

# **Thinking globally, acting locally: The cooperation project between the cities of Tangshan and Malmö as a case of sub-national global governance for sustainability**

**Author: Roman Serdar Mendle**

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## **Abstract**

Rio+20 left as an aftertaste a blend of confirmed pessimism and moderate hope. While successes and failures of the summit are debatable, its results reaffirmed a previously perceived need to strengthen governance for sustainability beyond the macroscopic level. This necessity led to an ongoing trend to focus attention on cities as centres and agents of change, manifested in a multitude of side events to the Rio+20 summit on eco-cities, urban sustainability and similar concepts. The obvious advantage of cities in fostering sustainability is the manageable scale and complexity of local sustainability challenges. The difficulty of city-level action for sustainability is, however, to keep the bigger global picture in mind and not to wear blinders of localism. In short, the challenge is to "think globally while acting locally". This paper argues that local action for sustainability needs to go hand in hand with a strengthening of international ties between municipal entities to bring global governance to the sub-national level. It features a case study of the Swedish-Chinese "TangMa Training Project for Cities of Tomorrow". Based on ongoing research, the paper explores if and how successfully the cooperation between Malmö and Tangshan contributes to a sub-national yet globally oriented form of sustainability governance.

## **About the Author**

Roman Serdar Mendle graduated from Ruhr-University Bochum in 2010 with a Bachelor of Arts in Economics and Politics of East Asia. He is currently pursuing a Masters Degree in Environmental Studies and Sustainability Science at the Lund University Center for Sustainability Studies. His research foci include global sustainability governance, urban systems and energy issues in China and North East Asia.

## Table of Contents

<b>1. Introduction .....</b>	<b>2</b>
<b>2. Urban Policy Mobility, Transnational Municipal Networks and Bilateral Partnerships.....</b>	<b>5</b>
2.1 Urban Policy Mobility.....	5
2.2 Transnational Municipal Networks.....	6
2.3 Bilateral Municipal Partnerships.....	8
2.4 Defining transnational municipal governance .....	9
<b>3. Paradigmatic shift: From “sustainability fix” towards strong sustainability.....</b>	<b>9</b>
<b>4. Research tool for transnational municipal governance regarding a global sustainability transition .....</b>	<b>11</b>
<b>5. Issues for Case Selection: Malmö and Tangshan .....</b>	<b>13</b>
<b>6. Conclusion.....</b>	<b>15</b>
<b>7. References .....</b>	<b>16</b>
<b>Appendix .....</b>	<b>19</b>

## 1. Introduction

Those who observed or attended the 2012 United Nations Conference on Sustainable Development (Rio+20) either did not expect much advancement towards a global sustainability transition, or they were disappointed reading the final document. The final outcome document *The Future We Want* “recognizes”, “reaffirms” and expresses “deep concern” for challenges to global sustainability, but hardly “decides” or “adopts” concrete solutions (UNCSD, 2012). In the words of environmental journalist Geroge Monbiot, the document is “283 paragraphs of fluff” that implicitly defines sustainability as “sustained growth” (Monbiot, 2012), a statement that represents the perspective of those that hope for a global sustainability transition. For those who are analyzing global environmental governance, the text should be considered less for what it explicitly states, but rather about the “elephants in the room” at the Rio+20 Summit, addressed at numerous side events, but ignored in the formal negotiations (Fostorp, Mendle, Roddar, & Tovaas, Forthcoming). These were issues too controversial or sensitive for international diplomacy, such as the environmental limits of growth, or the unequal global distribution of political power relations, socio-economic capabilities and environmental responsibilities, inherent in international politics.

What does this perceived failure of international negotiations mean for global sustainability governance? It means that the Rio+20 Summit, in the eyes of many, affirmed what can be categorized as critical views (Biermann & Pattberg, 2012, p. 5) on the international level of global sustainability governance. This promotes a trend that shifts attention and hope to actors other than national governments and their international organizations: youth activists and local action initiatives (Fostorp, Mendle, Roddar, & Tovaas, Forthcoming), as well as local governments, and especially, municipalities. It is the latter group of these “carriers of hope” that are the concern of this paper.

The trend to promote municipalities as change-agents is not a direct outcome of the Rio+20 conference but a trend that is often traced back to the early 1990s: the time of the first United Nations Conference on Environment and

Development (UNCED) and the adoption of the Agenda 21 (e.g. Devers-Kanoglu, 2009; Johnson & Wilson, 2007; Otto-Zimmermann, 2012). Since then, municipalities have increasingly organized themselves in networks and partnerships that are part of a growing field of transnational governance (Biermann & Pattberg, 2012, p. 2), driven by sub-national government and local-scale planning and action. A more recent development is, however, the recognition of municipalities as agenda-setters and drivers of discourse and debate, in addition to their capabilities for local action. Robert Verchick wrote ten years ago after the Johannesburg Summit of 2002:

“Being a local government at a UN conference was like sitting at the kids' table during a wedding banquet. The grown-ups chinked glasses and talked about challenges for the future, while you slouched in your seat, kept your hands to yourself, and prayed the waiter would bring something you liked. [...]

In Johannesburg, for the first time at a UN summit, delegates of local government were provided designated seating at the official plenary sessions. And local governments were promoted from "nongovernmental organization" to "major group." (Verchick, 2003, pp. 471–472)

This is due to the assumption that municipalities as representing both government and local implementation to “think globally and act locally” – which is, as Scott Bernstein and John Dernbach wrote shortly after Johannesburg,

“more than a clever slogan. Sustainable development means nothing if it does not mean sustainability in communities. Likewise, a transition to sustainability in most cities and other communities would mean a transition toward sustainability in general.” (Bernstein & Dernbach, 2003, p. 501).

Now, another decade later and with growing disappointment in higher levels of government, the role of municipalities is increasingly perceived to be Janus-faced: they are required to not only implement decisions handed to them from higher levels of government in a local context, but to also act as decision makers, innovators and drivers for the global sustainability discourse in addition to their traditional role. So today, the interpretation of the first “thinking globally” part of the slogan goes beyond what Bernstein and Dernbach imply in the above quote: that a transition to global sustainability would be brought about by merely the sum of all local level actions. Municipalities, so goes the new normative request,

have to shape a global discourse on what has to be done to bring about a transition from the current paradigm of unlimited growth and ignored global inequalities to substantial global sustainability.

The problem still is, as Verchick wrote, that thinking globally while acting locally is hard for actors on both the international and the sub-national municipal level.

“Players on the international stage are good at global thinking, but weak on local action [...] Players on the local stage have their own foibles. Consumed with road work, sanitation, police protection, and myriad other services, it is little wonder that city councils emphasize the local consequences of local action, with little concern for regional or international effects.”(Verchick, 2003, p. 471)

Not wearing blinders of localism that undermine efforts for a transition to sustainability means that municipalities have to engage in the discourse on defining sustainability and the creation of transformative concepts that bring about more progressive results than the international negotiations did at the Rio+20 Summit. They have to engage in transnational municipal governance that is fruitful for a paradigmatic shift towards global sustainability.

This paper is concerned with the research agenda framed by the question of how transnational municipal governance can contribute to achieving a global transition towards sustainability. More specifically, it will propose a research tool for the field of transnational municipal governance, designed to evaluate how and how much a case such as a municipal partnership or network, contributes to the normative goal of going beyond international negotiation outcomes to date and bringing about a global transition to sustainability. The following section will look into three strands of literature that deal with the concepts of Urban Policy Mobility, Transnational Municipal Networks and bilateral municipal partnerships, in order to arrive at a comprehensive understanding of transnational municipal governance. Section 3 of this paper will introduce a research tool as described above. Finally, section 4 will explain how this research tool can be used for a concrete case, i.e. the “TangMa Training Project for Cities of Tomorrow” of Malmö in Sweden and Tangshan in China.

## 2. Urban Policy Mobility, Transnational Municipal Networks and Bilateral Partnerships

Across different disciplines, there are several strands of literature concerned with or related to different aspects of transnational municipal governance. Three of these literature strands were chosen for this paper to conceptualize transnational municipal governance, working with the terms *urban policy mobility*, *transnational municipal networks*, and *bilateral municipal partnerships*. All these terms are, in essence, concepts of interaction of individual or collective actors, involved with local governance in their cities as well as in exchange, discourse or cooperation with their global peers. What distinguishes them is the form of interaction they each concentrate on, the multitude of actor units they address, and the level of transnational municipal governance at which they operate, i.e. the macro-, meso- and micro-level. They all provide valuable insights into different aspects of transnational municipal governance, and raise different issues (Fig. 1) that are part of the research agenda of this paper.



Figure 1: Word Cloud of top 25 words related to inter-city relationships in the combined titles of literature covered by this paper. See reference list below for full titles. Source: Created on [www.wordle.net/create](http://www.wordle.net/create). The graphic was adjusted: using the top 30 words, the terms “Rio”, “China’s”, “Climate”, “Issue”, and “Environmental” were removed to get to the 25 more relevant ones.

### 2.1 Urban Policy Mobility

Of the three mentioned strands of literature, the one dealing with **Urban Policy Mobility (UPM)** accounts the most for the complexity of transnational municipal governance. Nick Clarke defines UPM as follows:

“Urban policy mobility can be viewed as a constructed and contingent field of connection, exchange, and circulation; a field populated by numerous individuals, cities, and their networks; a field structured by the events and publications of associations and governmental organizations; a field in which urban questions, problems, solutions, and expertise get formulated and struggled over” (Clarke, 2012, p. 32).

UPM is hence a macro-level concept that includes a maximum of individuals and organizations engaged in a global discourse on urban issues. It works as the umbrella that incorporates all other, more narrow concepts of transnational city-level governance. Its strength is that it emphasizes the global discourse aspect of transnational city level interaction, replacing notions of institutionalized exchange of best-practices and policy packages with flexible forms of policies, that get transformed and change as they move (Clarke, 2012, p. 27; referring to McCann & Ward, 2010, 2011; Peck & Theodore, 2010; Ward, 2006). This makes UPM the concept, out of the ones mentioned above, that gets closest to describing as a whole the global city level discourse that needs to be strengthened if cities are to avoid wearing blinders of localism (See introduction of this paper).

A difficulty in working with this concept, especially for field research, is however, the global complexity it acknowledges. It will be very hard, to say the least, for a field researcher to do representative research based on global UPM. But the concept can be used as a theoretical basis for more specified, narrowed down understandings of global city-level relations.

## 2.2 Transnational Municipal Networks

The study of **transnational municipal networks (TMNs)** is dealing with units of analysis that are less complex. It focuses on member municipalities that tend to be treated as collective actor units and addresses more processes of interaction structured by more formally institutionalized networks. Examples of TMNs reach from smaller regional networks like the Alliance in the Alps or the Union of Baltic Cities, to larger regional networks like the Climate Alliance (Klima Bündnis) with over 1000 members in Europe to global networks like the International Council for Local Environmental Initiatives (ICLEI; also often referred to as ICLEI – Local Governments for Sustainability) (Bulkeley et al., 2003, pp. 242–243). Similar to UPM, TMNs as a concept incorporate a notion of

creation and diffusion norms, knowledge, and policy. However, studies suggest that besides these processes, TMNs feature a more political agenda – nationally and internationally. Michele Betsill and Harriet Bulkeley found in a study of ICLEI's former sub-network Cities for Climate Protection (which has been replaced with the GreenClimateCities program launched during the Rio+20 Summit) (ICLEI, 2012), that municipalities „engaged with the network are mobilized as much by the financial and political resources it offers as by processes of knowledge creation and norm generation“ (Betsill & Bulkeley, 2004, p. 472). It is important to note that „political resources“ attractive to municipalities and individual actors entail both opportunities for participation in global governance as well as to promote specific interests within their local political arena (Betsill & Bulkeley, 2004, pp. 480–481)

In adding this political aspect to the UPM-like idea of creating, diffusing and transforming norms, knowledge and policies, TMNs account for power relations, advocacy and other tangible interests (like finance and legitimacy) of municipalities and their individual actors engaged in transnational governance.

Therefore, the advantage of studying TMNs in the context of transnational inter-city governance is that it deals with concentrated, formal parts of the larger global UPM field. TMNs pool knowledge and interests of cities and their organizations and practitioners and focus them both on the regional and/or global macro level of global governance, as well as on the local level. In short, they serve as hubs within the more global notion of UPM. For research into how municipalities contribute to a global sustainability transition, the study of TMNs provides a meso-level concept with clearer boundaries for analysis than the UPM concept. Thus, TMN research can lead to more specific results concerning the effect and role of municipalities in transnational governance, while the diffusion and global effect of the norms, knowledge and policies resulting from municipal interactions in TMNs remains relatively perceivable.

However, an obstacle for research into on-the-ground practices of discourse and interactions between municipalities and their individual actors is the size of TMNs. Even small networks often have a three-digit number of member



municipalities (Bulkeley et al., 2003, pp. 242–243), which easily amounts to thousands or tens of thousands of practitioners covered by a single TMN case.

### 2.3 Bilateral Municipal Partnerships

Moving down one more level of analysis, there is a strand of literature that looks into **bilateral partnerships** between municipalities and their practitioners (e.g. Bontenbal, 2009; Devers-Kanoglu, 2009; Johnson & Wilson, 2006, 2007). As bilateral municipal partnerships typically feature only two municipalities and have less political weight than TMNs on a global level, a focus on bilateral partnership studies lies in learning, exchange and creation of knowledge and close-up views on dynamic relations between individuals. This focus has brought about a variety of specific aspects and issues of the practice of learning and interaction between municipalities, i.e. individuality, mutuality, and formality of learning processes, as well as the distinction between additive and transformative learning and the question of power relations and inequality in particularly North-South partnerships (Devers-Kanoglu, 2009). A relevant selection of issues will be examined in section 4 of this paper in more detail. It suffices to say here that they illustrate the usefulness of this concept in the context of this paper: On the search for cases that provide deep insights into processes of transnational municipal governance and policy mobility that answers the question of how cities can contribute to a global transition towards sustainability through interaction with their peers, it is this micro-level concept of bilateral municipal partnerships that provides the most detailed close-up view on transnational municipal governance. For this reason, the case study selected for the ongoing research project to which this paper provides the conceptual background is one such bilateral partnership between the municipalities of Malmö, Sweden and Tanshan, China called the “TangMa Training Project for Cities of Tomorrow”.

The disadvantage of bilateral partnerships is the relative disconnection of global large-scale transnational governance compared to TNMs and the UPM concept. As the main purpose of this paper is to explore the possibilities of transnational municipal governance to live up to “thinking globally while acting locally” and to contribute to a global sustainability transition, this connection has to be

conceptually re-established before a methodological analysis tool can be designed.

For this purpose, lessons can be drawn from all three concepts introduced in this section in order to get to an understanding of transnational municipal governance that incorporates the strengths of the UPM, the TMN and the bilateral partnership concepts.

#### **2.4 Defining transnational municipal governance**

Summarizing the paragraphs above, there are three main elements that can be incorporated into a concept of transnational municipal governance that serves as a framework for case specific research. The macro-level UPM concept contributes an understanding of the global complexity of transnational municipal governance and the diversity of actors involved. The meso-level study of TNMs emphasizes diffusion of norms beyond the specific case boundaries as well as the importance of organization and formalization of transnational municipal relations, within and beyond the boundaries of a specific case. And the micro-level study of bilateral partnerships between cities provides the most depth for analysis into transnational municipal relations.

Incorporating all these aspects into a working definition for further research, this paper defines transnational municipal governance as a global field of transnational relations made up of individuals and institutions that are associated with specific municipalities; these municipalities serve as a researchable units with specific micro-level interactions, embedded in a larger, informal global context of discourse and mobility of knowledge and policies.

### **3. Paradigmatic shift: From “sustainability fix” towards strong sustainability**

Before devising a tool to evaluate transnational municipal governance in regard to a global sustainability transition, it is crucial to first specify what such a transition entails. A good starting point for this is conceptualizing the current paradigm in which municipalities tend to operate. For this purpose, this paper borrows David Harvey’s term “sustainability fix” as described by Temenos and McCann:

“Municipal leaders [...] attempted to institute a relatively stable and stabilizing ‘sustainability fix’ [...] in order to maintain a delicate equilibrium between capitalist growth imperatives and environmental limits and their associated political pressures. As While et al, [...] put it, ‘The historically contingent notion of a ‘sustainability fix’ is intended to capture some of the governance dilemmas, compromises and opportunities created by the current era of state restructuring and ecological modernization ... [we interpret] sustainable development ... as part of the search for a spatio-institutional fix to safeguard growth trajectories in the wake of industrial capitalism’s long downturn, the global ‘ecological crisis’ and the rise of popular environmentalism.’” (Temenos & McCann, 2012; referring to Harvey, 1982 and; While, Jonas, & Gibbs, 2004, p. 551).

The notion of a sustainability fix as described in this quote overlaps with the criticism of international sustainability governance and the Rio+20 outcome document in the introduction section of this paper: sustainability is seen as an issue necessary to address due to socio-political and environmental pressure and as a danger to economic development, but there is no substantial challenge to the notion of unlimited growth.

The idea of a sustainability fix describes for municipalities what is essentially a “weak” view of sustainability. This concept goes back to Robert Merton Solow and, in essence, suggests that natural resources and environmental capital are substitutable with other forms of human-made capital (Solow, 1974, 1992). Weak sustainability provides the economic paradigm on which all concepts of sustainability that allow for unlimited growth are explicitly or implicitly based. In contrast, “strong” sustainability rejects the substitutability of different forms of capital due to their physical limits (Ayres, 2007). Strong sustainability is thus a paradigm that acknowledges the criticism of the Rio+20 understanding of sustainability – it acknowledges the “elephants in the room” that international negotiations so far still ignore.

If transnational municipal governance is to contribute to a transition to global sustainability, it has to bring about a concept of municipal sustainability of a scale similar to the idea of a sustainability fix, but within the paradigm of strong sustainability. The following section of this paper will propose a research tool that is designed to study cases of transnational municipal governance regarding the degree to which they fulfil this task.

#### 4. Research tool for transnational municipal governance regarding a global sustainability transition

The basic idea of the research tool specified below is using the dichotomy of weak and strong sustainability as a metatheoretical scale to evaluate the quality of transnational municipal partnership cases. Assuming that the concept of a sustainability fix, housed by the paradigm of weak sustainability, is a representation of the current status quo of municipal practice, the quality of a transnational municipal governance case (e.g. a bilateral partnership or a selection of TMN member municipalities) increases the more it contributes to finding a concept X, that is an alternative to the sustainability fix, housed by the paradigm of strong sustainability (Fig. 2).



Figure 2: Quality Scale for Transnational Municipal Governance regarding a global sustainability transition. Source: Own graphic.

This normative framework can be used to qualitatively evaluate research outcomes of municipal interaction. The key unit of analysis for such research can be defined as knowledge units, which could be anything from factual technical knowledge or skills to abstract concepts, provided it can be defined as a single learning outcome entity. Knowledge units are exchanged and transformed in processes of learning between municipalities and individuals. Therefore, learning in this paper is defined as a process of exchange and discourse that creates and/or diffuses knowledge units in the global field of transnational municipal governance.

As a next step, to translate this more general normative framework into a concrete research tool, this paper draws on two aspects of municipal learning

from the literature strand dealing with bilateral municipal partnerships (Devers-Kanoglu, 2009, pp. 206–207; see section 2.3 of this paper): (1) individual and organizational learning, and (2) additive and transformative learning.

(1) Individual and organizational learning: Devers-Kanoglu finds that some literature from the strand of bilateral municipal partnership studies deals with the question of whether the learning and knowledge creation that happens within cases happens individually or collectively, i.e. for an organization or municipality as a whole. (Devers-Kanoglu, 2009, p. 206). This notion is relevant for the research tool devised in this paper, as the more a certain knowledge unit diffuses throughout a municipality, organization and beyond, the more likely it is to become established as common practice or common view. This is important for the effect of municipal interactions, as knowledge units that diffuse widely can be considered to tangibly contribute to a transition to strong sustainability on a global scale. Hence, one criterion of evaluating research findings from cases of transnational municipal governance used in the research tool will be the **diffusion** of knowledge units, defined as the quantitatively specific percentage of individuals participating in a research project that learned the specific unit of knowledge.

(2) Additive and transformative learning: Schugurensky distinguishes between learning that is additive, i.e. that adds units of knowledge that fit into existing practices and modes of conduct within the current paradigm in which municipalities operate, and learning that is transformative, i.e. that breaks out current practices and the current paradigm (Devers-Kanoglu, 2009, p. 207; referring to Schugurensky, 2000). This is another key criterion for evaluating the overall quality of municipal learning for sustainability, as the normative goal of the proposed research tool is to find the degree to which transnational municipal governance cases contribute to a paradigmatic shift towards strong sustainability and away from a mere sustainability fix. The methodological challenge of this criterion is that it cannot as easily be evaluated quantitatively as the diffusion criterion. It is left to the judgement of the researcher to define how the **transformationality** of knowledge units can be qualitatively evaluated in a specific case. But in order to make transformationality comparable to diffusion

(e.g. with the aim of plotting them into a single graph), it is recommendable to devise a scale or index that translates the qualitative transformability of knowledge units into numeric values.

Taking these two criteria together, units of knowledge can be evaluated as to how transformative they are qualitatively and to what degree they diffused within or beyond the studied transnational municipal governance case. In order to bring these results back onto the normative scale of weak vs. strong sustainability and the question, or in other words, how far the case contributes towards leaving the operation mode of a sustainability fix and creates a new operation concept X, diffusion and transformationality of knowledge units can be plotted in a four-quadrant scatter graph (See Appendix; Fig 3). If the majority of knowledge units fall within the quadrant of high transformationality and high percentage of diffusion (the upper right quadrant of the graph in Fig. 3), the transnational municipal governance case in question can be assumed to contribute more strongly to a paradigmatic shift towards strong sustainability. If it falls into any of the other quadrants, this means that the case in question either lacks diffusion, transformability or both. From the normative point of view of this paper, this would mean that adjustments should be made in the specific case in order to improve its contribution to a paradigmatic shift towards strong sustainability.

## **5. Issues for Case Selection: Malmö and Tangshan**

As previously mentioned, this paper is based on an ongoing research project looking into the TangMa Training Programmes for Cities of Tomorrow (TangMa) (See appendix; Fig. 4), which is part of the bilateral partnership of Malmö, Sweden and Tangshan, China. The partnership between the two cities officially started in the 1980s, and TangMa was introduced in 2010 (Malmö stad, 2010). In the context of transnational municipal governance research, TangMa is an interesting case for a few reasons.

Despite the fact that the case is bilateral, and not a TMN with more political weight, the potential diffusion of knowledge units beyond this bilateral partnership is relatively high: There is much scholarship on sustainability

related action and policy in Malmö (e.g. Åberg, 2001; Barouille & Koubsky, 2000; Manner, 2008), which makes Malmö a prominent case within urban sustainability research and, in turn, places the TangMa project on a more prominent spot in transnational municipal governance.

Additionally, the literature strand concerned with bilateral partnerships raises the issue of mutuality (Devers-Kanoglu, 2009, p. 206). This concept addresses the question of whether the ideal of equal, two-way learning (in which local differences are a driver for learning) fits the reality of a specific case, or if a critical view applies in which unequal capabilities and power relations provide an obstacle on equality and mutual benefit in a case (Johnson & Wilson, 2006). Many studies focus on such unequal partnerships, especially in the context of a global North-South/South-North divide (e.g. Bontenbal, 2009; Johnson & Wilson, 2006, 2007). Malmö and Tangshan are interesting in this respect, as Malmö is the municipality with a longer history of innovating and implementing solutions for sustainability, while the sustainability area Tangshan is much larger – with 156 square kilometers.. All of Malmö, including new, more sustainable areas like the Western Harbour district as well as old residential or industrial areas is only marginally bigger than the new Tangshan Bay Ecocity, designed to be an entirely new sustainably developed area, on its own (Malmö stad, n.d.; Tangshan Bay Eco-city Administrative Committee, n.d.). This is just one physical example of differences between the two partner cities – more obvious ones include the political systems of both municipalities and different economical and socio-cultural backgrounds. But given China's stage of development and financial resources, inequalities and power-relations in the partnership are, if they exist, not as obvious as they might be in typical North-South partnerships.

It goes beyond the limits of this article to explain the suitability of the TangMa case more in depth. A more detailed description will be provided in the final paper of this ongoing research project. However, this section demonstrates that it is important to consider issues not covered by the proposed research tool, such as mutuality, differences, and external diffusion, when picking cases to study.

## 6. Conclusion

This paper proposed a research tool for analyzing the contribution of cases of transnational municipal governance to contribute to a global transition to strong sustainability. It provides the conceptual basis for an ongoing research project that, for the first time, looks into the Swedish-Chinese case of the municipal partnership between Tangshan and Malmö, and their TangMa Training Programmes for Cities of Tomorrow. The intent of this research project is to provide a valuable evaluation for the organizers of TangMa in the form of a compass which points towards a sustainability transition. However, it will also be an experiment in research methodology that contributes to normatively guided sustainability research into transnational municipal governance, i.e. whether or not municipalities live up to the hopes placed on them and bring about the paradigmatic transition to sustainability that the international level of sustainability governance failed to deliver at the Rio + 20 Summit.



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Appendix

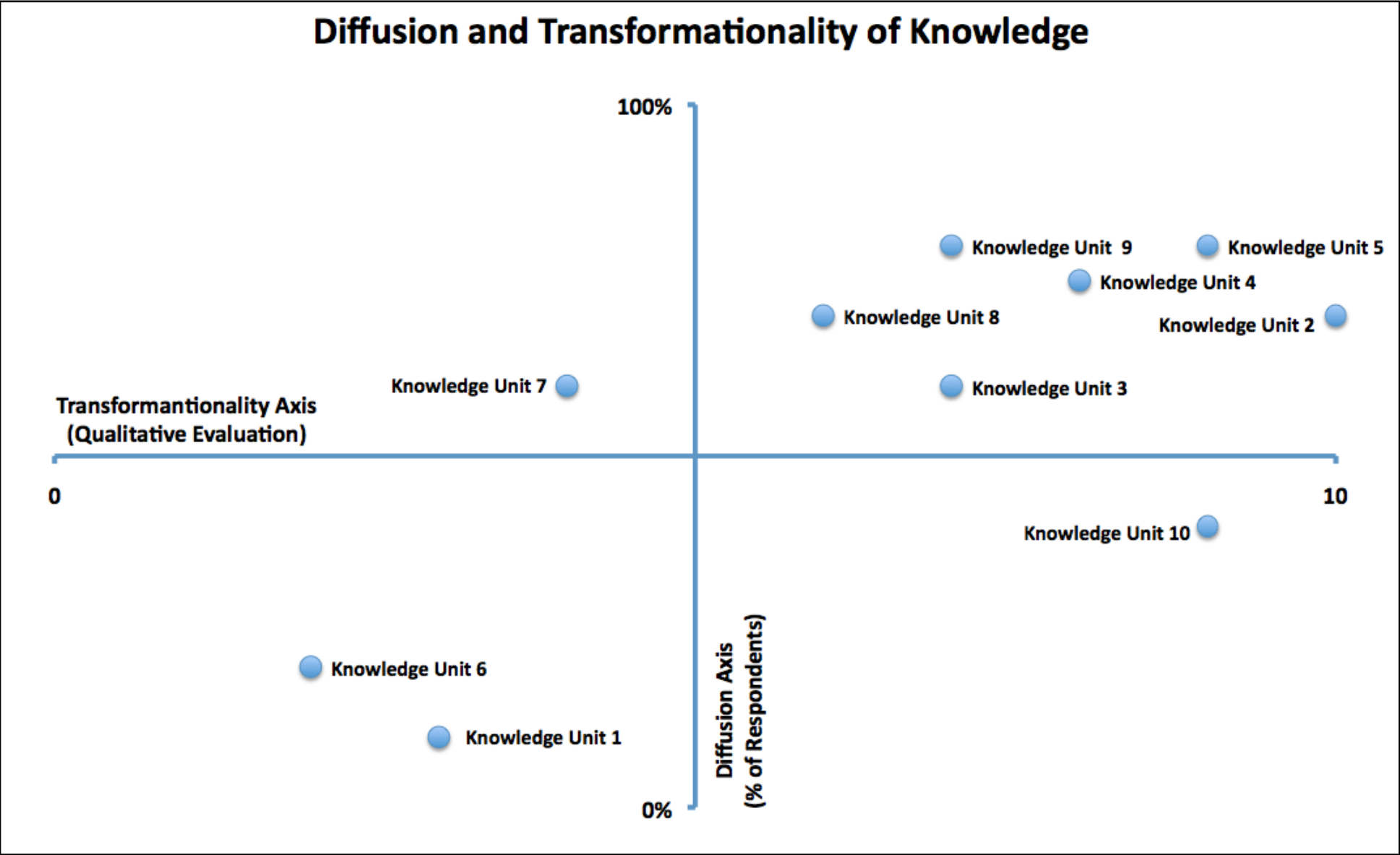


Figure 3: Example of a Diffusion-Transformationality Plot with four quadrants. Source: Own Graph.

## WHAT IS TANGMA

Tangshan and Malmö share an economic background of reliance on old-style heavy industry, but both are moving towards the future in pursuit of a more sustainable urban fabric. In Malmö, pioneering sustainability concepts have been tried out in practice, in the transformation of part of the old industrial Western Harbour into housing, business and recreational spaces, with particular attention paid to social and ecological, as well as economic, facets of sustainability. Since then, the mainstreaming of provisions for increased urban sustainability is the guiding star for all development projects undertaken in Malmö.



Tangshan shares Malmö's ambitions, and has taken her sister city's achievements as an inspirational backdrop when focusing now on its own grand-scale urban development pilot project: Tangshan Bay Eco-city. In the light of their common interests, the city leaders have agreed that it is time to extend the sister city relations and activities to the practitioners' level. Therefore, a series of thematic training sessions are proposed, at which experts from both cities will come together as trainees to take part in seminars, workshops and site visits. This training is named TangMa (abbreviation of Tangshan and Malmö) Training Programmes for Cities of Tomorrow, and in short, TangMa.

Figure 4: Online introduction to the TangMa Training Programmes for Cities of Tomorrow. Source: <http://tangma.org/whatistm.html>