Co-Constructing Sustainability:

Insights from TangMa, an inter-municipal learning project between Tangshan, China and Malmö, Sweden

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Abstract

There is an increasing shift of hope from international negotiations to local actors for promoting sustainability by 'thinking globally while acting locally'. Municipalities are such carriers of hope, taking on increasing responsibility as implementers of sustainability. The problem is that sustainability is a social construction site, and implementing it means 'making it up as you go'. With this background, this thesis analyzes the story of the partnership between Tangshan, China and Malmö, Sweden and their inter-municipal learning project TangMa as a case of co-construction of sustainability. Initially designed for transferring expertise, strategies and know-how, the project has unintendedly evolved from its original objectives to become something entirely different: a project that trains skills needed to successfully construct sustainability. Accidentally breaking out of its boundaries makes TangMa a case with important implications for learning theory. But it also risks having its outcomes disregarded as unimportant or not worth mentioning, being viewed as a failure to deliver on its promises. Drawing on social and organizational learning theory and literature on inter-municipal learning, two tools are devised to analyze results from a qualitative research approach inspired by journalistic Story-based Inquiry. The result is a story told from two angles, official and 'behind the scenes', which reframes the project and its outcomes to uncover hidden insights into learning for sustainability. TangMa ultimately shows that effective learning for sustainability above all consists of processes that train skills like critical thinking, reflective capability and 'listening'.

Key words:

Municipal Partnership, Triple Loop Learning, Meta-Learning, Organizational Learning, Capacity Development

Acknowledgements

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1 Introduction

Those hoping for progress towards global sustainability at the 2012 United Nations Conference on Sustainable Development (Rio+20) were disappointed. The final outcome document *The Future We Want* 'recognizes', 'reaffirms' and expresses 'deep concern' for challenges to global sustainability, but hardly 'decides' or 'adopts' (UNCSD, 2012) tangible solutions. In the words of environmental journalist George Monbiot, the document is "283 paragraphs of fluff" (Monbiot, 2012). Sobering experiences like the 15th Conference of Parties to the Kyoto Protocol in Copenhagen 2009 (COP15) and Rio+20 seem to affirm critical views on global governance (Biermann & Pattberg, 2012, p. 5), questioning whether international institutions are capable of delivering a way out of global crises, given today's power structures and the neoliberal growth paradigm that seems to shape them. With growing frustration about global negotiations, hope for change is increasingly shifted towards local actors and practitioners.

The *Gretchenfrage,* the pivotal question at the heart of this issue, is: What is sustainability really and how do we get there? Clouded by both complexity of global issues and conflicts of interest, looking for a concrete, explicit and once-and-for-all answer to this question seems to be a much too fantastic quest. And yet, there is growing normative consensus that local actors and practitioners have to act for sustainability *despite* the lack of a practical definition of the term. This thesis conceptualizes sustainability as a make-it-up-as-you-go project of continuous learning, and aims to understand how such learning processes function.

As a case of local actor engagement for sustainability, this thesis looks into the TangMa Training Programs for Cities of Tomorrow (TangMa), a mutual capacity development project for sustainability in the larger context of a municipal partnership between Tangshan in the Peoples Republic of China (hereafter referred to as China) and Malmö in Sweden. Originally the question I had in mind when starting to engage with this partnership was a naïve one: What can Tangshan and Malmö learn from or with each other regarding sustainability? And what general lessons can be drawn from this case?

To answer these questions, this thesis draws on social and organizational learning theory and inter-municipal learning literature to analyze a year of involvement in and qualitative research on the TangMa project.

2 Municipalities, Sustainability and the Dilemma of Localism

The concept of sustainability can pose a problem for local actors. What does global sustainability actually mean, and how can it be understood so that it works as a concept that guides and informs concrete action in specific local circumstances? This chapter discusses this question and its implications for municipalities. I understand the term 'municipality' a collective actor system with a common local identity, somewhere on a spectrum between two ideal-type system boundaries: the exclusive minimum of formally institutionalized local government and the inclusive maximum of local governance that includes multiple individuals and organizations, connected through relations and institutions of varying degrees of formality (See Figure 1). This opens a variety of possible perspectives on municipalities: They can be viewed externally as black-box entities or, opening up the black box, as a social organization.

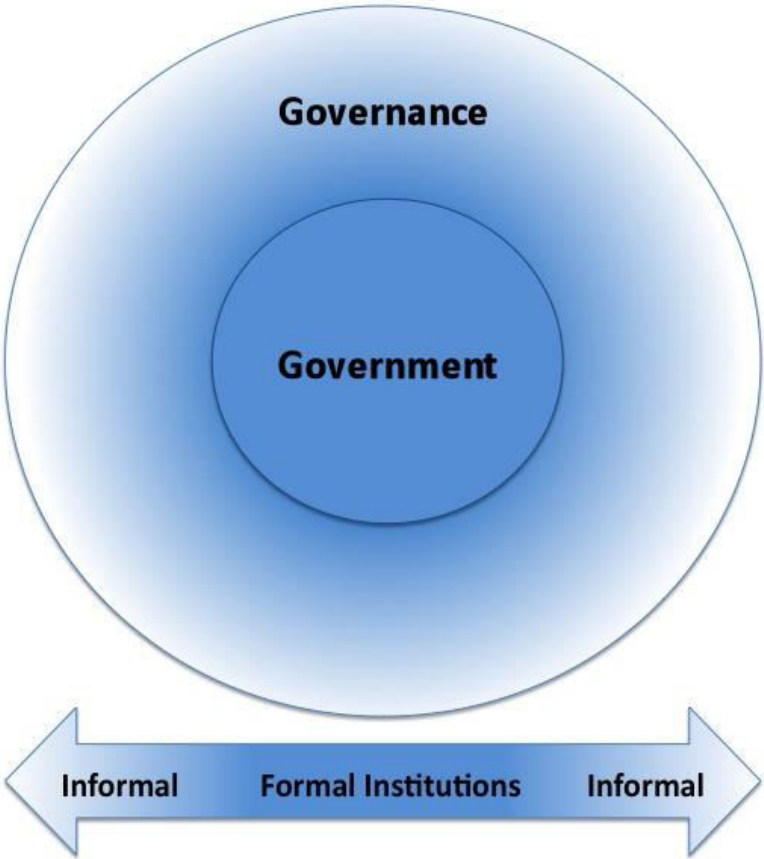**Figure 1:** 'Municipality' as local actor system on the spectrum between government and governance.

Importantly, this understanding of a municipality is focused on people and their interaction, networks and *Lebenswelten*, which implies that this thesis takes a constructivist or Habermasian approach. Sustainability is consequently also discussed in this thesis as a social construct rather than

a matter of physical realities. This is, naturally, not to downplay the importance of physical realities, but rather to highlight the role of language, deliberation and other social processes in shaping these realities. In this sense, I want to spend the next section of this thesis discussing the term sustainability.

2.1 On defining 'sustainability'

Following a ritual of the discourse on sustainability definitions (e.g. Ernst, 2012; Hopwood, Mellor, & O'Brien, 2005; Meadows, Meadows, & Randers, 2006; Parkin, Sommer, & Uren, 2003; White, 2013), the famous Brundlandt definition is cited here as perhaps the only definition of the term 'sustainable development' on which there is somewhat of a consensus of acceptance: Development is sustainable if it "meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED 1987). This paraphrase of sustainability is concise and agreeable, unless one disagrees with its anthropocentrism, e.g. by putting forward a necessity to "understand that the welfare of Gaia is more important than the welfare of humankind [and we need] to rid ourselves of the illusion that we are separate from Gaia"(Lovelock, 2009, p. 148). Unfortunately, the Brundlandt definition merely captures some vague normative notion of a need for humanity to survive indefinitely, which allows for a seemingly infinite number of possible interpretations. Employing a weak understanding of sustainability (Solow, 1974, 1992), it could mean felling every last tree on earth as long as humanity profits enough overall to compensate the loss. It could also mean a need to strike "a just balance among the economic, social and environmental needs of present and future generations, [for which] it is necessary to promote harmony with nature"(UNCSD 2012), or imposing a cap on global population growth to stay within the worlds bio-ecological carrying capacity. If one goes by the typology of Clapp and Dauvergne's book Paths to a Green World (Clapp & Dauvergne, 2005, pp. 3–16), there are at least four fundamentally different environmental world views, i.e. the views of 'market liberals', 'institutionalists', 'bioenvironmentalists' and 'social greens'. Even though these views stand for inherently different paradigms, all of them (maybe except for the more radical bio-environmentalists) could subscribe to the Brundlandt definition of sustainability. This explains why the Brundlandt definition is so commonly accepted: because of its vagueness and lack of specification, that strip it of any paradigmatic foundation.

But the Brundlandt definition is not the only attempt to define sustainability. Authors providing overviews of related definitions found themselves confronted with three-digit numbers of different versions and propositions which sometimes even contradict each other (Hopwood et al., 2005; Parkin et al., 2003; White, 2013). This multitude of definitions is the reality of the global understanding – or rather the *lack of a coherent* global understanding – of sustainability. An illustration of this 'sustainability mess' can be found in Mark White's paper "Sustainability: I know it

when I see it" (2013). White created a word cloud – an image composed of the most common words in a text – of 103 results of a Google search for sustainability definitions (See Fig.1).

This word cloud is not meant to provide a better understanding of what sustainability is. New York Times software architect Jacob Harris warns about word clouds in general:

> "peering for patterns in a word cloud [is] like reading tea leaves at the bottom of a cup [...] word clouds support only the crudest sorts of textual analysis, much like figuring out a protein by getting a count only of its amino acids. This can be wildly misleading" (Harris, 2011)

Figure 2: Word Cloud of sustainability definitions by Mark A. White (2013, p. 217).

But looking at White's picture illustrates how 'sustainability' is likely experienced by a practitioner when he is exposed to it in his day-to-day work: A nebulous cloud of terms of unequal frequency in use, without structure or coherence, left to the interpretation of the subjective observer. In communicative practice, the term 'sustainability' means something different depending upon whom one asks when and where, and on the intentions of the person using the term. From the perspective of linguistic pragmatics, the meaning of 'sustainability' depends upon its contextual conventions, its multiple (i.e. personal, spatial, temporal, discourse, social) *deixes* and its knowledge frames (see Busse, 2009).

Hence, one could say that grasping sustainability in a single ideal definition that paraphrases the concept in an unmistakeable way is semantic utopianism. If one employs Rudolf Carnap's theory of meaning, concepts like sustainability have an intension and an extension (Busse, 2009, pp. 36–39; citing Carnap, 1947). The intension could be understood as the sum of all the attributes that describe the concept, while the extension would be the sum of all objects that fit the description of the

concept. There is a circular problem here: one needs to know the extension to define the intension and vice versa (Busse, 2009, p. 39). As it is impossible to obtain one without the other, a perfect definition of sustainability is linguistically impossible. This leaves the understanding of 'sustainability' subject to continuous discourse, lending the concept an appearance of continuous flux.

This constructivist-linguistic argument has two direct deductive consequences: (1) Sustainability cannot be defined in undisputable universal validity – neither science nor international negotiations will be able to come up with a comprehensive, universal and operational definition of sustainability to guide action. This, in turn, means that (2) municipalities and practitioners have to establish working modes for implementing sustainability that acknowledge and work with the fluctuating and indefinable nature of the term. This turns them from mere implementers of sustainability into interpreters who help define the concept. Implementing and defining hence form two parts of a continuous learning process – sustainability as a make-it-up-as-you-go project.

2.2 Municipalities and the Problem of 'Glocalism'

If municipalities are to act for sustainability, they have to "think globally and act locally" – a mantra that Scott Bernstein and John Dernbach described in 2003 after the Johannesburg Summit as

> "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).

If enough municipalities start acting on their local sustainability issues, global sustainability could be reached through the sum of local actions. So as international negotiations get entangled in a Gordian knot of complex global-scale issues, local action in municipalities seems like a blade that can cut through it – *glocally*.

But is it really that easy? I find this problematic for two reasons. Firstly, if the sum of all local actions is to be equal to global sustainability, then local action in one place must not compromise its own effect on global sustainability elsewhere. Therefore, local action does not get around the complexity of its global consequences. Secondly, reaching global sustainability through a sum of voluntary local actions goes against the Hobbesian argument that in the absence of a binding and enforced social contract, individuals – and I see local actors like municipalities as quasi-individual from a global point of view – tend to pursue their self-interest (Callinicos, 2007, pp. 19–20). Robert Verchick, again in the year after the Johannesburg summit in 2002, puts it this way:

"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)

Glocalism is problematic as local actors tend to put the 'local' first, much like companies tend to put profit first, and global externalities of local action will always be there to some extend. If global sustainability is left to everyone taking care of their own local issues, the sum of all action is a patch-work of initiatives, that might or might not be globally sustainable. Smart grids and bio-fuels might cut down on carbon emissions and fossil fuel consumption in one place, but increase electronic waste and unsustainable land use change elsewhere. And with local effects being first priority for local actors, glocalism does not automatically bring about global sustainability.

2.3 Fixing Glocalism

The upgrade of the role of municipalities (and other local actors) from implementers to definers of sustainability implies that they are part of a global debate, which provides an exit door to the individuality of municipalities and the limits of glocalism. Within the discourse on global environmental governance (Biermann & Pattberg, 2012, p. 2), Transnational Municipal Networks (TMNs) are looked into as a possibility to vertically improve the say of municipalities and horizontally strengthen the coherence their actions for sustainability (Betsill & Bulkeley, 2004; Bulkeley et al., 2003; Burke, Dawes, & Gharawi, 2011; D'Auria, 2001; Toly, 2008). Vertically, municipalities are increasingly recognized on the global governance stage as sustainability contributors in terms of expertise, commitment and investment (Otto-Zimmermann, 2012). A short report of the major TMN ICLEI - Local Governments for Sustainability titled "ICLEI at Rio+20", celebrates that "20 years ago cities were referred to as a problem rather than as part of the solution. Today cities are acknowledged as a major actor." (ICLEI, 2012).

Horizontally, TMNs contribute more solid structures and channels to an intensifying field of Urban Policy Mobility (UPM), which Nick Clarke defines 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 a reminder that municipalities are not isolated from 'the global'. They are, to borrow Wenger's term, embedded in multiple "communities of practise" (Wenger, McDermott, & Snyder, 2002)[1]. Ideas migrate, 'the local' is influenced by 'the global', and discourses happen in increasingly globalizing arenas.

This leaves the question of how these processes look on the micro-level. The issue of co-creation and transformation processes of knowledge and ideas remains largely unexplored. Sustainability as 'make-it-up-as-you-go' project depends on innovating and creating ideas, on continuous progress made through a turning wheel of constant re-evaluation and reflection. Where macro-level concepts like TMNs and UPM provide both mediated and large-scale views on these processes of cooperative and collective learning, the study of municipal partnerships provides case studies of manageable size that allow for close-up examination of direct cooperative learning processes, without the mediation of a large scale network or field.

3 Conceptualizing Intra- and Inter-Municipal Learning

Within a municipality, groups and individuals such as administration officers, citizens, civil society organizations and other groups interact with each other. In a municipal partnership, there is additional interaction between different groups and individuals across municipal boundaries (Devers-Kanoglu, 2009, p. 203 f.). These interactions comprise *intra*-municipal and *inter*-municipal learning processes. Municipalities are social collectives, and learning that happens in a municipality is hence social or organizational. There is a range of literature available on social learning, conceptualizing collective learning as an ontologically and epistemologically constructivist process of socialization. Perhaps even bigger is the heap of literature dealing with organizational learning (often affiliated with business administration and similar disciplines and fields), which understands learning as a process that "takes place among and through other people and artefacts as a relational activity, not an individual process of thought"(Brandi & Elkjaer, 2011, p. 29). Both of these learning theories are distinguishable from individual learning, i.e. "a focus on learning, which is directed towards what goes on in the minds of people" (Brandi & Elkjaer, 2011, p. 26). A major difference between the theories is that social learning is rather opposite to individual learning, as it focuses on collective construction of knowledge, while organizational learning is to some extend a structure-agent view on individual learning in an organization (Brandi & Elkjaer, 2011). Simply speaking, social learning

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[1] Besides its focus on urban issues, UPM is little different from the concept of communities of practice, which Wenger et. al. define as: „groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis" (Wenger, McDermott, & Snyder, 2002, p. 4).

originates in the perspective 'learning of a structure', while organizational learning originates in the concept of 'learning within a structure'. I will stop here, as it is not the intention of this thesis to provide a complete review these theories in detail, but rather to conceptualize learning in municipalities. Thus, in the following, I will not necessarily discuss which theory or school of thought is represented by individual ideas mentioned in this chapter, but I will draw on elements of both in conceptualizing intra- and inter-municipal learning.

3.1 The Basics of Municipal Learning

The starting point of conceptualizing both inter- and intra-municipal learning lies in answering three fundamental questions about 'learning' in general: 1) What is learning, 2) what is the content of learning and 3) how does learning work?

1) Learning is essentially a process of improvement and adaptation. In a municipality, learning transcends all aspects of social live, and any progress of the community as a whole has collective learning at its core. Learning in this sense is a process of socialization and Habermasian communicative action, constructing social progress via "a journey into the land of discovery rather than to follow an already paved road" (Brandi & Elkjaer, 2011, p. 29). But acknowledging different degrees of institutional formality between individuals of a municipality (as per the definition of 'municipality' in chapter 2 of this thesis) means adding the organizational learning argument that both individuals and organizational structure matter. Learning in a municipality is hence a hybrid of social and organizational learning, in which individuals and institutions shape a process of social development in a municipality. Concepts like urban sustainability that cannot be clearly defined deductively or aprioristically therefore heavily rely on municipal learning to be filled with meaning.

2) If learning is a process, then what is its content? "Knowledge" often serves as concept for the content of a learning process, i.e. as an outcome of learning, as basis for learning, or in general as the object affected by the learning process. Schugurensky states for example that learning either adds to existing knowledge (additive learning) or transforms existing knowledge (transformative learning) (Schugurensky, 2000, p. 6). Knowledge is thus seen as a resource (Vera, Crossnan, & Apaydin, 2011, p. 156), that can be created (eg. Bettis, Wong, & Blettner, 2011; Foss & Mahnke, 2011; Nonaka, 2012), shared, transferred and absorbed (e.g. Burke et al., 2011; Hayes, 2011; van Wijk, van den Bosch, & Volberda, 2011; von Krogh, 2011) or even forgotten (de Holan & Phillips, 2011). All these processes make knowledge an object in flux, continuously shaped over time by collective learning processes.

What is important to note here is that knowledge is differentiable, as it could come in all kinds of shapes, e.g. as a piece of information, a skill, a whole system of thoughts or as something intangible like a feeling or a subconscious attitude. One major categorization that is widely used to differentiate

forms of knowledge is the distinction between "*tacit knowledge* – that which is intuitive, ambiguous and nonlinear – and *explicit knowledge* – that which is laid down in manuals, analyzed and taught"(Nonaka, 2012, p. 60, emphasis in original). Explicit knowledge is the tip of the knowledge iceberg, while tacit knowledge is often hidden beneath the surface of what is consciously addressed. The tacit-explicit divide is thus a cognitive line between the conscious and the unconscious – mostly, because Tsoukas points out, it could also be seen *phenomenologically* (Tsoukas, 2011). The difference between these two views is that the cognitive view sees tacit and explicit knowledge as two forms of knowledge that can be converted into each other (Nonaka, 2012), while Tsoukas perceives them as two sides of the same coin in the process of knowing or using knowledge, where "attention" or "focus" decides which knowledge is currently tacit and which isn't (Tsoukas, 2011, pp. 472–473). This leads into the question of how learning functions as a process: Is learning, in relation to knowledge, a matter of converting tacit into explicit knowledge and vice versa, or is it a matter of re-focusing our attention and reframing issues at hand, in order to change what we are currently actively discussing? This question cannot be discussed in detail at this point, and I will take the easy way out by stating that I intuitively see learning as a matter of both: a conversion of tacit into explicit knowledge, but also a refocusing of attention, both of which happen simultaneously and should not be viewed as simply one or the other. My reasoning for this is this: Focusing attention on something formerly tacit can be seen as a conversion from tacit to explicit knowledge; but at the same time, it is reasonable to assume that there is always tacit and explicit knowledge at work at all times, transformation of knowledge does not always fall into a from-to category of tacit and explicit knowledge.

Either way, the point of this paragraph on knowledge is this: knowledge is the object that is affected by the learning process; it has at least two dimensions, i.e. a tacit and an explicit one, and is in constant flux.

3) But what does learning look like? Judging from four different examples of learning concepts (see Box I), there are three reoccurring themes: Firstly, the understanding of learning as a continuous **cycle** (that over time progresses in sort of a spiral motion); secondly, the identification of two or more stages or **phases** of the learning cycle; and thirdly, some implicit or explicit form of scale between two **poles** that underlay these learning phases.

The polarization that shines through all these learning cycle models can be roughly described with the following terms:

> *(N) action*/implementation/practice/realization/experience
>
> *(S) reflection*/interpretation/theory/recognition/perception

To visualize this, I use the image of a compass, with a "needle" pointing to the poles N and S (See Figure 3). One pole, "N", consists of an realizing or acting position of the learning cycle, where what was learned before is implemented or put into practice and yields results that are experienced. The opposite pole, "S" is a cognitive reflecting position of the learning cycle where perceived and recognized observations are analyzed, discussed and reflected upon, before they are formulated into concepts, conscious or not, that are the "lessons learned" in this round of the cycle. These poles can be identified in all four of the learning cycle examples cited above (refer to Appendix A). Among these four examples, the most obvious polarization can be found in Hayes' model[2], which distinguishes between two phases, i.e. "acting" and "accounting", which he describes as follows:

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[2] Hayes does neither explicitly speak of his concept as a learning model, nor does he refer to it as a cycle. To him, it is an institutionalized platform for knowledge sharing, which operates through three processes, i.e. sense making, sense giving and sense reading (Hayes, 2011, pp. 90–91). Nevertheless, it has the features 'cycle form', 'phases', and 'poles'.

> "Acting involved employees undertaking their work […] and accounting processes required them to record a narrative of their practice by making explicit their activities and views on the various shared discussion forums and lessons learned databases"(Hayes, 2011, p. 90)

This is a quite direct representation of the two poles, which is why the compass needle points straight to "acting" ("N"-pole) with "accounting" ("S"-pole) on the opposite side. Argyris and Schön's Single Loop Learning also possesses a simple dichotomy, i.e. "error detecting" and "error correcting", but in this case, the compass needle stands in a 90 degree angle to the axis of their two "phases". That is because "error detecting" implies that the actual acting ("N"-Pole) is already surpassed, and results or effects of the action have been identified as errors, which indicates that ("S") is being approached. Similarly, Argyris and Schön's "error correction" lies exactly between the "S" and the "N" pole.

Nonaka's SECI-Model (**S**ocialization, **E**xternalization, **C**ombination, **I**nternalization) (Nonaka, 2012, p. 60), has four phases, but the compass needle points between Internalization and Socialization ("N"-Pole), while the "S"-pole lies directly between Externalization and Combination. The reason for this that Nonaka's basic idea of his cycle is this:

> "Put simply, the tacit knowledge possessed by individuals is externalized and transformed into explicit knowledge, so that it can be shared with others, and then enriched by their individual viewpoints to become new knowledge. This is then internalized once again by a larger number of individuals as a new, richer, subjective knowledge, which becomes the basis for starting another cycle of knowledge creation." (Nonaka, 2012, p. 60)

In other words, what I describe as poles of the cycle is for Nonaka the point where knowledge appears tacit ("N"-pole) and explicit ("S"-pole). But, as I explained above, there is valid criticism in pointing out that assigning tacit knowledge and explicit knowledge fixed positions in a learning cycle, as both forms of knowledge can be found in learning processes at all times.

Lastly, even a five-phase model like the "policy cycle" as illustrated by Pahl-Wostl (2009, p. 361) is polarized between action and reflection, with "implementation" signifying the "N"-pole and the "S"-pole lying somewhere in between "state assessment" and "goal setting".
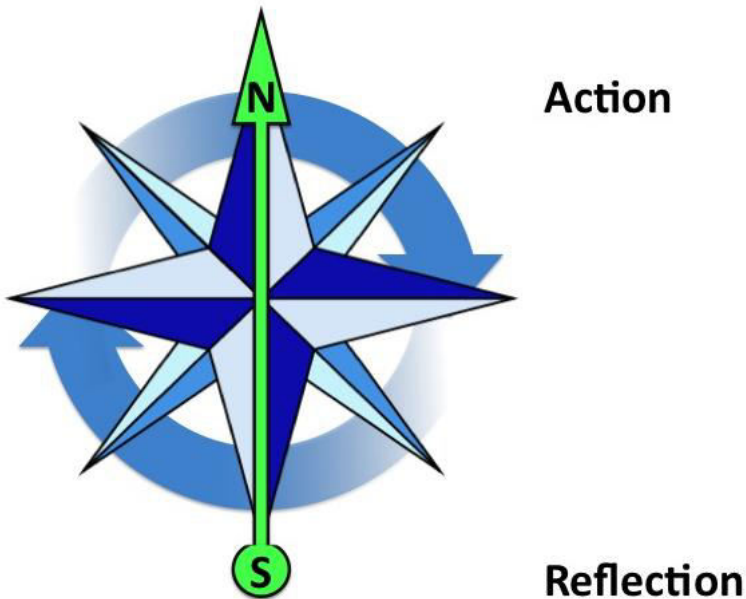
Figure 3: The Action-Reflection Compass for learning cycle models as learning cycle archetype.

Identifying the underlying themes of different learning models, i.e. the cycle shape, and the two poles, means that this Action-Reflection Compass is, in itself, an archetype of learning models. Hence, the question of how learning works or what the learning process looks like is now answered as well: Learning is a cycle with the poles action and reflection.

3.2 Triple loop learning (TLL) and Meta-Learning

Argyris and Schön's "Single Loop learning" is part of their much cited idea to distinguish between different depths of organizational learning, i.e. single and double loop learning (Argyris & Schön, 1978, pp. 18–29). The idea is simple: If an organization in the process of single loop learning detects an error in the implementation of goals and strategies which it cannot simply correct, it might find that a more fundamental reflection process becomes necessary, increasing the depth of learning. They elaborate:

> "We call this sort of learning double-loop. There is in this sort of episode a double feedback loop with connects the detection of error not only to strategies and assumptions for effective performance but to the very norms which define effective performance"(Argyris & Schön, 1978, p. 22).

Argyris and Schön's idea of Double Loop Learning has since inspired some further development of the concept, i.e. Triple Loop Learning (TLL) (Pahl-Wostl, 2009, p. 359; Tosey, Saunders, & Visser, 2012). Tosey, Visser and Saunders's recent literature review on the topic suggests that TLL is

nowadays the most commonly used term for concepts that build on an any earlier perceived dichotomy in learning theory between additive learning for improvement of existing practices and knowledge and transformative learning that changes existing practices and knowledge. TLL compared to double loop learning, adds yet another level of depth in form of a third loop, which can be understood more easily in the form of Flood and Romm's questions 1) "How should we do it?", (2) "What should we do?" and 3) "Why should we do it?" (1996, pp. 593–594), which in their words describe three different "centres" of learning.

The first learning loop can be understood as an issue centred process of evaluating and reflecting on an action's performance, and then adjusting the course of action in order to better resolve the issue or reach a goal (Pahl-Wostl, 2009, pp. 359, 361). The second loop questions the goal itself and asks "Are we doing the right things?" rather than the first loop question "Are we doing things right?" (Flood & Romm, 1996, pp. 593–594) and thus takes a step back from the first loop, reflecting on how issues are *framed* rather than merely reflecting on how they are addressed(Pahl-Wostl, 2009, p. 359). The third loop calls into question yet a deeper level of the issue, inquiring *paradigmatic* preconditions that determine frameworks. In other words, the third loop asks on what basis goals are set and what makes "the right things" right.

Together, these three loops comprise a three-fold feedback loop of reflecting ("S"-pole) on action ("N"-pole), marking three different levels of learning (See Figure 4). An essential assumption is the hierarchic order of these loops, as each "higher" learning loop provides the fundament of the next "lower" loop. This means that the "higher" loops are somewhat more important than the lower ones that depend on them, making e.g. triple-loop learning "superior" to single-loop learning (Tosey et al., 2012, pp. 292, 301).
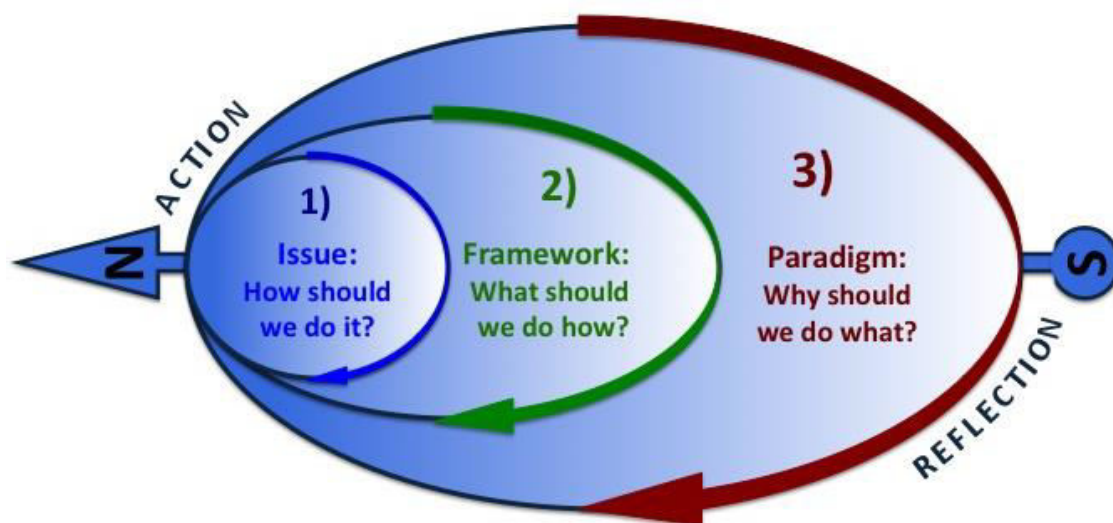

Figure 4: Triple Loop Learning with action and reflection poles. The depth of reflection increases with

the learning loops. Graphic adapted from Pahl-Wostl 2009 p.361 with questions adapted from Flood & Romm pp. 593-594.

Triple-loop learning addresses more of the iceberg than just the tip, i.e. reflecting not only on instrumental means but also on deeper-rooted tacit knowledge. I rephrased Flood and Romm's questions slightly into "How should we do it?", "What should we do how?" and "Why should we do what?" so that the connection between the loops, where one leads to the other, is more obvious.

TLL can hence serve as an evaluation tool for organizational learning processes. The question for evaluation is: Were higher-loop questions in a learning process sufficiently addressed or were they neglected? Did the learning process affirm or transform the 'basics' sufficiently to back up the specifics and details? However, these questions signify only a *type of inquiry* on which learning is based. What Argyris and Schön pointed out as a *caveat* for double loop learning still applies to triple loop learning (Argyris & Schön, 1978, p. 26): asking these questions cannot guarantee the quality of learning outcomes, only assess the depth of the learning process. But the depth of learning processes is important as they determine whether the frames and paradigmatic roots of an issue were addressed or not. This is essential in the case of concepts in transition, like 'sustainability'.

3.3 Learning in Municipal Partnerships

While the conventional learning cycle illustrates how an organization learns from its actions, understanding learning in municipal partnerships requires a concept of how (at least) two organizations learn from and with each other. When two organizations, each with their own individual TLL cycle, engage in a partnership, these cycles overlap to some extend or another (See Figure 5). The overlap represents the learning space provided by the partnership, i.e. the shared part of the learning process that both municipalities go through together. This does not mean that each of the partners automatically gets the same learning outcomes form the experience of the partnership, as learning outcomes depend on the whole cycle, but there is a shared 'arena' of learning, or what Nonaka calls *ba*:

> "The notion of ba, which translates literally into English as place, space or field, originates in the concept of basho developed by the Japanese philosopher Nishida Kitaro and later refined by Hiroshi Shimizu. Like a petri dish for the cultivation of ideas, ba is a temporary container for creative interaction – a shared space for emerging relationships among individuals, and between individuals and their environment. [...] This could include working groups, project teams, informal circles and temporary meetings; virtual spaces such as email groups and social media sites" (Nonaka, 2012, p. 60)

… or municipal partnerships. Figure 5 is a simple graphic representation of what this overlap of TLL cycles could look like, and how it delineates the learning space or *ba* of the partnership, which in the graphic is depicted as a light blue area. Not all partnerships are alike, however, and the actual overlap constellation can vary greatly from case to case, which means that there are many possible ways of how learning loops can overlap in municipal partnerships. Variants of case dependent partnership models could differ as to 1) where the cycles overlap and 2) how much they overlap.

1) As organizational learning is a cycle between action and reflection, overlaps could different parts of the cycle. For example, a partnership that for the common implementation of a project without much common evaluation might overlap mainly around action side ("N"-pole) of the cycle, while reflection happens largely outside the partnership. Partnerships that aim at sharing and co-creating knowledge without joint action on the other hand would overlap more around the reflection side ("S"-pole). The constellation depicted in Figure 5 hence represents an example of an overlap equally distributed throughout all three levels of learning.

2) Partnerships differ also as to their total extend of cooperation. A full partnership of one hundred percent overlap in the model would be possible if a project is jointly designed, implemented and evaluated throughout all levels of reflection. On the other hand, in smaller partnerships, e.g. exclusively consisting of representative meetings of mayors, the two TLL cycles would just barely touch each other.
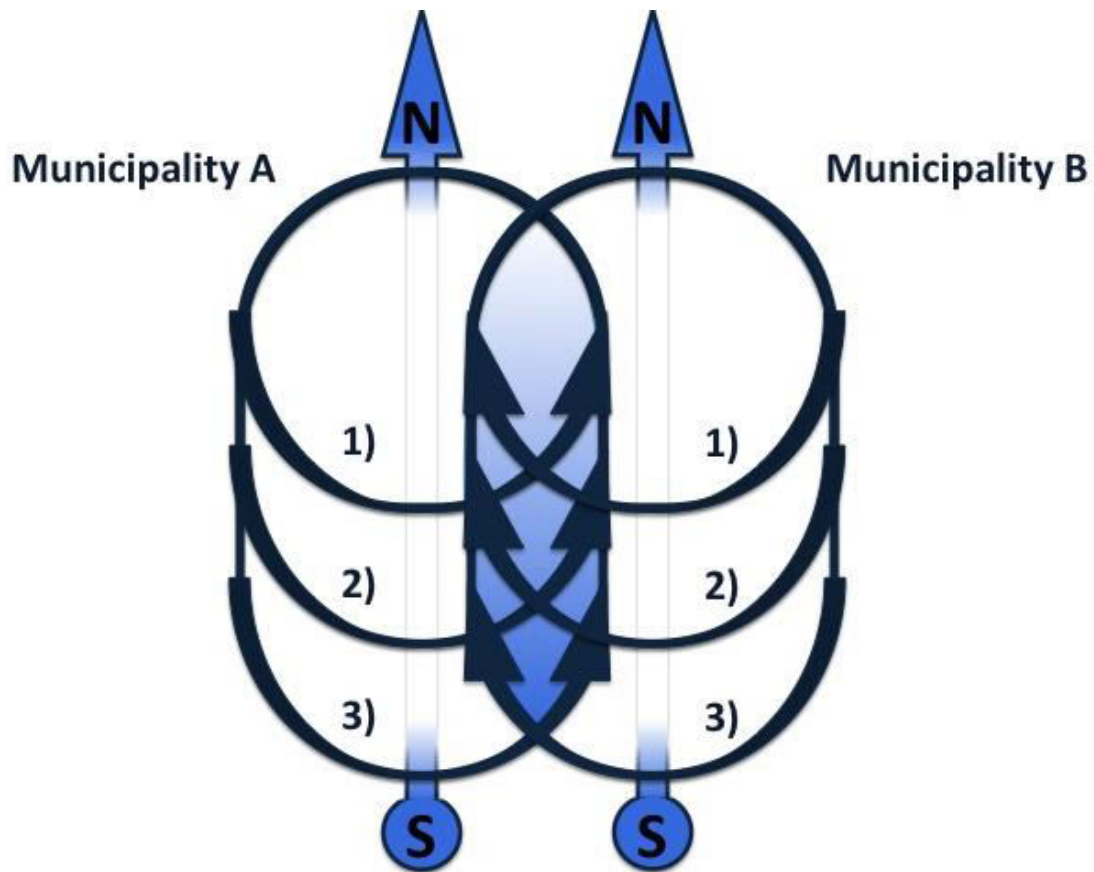
Figure 5: Municipal Partnerships as overlap of two municipalities' TLL cycles with action ("N") and reflection ("S") pole. The light blue part represents the actual partnership, and the white parts represent those aspects of learning that happen outside the partnership.

Given these possibilities, municipal partnerships can potentially take on a large variety of constellations in this model (See Appendix B for two additional, more organic examples). However, identifying the underlying constellation of a partnership alone cannot sufficiently answer the question of how learning processes relate to outcomes. There must be other factors that determine the *milieu* of the petri dish in Nonaka's metaphor.

3.4 Core Issues of learning in municipal partnerships

Within general literature on organizational learning and specific literature on learning in municipal partnerships (Devers-Kanoglu, 2009; chapters of van Wijk et al., 2011; Johnson & Wilson, 2007, 2009, 2006; Schugurensky, 2000), there are several matters or issues with municipal partnerships as learning arenas that determine the outcome of learning processes. Reviewing the literature, I compiled a laundry list of seven of these matters that were either pointed out or hinted upon by others, which I will discuss in this section (see Box II).

1) Learning Capacity: Pahl-Wostl suggests that "Since higher levels of learning are associated with higher costs it is plausible to expect a succession where the next higher level is entered **only** when constraints at a lower level are encountered" (2009, p. 359, emphasis added). This means that there is a tendency to resist activating higher loops of learning as long as the organization or an individual deems them unnecessary and asking "why should we question underlying frameworks or even paradigms as long as we have not exhausted conventional modes of action?" In the context of learning, that should be an open thinking process unrestrained of aprioristic fear of practical limits, I understand this resistance to advance into higher loops as the opposite of concepts "critical thinking", "innovative spirit" or "flexibility". It prevents deeper reflection – higher loop learning – whenever possible. Related notions can be found in organizational learning theory in the form of "absorptive capacity", i.e. the ability to identify, obtain and transform useful external knowledge from outside the organization (for a good overview of different definitions see van Wijk et al., 2011, p. 276), and "dynamic capabilities"(Teece & Al-Aali, 2011; Verona & Zollo, 2011), i.e. an organization's "ability to integrate, build, and reconfigure internal and external [.] competences to address and shape rapidly changing [.] environments"(Teece & Al-Aali, 2011, p. 509). These notions are part of learning capacity in addition to the ability of an organization to activate higher learning loops in learning processes modelled as TLL. Learning capacity can be seen as an umbrella term of such sub-concepts.

2) Groups and Identities: Given that municipalities are comprised of all kinds of institutions and people, a most basic factor of any municipal partnership is the question of which groups of people are actually interacting. Whether interaction happens between local governments (e.g. Bontenbal, 2009; Johnson & Wilson, 2006, 2007, 2009), or non-governmental groups (see Devers-Kanoglu, 2009, p. 205 for a more comprehensive overview of municipal partnership studies), leads to substantial differences in what is learned in or from a partnership, as the goals of the partnerships will largely

depend on who is engaged in it. On the other hand, Devers-Kanoglu finds that most studies focus on specific groups while neglecting the "broader context" of municipal learning (Devers-Kanoglu, 2009, p. 205). Hence, for municipal(-ity wide) learning, the question of which groups are involved directly impacts what the municipality learns as a whole.

Connected to this is the question of the identities[3] (both individual and collective) of learners within the groups. The way learners perceive themselves and their tasks and functions shapes what they learn. Child and Rodrigues for example find that national identities can negatively impact learning in some cases where knowledge exchange is hindered by notions of competition or other reservations about the partnering organization (2011, pp. 316–318). So in addition to the groups involved in inter-municipal learning, more subtle and individual notions of identity also play a role on a microscopic level.

3) Language and Communication: A fundamental issue in any transnational partnership is the aspect of language. Most obviously, lingual differences pose a challenge for interaction, as language is the key medium of communication and social interaction. Brandi and Elkjaer put it this way:

> "Language is, according to social learning theory, a central element of any process of learning as language is conceived to be the main way of acting in contemporary organizations. Language is, however, not merely a medium of knowledge transmission. Language is the medium of culture and as such it constitutes a crucial element in the process of learning, when the latter is perceived as the result of interaction among individuals" (Brandi & Elkjaer, 2011, p. 29)

The important point to make here is, however, that differences do not only exist between people of different languages and cultures, and not only between different organizations, but sometimes even between individuals in seemingly homogeneous groups. The lack of common understandings of terms, e.g. of concepts like sustainability, shape and sometimes hinder fruitful communication even between colleagues from the same organization or field. Communication has many crucial aspects, explicit and implicit, assumed and discussed, verbal and non-verbal. Communication has to be taken into account to an extent that accounts for all facets of its meaning.

4) Differences and Mutuality: Johnson and Wilson elaborate in several publications (Johnson & Wilson, 2006, 2007, 2009) the role that differences between two partnering municipalities can play for learning. They point out that "a fundamental element of learning is the existence of difference"

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[3] The concept of identity was already used in this thesis as a unifying element for municipalities, i.e. the „common local identity".

(2009, p. 212). However, they also explain that difference is not beneficial for learning by default: Some level of similarity, e.g. in professional interests and issues, is necessary as basis for meaningful exchange (Johnson & Wilson, 2007, p. 254), and some difference, e.g. regarding power relations, can be outright harmful if it prevents the mutuality of learning in the partnership. Hence, they find that mutuality and the role of difference in partnerships lies somewhere between an ideal and a sceptical view of the matter:

> "The ideal view of partnership is based on ideas of dialogue, reciprocity, and sharing different values, knowledges and practices to realise mutual benefits. […] Mutuality, in this ideal sense, makes a virtue of difference, enabling each partner to offer and gain something. Importantly, it offers an opportunity for learning. In contrast to this 'ideal' conception, […] in the sceptical view, the basis of difference is inequality, particularly in power relations, and so questions the basis for mutuality, which lies at the core of the ideal conception. 'Difference that drives mutuality' has benign connotations, whereas 'difference through inequality' implies poorer and richer, less and more valuable, and is manifested in a relative lack of mutuality that might be evidenced by unidirectional flows of knowledge, resources and benefits."(Johnson & Wilson, 2006, p. 73)

5) Intentional and Unintentional Learning: Devers-Kanoglu points out that while some form of learning always happens in partnerships, in some cases it might be intentional, in others not (Devers-Kanoglu, 2009, pp. 202–203). Partnerships could, for example, have as an explicit goal to exchange or co-create certain forms of knowledge, and if they successfully do so, the learning process would be intentional. However, there might also be outcomes of learning that were not explicitly stated as goals of the partnership, and in partnerships created for other purposes than learning there might still be learning processes as side effects. Devers-Kanoglu argues that unintentional learning is particularly prone to be overlooked and remain unevaluated (2009, pp. 202–203), but also finds that a majority of studies on learning in municipal partnerships explicitly try to capture these more hidden forms of unintentional learning (Devers-Kanoglu, 2009, p. 205). Hence, whether (and which kind of) learning is an explicit intention of a partnership poses a constitutional issue that influences if, how and which learning outcomes are reached and perceived.

6) Formality of Learning: Schugurensky differs between formal and non-formal education on one side, and informal learning on the other. (2000) To him, formal learning consists of learning in highly institutionalized, propaedeutic and hierarchical education systems, i.e. through schools and universities. Non-formal education refers to all forms of learning for which a specific setting is

provided, like a club or workshop, but which is more voluntary, does not necessarily require pre-existing qualification or lead to certification, e.g. sports clubs. It is noteworthy that both of these forms of learning are, by definition, intentional from the learners perspective (Devers-Kanoglu, 2009, p. 204). Informal learning is then more or less "the rest": intended learning outside formal and non-formal education, as well as all unintended learning. Therefore, learning in most municipal partnerships falls within the realm of informal learning.

However, this more categorical understanding of formality of learning is not unproblematic, as in reality there are hybrid forms and overlapping elements between the ideal types of formal, non-formal, and informal learning. Even Schugurensky himself points out that there are forms of education sometimes referred to as 'para-formal learning' (2000, p. 1), e.g. professional adult education seminars that lead to specialized certified qualification. Similarly, there are different degrees of formality in informal learning, e.g. between learning in an organized excursion, an informative conversation at an official dinner or accidental learning in the checkout line in a supermarket. By acknowledging that, formality of learning becomes a continuous scale from formal to informal via non-formal, rather than a set of three categorical boxes. Interestingly, they can happen simultaneously, e.g. when the biggest realization a student gains in a formal education class at university is based on an informal, whispered comment on the lecture content coming from his seat neighbour. Hence, formality can be viewed as another, fluent and multi-shaded factor of learning.

7) Individuality of Learning and Upscaling: One last but certainly not least important issue to consider is the question of how learning in the partnership benefits each municipality as a whole (discussed in an absorptive capacity context in van Wijk et al., 2011, pp. 278–279). The concept of municipality discussed in chapter 2 did not touch on how individual elements of a municipality, i.e. people, and collective elements, i.e. groups of people, sub-organizations even the municipality as a whole, relate to each other. Conceptually resolving this question goes beyond the scope of this thesis (see e.g. Zhong & Ozdemir, 2012 for a related structure-agent model). But there are practical implications of this issue that are necessary to take into account, i.e. how learning outcomes of individuals diffuse within the partnership and beyond (Devers-Kanoglu, 2009).

Johnson and Wilson also discuss active knowledge diffusion or distribution, or what they call "upscaling" (Johnson & Wilson, 2007, p. 278). Factors such as the position of an individual within an organization and the learning culture of the organization in general can play important roles in which and how much of a learning outcome permeates the boundaries of the partnership (Johnson & Wilson, 2006, p. 78).

4. Operationalization and Methodology

4.1 Research Aims and Main Research Question

The literature research and deductive theoretical work in chapter 3 provided two instruments for analyzing inter-municipal learning process and outcomes: 1) a process oriented constellation model for the 'learning space' or *ba* of the partnership, and 2) a laundry list of factors that determine the *milieu* of the partnership. Deductively, I will apply these two tools on the TangMa project to analyze learning processes and outcomes. Inductively, I aim to contribute to learning theory by discussing potential findings from TangMa that go beyond the theoretical tools' explanatory use.

Consequently, my initial interest in the TangMa project "What can Tangshan and Malmö learn from or with each other regarding sustainability? And what general lessons can be drawn from this case?" can be reformulated as main research question (RQ) of this thesis as follows:

> RQ: *How do TangMa experiences contribute to understanding inter-municipal learning for sustainability and learning theory in general?*

4.2 Methodology

The initial intent of my thesis to find out what Tangshan and Malmö can learn from each other would have justified a quantitative-qualitative mixed-methods approach. I planned to identify "knowledge units", i.e. facts, notions or stories that participants learned in TangMa, to then quantitatively evaluate their dissemination, and qualitatively assess their 'transformationality' (Mendle, 2013). But when I followed Robert Yin's suggestion of "intensive long-term [field] involvement to produce a complete and in-depth understanding of field situations, including the opportunity to make repeated observations and interviews" (2011, p. 79), I realized that the real potential of my thesis was to better understand learning processes in TangMa, rather than evaluating its learning outcomes.

This led me to the conclusion that I should solely focus on qualitative research. Silverman and Marvasti speak of different "languages" or approaches to qualitative research (2008, pp. 14–19), and in their terminology, what I do in this thesis is a hybrid of "ethnomethodology" and "postmodernism":

> "Whereas ethnomethodologists study the processes through which members construct their reality, postmodernists question the power relations and the political rhetoric embedded in the representations and constructions of social reality." (Silverman & Marvasti, 2008, p. 18)

As municipal learning for sustainability in the epistemology of this thesis is a process of social construction of reality, both of these questions are essential to understanding the TangMa project.

Half a year before the start of this thesis project, I attended a series of lectures by Luuk Sengers and Mark Lee Hunter at the summer school of the Centre of Investigative Journalism in London on what they call "Story-based Inquiry" (SBI). In their manual on SBI, Hunter et al. describe the core of their idea as follows:

> "We do not think that the only issue is finding information. Instead, we think the core task is telling a story. That leads to the basic methodological innovation of this manual: We use stories as the cement which holds together every step of the investigative process" (Hunter et al., 2009, p. 1)

This idea became a key element in how I went about my research: Socially constructed realities are told as stories, and the story dictates the course of the investigation as it emerges. In this process, Hunter and Sengers distinguish between two trails: the "paper trail" and the "people trail", a rough categorization for research data sources (Sengers & Hunter, 2012, pp. 32–34). The people trail consists of interviews with people involved in the story, while the paper trail are the documents they produce before, during or after the story takes place(Sengers & Hunter, 2012, p. 33). I adopted this categorization of sources in order to "triangulate" (Yin, 2011, p. 79) my findings. I conducted 10 open-ended "qualitative interviews"(Yin, 2011, p. 134), in the form of individual conversations with people that had something to say about the project. Interviews were guided by who the person was and what my relationship was to her or him. Each interview advanced the overall story of TangMa that I was investigating.

After my research was done, I analyzed documents I came across during my field involvement or obtained from the people I interviewed as well as the interviews recordings and transcriptions, following Robert Yin's five phases of a research cycle: "(1) Compiling, (2) Disassembling, (3) Reassembling (and Arraying), (4) Interpreting, and (5) Concluding" (Yin, 2011, pp. 176–254). This analysis process was the actual creation of the story of TangMa – what guided the interviews was a more intuitive version of the story, without chronology or structure. Compiling, Disassembling and Reassembling was the process that gave the story beginning (Prologue), main body and end (Epilogue). Interpreting and Concluding were the two phases where I used theory to analyze the finished story and how to answer the research sub-questions that had emerged (see section 4.3).

The issue one might take with this methodological approach is that I as a research subject became part of the research object. During my involvement in TangMa, some interviewees became friends, and I inevitably developed an emotional relationship to my research. As Hunter and Sengers point out, "your emotional state enters into the text, consciously or not." (Hunter et al., 2009, p. 57) and "Self-Reflexivity", as Yin calls it (Yin, 2011, p. 271), dictates that I should be aware of my own biases.

Hence, the TangMa story as presented in this thesis is, albeit rooted in interviews and documents, "my" TangMa story as a researcher/translator with a normative background in sustainability science.

4.3 Research Sub-Questions

Early on in the compilation phase of my research analysis, I realized that the answer to RQ lies in telling the story of the partnership from two angles. There is an initial-official angle to the story, which is well represented in funding-application documents, and continues to serve as the diplomatic framing of the partnership. But then there is the "behind the scenes" version, which is the experience of people I met and interviewed. This behind the scenes-version is dynamic; it shines a different light on the origins of the TangMa project and the motivations behind it. But more importantly, it is the story of how the project developed a life of its own, broke out of its initial boundaries and evolved into something else.

Having said this, I will tell the TangMa story in Chapter 5 in two parts. The first part will explain the setup and the initial objectives of the partnership from an angle I mainly derive from written documents. This explains the setup of the project, its reasoning, goals, and intentions. The second part will tell the 'Behind the Scenes' version of the story, derived from interviews with participants of the project. This will provide an alternative view on intentions and set-up, and document actual learning results as experienced by those involved. In Section 6.1, I will provide a synthesis of the two stories. This leads me to three research sub-questions (rq1, rq2, rq3) as shown in Box III below.

Box III

Research Question(s):

RQ: *How do TangMa experiences contribute to understanding inter-municipal learning for sustainability and learning theory in general?*

1. **rq 1:** *Which learning processes and outcomes can be expected from the initial and official TangMa project setup and intentions?*
2. **rq 2:** *Which learning processes and outcomes can be found in the TangMa project in practice?*
3. **rq 3:** *Which lessons can be drawn from the TangMa project for inter-municipal learning, and how do they relate to sustainability?*

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5. The Case Study: TangMa Training Programmes for Cities of Tomorrow

5.1 TangMa – The Official Story

5.1.1 Official Background

During the EXPO in Shanghai 2010 at the Swedish pavilion, the two cities Malmö and Tangshan signed a memorandum of understanding to turn the – until then – mainly symbolic partnership they had maintained since 1987 into an active one: if granted the funding, the two sister cities would engage in mutual learning programmes for practitioners. (Intv_#10) This was the birth of a learning project with the title TangMa Training Programmes for Cities of Tomorrow (short TangMa; Chinese: 唐马), which officially started in October 2010 (APPL_MC2).[4]

As municipalities in Southern Sweden and North-Eastern China, Malmö and Tangshan are fundamentally different in terms of their national, cultural, socio-economic and political contexts and structures. Additionally, with 300,000 inhabitants, Malmö is Sweden's third largest municipality (APPL_MC1), but appears small compared to the more than seven million prefecture-level inhabitants of Tangshan (APPL_MC1). Despite these differences, the two municipalities have been striving for similar development-paths: Both cities historically housed heavy industries, i.e. shipbuilding and automobile production in Malmö (City of Malmö, 2012) and cement, steel, coal and oil (Intv_#1) in Tangshan. Both municipalities now want to become a forerunner in urban sustainability, responding to environmental concerns and economic stagnation (APPL_MC1), and gain national and global prestige. Malmö markets itself as a progressive urban sustainability pioneer (City of Malmö, 2012) while Tangshan's Caofeidian Eco-City is "planned and established as a prestigious development project supported by China's central government"(APPL_MC1) and considered one of the few examples among Chinas countless "eco-city" and "low-carbon city" initiatives that is actually under construction (CFD_INTRO; Intv_#7).

Since the establishment of Malmö University in 1998, the municipality describes itself as a "city of knowledge"(City of Malmö, 2012), with sustainability as a hallmark concept for urban development. Flagship projects include e.g. the Western Harbour (City of Malmö, 2012), an artificial peninsula and the former industrial centre of the city, which is now the site of the 2001 European Housing Exposition Bo01 and Malmö's landmark, the mixed-use high-rise building Turning Torso (City of Malmö, 2012). Bo01 and the Turning Torso use 100 percent renewable energy and feature innovative

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[4] Information in this introductory description of the case is compiled from interviews and documents serving as research resources of this thesis. A list of documents can be found in Appendix C, section 7.3, and a list of interviews can be found of this thesis. Publicly available sources are referenced accordingly in the usual way.

design and technical systems, e.g. a vacuum-operated system for organic waste, collecting ground kitchen waste in an underground storage tank before it is transported to a municipal biogas plant for energy recovery (VASYD_WM).

Tangshan is constructing a new urban area, the Tangshan Bay Eco-City in the Caofeidian district. Caofeidian is planned from scratch as a new coastal 'urban core' that is expected to house 800,000 people on a surface of 74.3 km^2 after its planned completion in 2020 (CFD_INTRO). Similar to the Western Harbour in Malmö, the site of Caofeidian eco-city is an artificial peninsula (CFD_INTRO; Intv_#7) created with sand from the bottom of the sea. Construction started in 2009 (CFD_INTRO), around a decade after Malmö's remodelling of its Western Harbour (City of Malmö, 2012).

Malmö is seen as a successful example of urban sustainability to learn from (APPL_MC1; APPL_SUD; APPL_OWRE), providing a potential source of inspiration, expertise and know-how for Tangshan practitioners. Caofeidian Eco-City is interesting for Malmö as expertise and innovations from Malmö can be implemented there in a different context. Additionally, the large scale of Tangshan's eco-city compared to the scale of projects in Malmö, provides an opportunity for Malmö's practitioners to experience project up-scaling and large-scale planning (APPL_SUD; APPL_OWRE).

5.1.2 Project Structure

TangMa is a capacity development project running for three years with a total of nine training session occasions (TSOs), alternately held in China and Sweden (APPL_SUD; APPL_OWRE). During each TSO, a delegation of trainees and coordinators from the guest municipality is sent to the host municipality (APPL_SUD; APPL_OWRE). Trainees are associated with one of three programmes on Sustainable Urban Design (SUD), Organic Waste to Renewable Energy (OWRE) (APPL_MC1), and since 2012, Learning (APPL_MC2; APPL_L).

Main partner-organizations are "the Malmö City Planning Office and the Planning Bureau of Caofeidian International Eco-city in Tangshan (SUD), and Malmö's water and waste treatment company, VA Syd, and the Caofeidian International Eco-city Construction Company in Tangshan (OWRE)" (Appl_MC1, p.4). Responsibility for management and coordination of the overall project lies with the Environment Department of Malmö and the Foreign Affairs Office of Tangshan (APPL_MC2). These organizations are represented in a three-tiered structure mirrored in both municipalities (see Figure 6): Day-to-day organizational matters like language services, travel and accommodation, budgeting etc. are handled by the working committee, consisting of project coordinators, who organize and evaluate the overall TangMa project, and programme coordinators from the programme specific partnering organizations that are responsible for either the SUD, OWRE or Learning respectively (APPL_MC1;APPL_MC2). The next-higher tier is the managing committee,

mainly comprised of higher-level representatives of the SUD and OWRE partner-organizations, deciding on matters like which trainees to send and themes or topics for the TSOs. The highest tier, i.e. the two supervising committees, consists of high-level officials like directors of involved departments, who provide political support for the project (APPL_MC1).

Figure 6: TangMa Management Structure. The dark blue squares signify project groups that attain every TSO, i.e. working committees and trainees. Light blue are those committees that do not directly participate in the TSOs.

5.1.3 Designated Project Objectives

TangMa is fundamentally framed as a project of know-how transfer from Malmö to Tangshan in combination with an adjustment of that know-how to local conditions.

> "**Malmö has paved the way**, not least in the establishment in 2001 of its pilot district Bo01. […] Tangshan shares Malmö's ambitions, and has taken her sister city's achievements as **an inspirational backdrop** [for] the Caofeidian International Eco-city" (Appl_MC1, p.5-6, emphasis added).

In the application documents, there is an explicit focus on action rather than discussing fundamental issues: "Both SUD and OWRE are strategic programmes, with connections to ongoing implementation processes in both partner cities." (APPL_COMP, p.3). However, for OWRE, there is an ambition of joint knowledge creation regarding the social context of the discussed technology (APPL_COMP, p. 5), and generally, joint creation of transformative knowledge is seen as a possible side effect for the partnership:

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"novel ideas on how to approach sustainable urban design and sustainable urban renewable energy management may emerge and can be tried and evaluated in practice, by either or both cities" (Appl_OWRE, p. 8).

Box IV:
Individual Programme Objectives

Sustainable Urban Design:
"The objective, on behalf of Tangshan, is to outline a strategic plan […] in which Malmö's planning experiences of sustainable urban design are expressed in terms of, and adapted to, local conditions […] [Malmö's] objective is to complement its own evaluations of achievements and challenges of sustainable urban design practices with the corresponding case of Tangshan in general and the Caofeidian International Eco-city in particular. " (APPL_SUD, p.4)

Organic Waste to Renewable Energy (OWRE):
"Malmö hopes to gain from Tangshan's development of the Caofeidian International Eco-city complementary experiences of how the pioneering systems solutions applied for OWRE in Malmö may be scaled up and put to test […] Tangshan hopes to adopt and adapt the experiences from Malmö to the needs and requirements of their prestigious new eco-city development." (APPL_OWRE, p. 7)

TangMa Learning:
"The TangMa Learning programme shares a common long-term objective with the SUD and OWRE programmes: that both Malmö and Tangshan become sustainable cities ecologically, economically and socially. While SUD and OWRE contribute to this vision by strengthening the practitioners' capacities, TangMa Learning will contribute to this vision by facilitating education for sustainable development to a wider public." (APPL_L, p.7)

TangMa Learning is essentially designed as up-scaling and dissemination mechanism for knowledge gained through SUD and OWRE, as well as learning for urban sustainability in general. (APPL_L, p.7) There are two concrete objectives within TangMa Learning (APPL_L, p. 9):

1) Fostering active involvement of stakeholders like business and civil society in the municipality's sustainability agenda through stakeholder dialogues and education initiatives that utilize knowledge from SUD and OWRE.

2) Engaging with property developers in a dialogue about technical know-how for sustainability, including trainings for construction workers.

These activities are planned for the time after the end of the SUD and the OWRE programmes' TSO-format in October 2013, and fall mainly outside the municipal partnership, as they will be intra-

municipal activities with some planned exchange of experiences. The inter-municipal aspect of TangMa Learning is essentially learning for educators during the TSOs:

> "[TangMa Learning participants] will participate as activity strategists and coordinators instead of trainees [and will use the TSOs as] opportunities to formulate activity mechanisms, obtain resources, and establish evaluation and monitoring systems etc"(APPL_L, p.10).

5.2 Answering Research Sub-Question 1 (rq1)

Looking at the initial/official story, the TangMa project set up features mainly SLL processes, with some potential for DLL and no potential TLL (see Figure 7). Both SUD and OWRE focus on knowledge transfer from Malmö to Tangshan with limited attention paid to potential co-creation of knowledge beyond the first learning loop. The main question of the project is thus basically "How should we do it in Tangshan?" The DLL question "What should we do how?" (see section 3.2) is largely resolved by Malmö's experience and expertise, aprioristically defining issue frames and goals. The TLL-question "Why should we do what?" in turn is seen as resolved by the common paradigmatic ambition of Malmö and Tangshan to promote urban sustainability. There is some openness for DLL to occur in SUD and OWRE, as co-creation of knowledge is mentioned as a possible side-effect, but SLL the remains as intended learning priority. TangMa Learning is more difficult to classify when it comes to learning loops, as the outcome is more open and it has multiple aspects, i.e. knowledge dissemination, multi-loop co-creation of knowledge and 'learning about learning'. Knowledge drawn from SUD and OWRE and disseminated by TangMa Learning is as such not a unique learning process in itself, but a multiplication of learning effects that already took place. Stakeholder dialogues based on SUD and OWRE knowledge could potentially turn the single-loop orientation of these programmes into intra-municipal DLL or TLL beyond the partnership boundaries. Additionally, "learning" is also a topic in itself, about which the TangMa Learning participants gain knowledge. In this aspect, TangMa Learning has the potential for DLL or TLL.

Going through the laundry list of core issues for municipal learning (see section 3.4), there are no apparent *caveats* in terms of groups and identities, language and communication and formality of learning. *Groups and individuals* of both municipalities share the same professional background. The basis for *communication* is promising due to language services, a relatively homogeneous group of trainees in terms of professional background, and a common paradigm, i.e. striving for urban sustainability. In terms of *formality*, the learning processes in TangMa are informal, but visibility of outcomes should be granted through the clarity of project objectives. However, there are potentially

problematic issues in the official TangMa story with learning capacity, differences and mutuality of learning, intentionality of learning as well as individuality of learning and upscaling.
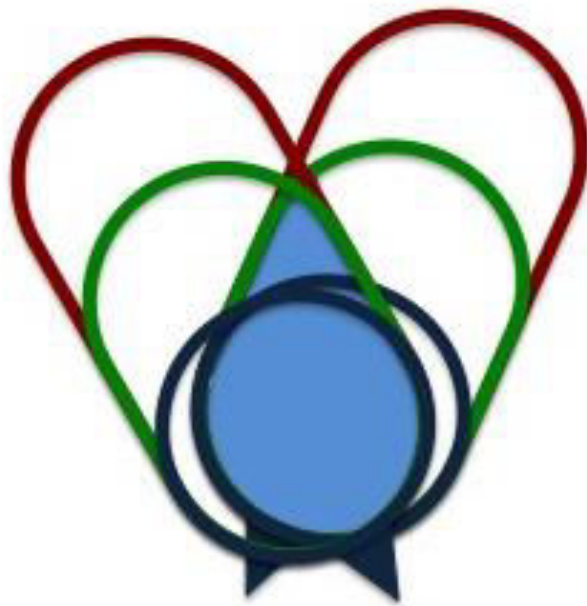

Figure 7: TangMa project as per application documents illustrated as municipal learning overlap (blue area) with first (dark blue), second (green) and third (red) learning loop.

Learning Capacity: Learning capacity is mainly perceived as necessary on the Tangshan side in the form of "absorptive capacity", i.e. the ability of Tangshan to adopt and adapt Malmö's models and experiences into their own context. A proactive attitude towards TLL is not required in the application documents of the TangMa project, given that Malmö's expertise is used to frame sustainability, and the task for Malmö is framed as an additive learning task rather than a transformative one.

Differences, similarities and mutuality: The goal of both Tangshan and Malmö to promote sustainable urban development is seen as a common starting point. Differences that define roles and potential learning benefits for both municipalities are described as:

1) A difference in scale between Caofeidian Eco-City and sustainability projects in Malmö, and

2) Differences in expertise based on experience with urban sustainability, which Malmö offers.

This sets the partnership up for what Johnson and Wilson call a 'mutuality gap' (2006), i.e. an inequality that shifts power-structures towards Malmö practitioners, which hinders their learning

process (through an attitude-induced decrease in learning capacity) an even discourse between the two partnering municipalities. Even though 'mutuality' is addressed in the application documents (APPL_SUD; APPL_OWRE), it is framed there as an issue of mutual benefits, which is not equivalent to addressing inequality in terms of power-relations to close the mutuality gap (Johnson & Wilson, 2006).

Intentionality: As TangMa is a project explicitly designed for SLL, intentional goals for learning and the question of whether they are reached potentially overshadow unintentional multi-loop learning. 'Softer' tacit learning outcomes of unintentional learning processes might be disregarded in the search for more explicit ones.

Individuality: A high degree of individuality of learning is a recognized problem of TangMa, given that through TangMa Learning an up-scaling mechanism was created after the start of SUD and OWRE. However, TangMa Learning fails to address how differences between Tangshan and Malmö are accounted for in the planned dissemination activities. Differences in political systems and cultures aside, Malmö as a municipality is a much clearer defined arena for these actions than Tangshan with its pre-existing, populated core and Caofeidian as the other new development core still under construction.

Box V:

Summarized Answer to rq1

Which learning processes and outcomes can be expected from the initial and official TangMa project setup and intentions?

- Learning processes are mainly single-loop learning, with a focus on strategy improvement and adjustment of Malmö's established practices, centred around the question "how things should be done in Tangshan".

- Issues regarding involved groups and individuals as well as language and communication provide a good basis for smooth cooperative learning. Objectives are mapped out clearly and based on common understanding of issues and ambitions, providing visibility of results despite informal learning processes.

- Learning capacity and mutuality of learning are limited by inequality in power-relations between practitioners due to the explicit designation of Malmö as the more experienced partner. This particularly limits the learning on Malmö's side, as well as the potential for unintended multi-loop learning.

- Unintended learning in general is under the risk of being disregarded as a non-result of the partnership.

- Due to the TangMa Learning programme, organizationality of learning is potentially high in Malmö, if knowledge-dissemination throughout the municipality is successful. On the Tangshan side, however, effectiveness of TangMa Learning measures might be limited compared to Malmö.

5.3 TangMa – Behind the Scenes

5.3.1 Prologue

In 2008, Malmö received a delegation from its Chinese sister-municipality Tangshan. (Intv_#10), expressing strong interest in activating the partnership between the two municipalities in the wake of the construction of Tangshan's new Caofeidian Eco-City.

The main motivation for Tangshan was to find investors for its new eco-city (Intv_#1; Intv_#7;Intv_#10). Originally, Tangshan was considered as a possible partner for an eco-city project with Singapore, which ended up as the „Sino-Singaporean Tianjin Eco-City" (Intv_#1). The Tianjin Eco-City is a co-investment project (Intv_#7), and Tangshan saw in Malmö a potential partner to follow the same model.

A second motivation for the cooperation with Sweden was Tangshan's interest in gaining inspiration and technologies for their new eco-city (Intv_#1). In this regard, Malmö was a promising example to learn from. Malmö's waste treatment systems and technology especially appealed to Tangshan's leaders (Intv_#10).

Tangshan's interest in activating the municipal partnership was particularly well received by Malmö City Planning Office's director (Intv_#10). He saw an opportunity for Malmö's businesses to enter the attractive Chinese market, (Intv_#7, Intv_#8; Intv_#9; Intv_#10) as well as to promote Malmö's efforts internationally as a success story of urban planning for sustainability (Intv_#7, Intv_#8; Intv_#10).

The economic interests of both sides proved to be incompatible – Tangshan wanted investments, while Malmö wanted to facilitate export for its businesses (Intv_#10). Additionally, a misunderstanding about the role of the public sector in business cooperation hindered partnership establishment.

> "[According to western understanding,] the king comes, cuts some ribbons, but it is
> up to the private sector parties to develop their cooperation. [...] The Chinese would
> see it as no longer interesting if the Public sector withdraws, because in their view,
> it also takes away the legitimacy of business" (Intv_#10).

A remaining basis for cooperation was Tangshan's interest Malmö's waste treatment system and Malmö's interest in promoting its urban planning story. However, Malmö's City Planning Office had no experience in establishing such a partnership (Intv_#10), which is why the Environment Department helped formulating a project proposal based their experience with the Swedish

International Centre for Local Democracy (ICLD), a funding agency for development cooperation projects (Intv_#7; Intv_#10). This is how the initial interest of public-sector driven economic cooperation turned into a capacity development project.

The cornerstones of TangMa Training Programmes for Cities of Tomorrow were finalized hastily over a single breakfast meeting in the hotel that hosted the Chinese delegation (Intv_#10). Now, funds were available for a capacity building project neither side had intended in this form (Intv_#4; Intv_#7; Intv_#10). TangMa got handed over for implementation to the organizers at Malmö's Environment Department, who had to prevent the project from crashing-landing before takeoff (see Box VI) during the first Training Session Occasion (TSO-1) of TangMa, held October 2010 at the Shanghai EXPO (Intv_#10).

5.3.2 Project Structure and Development

A lack of common understanding of the project purpose turned TSO-1 into a difficult start (Intv_#7; Intv_#10). A member of the Malmö Working Committee explained that an attempt to collect ideas and expectations from trainees in order to give the project a direction failed during TSO-1:

> "This was a very difficult and frustrating exercise for the participants. They did not have an overview of the project and did not understand who the other side was, so they had no idea what they could expect from each other" (Intv_#4).

Additionally, the management structure (see section 4.1) that Malmö had proposed was unfamiliar to the Tangshan delegation.

> "[The Tangshan delegation] had not grasped the idea of Working Committee and Trainees – when we asked them who is who, they did not understand why it mattered. So [...] they shuffled people around[...]" (Intv_#10).

This was partly a consequence of the actual project implementation initiative coming from the Swedish side, including the funding from ICLD, which continues to shape power relations. One Member of Malmö's Working Committee explains:

> "[The Chinese] do not raise as many questions as we do. Sometimes I think we demand too much from them. 'We want to see this, we want to do that'. [...] we are steering a lot, and because the money comes from us, this affects our attitude."

From Tangshan's perspective, the first meeting failed to deliver meaningful learning input, which led to adjustments in the project's mode of conduct:

"The first time, the Swedes were holding a lot of presentations, talking about how things should be done. But [due to] presentations being too technical and specific, and becoming totally messed up after you add translation problems, we changed the training process to 'visits in the morning, discussions in the afternoon'" (Intv_#1).

There were changes in attitude, too (see Box VII). The two sides were now coming together and established common modes of communication and discussion (Intv_#1; Intv_#3; Intv_#4; Intv_#7; Intv_#10).

"What we are being part of is a maturing process. It's about both parties becoming more mature in their relationship with each other. There are things we can do now, but could not have done at the beginning of the project" (Intv_#10).

An issue discussed throughout the project was the question whether trainees should be mostly the same or different people for each TSO (Intv_#1; Intv_#2; Intv_#3; Intv_#5; Intv_#6; Intv_#7; Intv_#8; Intv_#9; Intv_#10). Sending new people every time is a reset in learning for each TSO, making the project repetitive in content (Intv_#7) and impedes on deeper, more detailed learning (Intv_#8). The advantage of sending more people is a wider spread of the TangMa experience throughout the participating organizations (Intv_#2; Intv_#3; Intv_#5; Intv_#6; Intv_#10). Especially on the Chinese side, opting for knowledge dissemination through more participants proved to be the better option, as within the Tangshan Bay Eco-City Administrative Committee and its subordinate offices, there is a ten percent turnover of staff every year (Intv_#1).

Box VII:
Different Communication Cultures

"At the beginning, when we went to Sweden, we found: 'Wow… Swedes are super boring. How can we have so many presentations every day?' Also, we all felt a bit offended because it seemed they were trying to brainwash us. They tried to make us forget our knowledge and replace it with theirs. The first time we went, everyone felt like this."

"I think the Swedish side has some kind of arrogance sometimes about being 'the experts', but the Chinese listen and go: 'Please tell us'. […] Especially in the beginning of the project, it was a huge problem. Now it's better, because we are aware of this now."

"This arrogance on the Swedish side is a problem outside the project too. Planners see themselves as experts and do not want to listen to other stakeholders. And that is a good example of how you can learn things in the project that you can use in your day to day work."

"We Chinese are a bit hesitant to ask questions in general, or we feel inferior compared to the Swedes, or we think that we are doing a better job than the Swedes and we don't want to be impolite by asking or discussing. This inhibits discussions. So we felt a strong need to facilitate these much needed discussions. That is what we realized in the second TSO and we improved that for the following one."

Chinese flag icon stands for comments from Tangshan interviewees, Swedish flag icon stands for comments from Malmö interviewees.

Additionally, specialized knowledge was viewed as less important than exposing trainees to basic issues:

> "We don't need a lot of expertise or technological depth in the programmes. The best learning processes occur when we visit and examine simple things together, and then discuss basic differences with people from both sides […] I think this is the best and most useful for our employees" (Intv_#1).

The implementation of TangMa Learning activities remains problematic on both sides though. In Malmö, it proved difficult for programme coordinators to get in touch with the construction sector, which led to a focus on civil society seminars at Malmö Museum (Intv_#8). On the Tangshan side, there is a lack of high-level support for TangMa learning activities. This makes it difficult to address both the construction sector and civil society at this stage (Intv_#3; Intv_#8), but the ambition to educate citizens of Caofeidian once they move to the new eco-city remains for the future (Intv_#3).

5.3.3 Learning Outcomes in General

Originally intended additive learning for concrete technologies and strategies proved unrealistic for the Swedish side:

> "When you ask the Swedes what they are getting from the project, even in the official wiring, they only say: we're going to see how things work in China on a much bigger scale. […] It is hard to say if we will get that knowledge back to Malmö" (Intv_#7).

> "The Eco-City is too big for [technology transfer from Sweden to China]. Bo01 took three years to develop on an area of three square-kilometres. In China, they want to develop thirty square-kilometres within ten years" (Intv_#4).

For the Tangshan side, there are problems with utilizing technical or strategic know-how from Sweden.

> "Of course […] we find that some Swedish solutions are great as an ideal for the future, but they are difficult to implement under Chinas current circumstances […]" (Intv_#1).

> "Honestly, what you can learn through this project – concrete know-how – is very little, because the urban cultures and ways of working in the two municipalities are so different" (Intv_#3).

But there is an inconsistency between the inability to learn 'hard' technical or strategic knowledge on one side, and sense of usefulness of TangMa on the other:

> "Usually, trainees are very positive about the project, which is good. But the tricky thing is to pin down exactly what they get. The emotional part is strong though. […] Personally, every time I listen to the Trainee's reports, I feel uplifted: 'Yes! This is why we are working on this project!'" (Intv_#7).

> "We need to trust that [learning outcomes] are there. And one reason why we can allow ourselves to trust in that is that otherwise there should be some kind of reaction of discontent. People would not express that they are happy about the time invested" (Intv_#4).

From this feeling came the realization that learning outcomes are often meta-level, contextual and reflective (see Box VIII). Underlying learning processes are mainly co-construction processes rather than knowledge transfer, as fundamental differences between Tangshan and Malmö stimulated debates on circumstantial issues (Intv_#2). This was perceived as beneficial to both sides. In one interview this realization was described as a three-stage process:

> "[The Chinese] assume that Sweden is a good example to learn from […] Then when they come to the planning and implementation stage, they realize, they can't just copy and paste. […] It's like recreation of what you have learned in the context of

local existing boundaries. [...] The most interesting stage is actually the third, where one plus one equals three. That is, you have one idea, your opposite has another idea, and through discussion, you create a new, third idea, that you never imagined before" (Intv_#4).

This process not only led to mentality change and co-creation of concepts, it also proved to be a valuable exercise, training participants in reflective and critical thinking:

"[Trainees] get practice in critically evaluating their own thinking where they usually tend to jump to modes of thinking for certain problems. They question their own assumptions" (Intv_#4).

"The important thing is that this project kicked off a practice of learning" (Intv_#3).

5.3.4 Explicit Examples of Learning Outcomes and Project Results

Examples of learning outcomes and project results generally fell into two categories. 1) Strategic or technical knowledge, that was learned despite the perception that this was not the main benefit of the project and 2) meta-level conceptual knowledge, that arose from reflection or discussions.

1) For the Tangshan side, TangMa trainees used reflections from the project to adjust an indicator system they had previously obtained for the Caofeidian Eco-City from Swedish consultancy firm SWECO (Intv_#1). Furthermore, some legal barriers were abolished to allow a Swedish-inspired gravity-based waste-water collection system to be implemented, rather than one that functioned through energy-consuming pumps (Intv_#4). Another explicit example was a reflective presentation that compared a detailed report of Malmö's waste treatment system with another system from Taiwan, which resulted in a synthesis of these two systems now discussed for implementation in Caofeidian. (Intv_#4). But there were also individual behavioural changes. One interviewee said:

"I almost don't drive anymore. I use public busses every day now. When I get to a bigger city, I use the subway [and] I am trying to persuade my family to buy a fuel saving car" (Intv_#4).

On the Swedish side, direct results from TangMa included a series of workshops conducted at Malmö's City Planning Office, on re-evaluating former project plans in order to identify possible discrepancies between plans and post-implementation realities (Intv_#4). This was the result of a discussion in China, where Swedish planners suggested this method to the Chinese, and then realized it might be helpful for their own work (Intv_#4). But Swedish trainees also learned concrete technical know-how:

„when we […] saw that underground parking-garage plan, where they put two meters of soil on top, that was interesting. They practically have a whole park on top of the garage! […] I had never seen anything like that before" (Intv_#6).

Box IX:

Potential for local waste treatment solution in Tangshan

🇸🇪 *"The Swedish trainees were very concerned when [the Chinese] told us that they want to put Swedish systems in place, like the vacuum waste collection system, that we do not even believe in here in Sweden. And they would waste a lot of money and effort. And then they would conclude that the whole concept of waste separation as a whole system would not even work."*

🇨🇳 *"The social system in China is not as good as Sweden's. There are people that depend with their livelihood on waste recovery. According to Chinas tradition, people do not like wasting resources at all. It is important for people not to waste things. Even my family sells waste! Like old paper, or bottles. So we separate waste at home, and sell it sometimes whenever the bag is full. And then whoever we sell it to separates further, and sells it on to a different companies. It seems like only China, and maybe some other poorer countries, have such a situation. So people already separate things! If you look into trash cans, you will find that only very little reusable materials are left in there."*

🇸🇪 *We have seen so many people that are living from a business of separating waste and refining fractions. There is a whole value chain there, you can use that! […] you already have a parallel system, you have a whole economy based on it! […] They have a perfect situation for separation at the source, because there is a demand for it, at least for certain fractions. And then they could look at our process and improve more on their system. But if they will try to implement a system like ours immediately, of course they will be frustrated.*

Chinese flag icon stands for comments from Tangshan interviewees, Swedish flag icon stands for comments from Malmö interviewees.

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2) More learning outcomes belonged to the conceptual meta-level category. On the Tangshan side, this included the idea that multi-fraction waste separation should be using local structures instead of trying to adapt Malmö systems (see Box IX). Also, Malmö's people-centred approach to sustainability was new to the Chinese practitioners, who expected a stronger focus on technology (Intv_#2) and implementing structures rather than addressing human behaviour (Intv_#10). Furthermore,

interacting with Malmö brought about some change in their working environment, improving relationships between higher-ups and subordinates across hierarchical boundaries (see Box X).

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Box X:
Impacts on Tangshan's working culture

"Our hierarchy here in China is very strong. […] Policy is much more of an direct order here, and it's omnipresent. Foreigners don't understand that. But when it comes to that, I have a very good impression from Sweden."

"The hierarchies are quite easy going here in the municipality. If you don't want to be involved much in the hierarchy, you can easily lay back and just administer your talks, stay uninvolved. But I think that promotes a kind of laziness we have to overcome for the sake of sustainability. We need the organization to take care of good ideas and be innovative, and you should not have the hierarchy stopping this, or peoples laziness stopping this."

"Even though our leader is always above us, we can still sometimes carefully mention that in Sweden, leaders are more approachable, more relaxed, and likeable. They are not just decision-makers, they also interact with the people lower down in the hierarchy as human beings. After a while of doing that, our leaders loosen up and become less arrogant, start working more with us and do things with us side by side. That's great."

Chinese flag icon stands for comments from Tangshan interviewees, Swedish flag icon stands for comments from Malmö interviewees.

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The Swedish side reflected on local democracy mechanisms they saw in the other municipality (see Box XI), and on something that was essentially a non-issue in the TangMa project: Unsustainable implementation of prestigious housing projects in both municipalities (see Box XII) as a result of structural weakness in organization and communication of interdepartmental relations (Intv_#5). Consequently, improving the contact between different departments and organizations within the municipality are seen as a valuable result of TangMa:

> "We did not think of this at the beginning, but the networking is becoming more than a nice side effect. […] This project forces people of different organization to be together for such a long time" (Intv_#7).

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> **Box XI:**
>
> **Lessons in Local Democracy**
>
> 🇸🇪 *"When the Chinese develop an area, they provide a name for the public of someone who is responsible. We never ever do that in Sweden. There are only hotlines for complaints. We have democracy on a national level, but not locally. [...] That lesson in democracy is huge for me. I get worried if all these facts about China are on the table during the projects, and the Swedish side ignores them, or denies them, thinks they are not true. The point is: It doesn't matter if they are true, just check and reflect on your own system!"*
>
> 🇸🇪 *"I initially thought that China is a country that does not listen to their citizens at all. [...] So I thought people cannot communicate their ideas and the government does not care about their thoughts. But they have systems that assure that thoughts and wishes of citizens and civil servants have to be taken into consideration – we don't have that. We think we are very democratic, and we think they are not, but in that aspect we have a lot to learn from China."*
>
> **Chinese flag icon stands for comments from Tangshan interviewees, Swedish flag icon stands for comments from Malmö interviewees.**

A final realization in Malmö was that confidence derived from successful projects kept practitioners from reflecting on what they knew and from 'listening' actively (Intv_#5; Intv_#6; Intv_#10; see Box XIII). This realization was a result of both, the exposure to the Chinese as an intercultural communication challenge (Intv_#5), and reflections on their own work during the project.

Box XII:

Reflections on unsustainable construction

"In China, they tend to call things sustainable that are not – of course everyone does that. But in China they have structural problems. If you build sustainable, you need to build buildings that last, that's a basic thing. They have trouble with that. No wonder: that's what happens if you have farmers coming in being construction workers all of a sudden."

"Building standards in Sweden are very strong. They don't understand the short live cycle of Chinese buildings, saying that that is not sustainable. We admit that. But there are also a few concrete factual issues. Tangshan is growing fast, and we are under a lot of pressure to provide housing for an increasing number of people. So we need to build fast, the quality of buildings suffers from that. [...] They think if the lifecycle is that short, that is a huge waste. Of course that's true, everybody knows that. But there are just some things, they don't know or understand – at least earlier on in the project they didn't, now maybe they do."

"[The story of Tangshan's sustainable housing project "Vanion Flower City"] was a shock. It was a catalyst for what they call sustainable housing. [The developer] Vanion told us what happened there, not the people form Tangshan. What happened was that they were rushed for developing the plot. The whole eco-city is located on an artificial peninsula, [...] they should have given the land much more time to settle. But [...] The leader of Tangshan bay eco-city ordered Vanion to start construction and finish everything in one and a half years. [...] So after one year, the walls have cracks, the houses are not standing up straight anymore. [...] Perhaps the shock of what they saw in China also made [the Swedish trainees] think: What mistakes did we make?"

"[With the Western Harbour in Malmö] we had the exact same problems as the Chinese. We needed to use bad materials because of time and financial pressure. Now, ten years later, we need to exchange them, But we are so arrogant; we don't recognize that we are in the same situation as they are. [...] If we could change that, it would be much more fruitful. You learn more from failures then from success. Western harbour is both, but we give away important lessons by regarding it only as a success story. "

Chinese flag icon stands for comments from Tangshan interviewees, Swedish flag icon stands for comments from Malmö interviewees.

5.3.5 Epilogue

After the final TSO in September 2013, the SUD and OWRE programmes will be over. What remains after the project will be hard to pinpoint – learning outcomes will merge into tacit knowledge, which might strongly affect both municipalities, but is unlikely to be attributed to the TangMa project directly (Intv_#3; Intv_#7; Intv_#10). For the working committees, there is both happiness about what was accomplished, but also some frustration about the difficulty to communicate indisputable results (Intv_#7; Intv_#10).

> "Some of our colleagues are very dismissive about the TangMa project, and it is difficult to explain it to them and justify it at times. [...] it is very abstract and you cannot show to people: see, this is what we have done in the project" (Intv_#7).

Despite the difficulty to document most of its achievements, TangMa did set the preconditions for deeper cooperation in follow-up projects, based on a better understanding of both partner's interests (Intv_#10). Ironically, that might mean that the original interests of both cities are possibly catching up with the project.

> "[There is likely to be] another direction for follow-up projects, and that might be better for leaders [...] Because they do not understand what's happening in TangMa. What they want is to enhance Malmö's competitiveness, to open different doors for businesses to go into different markets. For all cities this is the driving principle, even though the branding is sustainability" (Intv_#7).

On a high level meeting held on the 23rd of May during TSO-8 in Malmö's old city hall[5], some other interests and possibilities for the continuation of Malmö's and Tangshan's partnership were discussed. This includes cooperation on university level education between Malmö and Hebei Polytechnic University, which is planned to be re-settled to Caofeidian, and a suggestion to create a joint Master degree programme based on the original TangMa themes SUD and OWRE, with building energy efficiency as a third topic; however both sides also expressed interest in continuing inter-municipal learning between government practitioners. If any and which of these ideas will be executed is not clear to date.

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[5] I was granted the opportunity to attend and take notes in this meeting, which ist he source of the information in this paragraph.

Box XIII:

Malmö reflections on communicating and listening

🇸🇪 *"[The lack of the ability or willingness to listen] on the Swedish side is also a problem outside the project too. Planners see themselves as experts and do not want to listen to other stakeholders. And that is a good example of how you can learn things in the project that you can use in your day to day work."*

🇸🇪 *„They wanted to build a new city in Tangshan that they call an eco-city, […] we thought 'eco-city' equals 'sustainable city'. But through our cooperation we gradually came to understand that an eco-city and a sustainable city is not the same."*

🇸🇪 *"One example is: I was asked to speak about schools[…] after I presented what I thought was right, that the integration [of children of different ethnic backgrounds into the Swedish school system] had not worked, I was criticized and told about a study that was presented just one week before my presentation, which said the opposite of what I claimed. So I […] corrected what I was sure I knew. And that was interesting because my false knowledge would otherwise have impacted the planning of [Malmö's district] Hyllie and the schools there. It is so easy to get to the wrong conclusions"*

🇸🇪 *"When we meet for cooperation projects between people of different departments, we very often believe we are talking about the same things, but we don't. We are at different locations, and we have different understanding of things, for example […] of sustainability. […] When we travel together in heterogeneous groups, like we do in TangMa, to a different context in China, […] we realize that our colleagues and their understanding of things are so different from what and how we think […] it becomes obvious we don't understand them. And we have to adjust our understanding of things, and our way of communicating. We have to listen in a different way, and try to understand the perspective of whoever it is we are talking to, actively […] we [learn] that we need to make more of an effort to understand each other."*

Chinese flag icon stands for comments from Tangshan interviewees, Swedish flag icon stands for comments from Malmö interviewees.

5.4 Answering Research Sub-Question 2 (rq2)

'Behind the scenes', TangMa featured a lot of DLL (see Figure 8). Even though intended knowledge transfer from Malmö to Tangshan was occasionally possible, it proved difficult due to contextual differences. Hence, much of the cooperative learning in the project happened on a deeper level, moving up one loop from the SLL 'How to do things' to the DLL 'What to do how' as a centre of learning. The third loop was rarely reached, however: paradigmatic issues were sometimes touched upon, but mostly accepted as unchangeable facts beyond the control of trainees. One such example of touching upon TLL was the realization on the Swedish side that Bo01 is not the success-story it is often framed as; the question of whether it is a success or not depends on the underlying paradigm. Going through the 'Laundry list' of inter-municipal learning issues, all issues on the list proved somewhat problematic, but were improved upon throughout the partnership as described below.
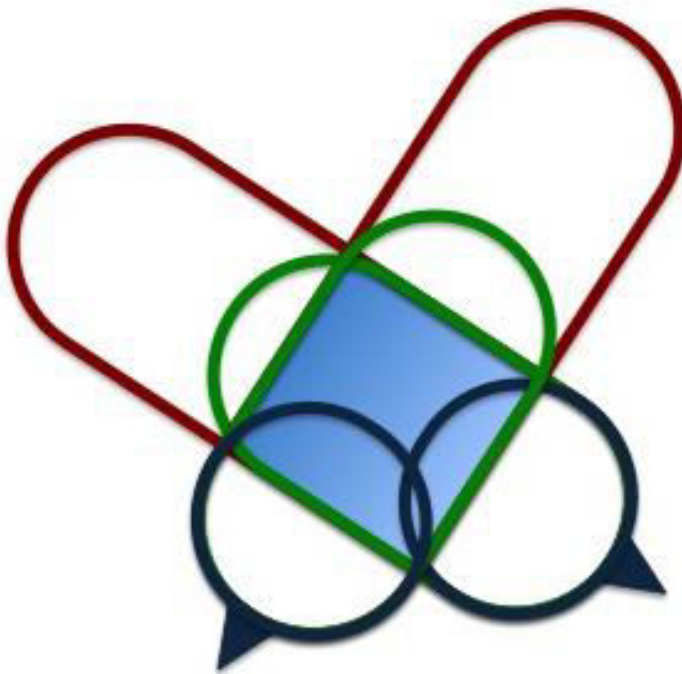

Figure 8: TangMa project according to interviews illustrated as municipal learning overlap (blue area) with first (dark blue), second (green) and third (red) learning loop.

Learning Capacity: Learning capacity was low in both municipalities at the beginning of the project. While Malmö trainees did not expect to learn much in China for sustainability, the trainees from Tangshan initially had a tendency to look for copy-and-paste solutions and discarded ideas that could not be directly implanted into their local context. This situation improved with increasing mutual understanding and repeated experiences of fruitful discussion and reflection processes. When obstacles in SLL processes eventually activated higher learning loops, the appreciation of trainees

and working committee members for multi-loop learning increased. Learning capacity improved with each successful learning process, making reflection and discussion more dynamic. In other words, TangMa not only featured learning about the programme topics, but also 'learning about learning'.

Groups and Identity: The heterogeneity of participants in terms of professional groups, i.e. SUD, OWRE and Learning Trainees, proved to be fruitful within delegations as well as across municipalities. However, identity was a major reason for what was perceived as 'arrogance' on the Swedish side. Swedish trainees were seen as 'experts' due to successes of Malmö while Chinese trainees were in the position of the primary 'learner'. Additionally, the fact that the whole project was funded by ICLD and framed as a development cooperation amplified this inequality. A way out of these roles came, however, was curiosity on both sides to learn about each other in general – if not seen as sustainability experts, the Chinese were still China experts. Later on, the difficulty to adapt Swedish sustainability expertise to Chinese contexts created a sense of equality, when local knowledge and the different perspective of trainees from the other country were increasingly perceived as equally valuable.

Language and Communication: Language and communication proved to be both a challenge to overcome and to learn from. Misunderstandings from language barriers forced Trainees to explain and paraphrase more often in simpler terms, and different understandings of concepts between trainees even from the same municipality served as a motor for reflection on a deeper level. Communication difficulties were thus a key driver for learning and advancing from SLL attempts to DLL. Once misunderstandings went beyond a threshold where they became impossible to ignore, they had to be discussed. This trained participants to listen instead carefully instead of assuming mutual understanding, which was one of the major outcomes of TangMa for most participants.

Differences and Mutuality: Differences and Mutuality were important factors in influencing the course of the Partnership. Identity-induced inequalities led to a major 'mutuality-gap' at the beginning of the TangMa project. But fundamental differences between Tangshan and Malmö made reflection and re-thinking expertise and aprioristic assumptions inevitable and closed the mutuality gap in discussions. In a sense, this process reframed what the actual differences and similarities between Malmö and Tangshan were. Originally, what led to the 'success' of Malmö compared to Tangshan, was thought to be the differences in expertise. Now this was attributed to differences of local structural circumstances. Hence, trainees from Malmö admitted after some exposure to TangMa that they thought they would do a similar job in Tangshan if put in the shoes of their Chinese counterparts.

Intentionality: Prologue and Epilogue of the TangMa story showed that the intention of leaders that led to the creation of the project is an important factor in framing whether or not the project was a success. The project took on a life of its own in order to react to fundamental misunderstandings that originally came from the leadership-level intentions. But the achievements of the project are in danger of being discarded as meaningless, as they did not fulfil these intentions that persisted outside and around the project. This leads to frustration of some working committee members and trainees. They perceive their experiences with TangMa as very valuable, but they are unable to communicate their achievements to leaders and colleagues due to the dominant paradigm.

Formality of Learning: In the case of the TangMa project, informality proved to be both blessing and curse. The positive side was that the programme was flexible enough to break out of its initial design, which proved to be inadequate. SLL advanced to DLL through project adjustment and discussion. However, a problem arising from informality was the lack of explicit outcomes. Formal and even non-formal learning usually produce deliverables, while ideal-type informal learning does not. The TangMa Learning programme provides a mechanism to cope with this shortcoming, provided outcomes or OWRE and SUD are collected, compiled, and 'externalized' adequately.

Individuality and Up-scaling: Individuality of learning and up-scaling of results are problematic as the project is informal and produces mainly tacit outcomes. Again, TangMa Learning was designed to fix this issue to some extent. However, the dissemination of explicit and tacit knowledge throughout the trainee's organizations and the municipality as a whole remains, at best, immeasurable. A challenge for trainees as ambassadors of TangMa learning outcome is to maintain and nurture what they learned after they get back to their familiar work environments and into their daily routines. This is especially difficult with tacit knowledge they are not aware of. Thus, the organizational structure that surrounds TangMa trainees may actually contain knowledge and work against up-scaling and organizational learning.

6. Synthesis and Inductive Reflections

6.1 Answering Research Sub-Question 3 (rq3)
Two major positive changes happened in TangMa that are important for inter-municipal learning. Firstly, the two municipalities were forced to take a step back in their learning and discovered DLL as a valuable form of learning, deeper than originally intended. Secondly, these deeper learning processes were fuelled by and improved upon a range of problems such as low learning capacity, communication issues and a mutuality-gap. This led to invaluable learning outcomes for trainees.

Which learning processes and outcomes can be found in the TangMa project in practice?

- TangMa moved from originally intended SLL processes to the second loop, as transfer and adaption of Malmö's experiences and strategies to Tangshan proved unrealistic and deeper reflection proved very valuable. There was hardly any TLL though.

- Initially low learning capacity increased with positive DLL experiences. 'Learning about learning' is a major outcome of the TangMa project.

- Initial unequal identities with Swedish trainees as 'experts' and Chinese trainees as 'learners' shifted throughout the program, as multiple forms of knowledge were seen more equally valuable. This increase in openness to opinions of others is an important lesson for trainees.

- Language and communication issues served as a motor for advancement to deeper learning, as clarification discussions kicked off reflection processes. As a major outcome for TangMa, trainees were trained in 'listening'.

- Partnership intentions from the leadership-level continue to serve externally as evaluation background for TangMa. Project outcomes are endangered to be disregarded as unimportant due to TangMa's departure from original leadership intentions.

- Informality enabled deeper learning and necessary adjustments in the project, but outcomes are hard to be externalized.

- Organizationally of learning is difficult to measure. Organizational structure impedes up-scaling of learning outcomes.

The main lesson from the first major change from SLL to DLL is that difficulties with an action-oriented approach are something that should be embraced. If action – and SLL – seems impossible due to context and circumstances, there is a good chance that transformational knowledge can emerge from the situation. Such learning results lead to fundamental innovation. Identifying challenges to action as an opportunity rather than a failure is key for inter-municipal learning. Difficulties like the ones the TangMa project encountered are, in fact, a very favourable milieu for the partnership 'Petri-dish' or ba – they are favourable space for learning.

From the second positive change, the main lesson that can be drawn is that concrete learning outcomes can also be found in attitude and sensitivity changes in trainees, not just the practical

knowledge, ideas or know-how they return with. Improved abilities to listen, to think out of the box and critically question and reflect on taken-for-granted assumptions is an essential skill for practitioners of urban sustainability, given that the concept itself is a work-in-progress. In TangMa, inter-municipal learning results more often than not featured these meta-lessons; the 'hard' content outcomes of a discussion can be overshadowed by its contribution to learning capacity, communication and listening skills and awareness for mutuality issues of discussants.

Unfortunately, there were also two main problems that could not be resolved. The first is the issue of disseminating the TangMa experience beyond the boundaries of the partnership, scaling up the project's effect to the municipal level. The second remaining issue was the necessity to address underlying paradigms, i.e. engaging in TLL to address sustainability as a make-it-up-as-you-go project.

Informality of learning and the tacit nature of learning outcomes made it hard to capture achievements of TangMa in explicit form. Additionally, initial project intentions aimed for SLL and explicit knowledge outcomes, so that tacit project outcomes are likely disregarded as unimportant. This makes the visibility of the wider effect of the project questionable on a municipal level and even within the organizations that sent trainees. Project outcomes are there, but without externalization and active dissemination, e.g. through successful TangMa Learning activities, scaling up of project results is difficult. The lesson here is that if tacit project outcomes are not adequately treated and valued, they might "evaporate" before they can take effect.

Lastly – and this answers how lessons drawn from TangMa relate to sustainability – DLL did hardly advance to TLL during TangMa. Paradigmatic aspects of sustainability were not frequently addressed. TangMa has come a long way, starting out as 'SLL-only' project and moving to mainly DLL, so advancing to the third loop might seem much to ask. But if municipalities are to be promoted from mere implementers to innovators and promoters of sustainability, the question third-loop question of "why to do what" needs to be addressed. TangMa was a missed opportunity for inter-municipal TLL for sustainability, which can be attributed to a lack of time and resources to engage in TLL. This, however, makes the importance of TLL for promoting sustainability no less crucial. 'Are projects like Bo01 and the Caofeidian eco-city really projects for sustainability and why?' These are questions that need to be asked in inter-municipal learning projects that are to advance global sustainability.

6.2 Inductive Reflections on Learning Outcomes of TangMa

An astonishing outcome of TangMa for inter-municipal learning was that the achievements of the Project did not seem to lie in the content outcomes of learning or the advancement of the concept 'sustainability', but in the learning process itself. Improved learning ability became a major

outcome of learning. Trainees learned to reflect, to question assumptions, and the value of these processes became clear to those involved in the project in the form of a subjectively positive experience. What happened in TangMa was not only learning, but also meta-learning.

The learning theory as presented in this thesis does not include such processes, nor does much of the literature reviewed. It accounts for depth of learning in the form of loop learning and it accounts for factors that influence learning, such as learning capacity in form of the laundry list. But it does not account for a learning process that influences these factors rather than the content of learning. The idea in general is not new though. George Bateson observed meta-learning processes in individuals and coined the terms "proto-learning" and "deutero-learning":

> "The gradient at any point on a simple learning curve (e.g., a curve of rote learning) we will say chiefly represents rate of proto-learning. If, however, we inflict a series of similar learning experiments on the same subject, we shall find that in each successive experiment the subject has a somewhat steeper proto-learning gradient, that he learns somewhat more rapidly. This progressive change in rate of proto-learning we will call 'deutero-learning.'" (Bateson, 1987, p. 132)

Argyris and Schön adapted the term deutero-learning from Bateson for their organizational learning theory, distinguishing it from SLL and DLL in that what action is for loop-learning, is 'learning' itself for deutero-learning.

> "Since World War II, it has gradually become apparent […] that the requirements of organizational learning, […] are not one-shot but continuing. There has been a sequence of ideas in good currency-such as "creativity," "innovation," "the management of change" -which reflect this awareness [that] the organization needs to learn how to carry out single- and double-loop learning. […]
>
> In [SLL and DLL] organizational learning consists of restructuring organizational theory of action. When an organization engages in deutero-learning, its members learn about organizational learning [i.e.] the interactions between the organization's behavioural world and its ability to learn." (Argyris & Schön, 1978, pp. 26, 29)

For Bateson, deutero-learning is increasing the ability of individuals to learn more effectively and/or faster, i.e. increasing the speed/effect of the increase in speed/effect of producing certain outcomes. For Argyris and Schön, deutero-learning is a change in an organization's "behavioural world" that increases its capacity for learning for action.

Both of these notions describe some outcomes of TangMa, e.g. the increased capacity of trainees to reflect and critically re-evaluate assumptions. But there is more to it: TangMa Trainees experienced moments they described as epiphanies, where they felt freed of the "behavioural world" of their organizations. They experienced something powerful from breaking out of frames and paradigms, rather than just reflecting or improving on them. One such example is the notion of 'active listening', that was seen as an important lesson for trainees. Active listening as experienced in TangMa was not just heightened concentration or increased respect for a speaker, it involved temporarily forgetting what the listener believed to know, so that previous knowledge would not distort the meaning of the speaker.

Such an experience goes far beyond deutero-learning and can be understood better by looking at a third related notion that directly connects meta-learning and action, which is "Theory U" (Scharmer, 2009). Theory U, essentially a "U"-shaped process of acting or problem solving with five steps, builds on a different epistemology than this thesis and hence, no description of Theory U that fits into the boundaries of this thesis could do it justice. Suffice to say that Scharmer bases Theory U on a somewhat unique approach:

> "in the field of organizational learning, my most important insight has been that there are two different sources of learning: learning from the experiences of the past and learning from the future as it emerges." (Scharmer, 2009, p. 7)

This "learning form the future as it emerges" is Scharmer's paraphrase for his own neologism "presencing", the centre-piece on the bottom of Theory U. Presencing is, in a way, comparable to the "S"-pole of the circular learning model compass devised in Chapter 3 of this thesis: it is the zenith of a learning process, which for Schramer is a U-shaped process, and for this thesis it is still the old-fashioned learning loop. Scharmer even explicitly describes "presencing" as a level of learning beyond Argyris and Schön's SLL and DLL (Scharmer, 2009, p. 51). But presencing is so fundamentally different from SLL and DLL (and TLL!) as a concept, that in my understanding, it cannot be placed on a hierarchy with loop learning. The key to synthesising learning loops and "presencing" is to understand that they operate on different dimensions: Learning loops are degrees of reflection 'depth'; they are a 'spatial' concept. "presencing" is a temporal concept, that marks the 'letting go' of the past in order to "learn from the future". Presencing is the experience of innovation, the temporal turning point of past and future. Learning from the future means, for Scharmer, to travel to the 'source' of action and innovation by letting go of the luggage of the past (2009, pp. 188–190).

As TangMa is a project designed for learning from the past and improve on or transform existing knowledge, Theory U appeared as the wrong lens to analyze the project. Learning outcomes from the

TangMa project did not bring about the kind of "learning from the future"-innovations that Theory U is designed for either. But meta-learning outcomes of TangMa went beyond deutero-learning and learning capacity improvement. They provided a glimpse into the world of real innovation and provided the skills necessary for it as some of the learning outcomes of TangMa. Hence, only if loop learning and Theory U are not seen as mutually elusive but as coexistent on different dimensions, the use of the meta-learning experience of TangMa can be fully understood.

7. Conclusions

Sustainability remains a social construction site. While progress in international sustainability negotiations is slow, local action for sustainability is often carried out under the illusion that sustainability is merely a strategic or know-how question. TangMa is an example of awakening from that illusion. The project provided a learning space for practitioners, where they could experience the necessity and value of deeper learning and reflection, of critical thinking and listening. This was due to an evolution of the project: From knowledge transfer and repetitive implementation, the project moved to discussion and re-evaluation of assumptions about sustainability, eventually even creating meta-learning outcomes for participants. Instead of spreading or adapting unrefined sustainability know-how, practitioners learned how to better construct sustainability, which is an even more valuable outcome.

This has implications for theory, too. Municipal learning and organizational learning are often conceptualized as cycles of action and reflection. Within these cycles, deeper reflection is acknowledged to be important to ensure one is on the right track. But there is little focus on what leads to deeper reflection other than the inability to stay in shallower learning levels. TangMa showed that there is a lot of potential in municipal partnership projects for 'learning about learning'. This potential goes beyond the improvement of action-reflection cycles. It trains true innovation capabilities that play a role in 'presencing' and processes conceptualized in Theory U.

The challenge for inter-municipal learning scholarship for municipalities and for practitioners is to acknowledge, externalize and scale up such learning outcomes. When it comes to sustainability, even the most progressive projects are still just the first few steps in the right direction, and there is a long way ahead. If practitioners and leaders value the spreading of existing ideas over the ability to progress, reform and innovate, they will eventually fall behind. So far, sustainable development is development of sustainability, a dynamic process of continuous learning and innovating. In the long run, skills that improve these processes will prove more valuable than temporary process outcomes.

TangMa Training Programs for Cities of Tomorrow is both an illustration of the value of these skills as well as evidence that they can be trained.

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Appendices

Appendix A: Comparing the Polarization of Learning Cycle Models

Sources for Models:
α)   (Hayes, 2011, p. 91)
β)   (Argyris & Schön, 1978, p. 18)
γ)   (Nonaka, 2012, p. 60)
δ)   (Pahl-Wostl, 2009, p. 361)
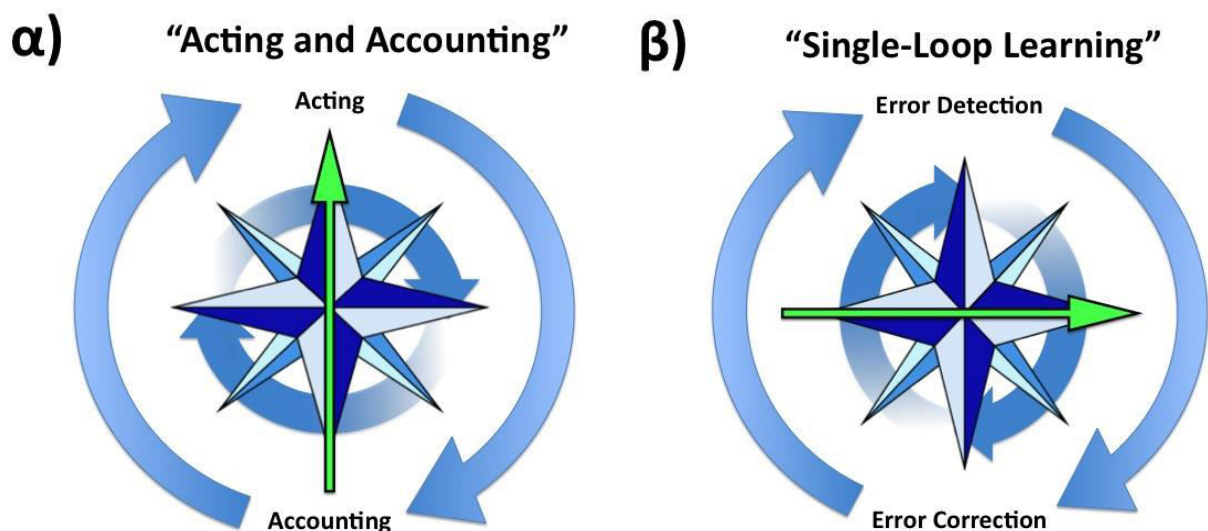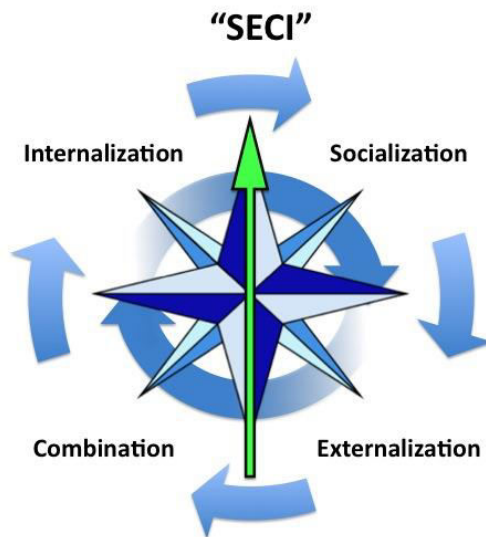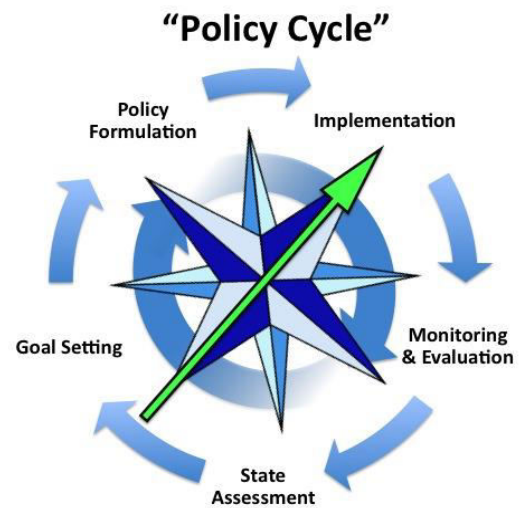
Appendix B: Examples of Possible Municipal Partnership Constellations
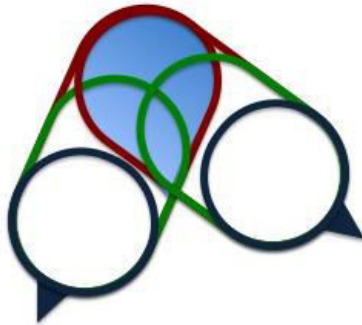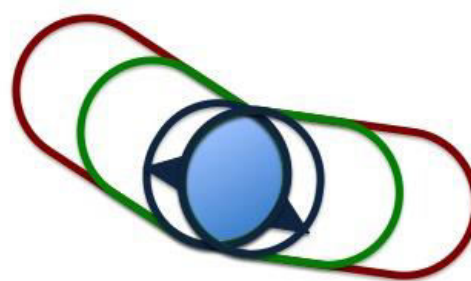
Appendix C: List of Documents

This is a list of documents, obtained from the municipalities of Malmö and Tangshan, which serve as information sources for the research of this thesis. On request, I can provide assistance in accessing these documents, but final authorization may depend on the issuing organization. When cited directly in the main text body, documents are referred to as encoded in the „Doc. Alias"-column of the table below.

Doc. Alias	Document Title	Date	Description
APPL_MC1	„Application – Municipal Partnership – MANAGEMENT AND COORDINATION"	n.a.	ICLD application for management module funding
APPL_SUD	„Application – Municipal Partnership –	n.a.	ICLD application for

	PROJECT"		Sustainable Urban Design (SUD) Programme funding
APPL_OWRE	„Application – Municipal Partnership – PROJECT"	n.a.	ICLD application for Organic Waste to Renewable Energy (OWRE) Programme funding
APPL_COMP	„Complement to the TangMa applications"	2010/12/01	Document answering clarification questions from ICLD
APPL_MC2	„MANAGEMENT AND COORDINATION Application for grants Municipal Partnership Programme"	2011/10/14	ICLD application for additional management module funding for Learning Programme
APPL_L	„PROJECT Application for grants Municipal Partnership Programme"	2011/10/14	ICLD application for Learning Programme
CFD_INTRO	Introduction of Tangshan Caofeidian Eco-City	2011/11	Presentation of former Tangshan Eco-City Director Wei Dehui
SYSAV_INTRO	Sysav General Slides	n.a.	Introductory presentation of southern Sacania's municipal waste treatment company SYSAV
VASYD_WM	Waste Management in Malmö and Burlöv	n.a.	Presentation held by Mats Morin, Ingela Morfeldt & Maria Levin from VA syd

Appendix D: List of Interviews

Interviews were audio-recorded and transcribed, and in the case of Chinese interviewees, I translated them from Chinese audio into English transcription. Adaptations were made in three ways only: I took the liberty of inserting punctuation as I saw fit, in order to improve understandability; I corrected grammatical imperfections for the same reason; translation from Chinese to English was undertaken to my best knowledge and intent, but as I am not a professionally trained translator, some of my interpretations of Chinese terms and expressions might be debatable. Interviewees' identities remain protected and will not be made public in any way at any point, but I can assist in establishing contact with them if they agree. When cited directly in the main text body, interviews are referred to as encoded in the „Intv. Alias"-column of the table below.

Intv. Alias	Nationlt.	Date 2013	Role in TangMa	Comment
Intv_#1		/01/16	Project Coordinator	
Intv_#2		/01/20	Programme Coordinator / Trainee SUD	2 interviewees
Intv_#3		/01/21	Project Coordinator	
Intv_#4	/	/01/22	Trainee / Project Coordinator	Interview with Trainee commented by Project Coordinator
Intv_#5		/03/20	Trainee / External	Recorder malfunction,

				written notes only
Intv_#6		/03/22	Trainee SUD	
Intv_#7		/03/22	Project Coordinator	
Intv_#8		/03/25	Programme Coordinator	
Intv_#9		/03/26	Programme Coordinator	2 interviewees; 50% of audio recording lost
Intv_#10		/05/28	Project Coordinator	