisers*, articulating their concerns for just climate policy implementation.[10] Another question is whether individuals with useful endowments, such as social capital (the high capacity to establish social networks), have greater responsibility to strive for impactful roles, such as policymaker and NGO leader roles, be that role related to just transition or other important matters.

5 Conclusions

Responsibilities for just transition are shared by numerous actors across different levels and spheres of action. The allocation of responsibilities and their contents can be grounded in the responsibility attribution parameters, which attach the functions of enacting just transition to role-specific capacities, powers, connections and resources. The established framework aims to clarify thinking about, and justify allocating, responsibilities for just transition. While states are key players in enacting just transition, the framework demonstrates that market, third sector and community actors also

possess characteristics that attribute to them responsibilities for just transition. Individuals' responsibilities come about by the roles they occupy in different spheres. While we focus on just transition, we believe and encourage further applications to consider whether the basic structure of the established roles and responsibilities framework (Figure 1) could, with adjusted functions, assist addressing other responsibilities for complex justice issues.

The role-based view of responsibilities highlights social connectedness. Functions for promoting just transition often require cross-sectoral collaboration. Consider some examples. Officials and policymakers have to consider multiple challenges and competing demands in decision-making. Research communities can provide information about policy impacts and tools for more inclusive policy planning, while local communities provide local knowledge for better policy implementation. Business managers need support and signalling from the public sector to ensure that injustices are not rewarded in markets and that mitigation demands can be met by differently sized enterprises. Companies also need information about the impacts of their mitigation strategies: research communities must thereby consider what kind of collaboration with the private sector to conduct, while ensuring research integrity and autonomy in the emerging partnerships. Research communities, in turn, cannot discharge their responsibility without external support. Research funding is globally biased and harnessing it for promoting justice through science requires significant reallocation. Finally, oppressed groups may suffer from epistemic opacity the alleviation of which may require collaboration with more privileged actors and the research community (see also Loo 2019) to articulate their concerns and promote policy processes that take existing disadvantages into account in implementing participatory approaches.

Further research on the responsibilities for just transition can support the allocation of transition-related responsibilities to different actors in the conditions of polycentric governance and increasing non-state initiatives for climate action. It would be particularly valuable to determine central just transition responsibilities with regard to sectoral transitions, role relations across sectors, and the changing of roles and related responsibilities over the transition process. Further conceptual development could specify the determination of relevant functions and role categories. In this light, one particularly interesting role category pertains to roles that emerge within the transition processes themselves, especially intermediary roles. Specifying these roles and the responsibilities that emerge alongside these categories requires further examination.

Notes

1. Just transition can be criticised as a narrow approach if it is considered to occupy the main stage of climate and environment-related justice discussions, which sometimes appears to be the case in public debates. Just transition should not derail attention from the crucial importance of climate action and sustainability transition itself, because failing in that task is likely the greatest injustice. Regarding the existing (pre-transition) injustices, just transition pays attention to them insofar as they create systematic risks for particular groups to face disproportionate burdens or harms due to the transition policies. However, the purpose of just transition is not to address or fix all existing injustices: making the transition so overly complex would likely paralyse action.
2. Moral responsibility typically focuses on individual moral agents and their liability: is a person liable for causing a certain wrong, and if yes, what should the person do about it? Political responsibility focuses on remedying the wrongs: who should do something about the existing problem an why? Political responsibility for action can exist without liability. Political responsibility does not mean neglecting the questions of liability, however: sometimes there is a clear culprit who has a consequent responsibility to correct the injustices. (Young 2011, pp. 78–80; 95–122.)
3. In Young's version of the model, the responsibility for justice is borne only by individuals but this does not exclude the possibility to attribute responsibilities to collective actors.
4. Young's response to these challenges remained unfinished because of her death in 2006.
5. Social sciences have generated numerous typologies of power, the usefulness of which depends on the application. Our chosen distinction aligns well with different roles. Notably, many forms of power overlap or are closely related. For example, in the private sphere economic power often equates with power to influence; however, economic power does not guarantee political power in the public sphere. Epistemic power, in turn, may sometimes be socio-culturally very influential (by mainstreaming particular ideas and framings) while lacking political and economic power.
6. The privilege attribute does not make our approach backward-looking because privilege can arise due to numerous factors, be unintentional (being the citizen of a wealthy country), and cannot be directly associated with liability.
7. Collective ability in Young's terminology.
8. Epistemic power and epistemic abilities are, in our view, two distinct attributes that often are not possessed by the same person. The term 'epistemic power' was used by Archer et al. 2020, whose use we follow here, although it could also be called discursive power.
9. We consider voting in elections as insufficient for discharging one's responsibility.
10. The role of local communities is also noted in'A Blueprint for Europe's Just Transition', a report by the EU-level GNDE campaign (by the Democracy in Europe Movement) that calls for increased engagement of local actors for the EU Green New Deal.

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