Chapter 7
Mainstreaming Adaptation into Urban Development and Environmental Management Planning: A Literature Review and Lessons from Tanzania

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Abstract Mainstreaming of adaptation to climate change is recommended by many international agencies and authors of climate change literature in order to guarantee more efficient use of financial and human resources than occurs when adaptation is designed, implemented, and managed as a series of stand-alone activities. Nevertheless, there is ongoing debate over how to proceed in order to achieve effective mainstreaming, at what level to act, on what topics to concentrate, and what type of initiative should be prioritized. The article offers information and arguments that may help the administrations of Sub-Saharan cities implement the options that are most appropriate for their specific conditions. The first section situates the mainstreaming of adaptation to climate change within the more general and consolidated strategy of the Environment Integration Policy, and outlines the current process of conceptualizing the question. The mainstreaming approach is compared to the action-specific approach in order to better highlight its strengths and weaknesses, while the risks of ineffective mainstreaming are explored with particular reference to the case of Tanzania. A more detailed examination follows of possible topics and the approaches used for mainstreaming in sectoral policies related to urban development and environmental management. Lastly, the specificity of Sub-Saharan cities is addressed, which raises both concerns and hopes for the current advantages of pursuing adaptation through mainstreaming at the local level.

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7.1 Towards Mainstreaming Adaptation in Sub-Saharan Cities

The objective of this study is to identify the basic notions and principles that could serve as references when developing a methodology for integrating climate change concerns into the urban development and environmental management plans already in place in Sub-Saharan cities.

Given the mass of conceptual frameworks and operational guidelines already available on mainstreaming adaptation to climate change and related topics, a literature review was conducted in order to explore three main questions: (1) How to define mainstreaming; (2) How to achieve it; and (3) What issues to mainstream into urban development and environmental management planning.

The debate around those three questions appears to be deeply grounded in the history of Environmental Policy Integration (EPI) and fuelled by evidence from environmental mainstreaming. Indeed, the concept of adaptation mainstreaming derives from the climate policy integration principle introduced in 2009 as an extension of the EPI principle, which traces back to the 1987 Brundtland report and related 1992 Rio Earth Summit on sustainable development. The issue of integrating environment and development in decision-making is specifically addressed by Chap. 8 of Agenda 21, adopted at the Rio Earth Summit. Governments are requested to review and improve the decision-making processes in order to ensure the integration of economic, social, and environmental considerations at all levels and in all policy sectors (UNCED 1992).

During the 2000s, environmental mainstreaming acquired an increasingly relevant role in the global strategy to fight poverty, as sound environmental management came to be acknowledged as crucial for achieving the MDGs (De Coninck 2009). In this context, risks associated with climate change and variability are viewed as a threat to the development strategies and measures in place since they "change the contexts in which development occurs", while environmental mainstreaming is the tool to ensure that development decision-making incorporates those risks, thus becoming more sustainable and successful (EC 2011).

It is therefore not surprising that, in Sub-Saharan Africa, the mainstreaming of climate change adaptation into national and sub-national development planning is usually considered part of the broader poverty-environment mainstreaming strategy, with the majority of reports and guidelines drawing from this policy background. This is particularly true in the case of Tanzania, one of the Sub-Saharan countries that made the greatest effort to apply the environmental mainstreaming

approach as a means to achieving sustainable development (URT PMO-RALG 2007; URT 2010).

Lessons learned from the Tanzanian case helped identify two controversial topics which are at the front line of the debate about climate change adaptation in Sub-Saharan African cities: *mainstreaming* versus *action-specific approaches*, and mainstreaming *at the national* versus *the local level*. Accordingly, special attention is paid throughout the text to highlighting the advantages and disadvantages of the mainstreaming approach as compared to the action-specific approach. Arguments for and against use at the local level of the mainstreaming approach for adaptation to climate change and variability are subsequently examined in the conclusions.

7.2 Conceptualizing Adaptation Mainstreaming

7.2.1 Defining Adaptation Mainstreaming

In development policy literature, the term *mainstreaming* is often used interchangeably with *integration* and *incorporation* to designate a strategy adopted to deal with a variety of issues, including environment and gender, which are acknowledged as crosscutting concerns in all policy fields and levels of decision making.[1]

With respect to adaptation mainstreaming specifically, although there is no consensus on a common definition, a review of research papers and policy documents draws attention to the following features:

- the definition of adaptation, which ranges from mere reduction of potential climate-related development risks to taking advantage of opportunities (OECD 2009);
- the overall goal, which ranges from ensuring the long-term sustainability of investments and reducing the sensitivity of development activities to present and future climate (Klein 2002; Huq et al. 2003; Agrawala 2005), to the broader aim of contributing to pro-poor economic growth, human well-being, and achievement of the MDGs (De Coninck 2011);
- the nature of the topic to be mainstreamed, which ranges from climate change impacts only, to societal vulnerabilities and climate change responses (Agrawala and van Aalst 2005);
- the need to simultaneously address both the mitigation of climate change causes and the adaptation of human systems to better cope with its effects (Lim and Spanger-Siegfried 2004) rather than working on adaptation in isolation;

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[1] Consider as an example the definition of mainstreaming used in EuropeAid documents: "the process of systematically integrating a selected value/idea/theme into all domains of the EC development co-operation to promote specific (transposing ideas, influencing policies) as well as general development outcomes" (iQSG 2004 quoted in EC 2011: 16).

- the possible interchangeability of the mainstreaming adaptation approach and the climate risk management approach, although the two are slightly different, the former incorporating considerations of the long-term effects of climate change, while the latter focuses on current climate variability and no-regret measures (Lim and Spanger-Siegfried 2004);
- the field of applicability, from strictly climate change related policy sectors such as water management, disaster preparedness or land-use planning (Agrawala and van Aalst 2005), to broader areas such as "policy-making, budgeting, implementation and monitoring processes at national, sector and subnational levels" (De Coninck 2011: 3);
- the type of actors to be involved and their role within the process, based on the assumption that adaptation mainstreaming "entails working with a range of governmental and non-governmental actors, and other actors in the development field" (De Coninck 2011: 3);
- the nature of the mainstreaming process, which for the most part should be iterative rather than linear (De Coninck 2011); and
- the phasing of the process, which ranges from ex-ante determination of the objectives and measures to be integrated, to identification of adaptation objectives and measures as part of the mainstreaming process (learning process), which can lead to the reframing of planning priorities and strategies (Uittenbroek et al. 2012).

However, the best way to delineate the meaning of adaptation mainstreaming, to understand what this term includes and what it does not, is to compare it to its most common rival approach: adaptation as a dedicated domain (or the *action-specific* approach). It must be noted that such rivalry is more specious than real, as the two approaches are often considered complementary and used in combination,[2] where either special actions are viewed as generated within the mainstreaming process, or mainstreaming is viewed as a means for creating more favorable conditions for the implementation of a previously determined special action.

7.2.2 Mainstreaming Versus Action-Specific Approaches

In climate change literature, adaptation, unlike mitigation, is considered better managed through use of mainstreaming than through self-standing measures.

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[2] An example of this is the UNDP-UNEP framework for mainstreaming climate change adaptation, which defines three levels of intervention: (i) strengthening the base for adaptation, by consciously aiming development efforts at reducing vulnerability; (ii) promoting mainstreaming adaptation measures, thus ensuring that climate change is considered in the decision-making of relevant government agencies; and (iii) promoting specific adaptation measures that target issues the first two levels have not yet tackled (De Coninck 2011). Though the mainstreaming approach is given higher priority, this framework does not exclude the possibility of recourse to special actions when satisfying results are not achieved through mainstreaming intervention modalities.

Table 7.1 Comparing action-specific and mainstreaming approaches

Action-specific approach	Mainstreaming approach
One self-standing measure	Various integrated measures
One policy sector concerned	Multi-sectoral
Few actors involved	Many actors involved
Specific knowledge and competences required	Diverse knowledge and competences required
Linear decisional process	Iterative decisional process
Replicable in many places	Context specific
Achievable in short term	Achievable in medium-long term
Standardized design and implementation	Experimental design and implementation
Clearly ex-ante defined inputs and outputs	Likely variations of inputs and outputs
Plan-driven, conformative	Target-driven, performative

Indeed, as stated by Persson and Klein (2008: 4), "adaptation is the result of a very diverse set of actions that are in turn stimulated by policy influences originating from many different sectors". The principal reason for this affirmation derives from the intrinsic complexity of the relationships between environmental changes and human systems, and the consequently high level of uncertainty in forecasting (Adger and Vincent 2005; also see Chap. 1). Moreover, the most likely futures may exacerbate current inequalities (O'Brien et al. 2012), which entails the need to consider power relations across policy sectors and levels and to involve all social actors in the development of comprehensive, multidimensional normative scenarios so that decision-making is informed by a shared vision of the future to be created.

Studies of other crosscutting development issues indicate that the mainstreaming approach, unlike the action-specific approach, has the potential for multisectoral action, and can facilitate the involvement of all levels of governance as well as a broader range of stakeholders into decision-making. Table 7.1 outlines the comparison between the two approaches.

The benefits of integrating adaptation policies and measures into development and sectoral decision-making have been identified as follows:

- To ensure consistency and avoid conflicts with other policy domains;
- To find synergies with other well-established programs, particularly sustainable development planning (Adger et al. 2007);
- To prevent *maladaptation*, or "adaptation that does not succeed in reducing vulnerability but increases it instead" (IPCC 2001: 990);
- To ensure long-term sustainability (Persson and Klein 2008);
- To ensure that future projects and strategies will reduce vulnerability by including priorities that are critical to successful adaptation (Lasco et al. 2009);
- To reduce the sensitivity of development outcomes to current and future climate change and variability (Huq et al. 2003; Agrawala 2005; Klein et al. 2005, 2007);
- To make more sustainable, efficient, and effective use of financial and human resources than is achieved when adaptation is designed, implemented, and managed separately from development (Persson and Klein 2008);

- To leverage the much larger financial flows in sectors affected by climate risks than the amounts available for financing adaptation separately (Agrawala 2005); and
- To enhance the performance and development contribution of each sector and each government body at all levels.

Nevertheless, there are many difficulties in applying the mainstreaming approach, for which its actual effectiveness is often questioned. Some of those difficulties do not arise in the case of the action-specific approach, which leads governments to prefer the latter over mainstreaming. In fact, the action-specific approach seems to be simpler in terms of planning, acquisition of financing and other necessary means, decision-making, implementation, and evaluation of results. In addition, it appears that the transformative potential of the mainstreaming approach can be seriously compromised by a lack of shared, short-term goals, which can reduce the motivation of and push from public administrations as regards changing norms, procedures, and organizational models. Therefore, the overall hope of success for a special action is certainly higher than that of a mainstreaming initiative but, given its characteristics, the efficacy of a special action as regards reducing vulnerability in the medium-long term with respect to risks that at present are not entirely knowable is not at all guaranteed. The problem then arises of how to avoid the risk of ineffective mainstreaming. The extent to which the case of Tanzania can be enlightening in this respect is discussed below, following a description of the methods and tools for achieving mainstreaming.

7.3 Operationalizing Mainstreaming

7.3.1 How to Achieve Mainstreaming

In the EPI literature, methods and tools for integration are usually grouped into four operational streams, which are neither mutually exclusive nor exhaustive: *procedural, organizational, normative*, and *reframing* approaches (Persson 2007; Persson and Klein 2008).

The *procedural approach* consists of introducing new or modifying existing decision-making procedures while feeding information related to the issue to be mainstreamed into decisional processes. Procedural tools commonly used in environmental mainstreaming include ex ante environmental assessments of programs and projects, green budgeting and checklists, sectoral environmental reporting and audits, consultation with environmental experts, and participation of stakeholders.

It should be noted that the purpose of these changes is not to target specific decisions, but to contribute to changing the overall context in which decision-making occurs, which in turn will reorient all subsequent decision-making processes (Lenschow 2002 cited in Persson and Klein 2008).

In order to be effective, procedural changes must be defined and applied simultaneously at the various levels of government involved directly or indirectly in the decision-making process. Otherwise, their efficacy runs the risk of being compromised by the lack of knowledge, awareness, and resources for implementation at any of the levels involved.

The *organizational approach* involves amendments to formal responsibilities and mandates, creating new or merging existing institutions, networking among diverse departments, and structural changes of budgets. It intervenes at every level of organization, from the individual to the general one, to induce ownership, appropriation, understanding, and enhanced capabilities on the issue to be mainstreamed within the relevant sectors as well as to introduce new responsibilities and various accountability mechanisms (Peters 1998 cited in Persson and Klein 2008).

Institutional inertia, sectoral compartmentalization, self-interest, and related budget competition might jeopardize effective organizational changes. On the other hand, this type of change plays a fundamental role in increasing the effectiveness and efficiency of the policy-making processes, and as such should be considered "a general principle for good decision making" (Nilsson and Persson 2003: 335) rather than a specific response to the requirements of mainstreaming.

The organizational approach is suitable for use at all government levels and, among the four approaches considered here, is likely the most applicable at the local level as it does not necessarily involve similar changes at upper levels.

The *normative approach* implies a change in policy-making culture. As such, it requires high-level commitments to the issue to be mainstreamed and entails the formalization of that issue in existing strategies and policy frameworks as well as the allocation of additional targeted resources. This approach usually leads to "commitments to particular goals in treaties and directives, requirements for sectoral strategies, obligations to report performance, and external and independent reviews" (Persson and Klein 2008: 10).

The *reframing approach* aims at reshaping the policy frame of traditional sectors in a mid- and long-term perspective. It helps in integrating the issue to be mainstreamed into the perception of the function and objectives of a sector among relevant stakeholders (e.g. by relabeling policy fields as *adaptive* health policy or *adaptive* land-use policy). While this is a lengthier process than an operational approach, it can be stimulated through research, training, and diversification of staff in terms of backgrounds and cultures (ibid.).

Both the normative and the reframing approaches are more appropriately applied at the government levels, usually national and international, where laws are elaborated and policies formulated. Nevertheless, these approaches also have important implications at the levels of government where new norms are applied and new policies are implemented, as they require procedural and organizational changes.

7.3.2 Risks of Ineffective Mainstreaming: The Case of Tanzania

The environmental mainstreaming initiated in Tanzania over the last two decades has stimulated the decentralization of decision-making and administration, which were extremely slow despite a number of reforms deliberated by the parliament (Lerise 2000). At the same time, the central government has viewed environmental mainstreaming as a useful tool for maintaining control of local governments (Death 2013).

On the other hand, evaluations of environmental mainstreaming are less positive with respect to the reduction of poverty, food insecurity, and ecological degradation. Results do not appear to be on par with the level of financial resources (contributed predominantly by donors) that the Tanzanian government has invested in the reform of environmental governance since the 1990s'.

> Allegations of chronic mismanagement, rent-seeking and pervasive corruption in the forestry, fisheries and wildlife conservation sectors further contribute to substantial doubts over the efficacy of the much-lauded environmental mainstreaming (Death 2013: 3).

Death (ibid.) recognizes that post-sovereign environmental governance in Tanzania is non-exclusive, non-hierarchical, and non-territorial. Nevertheless, such characteristics do not guarantee positive outcomes. Firstly, the involvement and inclusion of a multiplicity of actors (one example is the mainstreaming of environmental concerns in the MKUKUTA—URT 2005 and 2010) may not always result in improved legitimacy, accountability, and transparency, due to power imbalances and competition over control of resources. Secondly, the old hierarchies have not been replaced by a coherent framework of local and national scale competencies and levels of authority. The resulting ambiguity of decision-making and administrative processes, together with the lack of transparency in business relationships and practices, guarantees that the system only works for those who have power and a capacity to negotiate that shields them from the pressures exerted by other actors. Thirdly, although the Tanzanian government has adopted a problem driven and transboundary (or post-territorial) logic in structuring environmental governance (e.g. protection initiatives for 'global' biodiversity through transboundary conservation areas), there is no shortage of territorially bounded initiatives informed by a nationalist discourse. Death (ibid: 19–22) maintains that "environmental planning and management in Tanzania can be seen in terms of a longer dynamic set of power relations between the central state bureaucracy and the rural population". From this perspective, several instruments typical of environmental governance—including monitoring, evaluation, auditing, and surveillance over the natural environment—may mean, in practice, greater state control and penetration over rural populations.[3]

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[3] Death (2013) cites two cases in support of his thesis: the Kilimo Kwanza agricultural development policy and the National Strategy for Growth and Reduction of Poverty MKUKUTA

Under such circumstances, the mainstreaming process becomes inevitably ineffective if not counterproductive. The opacity and/or dynamicity of roles and relations make it difficult to identify entry points for initiating processes of change or the actors responsible for monitoring those changes. It is also difficult to plan and monitor the distribution of resources and relationships between the investment of resources and results achieved. Moreover, environmental analysis and planning, like certain normative or procedural changes (e.g. the mandatory EIA law) can become instruments of spatial control exercised by the state. Lastly, mainstreaming can become a method for de-territorializing the distribution of funds, with the risk that resources will become volatilized and distributed in an unbalanced manner among various areas and actors.

The case of Tanzania is emblematic as regards two questions that are thoroughly explored in the literature. From an institutional perspective (Brouwer et al. 2013), the efficacy of mainstreaming seems to require the presence of two specific conditions: (1) regulatory capacity of public authorities, and (2) balance of power and resources between environmental and sector stakeholders or authorities. Capacity is directly linked to resources (both financial and competence-related) legitimization, and information. If resources and capacity are lacking, mainstreaming is compromised.

A notable critique of mainstreaming as a strategy that draws on the potential for change within bureaucratic organizations has been offered by Longwe in her writing on gender mainstreaming (1997). That author maintains that, alongside the overt bureaucracy within an organization, there exists another covert bureaucracy that is capable of subverting all policies and directives that threaten covert patriarchal interests.

> The overt organization is a conventional bureaucracy, which is obliged to implement policies handed down by government. The covert organization is what we have here called the 'patriarchal pot', which ensures that patriarchal interests are preserved. When presented with feminist policies, the overt and the covert organizations have opposing interests, values, rules and objectives: bureaucratic principles demand implementation, while patriarchal principles demand evaporation (ibid.).

Similarly, mainstreaming of environmental or adaptation concerns is destined to fail when implementation involves changes that threaten value systems and interests that the bureaucracy tends to perpetuate.

(Footnote 3 continued)

I and II (URT 2005 and 2010). Regarding the latter in particular, he states that "the repeated stress on the very existence of quantitative and measurable targets and indicators—rather than success or failure in meeting them – is evidence of this focus [on statist control over land and territory]" (ibid.: 22).

7.4 Mainstreaming What into What

7.4.1 Climate Proofing Versus Adaptive Capacity Improvement

The literature on adaptation mainstreaming can be divided into two different streams depending on how vulnerability is interpreted: in one case, vulnerability is viewed as a linear result of climate change impacts on an exposure unit (*outcome vulnerability*), while in the other, climate change is considered to interact dynamically with contextual conditions associated with an exposure unit (*contextual vulnerability*) (O'Brien et al. 2007).

Approaches from an outcome vulnerability perspective seek to limit negative outcomes of climate change by securing the physical environment, especially the city, through improved infrastructure and measures for impact mitigation. The ultimate goal is the climate proofing of policies and plans, or of development in general. This is often described as mainstreaming disaster-risk reduction in development planning (Khailania and Pererai 2013) or mainstreaming climate change adaptation into comprehensive disaster management. Within this stream, screening is undertaken to establish relevance to climate change effects and to justify further examination of climate risks, and it is complemented by a risk assessment consisting of a detailed examination of the nature of climate risk and of possible risk management strategies.

Approaches from a contextual vulnerability perspective address the issue of human security in a more multidimensional manner, rather than considering it as merely achievable through a secured physical environment. They focus on the improvement of adaptive capacity (see Chaps. 1 and 6), drawing upon the sustainability livelihood framework and Sen's capability approach to development. At the center of this reasoning is the idea that vulnerability is the result of a process in which the system of social interactions and power relations influences people's access to resources, and therefore contributes in a determinative manner to defining the kind of vulnerability of a given social group in a given time and place. As a result, the adaptation measures defined through such an approach also address the structural inequalities of the context in order to change vulnerability circumstances (O'Brien et al. 2007; Simon 2010).

Important indications for reciprocal learning and general improvement of the efficacy of both streams are provided by the IPCC Special Report (2012).[4] In particular, the report recognizes that assessment must also consider a series of non-climate factors that modify contextual conditions with notable consequences in

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[4] It should be noticed that, to date, major development agencies have not make a clear choice between the two approaches. The already mentioned UNDP-UNEP framework (De Coninck 2011), for instance, while paying particular attention to addressing the adaptation deficit and increasing the overall resilience of the country and population, does not exclude the need for climate-proofing policies.

terms of both determining climate change impacts and shaping people's adaptive capacity.

7.4.2 Mainstreaming Adaptation into Urban Development and Environmental Management Sectors

Despite the fact that there is widespread consensus on the necessity of mainstreaming adaptation into sectoral plans and programs at the local level, most adaptation mainstreaming research and practices have focused on development policy at the national level (Klein 2002; Huq et al. 2003; Agrawala 2005; Persson and Klein 2008). This provides a valuable theoretical and practical basis for advancing at the sectoral level, though each individual sector requires a specific effort according to its own cultural tradition and the network of interests that it mobilizes.

Urban development planning and the management of environmental problems in cities stand out as two sectors that tend to evolve from the local level rather than the national one, due to their territorial specificity. At present, attention seems to be focused on the procedural and organizational levels, for example through the preparation of adaptation action plans and the creation of dedicated task forces, in a manner that is not very different from the implementation of the Rio Agenda 21. Meanwhile, the process of change for normative aspects still seems to be at the embryonic stage, and policy reframing appears even less advanced.

There are several reasons why these sectors should be considered the front line in the adaptation mainstreaming process. Some of those reasons derive from the very nature of the city, others from the potential for adaptation intervention and the experience accumulated regarding environmental mainstreaming in these sectors. Moreover, as concerns Sub-Saharan cities, the coupling of climate change and rapid urbanization places increased strain on the urban planning and management capacity of local authorities (O'Brien et al. 2012).

Firstly, a large number of potential climate change victims is concentrated in cities, as are fundamental assets and activities for the production of a large part of national wealth. At the same time, urban development is both one of the main causes of climate change and one of the non-climate factors destined to exacerbate the effects of climate change. In addition, cities hold a concentration of capacities and resources for innovation, and are therefore privileged places for the elaboration of possible solutions to the emerging challenges, i.e. adaptation.

As regards the potential of intervention, it should be noted that urbanization itself is not always a driver of increased vulnerability. Instead, the type of urbanization and the context in which urbanization is embedded defines whether these processes contribute to an increase or decrease in people's vulnerability. The ability to carry out urban planning in an effective way is part of local capacity for adaptation, but it needs time to produce significant effects (Cardona et al. 2012). There

is widespread consensus that land-use planning and ecosystems management have beneficial effects in terms of providing environmental services that are crucial to supporting people's livelihoods as well as disaster risk protection services for infrastructure, water resource management, and food security (Lal et al. 2012). Furthermore, urban planning has the potential to create synergies between climate change adaptation and mitigation measures, while the importance that the choice of one urban form over another can have in terms of improving adaptive capacity and the reduction of GHG emissions is more controversial (O'Brien et al. 2012).

The most common approaches for mainstreaming adaptation in urban development and environmental management draw upon the well-established field of sustainable urban development (Cohen et al. 1998) and the more recently developed field of urban resilience (Pelling 2003; Davoudi and Porter 2012). Work streams can be distinguished that concentrate on various aspects of the urban reality and require the contributions of three different disciplinary groups: applied technological and infrastructure-based approaches; human development and vulnerability reduction; and investing in natural capital and ecosystem-based adaptation. The IPCC (Lal et al. 2012) suggests combining the contributions of these streams, since all three address complementary and useful aspects for effective adaptation.

In fact, what is most important is reinforcing the capacity of administrations to manage the uncertainty surrounding future changes and to uncover issues of justice and fairness embedded in the procedures for decision-making and the distribution of burdens and benefits.

As concerns the first point, the literature on adaptation (ibid.) converges on the following points: (i) investment in improved knowledge of local climate change effects; (ii) integration of available information into decisions; (iii) in the absence of robust information, consideration of *no or low regrets* strategies; and (iv) preference for reversible interventions and flexible decision-making processes in order to allow for ongoing adjustment as new information becomes available.

The second point recalls the broadly discussed question *planning for whom?* Although addressing such a question is beyond the limits of the present text, it must be noted that any effort to adapt to climate change is destined to fail if it does not take into account the fact that any policy has differential impacts across temporal and spatial scales as well as social groups. As remarked by the IPCC (Cutter et al. 2012: 320), there is an important gap in adaptation research as regards "the mechanisms or practical actions needed for advancing social and environmental justice at the local scale, independent of the larger issues of accountability and governance at all scales".

7.5   Concerns and Hopes for Adaptation Mainstreaming in Sub-Saharan African Cities

A variety of lines of reasoning converge on the importance of the local dimension in determining the efficacy of adaptation mainstreaming in urban development and environmental management policy and planning.

First, it is fairly obvious that the "culture of planning" of a particular place will heavily influence the possibility of practicing the mainstreaming approach as opposed to engaging in special actions, and will determine the content of adaptation. Friedman (2005) sought to typify urban planning in Africa on the basis of a few characteristics that the cities of the continent have in common: average urban growth of at least 5% annually; implosion of the informal economy upon which the urban poor depend for their survival; financial incapability of adequately servicing the population; and allocation of the majority of the land without regard for regulations and planning standards. It is therefore appropriate to ask whether it makes sense to proceed with the mainstreaming of adaptation within the context of urban plans that are usually in default of implementation.

Nevertheless, mainstreaming across different sectors (horizontal linkages), which is fundamental when addressing urban issues, is certainly more practical at the local level since conflicts between competing priorities are more evident and shared interests in avoiding socio-ecological crises are stronger among actors who co-habit the same place. From this perspective, it is essential that the implementation of mainstreaming includes participatory practices capable of involving the population that most depends on natural resources and is therefore most likely to suffer from the effects of climate change.

However, sectoral mainstreaming at the national level is necessary in order to create a favorable context for the sustainability and up-scaling of successful local level practices (vertical linkages). In this respect, the local dimension can also represent a formidable resource in terms of guaranteeing that mainstreaming occurs from the bottom-up. The conflict between national interests in the city as a motor of economic growth and the interests of the majority of the urban population, which sees the city as a resource for carrying out their own life plans, is inevitable and particularly relevant in Eastern Africa. However, the sharing of a common space renders negotiation between the two parties of reciprocal value and to a certain extent facilitates the identification of win–win solutions.

Lastly, there is an important obstacle to the adoption of the mainstreaming approach to adaptation to climate change and variability in least developed countries. The concern in these countries is that the choice of mainstreaming implies a reduction of the funds dedicated to adaptation (Michaelowa and Michaelowa 2007) or their absorption within development funding and the risk that they will be directed to other objectives (Yamin 2005). In addition, there is concern that donors may use adaptation mainstreaming to impose certain conditions (Gupta and van de Grijp 2010). This obstacle also arises between national and local governments, particularly under conditions like those mentioned in Sect. 7.3.2.

In conclusion, adopting the mainstreaming approach to climate change adaptation in Sub-Saharan cities is far from a simple choice. However, in our opinion it is the best option because, notwithstanding the above mentioned difficulties and risks, mainstreaming offers a unique opportunity to reframe urban policy and free it of the paradigms of modern urban planning, allowing it to pursue promising new directions in the sphere of African urban thought (Ricci 2011).

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