Between Urban Transformation and Everyday Practices – Participation and Co-Production in the City of Tarija, Bolivia

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1 ABSTRACT

By 2050, around two-thirds of the global population will live in an urban environment. Urban growth is currently prevailing in the developing world, and in this context informality is seen as a general mode of urbanisation. The patterns of growth vary regionally, and the resultant urban fabric is expected to become more complex in various world regions in the years to come. In addition, not only are many regions facing dramatic and unforeseeable changes in the environment, but non-renewable resources are also becoming increasingly scarce; thus, concerns regarding sustainable and resilient development have been internationally voiced. Therefore, understanding and managing urban growth has become of general concern to a wider public.

In particular in the Global South, a dichotomy between formal and informal urbanisation has prevailed that has hindered a sustainable and resilient development in various ways. What comes to mind, here, is the often-used image of a São Paulo favela segregated from the city’s wealthier neighbourhoods—a common phenomenon in many cities of the developing world. Against this background, many efforts have taken a more social and political approach in order to overcome this dichotomy and, thus, to promote more inclusive development—a cities for all approach. At the core of these approaches are co-ordination and communication between top-down and bottom-up approaches, the reduction of tensions between formally and informally developed urban areas, and modes of participation and co-production that consider local action as well as long-term and large-scale effects. However, what does participation and co-production mean and which are the framing conditions under which they can be implemented? The paper pursues these questions for the medium-sized City in Tarija, Bolivia, where a massive urban expansion has overwhelmed formal planning instruments in recent years. Moreover, it aims to contribute with practical experiences to the conference on how social segregation in fast growing city regions could be overcome.

The paper describes Tarija’s urban expansion from a historical perspective and identifies critical environmental as well as social challenges as well as the shaping dynamics. Furthermore, the literature and development plans review is enhanced by semi-structured interviews and by two transdisciplinary workshops that where held in 2018, in the city of Tarija, in the framework of a real-world laboratory. This paper argues that urbanisation as it transpired in Tarija was highly inefficient and that the main beneficiaries were land traffickers, which has promoted the formal/informal dichotomy even further. The paper discusses three main points to tackle this issue. First, it identifies an institutional gap between the central and local government, which is considered the main cause for this formal/informal dichotomy. Second, it proposes the real-world laboratory as a more dynamic and adaptive instrument for urban development than formal planning, as well as a mediator between top-down and bottom-up approaches. And third, it discusses the framing conditions under which informally developed urban areas could be further developed.

Keywords: adaptive urbanism, informal settlements, Latin America, Urbanisation, real-world laboratory

2 INTRODUCTION

By 2050, around two-thirds of the global population will live in an urban environment. Urban growth is currently prevailing in the developing world, and in this context informality is seen as a general mode of urbanisation (Roy 2005). The patterns of growth vary regionally, however, and the resultant urban fabric is expected to become more complex in various world regions in the years to come. Not only are many regions facing dramatic and unforeseeable changes in the environment, but non-renewable resources are also becoming increasingly scarce; thus, concerns regarding sustainable and resilient development have been internationally voiced (UN-Habitat 2014 & 2017, WBGU 2016). As a consequence, understanding and managing urban growth has become of general concern to a wider public.

Latin American rates of urbanisation are among the highest in the world, and it is expected that the region's cities will continue to grow (UN-WUP 2018). The increasing social inequality and environmental damage...
following this trend have been identified and widely discussed (Butterworth 1981, Angotti 1995, Hall/Pfeiffer 2000, Rodgers et al 2012), especially at UN-Habitat III in Quito in 2016. What comes to mind, here, is the often-used image of a São Paulo favela segregated from the city's wealthier neighbourhoods – a common phenomenon in many cities of the developing world. In this context, two points of view are commonly discussed: one of crisis and misery, and one of heroism; both, however, contemplate informality as fundamentally separated from formality (Roy 2005, p. 148). For instance, spatially the informal city is differentiated as the urban poor build their own city with no regards to existing formal planning and regulatory frameworks. Furthermore, the urban poor are excluded from trading their assets in the formal sector, which also strengthens this fundamental separation. Challenging this dichotomy of formality and informality, Roy argues that urban informality can be seen as a series of transactions that connect different economies and spaces to one another – an organising logic – and that learning from emerging solutions should be of particular interest to urban studies (ibid.).

Likewise, McGuirk (2014) argues for a 'learning from approach' and, in the latest research, discusses radical solutions in Latin American cities that address rapid urbanisation and resource scarcity with approaches that are both more social and political; approaches that question the modes of modernist planning that have dramatically shaped Latin American cities until recently. With a 'needles instead of scalpels' approach, urban informality has been addressed in various ways (McGuirk 2014, p. 14f); for instance, the transformation of the cities of Bogota and Medellin in Colombia. Two aspects were key to this development: firstly, civic education programmes for rehabilitation of the public realm, as introduced by the Mayor of Bogota, Antanas Mockus; secondly, innovative mobility concepts that allowed for the creation of social relations through the linkage of the informal city with the formal city (McGuirk 2014). In particular, Alejandro Aravena's approach to social housing in Chile has been much discussed. He proposed an open-ended approach that provided families with half of a house, leaving the other half to be built according to their means and within a defined structural framework; moreover, where public money should be spent was co-decided (Aravena/Iacobelli 2016). At the core of these approaches are co-ordination and communication between top-down and bottom-up approaches, the reduction of tensions between formal and informal urban areas, and modes of co-production that consider local action as well as long-term and large-scale effects (McGuirk 2014, Aravena/Iacobelli 2016, Brillembourg/Klumpner 2019, Forman/Cruz 2019).

The paper operates on the premise that there are uncertain and manifold outcomes to planning. As such, planning should not be thought of as absolute, but rather as an open process of discovery – but under which framework could such a discovery process be operationalised? Three points are relevant to address this. Firstly, cities need to be thought of as a process where decisions are made along the way involving manifold perspectives as well as sustainable and resilient development (WBGU 2016). Secondly, local actions and long-term and large-scale effects need to be considered together (McGuirk 2014, Aravena/Iacobelli 2016, Moroni/Cozzolino 2019, Krebs and Tomaselli 2019). Thirdly, urban studies could learn from on-site and problem-solving experiences (Roy 2005). These aspects are put into relation with the urban expansion of the city of Tarija in Bolivia, which is described from a historical perspective in Section 3. In doing so, this paper identifies a contested situation between spaces within formality and spaces within informality in Tarija (Section 4). In this context, the paper sees overcoming this dilemma as a central challenge and, as such, proposes a more adaptive framework for Tarija in Section 5 based on a transdisciplinary approach.

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### 3 URBAN GROWTH IN THE CITY OF TARIJA, BOLIVIA

The city of Tarija is located in a valley in the south of Bolivia, about 1,850 metres above sea level, in an area that is defined by the South American Andean Mountains. Founded in 1574, the city alongside the Guadalquivir River was a strategic location for the expansion of the Spanish Empire towards the south. The city's urban layout and expansion followed a traditional grid-iron urbanism, with a north-south and east-west...
orientation of its streets, typical to monocentric Latin American cities. This development can be better understood from three periods of time: the colonial, from 1574 to 1825; the republican, from 1825 until 1952; and the modern, from 1952 onwards (Lea Plaza Dorado et al 2003, Trigo O'Connor d'Arlach 2017, de Mesa Figueroa et al 1998).

During colonial and republican times, city development was framed by the Spanish semi-feudal regime. Commodities were produced in rural areas and traded in the city, and housing and political participation in the city was mainly reserved for aristocrats and wealthy members of society. In 1825, Bolivia proclaimed its independence from Spain and became a republic; however, the semi-feudal regime continued to define society as in colonial times (Trigo O'Connor d'Arlach 2017). Indigenous and farmers' communities lived and worked in haciendas in rural areas, with no right to own property (Larson 2017). Urban growth was low in terms of the surface area the city covered; in terms of population and built structure, however, the city became denser as the plots were subdivided due to growing families and migration (Lea Plaza Dorado et al 2003). In the early 1930s, this dynamic was slightly disrupted by an increase in migration triggered by the discovery of oil in the southern region of Gran Chaco. The new neighbourhoods with lower population densities that emerged around the city's centre (GAMT 2008) are now considered as the formal city as they concur, to a certain degree, with zoning plans and building codes.

In 1952, Bolivia saw great transformations in citizenship, political participation, land distribution, and state control of the national economy and natural resources (Vargas Gamboa 2016, Urioste 2012). Furthermore, the right to vote was universalised, which gave women and indigenous and farmers' communities a new role in society. After the agrarian reform in 1953, everyone was able to own property. Moreover, the state provided fiscal land to families as non-transferable and indivisible private property (Urioste 2012). However, over time these large properties were either sold to developers at low prices or sub-divided by the families themselves. Particularly during the dictatorial military regimens of the 1970s and early 1980s and the neoliberal governments in the early 1990s, land with no arable value from indigenous and farmers' communities was freely distributed to political supporters and foreign investors. This led to the establishment of a land market that freely operated on rural territory with few governmental constraints (Urioste 2012, pp. 61-64). A lucrative business developed for those who re-sold land they had acquired from the state for free or for very little money. Moreover, in the mid 1990s, the election of a neoliberal government led to the closure of state-owned mines in the city of Potosí. As a consequence, thousands of unemployed miners migrated in search of new economic opportunities. This, combined with the discovery of natural gas reserves in the Department of Tarija, led to a pattern of heavy migration towards the city of Tarija. As a result, the existing regulatory frameworks and municipal capacities were overwhelmed by the influx and the compact structure of Tarija collapsed (PNUD 2015, GAMT 2008 & 2016, GADT 2015, Vargas Gamboa 2014).

In 2006, a socialist government, represented by Evo Morales, assumed office, and since then Bolivia has seen profound socio-political changes (Lazar 2013). Furthermore, Bolivia was termed a pluri-national state in 2007 with 34 indigenous nations (Estado Plurinacional de Bolivia 2007). Of particular relevance to urbanisation in Bolivia were shifts in policy addressing land ownership and housing as they reacted to the great demand mentioned above. A revised agrarian reform was promulgated to tackle neoliberal decisions and corruption from previous periods; now the state had the capacity to secure land for indigenous communities and to expropriate unproductive lands so as to avoid land speculation (Urioste 2012, p. 64). Moreover, the construction of social housing was intensified and accessible financing systems were developed (AEVIVIENDA 2019). Further, the state, through its Ministry for Development Planning, promulgated the law N° 247, which addresses regularisation of land tenure in urban environments and the right to adequate housing (Ministerio de Planificación del Desarrollo 2012). The law did not only apply to urban environments, however, and settlements and squatters outside the urban radius could also legalise tenure after demonstrating five years of permanent residency (ibid., p. 7). In consequence, municipal zoning plans experienced modifications and urban radiuses were expanded several times, but the monocentric structure remained. Furthermore, legalisation processes led to heavy discussions. For instance, urbanisation of the municipal park ‘Las Barrancas’ in Tarija, after being squatted for more than five years, was heavily criticised by the general public (El Periódico 2019). It was seen as an invasion of public and private land and counterproductive to development, which remains a general discussion up to now and often carries a discriminatory tone. However, a critical issue is missing in this point of view: the main benefactors of shifts in policy were land speculators and land traffickers, as people who previously did not have the resources to
buy land could afford it now and rural land could be transformed into urban without having infrastructure or being envisioned as such (Vargas Gamboa 2014).

It was during this period that Tarija grew the most in terms of covered surface area, and its expansion was primarily shaped by land speculation and with little institutional control (Bayro-Kaiser, forthcoming). This has had critical effects on the natural environment, as land speculation has deprived the city of valuable natural land and bodies of water, and biodiversity has been destroyed in the process. As Figure 1 shows, the emerging surroundings are approximately four times larger than the actual consolidated city. These emerging surroundings are, nowadays, considered as informal settlements. In conclusion, analysing urban expansion in Tarija from a historical perspective has shown the tension between the formal and informal city, and that the spaces in between are contested. Moreover, through the analysis it can be visualised that the city of Tarija is predominately informal and that formal planning and regulatory frameworks played a minor role in the recent expansions.

Figure 1: The consolidated city of Tarija, urban expansion, and localisation of the community of San Andres. Source: DigitalGlobe 2019 (edited)

The year 2025 marks the bicentennial of Bolivia's founding. For this occasion, the Ministry of Autonomy of the Pluri-national State of Bolivia proposes a patriotic agenda with thirteen pillars for development towards a dignified and sovereign Bolivia, based on international agreements on sustainable development. The Ministry, moreover, has identified the role of each level of government for the operationalisation of these pillars (Ministerio de Autonomías Estado Plurinacional de Bolivia 2014, p. 13-14). At the centre of this agenda is the promotion of an inclusive, participative, and democratic society and nation – without discrimination, racism, hatred, or division. Furthermore, the agenda proposes an inclusive and strategic collaboration between the four levels of government: central, departmental, municipal, and native indigenous peasants. In particular, the key role of the autonomous territorial entity (ETA) in achieving such goals is stressed. The pillars range from the eradication of extreme poverty through universal provision of basic infrastructure, the right to adequate housing, and the protection of the natural environment. It is under this scheme that Tarija is to be further developed and, thus, existing planning and regulatory frameworks ought to be reformed accordingly.

4 BETWEEN URBAN TRANSFORMATION AND EVERYDAY PRACTICES

In Tarija, two realities clash: the formal, which is within the urban radius, and the informal, which has emerged outside of the urban radius. Furthermore, there is no institution responsible for the spaces in-
between the urban and the rural. The central government attends to the needs of the rural dwellers, whereas the municipal government only to those within the urban radius. As a consequence, people who bought a parcel of land in the informal market lack formal property titles and are unable to develop their habitat in a formal manner; thus, dwellers of these contested spaces find themselves between constitutionality and illegality (Vargas Gamboa 2016). The approach of the local government has been to modify zoning plans and impose building codes, i.e., to expand the urban radius in order to legalise tenure. However, building codes do not concur with existing practices of construction and, in this respect, are outdated; this also hinders the process of legalisation. Moreover, issues such as infrastructure and liveable environment are rarely discussed. The stages of development are visualised in Figure 2. From the city centre towards the periphery, development has mainly happened on a self-organised and incremental basis, i.e., in an informal manner. This development does not have the scale or complexity of cities such as Sao Paulo or Mexico City, but it concurs with the perspectives initially discussed (see Introduction). A fundamental separation between the formal and the informal city can be observed in Tarija, and this has been underpinned by associations of informality with disorder, poverty, criminality, and vulnerability by the general public (El Pais 2013 & 2019, El Periódico 2019). Furthermore, planning in Tarija has mainly followed a top-down approach of imposing formality through the restructuring of existing settlements in order to include them in municipal zoning plans (Bayro-Kaiser, forthcoming).

Figure 2: Different stages of self-organised and incremental development can be found in the informally developed areas from the centre towards the periphery. Source: Author

In this contested situation, a desired and undesired situation is constructed: from an informal perspective, the formal is desired as it is the solution to everything that is wrong (especially infrastructure), and from a formal perspective, the informal is undesired as it risks everything that has been solved (disorder, criminality, and land encroachment, among others). This binary point of view, however, hinders addressing the complexity of urban expansion and, in turn, development. Moreover, this critical construction often leads to the social and spatial segregation of the informal city and, thereby, to the closure of the formal city from the emerging surroundings – a situation of contestation that can be observed in many cities around the world. Following this reflection, a central question arises: what does participation and co-production mean and which are the framing conditions under which they can be implemented?

5 CITIES FOR ALL THROUGH TRANSDISCIPLINARITY

This research draws its findings from a real-world laboratory approach in the city of Tarija initiated in 2018 – the Real-World Laboratory: San Andrés and surroundings. This approach was proposed as framework to understand and manage urban growth in Tarija and was developed in collaboration with the UAJMS University of Tarija, the Municipal Government of Tarija, and the RWTH Aachen University. As such, it opened the planning discussion to manifold perspectives by gathering researchers from academia and actors from practice and civil society, and has had a co-ordinating role between formal institutions and informal organisations and initiatives in Tarija. It aims to reform existing planning and regulatory frameworks in Tarija to be more open to what is on offer in informal areas and, also, to raise awareness within the general public regarding sustainable and resilient urban growth. Here, resilience is understood as a precondition for sustainable development and as being able to respond to changing conditions, both reactively and proactively (Bott et al 2019, p. 13f); thus, openness, responsiveness, and the ability to learn and to adapt are central to this approach. It focuses, in particular, on San Andres Road, which connects the urban centre with the rural community of San Andres (see Figure 1), and addresses neighbourhood, city, and regional development in Tarija. This initiative is at its infancy and, therefore, the discussion presented here cannot be seen as concluded and, instead, should be seen as a contribution to more open discussions around development in
Within the laboratory’s first year of operation, two transdisciplinary workshops were held. They raised questions of regional, city, and neighbourhood scale addressing issues such as infrastructure, mobility, housing, public space, and natural environment. The workshops were visited by researchers and students from the collaborating universities, representatives from the municipal government, representatives from the farmers and the neighbourhood associations, practitioners from various disciplines, and the general public. In particular, the dialogue between the municipal government and citizen-driven initiatives was of importance. During the workshops, input on the status-quo of urbanisation in Tarija was given by institutional actors, which was then discussed based on on-site surveys as well as residents' testimonies and participation. As described in Section 2, urban expansion in the city of Tarija is shaped by land speculation, which has been out of control for the last three decades and has thus deprived the city of valuable natural land. Furthermore, urbanisation has destroyed important water bodies and biodiversity has suffered greatly. This is, thus, a highly inefficient way of achieving urbanisation. In response, two overall goals were formulated: firstly, restoration and preservation of vital water-bodies and the region's biodiversity, and, secondly, spatial and social integration of the informal city. To achieve this, transformative actions and everyday-life practices have to be negotiated on various spatial scales and levels.

Additional effort was put into round tables, where the overall goals were intensively discussed and the strategies and instruments needed to achieve them were elaborated. To be more specific, a multi-scale model for development was proposed in which the real-world laboratory plays a central and mediator role on the city level (see Table 1). The inclusion of manifold perspectives is possible when the regional, city, and neighbourhood development is considered together. Moreover, various fields of action were identified. In this particular context, there are five: development, biodiversity, mobility, inclusion, infrastructure, and densification. They all have to be thought in accordance to national, regional and local development and zoning plans; however, plans need to be updated and, thereby, become more adaptive to unforeseeable changes. Besides development and zoning plans, (revised) urban codes and co-production are important instruments. They allow, firstly, for a relational production of habitat and, secondly, a learning process. The discussions concluded with an ambitious agenda combining local actions and long-term and large-scale effects.

The need for housing and the promotion of low-density development in Tarija created favourable conditions for a profitable land market; therefore, actors involved in land speculation and development have promoted this type of model. The laboratory, which challenges this model, puts tackling land speculation on the agenda of the local governments. In doing so, it proposes densification and adaptation of existing structures as a
more economical and sustainable way of achieving urbanisation. It is, however, important to consider site-specific circumstances, and trade-offs between institutions, actors, and future dwellers. The co-operation of national, regional and municipal governments, and indigenous and farmers' organisations is fundamental to this approach. Moreover, first experiences have shown great acceptance by the public, as different actors were able to stress their concerns and to participate in discussions previously unreachable to them. However, two risks were identified. Firstly, corruption and client-politics are a common thing and they hinder inclusive and community-based development. Secondly, land speculation, which promotes individual interests over the common good has severely damaged vital water bodies and biodiversity and has been an attractive business in Bolivia. Therefore, creating an institution with the necessary legal competences to address contested spaces and capable of mediating between top-down and bottom-up approaches is proposed; and as such, the real-world laboratory will continue to play a crucial advisory role.

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Table 1: Strategies, instruments, and agenda. Open planning framework for the city of Tarija. Source: Author (based on Kaiser and Bayro-Kaiser 2019)

6 CONCLUSION
The formal/informal dilemma outlined in Section 4 is a consequence of an institutional gap: the central government manages the rural land and the local government manages the urban areas; thus, the contested spaces cannot be developed and an undesired situation is produced. This has had severe effects on the natural environment and has produced discrimination within society towards newcomers. The paper argues that in order to sustainably develop the city of Tarija, and cities that face similar challenges, it is crucial to overcome this dilemma and that municipal planning and regulatory frameworks should be reformed towards a more-integrated approach (as presented in Table 1). In particular, development should be looked at from various spatial scales and levels, transformative actions should be considered, and everyday-life practices included as well. This is essential for promoting an open city discourse, and underscores the importance of a median between top-down and bottom-up approaches. So far, this has not been achieved institutionally in Tarija and this initiative remains an informal instrument. As such, however, it is more responsive and capable of producing knowledge in the short-term. Therefore, it has been anchored in teaching and research activities at the local university where, we believe, it will contribute more efficiently to structural changes in local institutions as well as in the general public opinion towards informal urbanisation. Both dimensions are important when thinking about a more adaptive urbanism. Above all, the promoted transdisciplinary discussions and transparency have dramatically changed the mindset around development in Tarija, which has set off a new dynamic. In the future, different perspectives will have to be integrated, the natural environment will have to play a role, and development plans will have to be socialised before being operationalised. This means, development will have to be negotiated on various spatial scales and levels, but also how knowledge—that sustains our actions—is produced and acquired needs to be discussed.

7 REFERENCES
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Between Urban Transformation and Everyday Practices – Participation and Co-Production in the City of Tarija, Bolivia


